

LINCOLN ARCHAEOLOGICAL STUDIES No. 6

A Corpus of Roman Pottery from Lincoln



Margaret Darling and Barbara Precious
with Joanna Bird, Brenda Dickinson
and Katharine Hartley

Oxbow Books

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Summary

This report constitutes the first major analysis of the Roman pottery from Lincoln and is principally concerned with the large volume of material recovered from excavations in the city between 1972 and 1987. Supplemented by other pottery from earlier investigations and kiln explorations between the 1940s and 1960s, and that found at The Park in 1970–2, it provides an assemblage totalling more than 150,000 sherds.

The pottery is presented in seven major ware groups. The fine and oxidised wares are separately categorised; the distinction here is made largely on the basis of fabric and function: the former, of fine clay, were usually intended for use at the table, rather than for the storage or preparation of food. The shell- and calcite-tempered wares form a discrete class and the reduced wares another. The final three are the standard specialised wares: mortaria, amphorae and samian.

The fine wares comprise the second largest fabric group within the whole assemblage. There is a fairly modest range of imports, the majority – Moselkeramik and Cologne colour-coated ware – coming from the Rhineland; central and southern Gaul supplied colour-coated vessels and Lyon ware respectively. There are small quantities of *Terra Nigra*, Pompeian Red, Black Eggshell and Argonne wares, and a few sherds of Céramique à l'éponge and Gallo-Belgic White ware. A small group of Mica-dusted ware includes one notable vessel, a globular beaker with embossed decoration and base stamp CAMARO (no. 12). A few of the imports are of uncertain provenance; among them are marbled and white eggshell wares, although some of these are now considered to be possible London products.

There are three locally produced fine wares, the earliest of which – Early Red-slipped ware (RDSL) – is thought to have been produced by potters associated with the legions. South Carlton Colour-coated ware (SCCC), of mid Roman date, occurs

relatively rarely in the city, while colour-coated wares were produced in the late 3rd and 4th centuries at Swanpool (SPCC).

The overwhelming majority of the Romano-British fine wares are colour-coated vessels from the Nene Valley; there are comparatively tiny quantities from Much Hadham and Oxfordshire, and a few sherds from Colchester. Unsourced products include London-type ware and a large group of Parisian-type ware. The latter was produced at Rossington Bridge but Market Rasen, closer to Lincoln, was most likely one of the main sources of supply to the city.

The oxidised wares include only three certain imports: a single Italian vessel, a few sherds of Eifelkeramik, and a very small assemblage of North Gaulish Cream ware. A single vessel of Sandy Cream ware is also likely to be a continental import, but from an unknown source. The majority of the oxidised vessels are local products; predominant amongst these is Cream ware (CR), the early fabric of which is notably micaceous and resembles that of the wares produced at South Carlton (SC), although analysis suggests the use of a different source of clay. It is also virtually identical to that used for other local products (including the fine RDSL), and particularly to the oxidised Pink Micaceous ware (PINK). The latter, which includes a rare face beaker (no. 473) copying north Italian types and one of only two such vessels known in Britain, is found most commonly in Neronian to early Flavian contexts. The local Early Oxidised Sandy ware (OXSA) is of similar date while the Later Cream Sandy ware (CRSA), a rarely identified fabric resembling a harder fired and grittier version of OXSA, seems to occur only in later contexts. In the late 3rd and 4th centuries the local Swanpool kilns produced a range of oxidised vessels (SPOX), many of which copied the repertoires of the Oxfordshire and Nene Valley potters. Also likely to have been locally produced are a number of vessels in a distinctive fabric (TILE)

that resembles those of some Roman tile and lamp chimneys.

Most of the remaining oxidised wares are unsourced, and the few from identified production areas occur only in small quantities. A single late La Tène beaker in Oxidised Grog-tempered ware is probably from north Buckinghamshire or Northamptonshire; a few White ware vessels are from the Verulamium region, and there are single instances of Derbyshire, Oxfordshire and Crambeck wares. The Parchment wares, which include an unusual head pot (no. 571), could have come from a number of areas including the Nene Valley, while a group of late Roman vessels with rilled decoration are similar in form to Portchester 'D' ware and vessels produced at Overwey and Mucking, and identical to shell-tempered jars from the south Midlands.

The shell- and calcite-tempered wares are principally of local manufacture. The earliest of these, Native Tradition Shell-tempered ware (IASH), is a broad group comprising all early shell-tempered fabrics, mostly from native tradition cooking pots. Three variants within this group have been recognised and recorded at a single site: coarse- (IASHC) and fine-tempered (IASHF) vessels, which may be either handmade or wheel-thrown, and harder-fired Romanised versions (IASHD) which are almost invariably wheel-thrown. The majority of the local shell-tempered vessels are in the later fabrics: the Dales and related Shell-tempered wares (DWSH). The main source of these is likely to have been north Lincolnshire, although the results of recent research suggest the possibility of production in other areas of the county.

The small assemblage of non-local shell-tempered wares includes just two from known sources: South Midlands shell-tempered ware and a few sherds of Huntcliff type calcite-tempered ware. The majority are shell-tempered wares that could not be conclusively identified as either IASH or DWSH, although some of the vessels may have been produced at Bourne, in south Lincolnshire.

In common with most other excavation assemblages, the reduced wares form by far the largest proportion of the pottery and are principally grey wares. There is a single continental import, North Gaulish Grey ware; Lincoln is one of the few sites in eastern England where this has been recognised. The certainly identified local wares are divided into finer and coarser categories; among the first is a small group of Grey Sandy ware (GRSA), a predominantly Neronian fabric that is very similar to the local OXSA, and a large assemblage of 'Legionary' type Light Grey ware (LEG); both of these, produced by potters associated with the army, show continental influences. The majority of the coarser wares are in Native Tradition Grit-tempered

fabric (IAGR). As with IASH, its antecedents lie in late Iron Age cooking pot forms; two variants (recorded at only two sites) comprise a coarser fabric (IAGRB) and a few sherds of another (IAGRC) that was previously considered unlikely to be a local product but is included here as a local ware on the basis of both form and fabric. More rarely found are vessels in a sand-tempered fabric (IASA), possibly a finer variant of IAGR, that occur mostly in legionary contexts. A single late Roman fabric, the Local Coarse Pebbly ware (LCOA), occurs most commonly in the final decades of the 4th century; production possibly continued into the very late 4th or early 5th century.

Owing largely to the overwhelming volume of material and the difficulty of distinguishing local from non-local grey wares, all are discussed together under the Romano-British category, although the majority were almost certainly locally produced. Parallels for many of the vessels occur among the local kiln assemblages, and the variety in typology suggests that other kilns await discovery, or perhaps have been destroyed without record. Among the non-local reduced wares is a relatively large assemblage of Black-burnished ware 1; produced in Dorset, it was also imitated at Rossington Bridge, Doncaster and extensively by local potters. Black-burnished ware 2 was also copied locally but is comparatively rare in Lincoln, which is unusual for a site on the eastern side of Britain. There is a very small assemblage of Nene Valley grey ware, and a single positively identified sherd from Crambeck.

The mortaria are mostly of Romano-British manufacture and imported vessels are relatively scarce, coming from three main sources: northern Gaul, the Rhineland and the Rhone valley. Locally manufactured vessels (MOLO) include products from the Technical College and South Carlton kilns; these are difficult to distinguish from one another although a very small group are certainly identified as South Carlton products (MOSC). Those produced at Swanpool (MOSP) include vessels with a distinctive colour coat (MOSPC).

Mortaria from the Mancetter-Hartshill kilns predominate among those from non-local sources, while a small group of Midlands products includes many that are thought likely to be atypical Mancetter-Hartshill vessels. The other major source of supply was the Nene Valley; much smaller quantities came from Verulamium and Oxfordshire, and a few vessels from Crambeck, with rare occurrences from Colchester and Much Hadham. A small number of grey mortaria fired in reducing conditions are of unknown provenance although similar vessels were produced in East Anglia, possibly Norfolk.

The amphorae comprise the second smallest ware group but include most of the well-known types

occurring in Roman Britain. The majority, from southern Spain, are represented principally by the Dressel 20, which comprises 80% by weight of the entire assemblage. Others are from south Gaul, while other identified sources include north-east Spain, Campania in Italy, the Aegean, and the east and south-east Mediterranean as well as North Africa. Amphorae that are more rarely found in Britain include the British Biv from western Asia Minor, the Chalk 6 and Fishbourne 148.3, both from unidentified sources, and a few sherds of the more recently identified London 555 – the first known occurrence of this type in the east Midlands.

The samian assemblage is fairly standard for a British site, and contains no unusual forms or groups of vessels. The majority of the East Gaulish ware is from Rheinzabern and Trier, with only small quantities from La Madeleine and Argonne, and a few pieces from Sinzig. Virtually all the South Gaulish samian is from La Graufesenque while that from Central Gaul, comprising the bulk of the assemblage, is from either Les Martres or Lezoux.

Samian ware is commonly used as dating evidence, but there are inherent difficulties in using the most datable pieces, the stamped and decorated sherds, in isolation owing to their differing chronological incidence; moreover, the less datable plain sherds comprise *c.* 75% of the Lincoln assemblage. The dating and spatial distribution of the samian within the city is therefore analysed by using a combination of the evidence – the stamped and decorated wares, and the less datable plain wares – in order to highlight any similarities or differences in the chronological development of individual sites, and of the three discrete areas of the city: the Upper and Lower Cities, and the southern suburb of Wigford.

The samian ware also has the potential to provide other information. The relative occurrence of vessel classes over time is examined in an attempt to establish a chronological pattern of forms, in order to provide what might be considered as a 'normal' assemblage at any given time, against which individual sites might be compared. Although useful for the interpretation of individual sites, in terms of both function and status, 'abnormal' assemblages can also occur for other reasons. For instance, a higher than normal assemblage of samian (and other fine wares) was found on some sites, but rather than relating to occupation there it had been brought in amongst reclamation material. This highlights one of the difficulties faced in interpreting the evidence: the dislocation between the actual date of the samian and its deposition date, and also raises the question of whether decorated vessels had a longer life than plain ones.

In the general discussion, the results of analysis are used to explore the chronological range of the

entire ceramic assemblage across the three discrete parts of the Roman fortress and later *colonia*. The analyses are based largely on material from the excavations of 1972–87, with other data selectively used. The results, however, are affected by the comparative lack of excavation within the Upper City (the location of the fortress and *principia*, and of the later forum), particularly in the intramural area, and the relative paucity of large assemblages: those that were recovered – Cottesford Place in the Upper City, Flaxengate and The Park in the Lower City, and St Mark's Church in the Wigford suburb – are biased towards the mid to late Roman period.

Unlike some other legionary fortresses, Lincoln seems to have been well supplied with cooking vessels by local Iron Age potters, with the samian and other imported vessels joined by tablewares, drinking vessels and other vessels made locally by potters associated with the legion. This situation is similar to that at Longthorpe (assumed to be the base for *legio IX Hispana* before moving to Lincoln), and there is sufficient evidence to suggest that at least one potter worked at both places.

Although mortaria were made locally in the 1st and 2nd centuries, the earliest of the known kilns is that at the old Technical College, which was trading its wares as far north as the area of Hadrian's Wall in the 2nd century. Slightly later in date were the kilns at South Carlton, *c.* 5 km north-west of the city. Their mortaria are found on northern sites as far north as the Antonine wall, while other products were roughcast vessels, principally beakers and flagons; these wares, however, are rarely identified within Lincoln.

Rusticated wares were produced at North Hykeham in the early 2nd century but none has been certainly identified within the city, and it is suggested that this kiln was catering for other settlements in the area. Copies of Black-burnished type vessels were produced in the late 2nd to early 3rd century at the Racecourse kiln, while the grey wares produced in the late 3rd and 4th centuries at Swanpool, and other local kilns, are difficult to distinguish from the grey wares produced in the Trent Valley and elsewhere.

The occurrence of imported as against Romano-British and local wares reflects changing patterns of supply, while the range of sources supplying pottery over time sheds light on the scale of the Lincoln market throughout the Roman period. Continental imports seem always to have formed only a very small proportion of the whole and are principally of earlier date; the few late wares are more likely to represent personal possessions or gifts rather than deliberately traded items. By the early-mid 2nd century pottery from Romano-British sources, notably Black-burnished ware 1, had arrived in the

city, and by the mid 2nd to 3rd century the range of wares available showed a substantial increase in both quantity and range of sources. Vessels from the Nene Valley dominated the market for fine wares from the late 2nd to the mid-late 3rd century, while the Mancetter-Hartshill kilns supplied the bulk of the mortaria. However, by the late Roman period there were relatively few Romano-British wares, these coming from even further afield and some in such small amounts that they might represent casual purchases rather than organised trade; much of the pottery, both coarse and fine wares, was supplied by the local Swanpool kilns, despite a continuing, but declining, trade in fine wares from the Nene Valley.

The amphorae, used to transport olive oil, wine and exotic foodstuffs, provide some indication of local tastes. Olive oil came principally from southern Spain and wine from Gaul, Italy and the eastern Mediterranean. However, from the mid 3rd century northern Africa, and specifically Tunisia, appears to have become one of the main sources of supply to the Lincoln market. Although there is evidence for the importation of salted fish and fish sauces, there are relatively few of the early amphorae that are known to have contained such products; this could be due to the lack of excavation within the Upper City. The importation of more exotic foodstuffs, fruit such as dates and olives, seems to have been confined largely to the early Roman period.

The marked downturn in the disposal of pottery within the city in the late 1st–early 2nd century mirrors that seen on other sites in the province, whether or not related to the decline in the South Gaulish kilns, but the departure of the legion and a possible hiatus before the foundation of the *colonia* also may have contributed. Conversely, a noticeable increase in Romano-British wares by the late 2nd to 3rd century seems to have corresponded both with a period of expansion by the major Romano-British potteries of the Nene Valley, Mancetter-Hartshill and Dorset, and a time when the city was flourishing, possibly corresponding to its rise as a market.

The Lincoln database, and its facility for the integration of ceramic evidence with other data, both site and finds, provides much scope for future research and for exploring aspects of urban assemblages such as the extreme residuality resulting from redeposition and thus the discordance between deposition and ceramic date, and for assessing the relationship of ceramic to other finds. The level of detail recorded in the samian database makes it a particularly valuable tool for such analysis but there is a deplorable lack of comparative material, particularly from other urban sites, given modern recording methods.

The assemblage presented here is biased towards

the mid to late Roman period, and further material is required in order to address this imbalance. In this respect, any opportunity for further investigation within the Upper City area is particularly important in relation to our understanding of the military period and early years of the *colonia*.

A number of sites excavated within the city remain largely unarchived and unstudied, and these include the Waterside sites, excavated 1987–91. These are particularly relevant to our understanding of the late Roman city, as late 3rd and 4th century dumps here appear to have been relatively fresh, and are likely to contain relatively little residual material.

The importance of further work on the local kilns and their products cannot be underestimated. The Swanpool kilns are crucial to our understanding of late Roman Lincoln and its hinterland, and of later Roman pottery industries. Such information as they may provide will only be obtained by a programme of archive recording of the material from kilns found during the 1960s and more recently, and reassessment of the original published kiln material. Fabric analysis may be required in order to define the distribution area of the Swanpool mortaria, while the use of slag as trituration grits suggests that the potential relationship between the potters and iron workers should be explored.

The relationship between the South Carlton potters and the city, and the distribution of their products, may be better understood both by examining other pottery in The Collection, Lincoln, and by further Neutron Activation analysis. This would build on the results of the programme funded by the British Academy, and broaden its scope to include vessels from elsewhere, including the Antonine Wall.

Résumé

Ce compte-rendu, première analyse majeure de la céramique romaine de Lincoln, discute le matériel des excavations de 1972–87 augmenté de celui d'investigations antérieures entre 1940 et 1960, et de celui de The Park (1970–72), ensemble ils constituent un assemblage de plus de 150,000 tessons.

La céramique est présentée en sept groupes de vaisselle majeurs, dans lesquels les objets fins et oxydés sont classés séparément, distingués ici essentiellement sur la base de leur fabrication et de leur fonction: les premiers, en argile fine, étaient en général destinés à être utilisés à table plutôt que pour la préparation ou la conservation des aliments.

Les vaisselles fines comprennent une gamme assez modeste d'importations, la majorité venant de la Rhénanie, d'autres de la Gaule centrale et méridionale et seulement de petites quantités d'ailleurs. La plus ancienne des trois vaisselles fines

produites dans la région, vaisselle primitive engobée de rouge, est estimée avoir été produite par des potiers accompagnant les légions. Les autres sont de type South Carlton à vernis de couleur du milieu de la période romaine et de la vaisselle de la fin du Swanpool à vernis de couleur. La grande majorité des vaisselles fines de la période Romano-Britannique sont des récipients à vernis de couleur de la vallée de la Nene; des quantités comparativement minuscules proviennent d'autres sources identifiées. Les produits dont on ne connaît pas la source comprennent un important groupe d'objets de type parisien; Market Rasen en était fort probablement un des principaux fournisseurs de la ville.

Les objets oxydés ne comprenaient que trois importations attestées. La majorité sont des produits locaux, essentiellement de la vaisselle crème, les autres sont de la vaisselle rose micacée et de la vaisselle du début de la crème sablée oxydée trouvée le plus souvent dans des contextes du néronien-début du flavien. La vaisselle crème sablée plus tardive, rarement identifiée, ne semble présente que dans des contextes plus tardifs. Beaucoup des objets oxydés Swanpool de la fin de la période romaine copiaient les répertoires des potiers de l'Oxfordshire et de la vallée de la Nene. Peu des articles oxydés restants proviennent de zones de production identifiées ailleurs en Grande-Bretagne, la plupart sont de source inconnue.

Les vaisselles dégraissées aux coquillages et calcite sont aussi principalement de fabrication locale. La plus ancienne vaisselle, de tradition indigène dégraissée aux coquillages, est un vaste groupe de tous les matériaux anciens dégraissés aux coquillages, surtout des pots à cuisson de tradition indigène. La plupart des récipients locaux sont de fabrication plus récente: de la vaisselle de type Dales et de la dégraissée aux coquillages associée, dont la principale source était probablement le nord du Lincolnshire. Le petit assemblage de vaisselle dégraissée aux coquillages qui n'est pas de la région ne comprend que deux sources connues: de la vaisselle dégraissée au calcite de type sud des Midlands et Huntcliff tandis qu'une partie de celle qui reste aurait pu être produite à Bourne, dans le sud du Lincolnshire.

Comme pour la plupart des autres assemblages de fouilles la vaisselle réduite constitue de loin la plus grande proportion de la céramique et est principalement de la vaisselle grise. Une seule était importée du continent, de la vaisselle grise de la Gaule du nord. La vaisselle locale identifiée avec certitude est divisée en deux catégories, fine et commune; la première était essentiellement de la vaisselle néronienne grise sablée et de la vaisselle de type légionnaire gris clair, les deux produites par des potiers associés à l'armée et montrant des

influences continentales. La vaisselle plus grossière était essentiellement de matériau dégraissé au gravier de tradition indigène; plus rarement trouvés, des récipients en matériau dégraissé au sable se rencontrent surtout dans des contextes légionnaires tandis qu'un seul en matériau tardif, la vaisselle locale grossière rugueuse, se trouve surtout dans des contextes de la fin du quatrième siècle.

Dû en grande partie à l'écrasant volume du matériel et à la difficulté à faire la différence entre la vaisselle grise locale et la non-locale, on discute de toutes ensemble sous la catégorie romano-britannique, bien que la majorité était presque certainement produite localement. Il y a un assemblage relativement important de vaisselle noire enfumée 1, extensivement imitée par les potiers locaux; la vaisselle noire enfumée 2, également copiée localement est comparativement rare à Lincoln, ce qui est surprenant pour un site sur le côté est de la Grande-Bretagne. Il y a un très petit assemblage de vaisselle grise de la vallée de la Nene, et un seul tesson de Crambeck identifié avec certitude.

Les mortaria sont essentiellement de facture romano-britannique; les récipients importés sont relativement peu abondants et proviennent de trois sources principales: la Gaule du nord, la Rhénanie et la vallée du Rhône. Les récipients fabriqués localement comprennent des produits provenant des fours du Collège Technique et de South Carlton, qui sont difficiles à distinguer l'un de l'autre bien qu'un très petit groupe ait été identifié avec certitude comme des produits de South Carlton. Les mortaria de Swanpool comprennent des récipients avec une couche de couleur bien particulière. Les mortaria qui ne sont pas locaux venaient essentiellement de Mancetter-Hartshill; l'autre principale source d'approvisionnement était la vallée de la Nene, avec des quantités bien moindres de Verulanium et d'Oxford et quelques récipients venus d'ailleurs.

Les amphores comprennent la plupart des types bien connus présents dans la Grande-Bretagne romaine. Les plus nombreuses viennent du sud de l'Espagne, suivies par celles du sud de la Gaule, tandis que d'autres sources identifiées comprennent le nord-est de l'Espagne, la Campanie en Italie, l'Égée, l'est et le sud-est de la Méditerranée et l'Afrique du nord. D'autres types, plus rares, comprennent le Biv britannique de l'ouest de l'Asie Mineure, et le Londres 555, la première occurrence de ce type identifiée dans l'est des Midlands.

L'assemblage de sigillée est assez standard pour un site britannique. La plus grande partie de la vaisselle de l'est de la Gaule venait de Rheinzabern et de Trèves, et quasiment toute celle du sud de la Gaule, de la Graufesenque. La Gaule centrale, le gros de l'assemblage, venait soit de Les Martres soit de Lezoux. On examine les dates et la répartition dans

l'espace de la sigillée et les différents assemblages à l'intérieur des trois zones de la ville. Les autres points soulevés comprennent le caractère en termes de forme et de date des récipients, et la question du fort contenu de résidus rencontré dans les excavations urbaines.

La discussion générale utilise les résultats de l'analyse pour explorer l'étendue chronologique de la totalité de l'assemblage de la céramique dans les trois parties séparées de la ville romaine et on résume brièvement le développement des fours locaux. La présence de vaisselle importée en contraste avec les vaisselles romano-britannique et locale reflète les changements dans les modes d'approvisionnement, tandis que la variété des sources fournissant la poterie au fil du temps nous éclaire sur l'échelle du marché de Lincoln tout au long de la période romaine.

La base de données de Lincoln offre un fort potentiel pour de futures recherches et pour explorer divers aspects des collections urbaines. L'assemblage présenté ici penche en faveur du milieu et de la fin de la période romaine, et davantage de matériel est nécessaire pour redresser la balance. Nous esquissons dans la dernière section de ce chapitre certains des points qui restent à résoudre et nous soulignons brièvement l'importance de travaux supplémentaires sur ce sujet, pour lesquels ce corpus pourrait servir de base.

Zusammenfassung

Mit diesem Band, der ersten umfassenden Analyse römischer Keramik aus Lincoln, wird das Material der Ausgrabungen von 1972–87 sowie früherer Untersuchungen aus den 1940er bis -60er Jahren und den Grabungen in The Park (1970–72) vorgelegt; zusammengenommen eine Sammlung von mehr als 150.000 Scherben.

Die Keramik wird in sieben Hauptwarengruppen unterteilt, in denen die Feinkeramik und die oxidierten Waren getrennt kategorisiert werden, und zwar im Wesentlichen unterschieden nach Material und Funktion: die ersteren, aus feinem Ton, waren für gewöhnlich eher als Tafelgeschirr denn zur Vorbereitung oder Aufbewahrung von Lebensmitteln bestimmt.

Die Feinkeramik umfaßt eine recht begrenzte Auswahl an Importen, hauptsächlich aus dem Rheinland, aber auch aus Mittel- und Südgallien, und nur geringe Mengen aus anderen Regionen. Von der frühesten der drei vor Ort produzierten Feinwarenarten – Early Red-slipped ware (frühe rot-engobierte Ware) – wird angenommen, dass sie von Töpfern hergestellt wurde, die mit den römischen Legionen assoziiert waren. Die anderen

Feinwarenarten sind die mittelkaiserzeitliche South Carlton Colour-coated ware (South Carlton Ware mit farbigem Überzug) und die späte Swanpool Colour-coated ware. Die überwältigende Mehrheit der romano-britischen Feinkeramik sind Gefäße mit farbigen Überzügen aus dem Nene-Tal; nur eine verhältnismäßig geringe Anzahl läßt sich anderen identifizierbaren Produktionsstätten zuweisen. Zu den Produkten ohne genaue Herkunftszuweisung gehört eine große Gruppe Parisii-artiger Ware, für die wahrscheinlich Market Rasen eine der Hauptbezugsquellen für Lincoln darstellte.

Unter den oxidierten Warenarten finden sich nur drei sichere Importe. Es überwiegen lokale Produkte, vor allem cremefarbige Ware; die anderen sind rosafarbige Goldglimmerware und frühe oxidierte sandgemagerte Ware, die hauptsächlich aus neronisch-frühflavischen Befunden stammen. Die nur selten identifizierte späte cremefarbige sandgemagerte Ware scheint lediglich in späteren Befunden vorzukommen. Bei einer großen Anzahl der spätkaiserzeitlichen Swanpool oxidised Waren handelt es sich um Kopien des Repertoires der Oxfordshire und Nene-Tal Töpfer. Nur wenige der übrigen oxidierten Warenarten lassen sich anderen bekannten Herstellungsgebieten in Britannien zuweisen; die meisten bleiben ohne Herkunftsangabe.

Auch die muschelgrus- und kalzitgemagerten Waren stammen hauptsächlich aus lokaler Produktion. Bei der frühesten – Native Tradition Shell-tempered ware (muschelgrusgemagerte Ware einheimischer Tradition) – handelt es sich um eine weite Bandbreite aller frühen muschelgrusgemagerten Warenarten, die vor allem für Kochtöpfe einheimischer Tradition Verwendung fanden. Die meisten lokalen Gefäße wurden in späteren Warenarten gefertigt: den Dales Waren und anderen damit verwandten muschelgrusgemagerten Warenarten, deren Hauptproduktionsstätten wohl in Nord-Lincolnshire lagen. Unter den wenigen nicht-lokalen muschelgrusgemagerten Warenarten befinden sich lediglich zwei, die bekannten Produktionsstätten zugewiesen werden können: South Midlands Ware und Huntcliffe-artige kalzitgemagerte Ware; darüber hinaus stammen einige der übrigen möglicherweise aus Bourne in Süd-Lincolnshire.

Wie bei den meisten anderen Grabungskomplexen auch machen die reduziert gebrannten Waren, bei denen es sich vor allem um Grauwaren handelt, den größten Anteil der Gefäßkeramik aus. Es findet sich lediglich ein kontinentaler Import: Nordgallische Grauware. Die sicher identifizierbaren lokalen Warenarten lassen sich in feinere und gröbere Kategorien unterscheiden; die ersteren sind vor allem neronische graue sandgemagerte Ware und 'Legionary' type hellgraue Ware. Diese wurden von Töpfern hergestellt, die mit der Armee verbunden

waren, und beide weisen kontinentalen Einfluß auf. Bei den gröberen Waren handelt es sich vor allem um grusgemagerte Warenarten einheimischer Tradition; die seltener gefundenen Gefäße in einer sandgemagerten Warenart stammen vor allem aus Befunden, die im Zusammenhang mit der Stationierung der Legion stehen, während eine einzelne späte Warenart, die Local Coarse Pebbly ware (lokale grobkiesige Ware), hauptsächlich in Befunden des späten 4. Jhs. gefunden wurde.

Vor allem aufgrund der überwältigenden Materialmenge und der Schwierigkeit bei der Unterscheidung lokaler und nicht-lokaler Grauwaren, werden diese alle als Teil der Kategorie 'Romano-Britisch' diskutiert, obwohl es sich wahrscheinlich bei der Mehrzahl um lokale Produkte handelt. Das Material schließt eine recht große Sammlung von Black-burnished ware 1 ein, die in beträchtlichem Umfang von Töpfern vor Ort imitiert wurde; im Gegensatz dazu ist die ebenfalls als lokale Kopie vorkommende Black-burnished ware 2 relativ selten in Lincoln, was für einen Fundort im Osten Britanniens ungewöhnlich ist. Darüber hinaus findet sich eine sehr geringe Menge von Grauware aus dem Nene-Tal sowie eine einzelne, sicher identifizierte Scherbe aus Crambeck.

Die Mortaria stammen größtenteils aus romano-britischer Herstellung; importierte Gefäße sind relativ rar und kommen im Wesentlichen aus drei Herkunftsgebieten: Nordgallien, dem Rheinland und dem Rhôneal. Unter den vor Ort hergestellten Gefäßen finden sich Produkte von den Brennöfen am Technical College und in South Carlton, die nur schwer voneinander zu unterscheiden sind, obgleich eine sehr kleine Gruppe als Erzeugnisse von South Carlton identifiziert werden konnte. Unter den Swanpool Mortaria finden sich Gefäße mit einem markanten Farbüberzug. Nicht-lokale Mortaria stammen vornehmlich aus Mancetter-Hartshill; die andere Hauptbezugsquelle war das Nene-Tal und, in wesentlich geringerem Ausmaß, Verulamium und Oxfordshire sowie einige wenige Gefäße von anderen Produktionsstätten.

Bei den Amphoren sind die meisten der im römischen Britannien bekannten Typen vertreten. Die Mehrzahl stammt aus Südspanien, gefolgt

von Gefäßen aus Südgallien; unter den weiteren identifizierten Herkunftsregionen finden sich Nordost-Spanien, Kampanien in Italien, die Ägäis, der östliche und süd-östliche Mittelmeerraum sowie Nordafrika. Weitere, seltener Typen umfassen British Biv aus dem westlichen Kleinasien und London 555, dessen Vorkommen hier zum ersten Mal in der East Midlands Region belegt werden konnte.

Das Spektrum an Terra sigillata entspricht in etwa dem, was für einen britischen Fundort zu erwarten ist. Fast alle ostgallische Sigillata kommt aus Rheinzabern und Trier, und nahezu die gesamte südgallische aus La Graufesenque. Die mittelgallische Sigillata, die den Hauptteil des Sigillataspektrums ausmacht, kommt entweder aus Les Martres oder Lezoux. Die Datierung und räumliche Verbreitung der Terra sigillata und deren unterschiedliche Zusammensetzung in den drei Bereichen der Stadt werden untersucht. Weitere Fragestellungen beschäftigen sich mit dem Charakter der Sigillata in Bezug auf die Gefäßformen und deren Datierung sowie der Frage nach dem hohen Anteil verlagelter Funde in Stadtgrabungen.

In der abschließenden Diskussion wird mit Hilfe der Ergebnisse der Analyse die chronologische Spannbreite des gesamten keramischen Materials in den drei räumlich getrennten Bereichen der römischen Stadt untersucht, und die Entwicklung der lokalen Töpferöfen wird kurz zusammengefaßt. Das Vorkommen von Importen im Vergleich zu romano-britischen und lokalen Waren spiegelt die sich wandelnden Versorgungsmuster, wohingegen die Bandbreite der Bezugsquellen der Keramik im Laufe der Zeit Aussagen zum Umfang des Lincolner Markts während Römischer Kaiserzeit ermöglicht.

Die Lincolner Datenbank bietet ein großes Potenzial für zukünftige Untersuchungen und die Erforschung von Aspekten urbaner Materialsammlungen. Das hier vorgelegte Material hat seinen chronologischen Schwerpunkt auf der mittleren und späten Römischen Kaiserzeit, und es bedarf weiteren Materials, um dieses Ungleichgewicht zu beheben. Einige der noch zu beantwortenden Fragestellungen werden im letzten Abschnitt des Kapitels umrissen, und es wird kurz auf die Bedeutung weiterführender Arbeiten zu diesem Themenkomplex eingegangen, für die der vorliegende Band als Basis dienen mag.

1 Introduction

Margaret Darling

Background to the volume

In 1988, the City of Lincoln Archaeology Unit (CLAU) commenced a three-year programme of archive work on material from excavations in the city 1972–1987, funded by English Heritage. An assessment in 1991 proposed publication of the results of this work in three stages: firstly, three volumes of site reports (Wigford and the Brayford Pool, Upper City and Lower City, respectively), in which the Roman pottery would be used primarily to support the dating framework for each site and, where relevant, to aid interpretation; secondly, a corpus of the Roman pottery to present the type series and to discuss the fabrics and forms recovered, and finally, a synthetic volume presenting the results of rescue excavations in the city, which would use the information obtained from pottery analysis to address issues such as socio-economic patterning, settlement and supply.

Work on the corpus started in 1994, and the text including specialist contributions was largely completed in 1996–7. Due to financial constraints it has not been possible to do more than basic updating since then.

Roman pottery research in Lincoln

Interest in Roman pottery in Lincoln can be traced back into the 19th century when, as now, building work in the city and its environs produced Roman remains, noted and collected by local antiquaries. The most notable of these was Arthur Trollope, who sold a major part of his collection of antiquities to the British Museum in 1866–7. Along with tombstones and other important finds, various cinerary urns are included in the collection, together with the fine

mica-gilt bossed beaker from a cremation at Monson Street (Webster 1949, 58, fig. 11, no. 19), and the head pot with its dedication to Mercury (Braithwaite 1984, 119, fig. 12, no. 2; 2007, 450, fig. S4, 5). A number of vessels clearly from graves of this period are in The Collection, Lincoln (formerly the Lincoln City and County Museum), unfortunately not always with definitive provenances.

The first Roman kiln to be discovered had been noted during building work at the Technical College in 1932 (Baker 1937). In 1945 the Lincoln Archaeological Research Committee was formed, and it was in the next decades that work on pottery in Lincoln developed from the formerly casual approach. Graham Webster, working at the time as a civil engineer, excavated on the defences of the fortress and upper *colonia* at Westgate and North Row (Webster *op. cit.*), and started to study the pottery of the city. His arrival in Lincoln was fortuitous, since he had already been concerned with Roman pottery in Canterbury (Webster 1940), and among his first investigations in Lincoln was the excavation of the South Carlton kilns north of the city (Webster 1944). He continued his exploration of kilns, working at Swanpool with Norman Booth (Webster and Booth 1947) and at Rookery Lane (Webster 1960). Further kiln excavations were undertaken by Philip Corder at the Racecourse (Corder 1950a), and by Hugh Thompson at North Hykeham, his report including a notable discussion of rusticated ware (F. H. Thompson 1958). In a comparatively short period, a wealth of new information was available about local kilns and their products.

Excavations in the city prior to the foundation of a field unit in 1972 were mostly concerned with the defences of the fortress and upper *colonia* (F. H. Thompson 1956; Petch 1960; F. H. Thompson

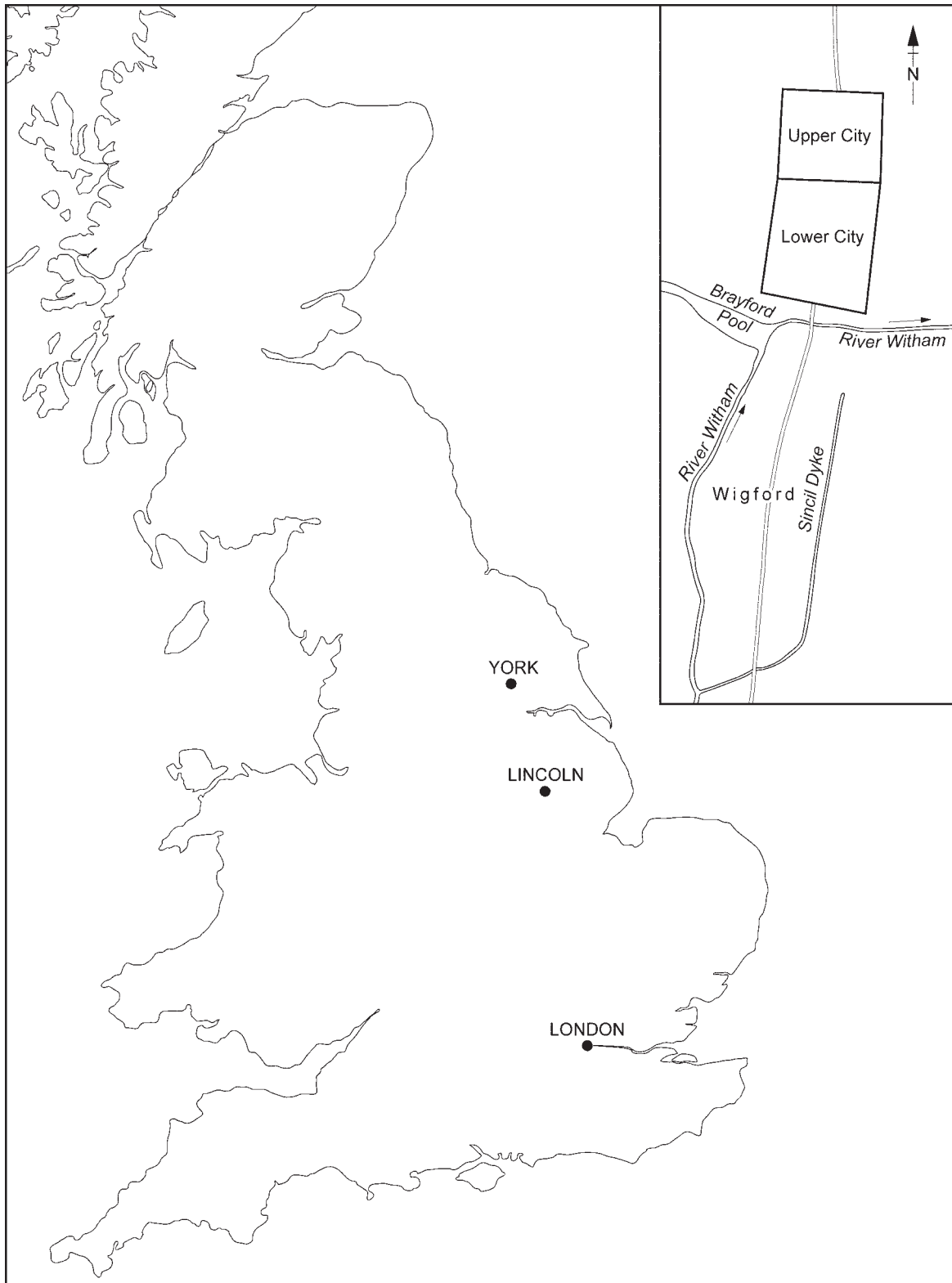


Fig. 1. Map showing location of Lincoln with inset showing areas of the city.

and Whitwell 1973), producing quantities of pottery, mainly from rampart deposits. Intramural excavations were directed by Graham Webster at Flaxengate in 1945–7 (Coppack 1973), and by Dennis Petch at the Cottesford Place public baths in 1956–8 (unpublished). In addition to his work at the East Gate, Ben Whitwell also directed excavations at The Park, East Bight and Temperance Place and Steven Taylor directed work at Chapel Lane (M. J. Jones 1980; Darling 1984). Within approximately 30 years, an enormous quantity of excavated pottery, as opposed to casual finds, had been amassed, much of it unstudied. Rescue excavations directed by Christina Colyer at The Park took place from 1970, and the scale of work required in response to proposed development led to the foundation of the Lincoln Archaeological Trust in 1972. This subsequently became the Lincoln office of the Trust for Lincolnshire Archaeology (TLA, 1984–8), and later the City of Lincoln Archaeological Unit (CLAU, 1988–2004).

The first major work by the new Lincoln Archaeological Trust was the completion of Christina Colyer's excavation on the lower *colonia* defences at The Park, which produced one of the largest pottery assemblages from the city (Darling 1999) and was the first to be archived and computerised. Reports on the pottery from excavations by Ben Whitwell and Steven Taylor at East Bight, Temperance Place and Chapel Lane (Darling 1984) and on that from The Park (Darling 1977a; 1999) and part of the Holmes Grainwarehouse (181–3 High Street) assemblage (Darling 1988) were prepared for publication during the late 1970s and 1980s.

The Sites (Figs 2 and 3)

This publication is concerned principally with the pottery from excavations undertaken between 1972 and 1987, including those directed by Professor John Wachter for the Department of the Environment at Silver Street and Saltergate, and those by the local society at The Lawn (LH84: incorporated into the CLAU archive database). Material from sites excavated before 1972 has also been included wherever possible, most notably that from the Roman public baths at Cottesford Place, East Bight

(excavations on the northern defences 1964–6; 1970–83) and The Park (but see Analyses, p. 293). The total quantity of Roman pottery recorded in the database and used for this corpus is more than 150,000 sherds (see p. 293, with Fig. 224).

Several major excavations were completed by TLA or CLAU in or shortly after 1987: the Waterside sites (Waterside North, Waterside North West, Woolworths Basement and Waterside Foreshore), the Castle West Gate, two kilns at Swanpool, and St Mark's East. All of these still await archive recording, but notable vessels are illustrated here.

A number of sites have the same name (see Fig. 3); where these are mentioned in the text, the site code is given in brackets.

Acknowledgements

We are grateful to our splendid specialists, Brenda Dickinson, Joanna Bird, Katharine Hartley, Valery Rigby, David Williams and César Carreras for their lively cooperation and patience. The assistance and advice of Alan Vince and Paul Tyers is also gratefully acknowledged; without their aid, much of the analysis work, including the thin-section reports, would have been flawed or impossible. Thanks are also due to Paul Tyers for permission to use his samian stamps font. The illustrations for this publication have been assembled over many years and, apart from our own drawings, we are indebted to the work of Denise Darbyshire, Paul Reynolds, and David Watt, who also wrestled with the scanning of samian rubbings, and for photomicrographs to Judy O'Neill. The map showing the location of kilns in the Lincoln area, drawn by David Watt, is reproduced here by kind permission of English Heritage. Due to the passage of time delaying publication and changes in technology, considerable problems in preparing final digital images of illustrations were countered by the help of Ian Rowlandson and Douglas Young, which was priceless and greatly appreciated. Colleagues who have helped in many ways are numerous, but the assistance and advice given by Lindsay Rollo, Alan Vince and Jenny Mann was invaluable. And finally we must thank English Heritage and City of Lincoln Council for the funding that has made this publication possible.

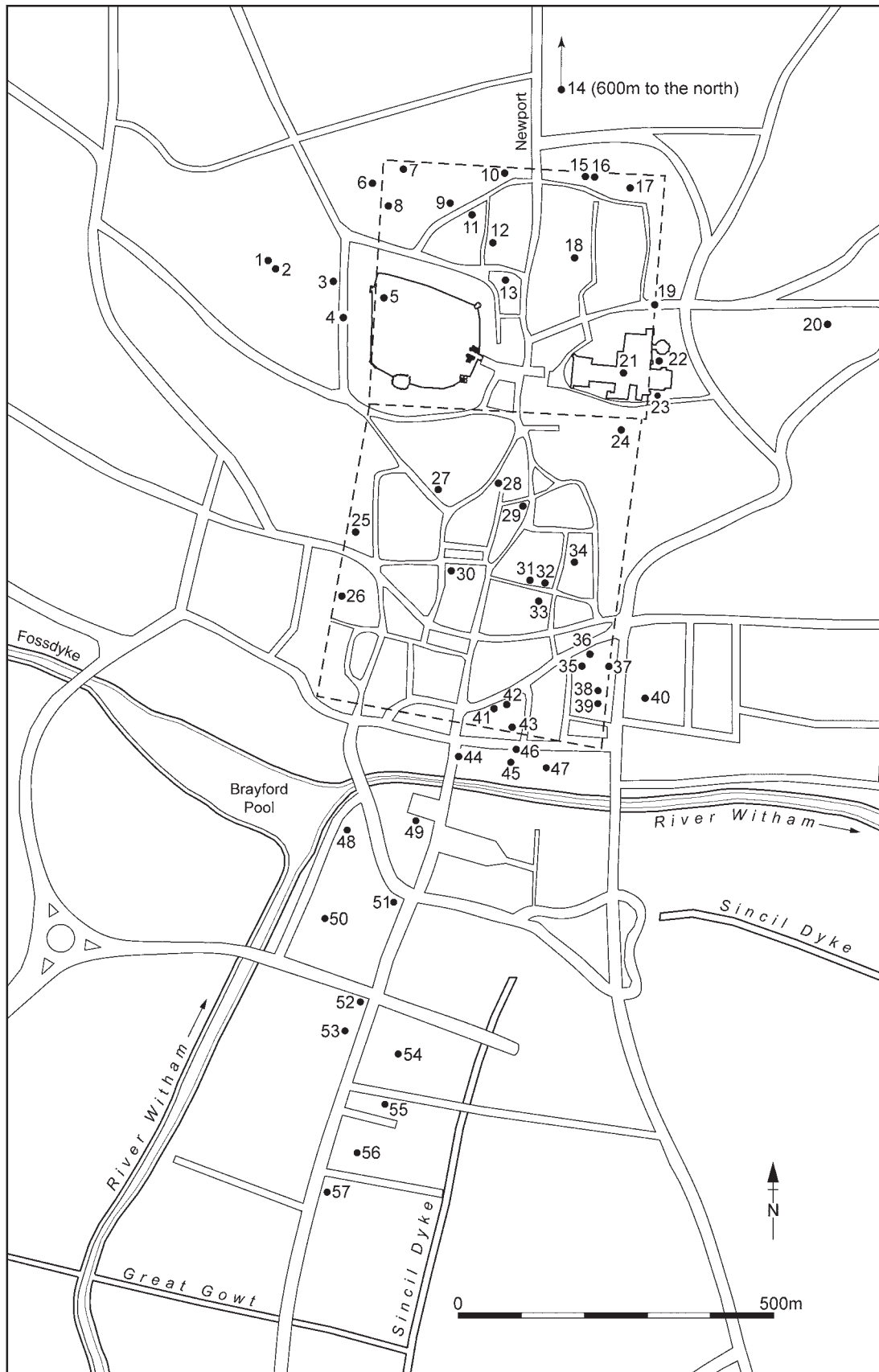


Fig. 2. Location map of sites used in this volume.

No	Site code	Site name
1	LH84	Lawn Hospital
2	LA85	Lawn Hospital
3	L86	The Lawn 1986–7
4	ON173	Union Road 1990
5	CWG86	Castle West Gate 1986–9
6	CY89	Cuthbert's Yard 1989–90
7	–	North Row
8	W73	Westgate School 1973
9	LCL69	Chapel Lane 1969
10	TP69	Temperance Place 1969
11	CL85	Chapel Lane 1985
12	WB80	West Bight 1980
13	SP72	St Paul-in-the-Bail 1972–9
14	BG71; BG74; BG75/76; BG76	Bishop Grosseteste College 1971; 1974–6
15	EB66	East Bight 1964–6
16	EB70; EB78; EBii80; EB81; EB82; EB83	East Bight 1970–83
17	EB80	East Bight 1980
18	CP56	Cottesford Place 1956–8
19	EG	Eastgate
	EG59; EG1960; EG59–62	Eastgate 1959–62
	EG63–66	Eastgate 1963–66
20	WC87	Winnowsty Cottages 1987–9
21	COW92	Lincoln Cathedral 1992
22	CAT86	Lincoln Cathedral 1986
23	LC84	Lincoln Cathedral 1984–5
24	–	Bishop's Palace 1955–8
25	WP71	West Parade 1971
26	P70	The Park 1970–2
27	SPM83	Spring Hill/Michaelgate 1983–4
28	MCH84	Michaelgate Chestnut House 1984–5
29	SH74	Steep Hill 1974–5
30	H83	Hungate 1983–6
31	GP81	Grantham Place 1981
32	F72	Flaxengate 1972–6
33	SW82	Grantham Street (Swan Street) 1982–3
34	FLAX45–7	Flaxengate 1945–7
35	LIN73 A	Silver Street 1973 Trench A
36	LIN73 B	Silver Street 1973 Trenches BI and BII
37	LIN73 C	Silver Street 1973 Trench C
38	GL91	Greyfriars/Library 1991
39	GLB94	Greyfriars/Library 1994
40	BE73 (I to VI)	Broadgate East 1973 Areas I to VI
41	LIN73 F	Saltergate 1973 Trench F
42	LIN73 E	Saltergate 1973 Trenches EI and EII
43	LIN73 D	Saltergate 1973 Trenches DI to DIV
44	WO89	Woolworth's Basement 1989
45	WNW88	Waterside North West 1988–9
46	WF89	Waterside Foreshore 1989
47	WN87	Waterside North 1987
48	DM72	Dickinson's Mill 1972
49	SB85	St Benedict's Square 1985
50	BWE82	Brayford Wharf East 1982
51	HG72	Holmes Grainwarehouse (181–3 High Street) 1972
52	SM76	St Mark's Church 1976–7
53	Z86	St Mark's Station 1986–7
54	ZE87	St Mark's Station East 1987–8, 1990
55	CS73	Chaplin Street 1973
56	M82	Monson Street 1982
57	SMG82	St Mary's Guildhall 1982–4

Fig. 3. Index to sites shown in Fig. 2.

2 Methodology

Margaret Darling with Barbara Precious

The archive

A significant element of the Lincoln Excavations 1972–1987 Post-Excavation Archive project was the establishment of a sherd reference collection incorporating all the identified fabrics occurring within the city, which provides the basis for this corpus. The collection comprises a total of 296 fabrics of local and nationally distributed wares, and forms part of the archive.

The first fabric and form type series had been set up in the late 1970s with numeric codes, essential then for computerisation, and used for the material published in the 1980s. As part of the Post-Excavation project, these type series were re-formulated to use alphanumeric codes for basic archive recording, with a form type series (see Appendix II) based on all published assemblages, the fabric codes (Appendix I) being broadly based upon those developed by Dr. Paul Tyers at the Department of Urban Archaeology, Museum of London, and extended to deal with local Lincolnshire fabrics. Some of the original numeric codes for specific local vessel types remained in use with the addition of letter prefixes for integration into the alphanumeric system.

With the introduction of computer facilities, the records for the earlier published assemblages from The Park (P70), East Bight (EB66), Chapel Lane (LCL69), Temperance Place (TP69) and Holmes Grainwarehouse (HG72) were entered into the database, and re-formatted where necessary, particularly in relation to the change from numeric to alphanumeric codes for fabrics, forms and decoration, surface treatment and manufacture, so that the data from these sites would be available for use (all quantified for sherds and weight, with the addition of estimated vessel equivalents – EVEs – for The Park).

Other material recorded in the database includes the pottery from the Cottesford Place bath-house

excavations directed by Dennis Petch, the largest assemblage from the Upper City, and pottery from excavations at East Bight by the Society for Lincolnshire History and Archaeology, directed by Ken Wood, from 1970 to 1983 (grouped as EBS for analysis). The pottery from excavations at The Lawn directed by Peter Rollin (LH84, LA85) is incorporated into the database of material from the later investigations at this site (L86). The aim was to make the Roman pottery database as comprehensive as possible, although there are clearly groups of earlier excavated material that were not available for recording.

All sites have a core archive database, the primary archive of all sherds, supplemented by specialist databases for samian, mortaria and amphorae. The basic archive measure used is sherd count; experimental weighing was included for some Upper City assemblages, but there was insufficient funding for this to be employed throughout. The archive record conforms largely to the original recommendations of the *Study Group for Roman Pottery* (Darling (ed.) 1994). Sherds are recorded for fabric and vessel type, all sherds regarded as belonging to the same vessel being entered in a single record.

The primary archive database consists of 11 fields:

- Context
- Fabric
- Form
- Decoration/manufacture
- Vessels
- Draw?
- Drawing no.
- Comments
- Joins/links
- Sherds
- Weight

Most of these are self-explanatory. Field 5, vessels, is a qualitative rather than quantitative field, noting where a single vessel is composed of multiple sherds, or where more than one vessel of the same fabric and type is included. Field 6, Draw?, is used to grade drawing requirements, indicating whether drawing is essential for a new form or for its intrinsic value, or whether it may be required as evidence for dating.

All sites also have subsidiary specialist databases for samian, mortaria and amphorae. All three databases comprise the original site data with additional fields for quantification of EVEs (estimated vessel equivalents), and to record diameters (limited resources precluded the latter for samian). The additional fields in the samian database give kiln area, potter's name, die number for stamps, date and cross-reference to published reports. Additional fields in the mortaria database include those for fabric type, vessel status (*e.g.* type-vessel (TV) or similar (CF)), vessel type, potter, die number and date; for amphorae they include fabric/source, vessel status, vessel type, stamp, die number and date. The core archive database has been updated to include any changes and new information resulting from specialist reports, and remains the primary reference point.

A few larger assemblages, mostly of late Roman date, were quantified (with rim diameters, EVEs, sherds and weight): specific late groups from Hungate and Grantham Place, Holmes Grainwarehouse and Flaxengate (F72), and all of the pottery from The Park, including the significant group of pottery from a late rubbish deposit on the berm (Darling 1977), which originally had been quantified in the 1970s on a vessel count to facilitate comparison with other published sites at the time.

The development of the Plotdate technique (see below) for assessing the level of residuality demonstrated the high residual content encountered on urban sites, limiting their potential which, together with lack of resources, curtailed any further quantification work. There is, however, undoubted potential for further investigation of this large and detailed database in future; the plotdate charts highlight major groups with a lower residual content suitable for analysis to yield information on, for instance, site formation processes and the changing content of pottery groups over time.

The pottery data was entered and processed using a computer network running under the UNIX operating system; all the data can be readily extracted as comma-separated data files for use with other systems. Much of the analysis work was undertaken outside the City of Lincoln Archaeology Unit using LINUX. The pottery databases were kept separate from the site phasing and interpretation files, both subject to change, until merged for analysis work. Apart from programs compiled for the extraction

and filtering of data, the main computer programs used were Plotdate and RCOD.

Computer programs

Plotdate

The original reason for the use of the Plotdate program was to facilitate assessment of the residual content of pottery groups, necessary not only for decisions regarding further work on the pottery but also for work on other finds, particularly undatable material such as animal bones. The earliest attempts to assess residual content were based on five broad chronological periods (Darling 1994a), and showed potential but needed refinement. Dr. Paul Tyers had developed a UNIX program called 'Plotdate' for his own use to examine the dated output of individual mortarium potters, which spread the dated values in the same way as has been used for samian stamps, and he very kindly agreed to make this available to CLAU. Experimentation quickly showed the potential of incorporating this into the existing program to produce comprehensible charts, and we are grateful to him for generously making various modifications to adapt it more closely to our needs. The incorporation of his program was the final piece in the jigsaw.

The Plotdate program works from two fields giving the earliest and latest date from a data file, and a count field. The resulting 'value' (usually sherds) of each record is spread over its range either as the raw 'value' or converted into percentages, which are essential for comparing assemblages of disparate size. The spread is as that often used for samian stamps, *i.e.* the value or percentages for a date of AD 100–120 being spread over 20 years, with one-half per decade, or a quarter per 5-years. The date intervals range from 5 to 20 years, depending upon the accuracy feasible. The 20-year span has proved to be the most commonly used when dealing with total assemblages, while the default decade (or 5-year) interval is effective with the more closely dated samian. The date range of the final plot can be adjusted to fit the requirements of the material, the default range being AD 40–400, usually trimmed to AD 40–260 for work with samian alone.

To prepare the data to feed through the Plotdate program, a variety of small programs were written to filter extracts from the database through a 'look-up' table, which assigns a broad date range to each fabric and form combination. The broad date ranges inevitably lead to a 'tail' of dated values beyond the date limits of the group, so that a group likely to end in the late 3rd century will still have some values plotted into the 4th century, arising from the

presence of widely dated types or fabrics. Equally, groups starting in the 2nd century will inevitably show some low values for the 1st century. To keep the 'tail' within manageable proportions, the work is limited to fabric/vessel type combinations datable within a range of no more than 150 years, most much shorter.

The analysis can also include samian prior to specialist attention to give field officers useful initial assessments. Programs to extract samian data use the date given by the specialist, converted, where necessary, into a numerical date via a 'look-up' table. The 'look-up' tables are the heart of the technique. Body sherds of samian and of many of the colour-coated or other fine wares can be assigned to a vessel type, and these are included (which would not be the case if estimated vessel equivalents (EVEs) were used). The average percentage of sherds plotted over the city is 44.8%. Sites and groups with quantities of samian and fine wares usually show higher percentages (*e.g.* the unusual dumps at Brayford Wharf East; see Steane *et al.* 2001, 78), as do sites with an earlier Roman emphasis (the Upper City plot averages 48.2%, against 44% for the other areas).

This program has been extensively used, primarily to examine the dated content of individual assemblages, whether from sites, phases, and other stratigraphic units (cgs and LUBs: see Site stratigraphy, below), or for fabrics or vessel types. Given a sample of reasonable size (even as low as 100 sherds can provide useful information, although larger groups are preferable), the technique can be applied to any group from a single context upwards. It was also used for the pottery from the Lower City site at The Park (Darling 1999). Plotdate also provides the most informative presentation of the data obtained from the RCOD program (see below).

Dating pottery depends very largely upon the finer vessels, subject to fashion, and less on the functional wares with slower stylistic changes. The dating profiles show periodic dips, as in the late 1st to early 2nd century, the early 3rd and early 4th centuries, largely coinciding with those observed by Going (1992). Declining imports of samian and fine wares may lie behind the first two dips, while the change from beakers to cooking vessels from the Nene Valley in the later 3rd and 4th centuries creates dating problems, particularly with the restricted range of vessel types in that period. The reasons for these fluctuations are complex, leading to problematic interpretation, separating probable economic cycles from other site-specific or geographical factors.

RCOD

We are grateful to Dr. Alan Vince for RCOD, a program that he compiled in order to extract

all records of a specified fabric or vessel type in the pottery database, together with the phasing information for each context, and the size and pottery date of the parent context (the 'pottery context date'). The resulting data extract can therefore be further selected, if required, to limit the analysis by area of the city, site, or parent sample size. Its main use has been to chart the dated occurrence of fabrics or forms, thus aiding definition of chronological ranges. This is still problematical because of the varying residual content of assemblages, but provides a factual basis upon which to focus further investigation. The most important information is the earlier occurrence of a fabric or vessel type, allied with the sample size to assess the veracity of the contextual dating.

Presentation

The pottery is presented in seven ware groups: Fine, Oxidised, Shell- and Calcite-tempered, Reduced, Mortaria, Amphorae and Samian (chapters 3–9). The distinction between 'fine' and other wares in this volume is made largely on the basis of fabric and function: the former are usually of fine clay and were intended for use as tablewares, rather than for the preparation or storage of food. They may also have surface decoration such as slip, colour coat or paint. However, several of the oxidised fabrics, mainly Cream (CR, p. 51) and Parchment (PARC, p. 73) wares and, to a lesser extent, Pink Micaceous (PINK, p. 61) and Swanpool Oxidised (SPOX, p. 62) wares, feature painted decoration but are included within the oxidised rather than the fine ware category. The decision to categorise them thus was made on two grounds: firstly, because the same vessel form frequently appears as both painted and undecorated vessels and secondly, because the quantity of material and limited resources precluded re-examination of individual body sherds that had been recorded prior to the Post-Excavation project.

Apart from those that comprise exclusively imported vessels (amphorae and samian), and the Shell- and Calcite-tempered wares (from local and other British sources only), the ware groups are subdivided into imported, local, and Romano-British categories. However, it is not always possible to assign individual fabrics to these broad groupings. Some fine wares, for example, were originally thought to be continental in origin and, although more recent work suggests a possible British source, these (MARB: p. 17; WHEG: p. 18) are retained within the imported category. A similar difficulty is encountered in distinguishing between some local and Romano-British wares, particularly among the huge assemblage of grey wares. Owing to the wide

spread and relatively homogeneous geology of Lincolnshire clays, together with – in most cases – the uniformity of Roman vessel forms at certain periods, it is not possible to distinguish between grey wares manufactured by local kilns and those from further afield. Therefore, apart from securely identified products of the local kilns and imported wares, the remaining grey ware assemblage has been subsumed within the Romano-British category. This is also the case with other wares such as roughcast and colour-coated vessels, where it is impossible to distinguish between local and other sources without microscopic examination and/or thin-section analysis; these are categorised as Romano-British.

Within each ware group imported vessels are discussed first, followed by local, and finally Romano-British wares. The individual fabrics in each category are presented, as far as possible, in alphabetical order by code (given with the title of the ware; for full list, see Appendix I).

There is a short, general description of each fabric type; the ware is then discussed under Dating, Fabric and Form.

Dating

This gives a general date range for the ware in Lincoln; the abbreviations used are:

EROM	Early Roman	c. AD 50–120/150
MROM	Mid Roman	c. AD 120/150–250
LROM	Late Roman	c. AD 250–400
VLROM	Very late Roman	c. AD 350–400
ROM	Roman	c. AD 50–400

These broad periods correspond to those used for the construction of the stratigraphic sequence in the site reports (see below), which were well advanced when preparation of this corpus commenced; limitations on resources did not permit further refinement.

The dating of the ware in Lincoln is briefly discussed, accompanied by a plotdate chart (see above) unless the group is statistically unviable. Apart from the amphorae, these analyses are based solely upon the sherd count of individual fabrics. Inevitably, there are a number of instances where the fabric identification is uncertain. Where these occur within a miscellaneous category such as grey or oxidised wares, the uncertain fabrics have been excluded; otherwise they have been included 'as if'.

For the amphorae, weights were used as the basis for the dating charts; although some EVE measurements were taken, most groups are too small for valid statistical analysis. Although weights and EVE measurements were recorded where possible, some of the mortaria (from Silver Street and Saltergate in particular) were missing, therefore sherd count was used as the basis for the data sets.

The data was derived using RCOD (see above), but not all of the pottery presented in this volume is from fully phased sites; discussion of the dating of individual fabrics therefore relies on the ceramic, and not the stratigraphic, date for the individual contexts, *i.e.* the 'pottery context date'. However, the stratigraphic dating is used summarily to determine patterns of, for instance, gross residuality and to determine where fabrics occurred in post-Roman stratigraphy.

Fabric and technology

Many of the wares are generic groups with a consistent range of inclusions, technology and form types rather than a single fabric. The National Roman Fabric Reference Collection number (NRFRC) is given where applicable; for those fabrics with a national distribution the reader is referred to Tomber and Dore 1998 for the fabric description. The Lincoln Roman Fabric Reference Collection number (LRF; K = kiln) is also given, where appropriate. Fabric descriptions using x20 magnification employ the format and codes as given in Orton, Tyers and Vince (1993, 231–42) with the exception of Munsell colours; these were not included in the original records and limitations on resources precluded re-examination of the material.

The abbreviations used in the fabric descriptions are:

A	angular
F	flat
R	rounded
SA	sub-angular
SR	sub-rounded

Silt-sized inclusions are less than 0.1mm.

The results of thin-section analyses are also presented here. The majority were undertaken by Dr. Alan Vince at the City of Lincoln Archaeology Unit (L), supplemented by a small group analysed by Dr. David Williams, at Southampton University (DW). Selection of sherds for thin-section analysis and photomacrography (see Pls 1–4) focused on local wares, particularly those previously unpublished, as well as any rare fabrics. The principal thin-section descriptions are included in this volume, and a full report on all those analysed is available in the archive.

Finally, a description of any decoration and a summary of the technology of the ware are given where appropriate.

Forms

For fabrics that occur only rarely all the forms are discussed together, but for large groups the forms are subdivided by type, for example: flagons; jars;

beakers and cups; bowls; dishes and plates; lids; and other forms. The chronological range of some forms, and comparisons between different vessel types within the broad form groups, are presented as plotdate charts for some of the larger assemblages; again, with the exception of the amphorae, these are mostly compiled on the basis of sherd count.

In some cases, dating profiles are shown for groups that would normally be considered too small for valid statistical analysis; these are generally restricted to specific forms that may act as distinctive chronological markers, or to those that are particularly notable amongst the local products. Where such groups are shown, the number of sherds on which the plotdate is based is given in the text.

Some forms can be closely paralleled with published examples; abbreviations used with reference to these are:

Camulodunum	Hawkes and Hull 1947
D.	Déchelette 1904
Dr.	Dragendorff 1895
Gillam	Gillam 1957
Gose	Gose 1984
Marsh	Marsh 1978
Nene Valley/RPNV	Howe <i>et al.</i> 1980
O.	Oswald 1936–7
Ritt.	Ritterling 1913
Rogers	Rogers 1974
S. and S. 1958	Stanfield and Simpson 1958
Swanpool	Webster and Booth 1947
Young	Young 1977

Stamps on amphorae and coarse wares are discussed and specialist reports incorporated where appropriate within the text, whereas stamps on the mortaria are catalogued and discussed in a separate section within that chapter (7.4). The samian data is presented in the usual manner, followed by an overview of the assemblage (9.4).

The illustrated pottery comes from all available sites, including the earlier assemblages that provided the basis for the form type series, in order to give as full a view as possible of the pottery from Lincoln. The illustrations, produced by several people over a long period of time, use consistent conventions but there are slight stylistic discrepancies in some cases. Stamps on mortaria and amphorae are shown with the appropriate vessels (where these are suitable for illustration) rather than separately. A catalogue of all illustrated vessels is given in chapter 11, excepting the stamped and decorated samian, which is catalogued within the text (9.2 and 9.3).

Pottery data in the site reports

Post-excavation work on the pottery began with the archive recording of each site assemblage; the completed digital archive was then merged with the site phasing information, basic data extracted and, where feasible, plotdate charts produced. Field officers and finds staff together examined the integration of site and finds information. The pottery content of each context group ('cg', see Site stratigraphy, below) was summarised in a draft text, available to all staff via the network. Once the phasing was agreed, this data was further abridged. When all reports had reached this stage, analyses of fabrics and functions, intra- and extra-site comparisons were made, and summaries of the ceramic evidence for each area produced.

Presentation of this data in each of the main excavation volumes (Darling 2001; 2006b; forthcoming a) is restricted to a general discussion of the city area. A series of plotdate charts by stratigraphic unit were prepared for individual sites to illustrate the ceramic chronological development; these were intended for publication but were not used in the excavation volumes. Details for each site are available in the archive (although these were prepared before major reordering of the stratigraphic data took place).

Site stratigraphy

All of the illustrated pottery from the excavations of 1972–1987 can be related back to the site by the stratigraphic groupings, cgs and LUBs, which are given in the catalogue, chapter 11. For each site, the stratigraphic framework was built up using the context records to form a matrix. The contexts, set into the matrix, were arranged into context groups (cgs); each cg represents a discrete event in the narrative of the site. The cgs were further grouped into Land Use Blocks (LUBs); each LUB represents an area of land having a particular function for a specific length of time. The move from contexts to cgs and thence to LUBs indicates a hierarchical shift, from recorded fact to interpretation, and from detail to a more general understanding of the site. The excavation volume for each city area explains the stratigraphic framework, and each site has a LUB diagram, so that the stratigraphic location of the pottery and other finds can be identified; this is supported by textual exposition of the LUB and its component cgs.

Summaries of the ceramic content by cg and by LUB were prepared for inclusion in the site volumes,

together with an assessment of the date of the ceramics in each group (which might be earlier than the deposition date). In the end these were omitted from the site volumes but can be consulted with the excavation archive, along with the digital archive.

Storage and access

All the pottery from the excavations discussed here has been deposited at The Collection, Lincoln (formerly the Lincoln City and County Museum). For each site, the pottery is boxed primarily by context,

with the samian, mortaria and amphorae, and all vessels extracted for drawing boxed separately; the original drawing numbers assigned during archive recording remain with the drawn sherds. The complete contents of each context are detailed in the digital archive; context recording sheets form part of the documentary archive. The fabric type reference collection, housed in multi-drawer steel cabinets, is in the curatorship of The Collection, Lincoln. It is hoped that future access to the digital archive (currently held by City of Lincoln Council) will be provided by ADS (The Archaeology Data Service, University of York).

3 The Fine Wares

Barbara Precious, with a contribution by Valery Rigby

Fine wares form the second largest assemblage after reduced wares (Fig. 4). Within this group Romano-British fine wares – mainly Nene Valley colour-coated wares – predominate, followed by imported fine wares and lastly by local fine wares.

3.1 Imported Fine Wares

Although the total assemblage of imported fine wares is relatively modest, it includes a wide variety of different ware types – fifteen in all (Fig. 5), one of which (Pompeian Red ware: PRW) includes several sub-groups. Fine wares from the Rhineland, *Moselkeramik* (MOSL) and Cologne Colour-coated ware (KOLN), comprise the majority. Wares imported from Central Gaul form the second largest group, of which Central Gaulish Black Colour-coated ware (CGBL) is the most common. With the exception of Lyon ware from South Gaul, the remainder are rarely found in the city.

Imported fine wares occurred in Lincoln throughout the Roman period, their chronological range largely

reflecting the spatial occupation and development of the Roman city. Early Roman fine wares are moderately well represented, their distribution coinciding with the early military occupation. By far the largest group is of mid Roman date, mainly contemporaneous with the expansion of the Roman city: the transition from fortress to *colonia* and the development of the Lower City. The presence of a few later Roman fine wares indicates that imports were still arriving in the city in the 4th century.

All sherd numbers given in the following discussion and used in the plotdate analyses represent the total for each ware, inclusive of those that are less certainly identified.

Argonne ware (ARGO)

Orange-slipped fine wares with distinctive roller-stamped decoration were produced in the Argonne area of northern France from the end of the 3rd century, but the majority date to the mid-late 4th century. Argonne ware is scarce in Lincoln, consisting of nine certainly identified sherds, five of which are

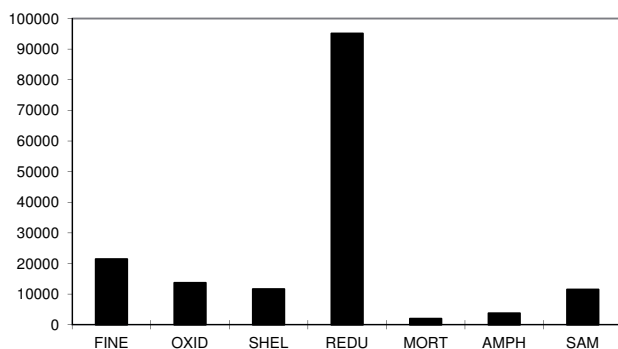


Fig. 4. Ware groups by sherd count.

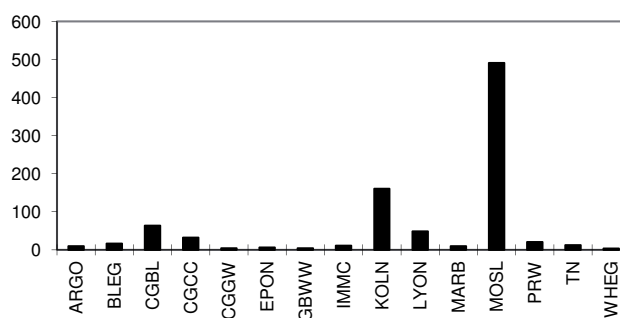


Fig. 5. Imported fine wares by sherd count (see Appendix I for fabric codes).

from a single vessel. These may have been personal possessions rather than part of a larger cargo of imported goods.

Dating: LROM

Argonne ware was predominantly associated with late to very late 4th century pottery, but mostly in post-Roman contexts. The earliest occurrence of Argonne ware was the late 3rd century, which agrees well with the national distribution.

Fabric and technology

NRFC: ARG RS (red-slipped), ARG CC (colour-coated)
LRF200

The principal form of decoration consists of roller-stamped designs.

Forms (Fig. 8, 1)

The hemispherical bowl, similar to samian Dr. 37, is the main form found in Lincoln. Rims are scarce; the illustrated example (1) is decorated with a series of inverted ovolos and chevron stamps.

Black Eggshell ware (BLEG)

Only sixteen sherds of this ware have been found in Lincoln. North Italy is considered to be one source of these wares, but there is a high concentration in North Gaul (Rigby in Davies *et al.* 1994, 147); vessels from both sources were imported during the pre-Flavian period.

Dating: EROM

Two sherds were associated with mid to late 1st century pottery, and one came from a mid 1st century context at Holmes Grainwarehouse, a site with evidence of late Iron Age to early Roman occupation, the pre-Flavian date generally ascribed to this ware. The majority were stratified within mid to late Roman contexts, where they were residual, unless they are misidentified undecorated sherds of Parisian-type ware (see 3.2 PART, below).

Fabric and technology

LRF176

This ware is generally fine and very thin-walled with black burnished surfaces. The type-sherd (LRF176) is fine and light to red-brown in colour, with a slightly hackly fracture. Silt-sized quartz is the main inclusion, with occasional larger grains (SA 0.2–0.3mm), rare white mica and rarer ferruginous inclusions (SR >0.3mm). Although it is a reduced ware, the general characteristics of this fabric are reminiscent of imported, mica-dusted embossed beakers (see IMMC, below) from Gallia Belgica.

Forms (Fig. 8, 2)

The most common form is a carinated beaker (2), as Camulodunum form 120. Rims rarely survive, but the body sherds are distinctive. A fragment of an Italianate cup similar to that illustrated by Greene (1979, fig. 33, 1) is the only other form recognised.

Central Gaulish Black Colour-coated ware (CGBL)

The mainstream importation of colour-coated wares from Lezoux is generally dated to *c.* AD 150–200 in Britain (Greene 1978a, 19). These wares are relatively well represented within the imported fine ware assemblage, forming the third largest group (63 sherds).

Dating: MLROM

The earliest occurrence of CGBL in Lincoln was in a late 2nd century group, which accords well with the evidence from London and elsewhere (B. Richardson 1986, 115–8). Almost half of the remaining assemblage came from mid and mid to late 3rd century assemblages, whilst the bulk appeared in those dated to the late 3rd and 4th centuries. Almost 30% of this ware came from The Park, where large make-up dumps containing predominantly 3rd century ceramics were used to form the heightened 4th century rampart. Richardson (*ibid.* 115) suggests a date range of *c.* AD 180–210/220 for this ware, commenting that it may have been produced in Gaul until *c.* AD 220; if this is the case, shipment and distribution may have continued somewhat later. Furthermore, as a higher quality fine ware, CGBL may have had a long span of use, which might account for its presence in mid to late 3rd century levels.

Fabric and technology

NRFC: CNG BS
LRF175

The most frequent style of decoration consists of barbotine and rouletting.

Forms (Fig. 8, 3–5)

The bulk of this ware survived only as body sherds, the majority being beaker forms with rouletting and, less commonly, barbotine decoration. The illustrated examples include a possible motto beaker (3), and another (4) with a tall, grooved rim, which is set at an unusual angle for vessels in the CGBL repertoire; however, the fabric is not securely identified as CGBL. Cups, more rarely found, consist of two fragments from hemispherical vessels, and a handled cup with barbotine decoration (5).

Central Gaulish Colour-coated ware (CGCC)

These colour-coated wares with micaceous fabrics in pure white and a range of buff or pale pastes were probably produced at Lezoux; Greene (1979, 44–5) suggests a date range from the later Neronian to the Hadrianic period.

Dating: EROM

The total assemblage from Lincoln is small (32 sherds), and only four sherds were stratified in securely dated 1st and later 1st to early 2nd century contexts, with a further fourteen fragments in early to mid 2nd century groups. Most came from deposits post-dating the accepted latest date for their importation. The majority of the fabrics appear to be those in the buff to light brown category, which tend to be of later date (Davies *et al.* 1994, 130), and this factor may account for the relatively high number from mid to late 2nd century assemblages.

Fabric and technology

NRFRC: CNG CC 1 (white), CNG CC 2 (cream)
Roughcast decoration of clay particles appeared in the Neronian/Flavian period, but 'hairpin' and 'teardrop' decoration are more common on Flavian/Trajanic vessels; those with appliqué decoration are rare, and tend to date to the earlier period of production.

Forms (Fig. 8, 6–9)

Roughcast beakers with cornice and everted rims are the most common vessel types (*e.g.* 6, in a buff fabric), but most are only body sherds. There is a single folded roughcast beaker, also in a buff fabric (7). Beakers with 'hairpin' decoration (8) are scarce, as are fragments of discus lamps.

The most notable vessel in this fabric is a cornice-rimmed beaker (9) with an exquisitely tooled appliqué decoration depicting a running deer. This vessel was recovered from a Flavian context at the East Gate. A vessel with the same form and decoration from the Louvre, France, is illustrated by Vertet (1971), who comments that this vessel type is intermediate between metal/Rhone Valley originals and the familiar Central Gaulish series; Dr. Kevin Greene (*pers. comm.*) agrees with a Flavian date for this vessel and suggests that the source is probably Lezoux.

Central Gaulish Glazed ware (CGGW)

Lead-glazed wares were produced in Central Gaul – mainly vessels with a white fabric from the Allier Valley (Greene 1979, 99–100), but also those in a more micaceous fabric from Lezoux (Greene 1978b, 39) – and imported into Britain during the pre- to early

Flavian period. This distinctive ware is extremely rare in Lincoln, consisting of just four sherds.

Dating: EROM

A single sherd is from a securely dated late 1st century deposit. The illustrated example (10), a typical cornice-rimmed beaker, is from an early 2nd century assemblage that also contained a high proportion of residual 1st century wares.

Fabric and technology

NRFRC: CNG GL 1 (white), CNG GL 2 (cream)
LRF183, 207

Both the white and buff fabrics, LRF183 and LRF207 respectively, occur in Lincoln. The uneven glaze varies in colour from a yellow tone to dark green. Although moulded decoration is known in the CGGW repertoire none occurs at Lincoln, but a single example has barbotine decoration of trailed dots and a circle.

Forms (Fig. 8, 10)

Apart from the cornice-rimmed beaker (10), CGGW only survives as fragmentary body sherds, probably also from beakers.

Céramique à l'éponge (EPON)

This marbled ware was produced in western Gaul, and in Britain is generally dated to the later 3rd and 4th centuries (B. Richardson 1986, 130). Only six sherds are identified as EPON, but others may be unrecognised among the unsourced marbled wares (see MARB, below).

Dating: LROM

The small assemblage (six sherds) only occurred in very late 4th century or post-Roman deposits.

Fabric and technology

NRFRC: EPO MA
LRF206

The ware is distinctive, with lightly sponged, marbled surfaces.

Forms

À l'éponge only survives as body sherds but, apart from one closed vessel, all resemble Raimbault's form 6 (Raimbault 1973), apparently derived from samian Dr. 38: a form commonly copied by other late Roman fine ware industries.

Gallo-Belgic White ware (GBWW)

This ware is composed of a series of fine white fabrics, produced during the 1st century at various places in north Gaul or the Rhineland during the

1st century (Tomber and Dore 1998, 22). Darling (1988, 11) comments that, despite slight variation, the cream to light brown sandy fabrics with finely burnished external surfaces could all have come from south-east Britain rather than the Continent. It is very rare in Lincoln; the four sherds are from a single site, Holmes Grainwarehouse.

Dating: EROM

Three sherds were found in mid and mid-late 1st century contexts; the fourth was in a deposit dated from the later 1st to the early 2nd century.

Fabric and technology

NRFC: NOG WH 1 (pipeclay), NOG WH 2 (powdery), NOG WH 3 (sandy)
LRF332

Decoration consists of very fine rouletting and fine comb-stamped designs.

Forms

Although surviving mainly as body sherds, the form is restricted to butt beakers. The single surviving rim fragment is of Camulodunum form 113.

Imported Mica-dusted ware (IMMC)

This ware is considered to be a product of Gallia Belgica, possibly from the vicinity of Bavay and Nijmegen; Marsh (1978, 150) dates it to the second half of the 1st century, a date confirmed by Rigby (see The Camaro Beaker, below).

Dating: EROM

The very small group from Lincoln (eleven sherds, including six from a single vessel) provides no firm dating evidence for this ware, with only one sherd stratified within the suggested date range; the remainder, including the Camaro beaker, came from early to mid 2nd century groups. However, as IMMC also occurs in London in Flavian and Trajanic contexts (Davies *et al.* 1994, 142), it may have continued in use into the early 2nd century.

Fabric and technology

NRFC: BRA MD (Braives)
LRF207

The fabric is a cream to light brown, sandy-textured ware with sparse iron-rich inclusions and exterior mica gilt coating and, although oxidised, shares the general characteristics of BLEG (see above). Distinctive embossed 'bobble-pots' and vessels stamped on the underside of the base occur, but are rare. This type of decoration is also frequently found on mica-dusted wares from Braives.

Forms (Fig. 8, 11–12)

The forms found in Lincoln are restricted to everted-rimmed beakers, both plain (11) and embossed. A complete example of the latter (12), with the base stamped by the potter CAMARO, was found at North Row (now in the British Museum). Fragments of a similar vessel, including the base with an identical stamp, were found at The Park (Darling 1999, fig. 28, 59) and are discussed below.

The Camaro beaker from The Park

Valery Rigby

Stamp: CAMARO.F[ECIT] in a horseshoe-shaped die on the underside of the base. Form – a globular beaker, almost certainly decorated with undefined bosses as Camulodunum form 95. Fabric – cream sandy textured ware, with mica gilt coating on the outer surface.

Camaro die 1A1. From the same die as a stamp on the underside of a complete bobble-pot, with undefined bosses, found in Lincoln, and presumably from an early Roman cremation burial (B.M. 66, 12–13, 49).

The sources of stamped mica-coated bobble-pots are unknown. Examples are extremely rare; in Britain they are recorded from Lincoln (2), London (1), Richborough (2), St Albans (1), Baldock (1), and on the Continent, from Nijmegen (2), Mainz (1), Trier (1) and Cologne (1). For the number of examples, the proportion of repeated dies is unusually high, for besides the pair from Lincoln, Exscingius is represented at Nijmegen and Cologne, and Induccius at London and Baldock. The names and dies are totally distinct from those used on samian, terra nigra, or terra rubra, which suggests at least different workshops, if not totally different production centres. However, Induccius made carinated and necked beakers in black 'eggshell ware' as well as mica-coated bobble-pots, and the stamp distributions suggest that the former products appear to have been made somewhere in northern Gaul and/or the Lower Rhineland, possibly in the vicinity of Bavay and Nijmegen, in the Nero-Flavian period. The implication is therefore that at least one workshop was also producing mica-coated bobble-pots. However, the number of finds is far too small for the distribution to be really meaningful in terms of identifying production centres and defining markets.

No stamps on mica-coated wares, or sherds from bobble-pots, have been identified in pre-conquest contexts. A Nero-Flavian date of manufacture is suggested by the presence of sherds from an identical beaker, but with no stamp surviving, in the Fort Ditch at Cirencester (Rigby 1982, fig. 58, 289).

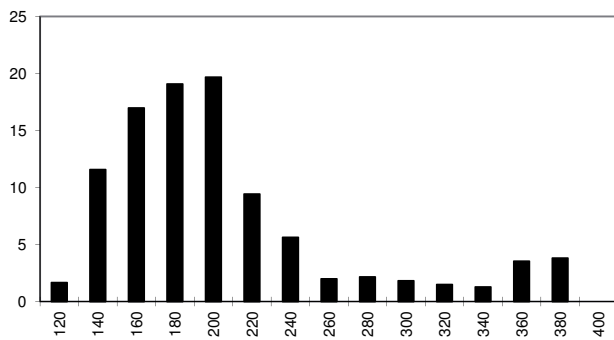


Fig. 6. Cologne Colour-coated Ware: plotdate by sherd percentage.

Cologne Colour-coated Ware (KOLN)

Barbara Precious

This ware (160 sherds) is the second most common of the imported fine wares in Lincoln. 'Cologne'-type wares were probably produced from the Claudio-Neronian period at a number of sites in the Lower Rhineland, including Cologne, although it was rare in Britain at that date (Greene 1979, 56; Anderson 1980, 14–21), occurring mainly *c.* AD 70–250 (Tyers 1996, 148). Both macro- and microscopically this ware, mainly roughcast beakers, is difficult to distinguish from similar fabrics made in Britain (see 3.2 SCCC and 3.3 RC, below). Until the fabrics of these wares can be ascertained through a programme of chemical analysis, the wares assigned to a Cologne source remain enigmatic. Included in this category is a very rare example of a glazed 'hunt cup' (see 14, below), although it is not certainly from a Cologne source.

Dating: MROM

There is no evidence in Lincoln for the 1st century vessels, cups and early beakers discussed by Greene (*op. cit.* 60). Rather, KOLN first appeared in the Hadrianic period, coinciding with the generally ascribed date for the arrival of bag-shaped, cornice-rimmed roughcast beakers in Britain. These vessels were superseded by plain-rimmed beakers in the Antonine/Severan period (Dr Paul Arthur, *pers. comm.*). The dating profile (Fig. 6) shows a peak in the later 2nd century, and a sharp decline by the early to mid 3rd.

Fabric and technology

NRFRC: KOL CC

LRF177

Decoration includes clay particle roughcasting, rouletting and barbotine – including 'hunt' scenes.

Forms (Fig. 8, 13–14)

The forms here are confined to beakers, and those with roughcast decoration are by far the most common. Among these vessels, which are represented mainly by body sherds, at least three types can be discerned. Cornice-rimmed, bag-shaped vessels (13) are the most common, followed by folded beakers; there is a single example of an everted-rimmed vessel. Vessels with barbotine decoration, including 'hunt cups', are less common and curve-rimmed types are scarce. It is not possible to distinguish any dating parameters for the two major types of decoration, as both were used from the early 2nd to the early-mid 3rd century.

A rare glazed ware vessel with a barbotine hunting scene (14) from a possible, though not certain, Cologne source was found at Bishop Grosseteste College. Paul Arthur (*pers. comm.*) notes references to glazed 'Castor' ware in the Victoria County History (Northampton I, 210) and the British Archaeological Journal (1845, volume 1, 6). However, whether the 'glaze' referred to is a true lead glaze or the high gloss of a colour coat is uncertain. Glazed hunt cups may have been imported from the continent in the 2nd century. Hubrecht (1966, 74–5) discusses a glazed '*gladiatorenbeker*' in the Roman Museum at Nijmegen, and Charleston (1955, pl. 38a) illustrates a beaker with similar decoration from Bonn, while there are fragments of similar glazed beakers in the Roman Museum at Cologne.

The fabric of the Lincoln vessel is white, with identical quartz inclusions to those of the more common KOLN colour-coated wares; it is also very similar to the mainstream Nene Valley colour-coated wares with white fabrics. The lead glazing is thin, uneven, and heavily bubbled, ranging from yellowish green to brown-green in colour. Traces of glaze are visible on the interior but an apparent colour coat survives only in parts. Stylistically it is perhaps worth noting that the dogs generally depicted on KOLN examples usually wear collars while their heads tend to be chunky with square muzzles (B. Richardson 1986, 1.84 and 1.85), whereas those from the Nene Valley are often more elongated (Howe *et al.* 1980, fig. 3, 27). The Lincoln example is more like the latter. However, until chemical analysis identifies a certain source, the actual provenance of the Lincoln vessel is open to question.

Lyon Colour-coated ware (LYON)

The generally accepted date for the occurrence of Lyon ware in Britain is the pre- to early Flavian period, with cup forms being almost exclusively pre-Flavian and beakers continuing to occur later, perhaps up to *c.* AD 75 (Greene 1979, 17–8). Lyon ware in Lincoln forms a moderate sized group (48 sherds) among the imported fine wares.

Dating: EROM

Half of the assemblage was found with mid to late 1st century pottery, the remainder being clearly residual in groups dating from the early 2nd to the 4th centuries.

Fabric and technology

NRFRC: LYO CC

LRF172–3

Quartz sand roughcasting occurs on the exterior of beakers and on the interior of cups, while applied scale decoration and raspberry roundel appliqués seem to be limited to cups. Barbotine decoration is also part of the Lyon repertoire, but does not appear amongst the Lincoln assemblage.

Forms (Fig. 8, 15–18)

The typical Lyon cup is the most common form here, which fits well with the early Lyon repertoire and the early date of the military fortress at Lincoln. Most are only body sherds, some of which are decorated with applied scales and roundels (17–8). Beakers are slightly less well represented, with both cornice and everted rims (15–6). Lamps are also known in Lyon ware and there are two examples from the city (from Greyfriars Library (GL91) and Steep Hill).

Marbled ware – imported? (MARB)

This group is a loose category of marbled wares from unidentified sources; it is very rare in Lincoln, consisting of only nine sherds. Marbled wares were made at various periods from the 1st to the 4th centuries in the Rhineland (Haalebos and Koster 1981), the Netherlands (*ibid.*), South Gaul (marbled samian), Western France (EPON: discussed above), and various Romano-British sources, in particular London, where it is dated to the Hadrianic period (Davies *et al.* 1994, 122). The fabric of the marbled ware from London is similar to that of the eggshell ware; Marsh (1978, 129) considered that there is sufficient quantity to suggest that both were manufactured locally and they are now believed to be products of the Northgate House kilns, in the Walbrook area of London (Seeley and Drummond-Murray 2005, 108).

Dating: MROM

MARB occurs sporadically in contexts ranging from the early 2nd to the very late 4th century in Lincoln. The date range of this ware in London is predominantly Hadrianic with a very small proportion occurring in Flavian/Trajanic deposits. Almost half of the small Lincoln assemblage occurred in groups dated from the early to mid-late 2nd century, which broadly corresponds with the London dating.

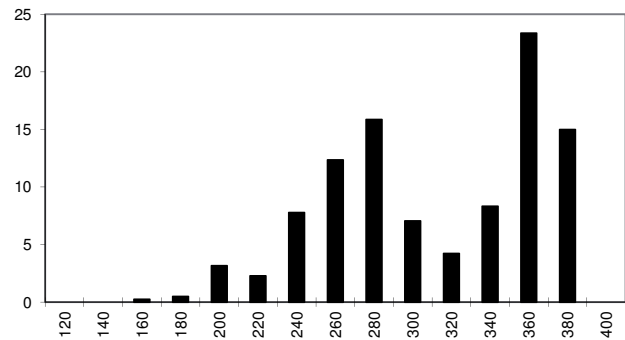


Fig. 7. Moselkeramik: plotdate by sherd percentage.

Fabric and technology

LRF202–5

LRF202, the most typical fabric, is hard with a smooth break and the dense, generally pure white matrix contains sparse quartz (SA <0.1–2mm) with occasional larger grains (>0.8mm) and rare ferruginous particles. It closely resembles the London fabric (Davies *et al. op. cit.* 123). LRF203 (Pl. 1.14) is very similar but with a pink core and LRF204 (Pl. 1.15) is a coarser variant. LRF205 is quite different, having a silty matrix. The sponged marbled slip varies from orange-red to greyish brown.

Forms

MARB only survives as body sherds, some of which are thin-walled; however, two forms can be distinguished: a footring base similar to the bowls of Marsh type 34 and an omphalo base of Marsh type 43. One sherd, a bowl of form Dr. 38 in an unusual fabric, from a very late 4th century/post-Roman deposit, could be EPON rather than MARB.

Moselkeramik (MOSL)

A fine black colour-coated ware from the Moselle region of Germany, near Trier, MOSL is generally dated in Britain to *c.* AD 180/90–250 (Greene 1978a, 19). It is the most common of the imported fine wares in Lincoln (490 sherds).

Dating: MLROM

MOSL appeared in sparse quantities in contexts dated from AD 160/180, rising to a peak *c.* AD 280 (Fig. 7). However, this is mainly due to its high presence at sites in the Wigford suburb, where it was residual within dumps deposited to stem recurrent flooding or as land reclamation. The later peak in mid to late 4th century groups can also be attributed to its redeposition within the late Roman dumps at Flaxengate, and in the dumps of 3rd century material used in the heightening of the late Roman ramparts at The Park.

Fabric and technology

NRFRC: MOS BS

LRF178

Rouletting and white, or occasionally yellow, painted barbotine designs including 'mottoes', are the most common decorative motifs.

Forms (Fig. 8, 19–22)

The vessel types are entirely beaker forms, the majority surviving only as body sherds. Folded examples are by far the most common, and within this group those with funnel necks and beaded rims are highly represented. Occasionally, beakers have slits (20) rather than definite folds. Rouletting in lines or zones and, more rarely, painted and/or barbotine decoration (21) is present on most vessels. Beakers with funnel necks and bead rims but without folded body walls (19) are the next most common group. Plain- and curve-rimmed vessels are present but very rare, and there are several fragments of 'motto' beakers, only one of which is illustrated here (22).

Pompeian Red ware (PRW)

Peacock (1977) has identified seven different fabrics within this group; the three main types PRW1 (from Italy, mid-late 1st century), PRW2 (1st century, 'Mediterranean?') and PRW3 (from central Gaul, mid 1st century to Hadrianic), are all represented within the Lincoln assemblage. Most of the small PRW assemblage from the city (20 sherds) is identified by fabric (PRW1: 3 sherds, PRW2: 4 sherds, PRW3: 9 sherds), but all are discussed together.

This ware is traditionally described as a fine ware although the function of the principal form, a shallow dish with a 'non-stick' surface (Boon 1967, 40), used for bread-making (Greene 1979, 130), suggests that the vessel could have been used in the oven and then brought directly to the table for serving. Sooting on the exterior of some London examples suggests use over an open fire (Davies *et al.* 1994, 131).

Dating: EROM

Although the ware was present from the mid 1st century, which conforms to the generally accepted date throughout Britain, over half of the total PRW assemblage came from late Roman or post-Roman deposits. However, it is worth noting that the most common of the three fabrics, PRW3, also occurred in mid 2nd century deposits; a similar later emphasis for this fabric is noted in London (*ibid.* 134).

Fabric and technology

NRFRC: CAM PR 1 (PRW1); CNG PR 3 (PRW3)

LRF186: PRW1; LRF187: PRW2; LRF188: PRW3

The National Roman Fabric Reference Collection does not contain sherds of PRW2, and the appropriate

description can be found in Peacock (*op. cit.* 154). Fine juddered rouletting and concentric rings appear on the basal interior of plates but only the latter occurs in the Lincoln assemblage.

Forms

The examples from Lincoln are too fragmentary for illustration. Plain-rimmed dishes are the most common type and lids are present but scarce.

Terra Nigra (TN)

These fine black tablewares were produced in northern Gaul, particularly in the area of Rheims, and imported into Britain from the Augustan to the early Flavian period. Terra Nigra is rare in Lincoln with twelve sherds in total, including seven from a single vessel (see 23, below).

Dating: EROM

The ware first appeared in Lincoln in the mid 1st century, continuing into the early 2nd; there are no pre-conquest examples. The later vessels are predominantly of Camulodunum form 16, which accords with Greene's suggestion (1979, 115) that similar forms continued in use into the 2nd century in Belgium and at Nijmegen.

Fabric and technology

NRFRC: GAB TN 1 (Vesle Valley)

LRF174

Forms (Fig. 8, 23)

A single vessel (23) is of Camulodunum form 16. The remaining body sherds all appear to be from similar vessels or indeterminate plates.

White Eggshell ware – imported? (WHEG)

This loose group includes fine, miscellaneous eggshell wares with pale or white fabrics that were produced on the continent at various sites in Gallia Belgica, as well as a number of centres in south-east England, in the 1st and early 2nd centuries. It is difficult to distinguish between the imported and Romano-British fabrics and, in common with MARB (above), a London source is conceivable. This ware is extremely rare in Lincoln, consisting of just three sherds.

Dating: EROM

A single sherd was found in a late 1st to early 2nd century assemblage; another came from a late Roman deposit at The Park and the third was unstratified.

Fabric and technology

LRF209

A dense white fabric occasionally with a light grey

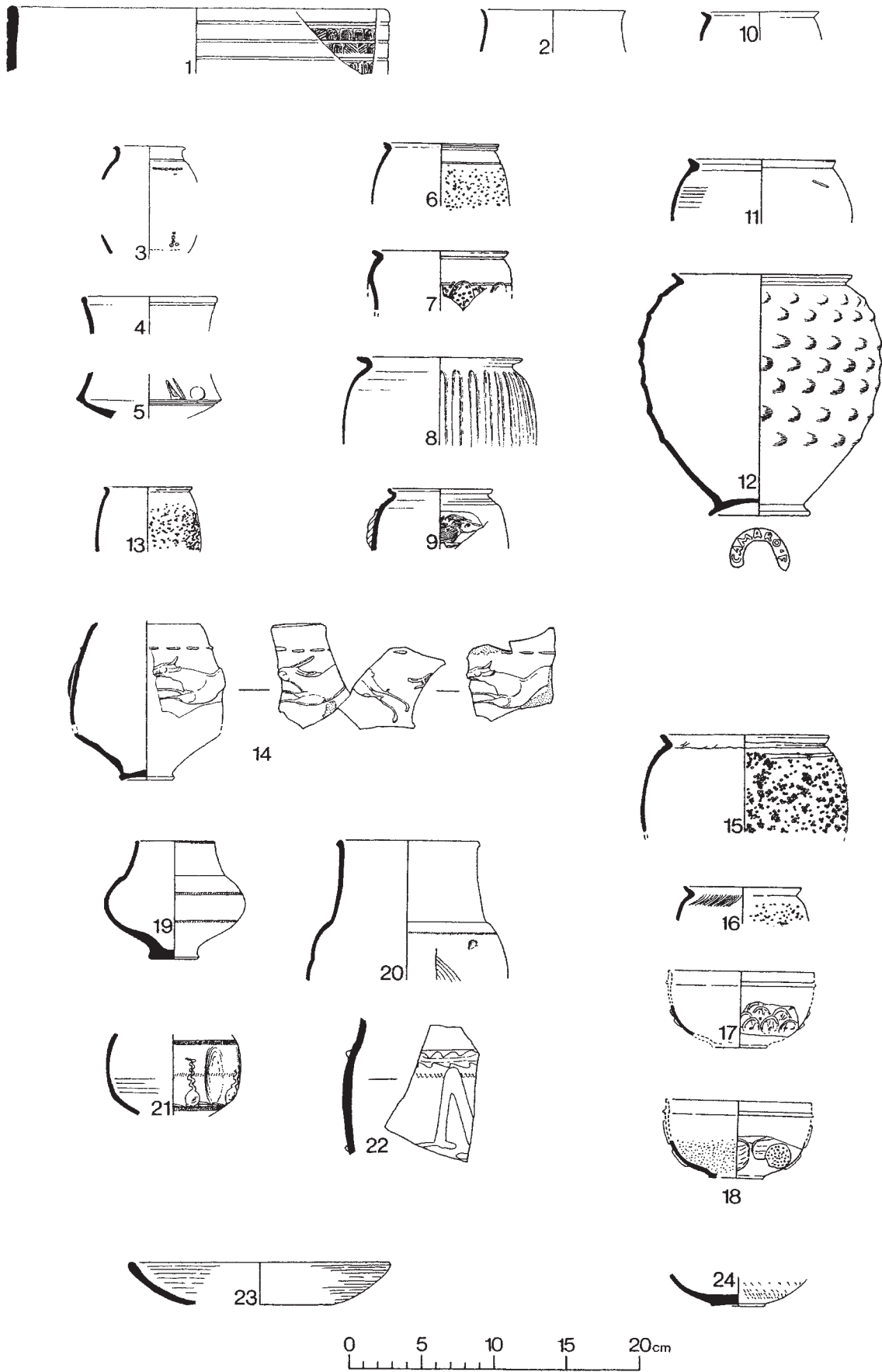


Fig. 8. Imported Fine Wares 1-24. Scale 1:4; stamp 12 scale 1:2.

core, a smooth fracture revealing sparse quartz (SA <0.4mm), and a finely burnished surface that occasionally features fine rouletting; both the fabric and decoration are very similar to the Local Eggshell Ware from London (LOEG: Davies *et al.* 1994, 146–7), and also to MARB (see above). The date of *c.* AD 90–130 suggested by Marsh (1978, 199) would be appropriate for the Lincoln examples.

Forms (Fig. 8, 24)

The only diagnostic sherds are from cups, one a body sherd and the other a base with fine rouletting (24), which is similar to Marsh type 13 (*ibid.* 145).

3.2 Local Fine Wares

Local fine wares form the smallest group of the total fine ware assemblage but may be under-represented, as some of the fabrics in this category are difficult to distinguish either in the hand or with a binocular microscope (particularly SCCC, see below). In contrast to the imported and Romano-British fine ware assemblages, which comprise 15 and 14 different wares respectively, there are only three within the local fine ware group (Fig. 9): Early Red Slipped ware (RDSL), the largest group, followed by Swanpool Colour-coated ware (SPCC), and lastly South Carlton Colour-coated ware (SCCC).

Both the Swanpool and South Carlton fine wares form part of the total repertoire of the respective kilns, and there is a strong relationship between the early Roman fabrics. RDSL, discussed here as a fine ware, is essentially the same fabric as the early Oxidised Cream and Pink Micaceous wares, while 'Legionary'-type Light Grey ware is a reduced version (see 4.2, CR and PINK; 6.2, LEG and Discussion 10.2, below).

Imported equivalents from the Empire and from other parts of Roman Britain may have been in short supply during the early Roman period in Lincoln,

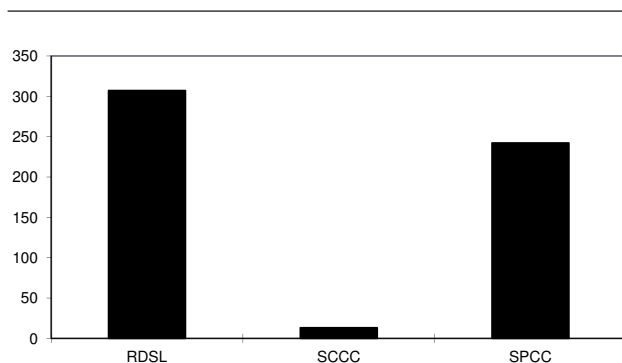


Fig. 9. Local fine wares by sherd count: Early Red Slipped (RDSL), South Carlton (SCCC) and Swanpool (SPCC).

and fine wares were mainly supplied via local production centres. Although no kilns have been located to date, there is a strong possibility that these early wares were produced by *immunes* from *legio IX Hispana* (Darling 2002, 202). However, by the mid Roman period, market systems were well established and supply from other sources superseded local production (see Imported and Romano-British Fine Wares). South Carlton fine wares rarely occur in city assemblages, which is unusual given the relative proximity of the kilns to Lincoln (Fig. 243). Mortaria from the same kilns are similarly rare (see 7.2, below), although stamped examples occur at sites on the Antonine Wall.

During the mid to late Roman period Lincoln was well supplied with fine wares from a number of sources, mainly the Nene Valley region, although supply from further afield, for example the Oxfordshire kilns, appears to have been sporadic by the mid to late 4th century. Local fine ware colour-coated production at the Swanpool kilns was relatively low in comparison, although decorated oxidised products (SPOX) could have supplemented the supply.

Early Red Slipped ware (RDSL)

This ware is distinguished by the predominance of matt red colour coating; some of the cups and beakers are not entirely coated, but are still considered to be typologically part of this repertoire (see Fig. 44, 388–95 for Cream ware bowls with red painted decoration rather than colour coating).

Since Darling's (1981b) detailed discussion of the archaeological antecedents for RDSL, excavations have produced a considerably larger quantity of this ware from the city (307 certainly identified sherds in total), with a wider range of form types; however, the typological links established between Longthorpe and Lincoln remain valid.

Dating: EROM

Figure 10 indicates that RDSL is predominantly an early Roman ware, peaking in the mid 1st century and declining sharply by its end. There also appears to be a relatively large quantity in 2nd century deposits but this mostly reflects the redeposition of early material in later levels. The bulk of the evidence suggests that RDSL may have been largely confined to the legionary period; production effectively may have ceased by the end of the century, coinciding with the departure of the army from Lincoln. Based on the number of records (see RCOD, p. 8), 65% of RDSL comes from the fortress area and 26% from the Lower City, the majority from sites with evidence of 1st century activity. Virtually all the RDSL from Wigford is from Holmes Grainwarehouse, originally occupied in the late Iron Age/early Roman period.

Fabric and technology

LRF264–5

LRF264 (Pl. 1.5): the main fabric is moderately hard and normally creamy white in colour, varying in tone to pinker or browner shades, occasionally with a grey core. The smooth fracture reveals sparse ill-sorted quartz (SR 0.1–0.2mm, and more rarely <0.5mm), sparse red and black iron-rich particles that vary greatly in size, and obvious mica. LRF265 is a rare example with rusticated decoration, but shares the characteristics of the main fabric.

The slip has a tendency to discolour, but is usually matt and light red-brown in colour. Almost all the vessels are slipped on both surfaces (in some cases only partially), except the copies of Pompeian red ware platters. The latter, in common with PRW (see p. 18), often feature decoration of concentric or rouletted rings on the internal base, and barbotine decoration occurs very rarely on cups.

Forms

The majority are based on conventional 1st century samian forms.

Flagons and jars (Fig. 13, 25–7)

In common with their samian counterparts, flagons or flasks are seldom found (Fig. 11); the illustrated flask (25), with a handle scar and groove below, is unlike any conventional samian form. The delicate rim and thin wall are more like those of the early Cream ware (CR) flagons or ‘Hofheim’ types (see Fig. 41, 300). Jars are even rarer, represented only by a body sherd and rim fragment (26). The rim and neck of this vessel resemble those on honey pots: the rim is almost everted with a slight bead at the base, and the neck falls away sharply. Closed vessels, which may be jars or beakers, are more common. An unusual closed vessel (27), with double grooves below a plain rim, may be a jar but, to date, no parallels are known. However, the fabric identification is uncertain, and it could be later Roman Parchment ware (PARC: see

p. 73) rather than RDSL; it was associated with mid to late 1st century pottery but within a 3rd to 4th century assemblage.

Beakers and cups (Fig. 13, 28–44)

Vessels used for drinking, beakers and cups, together form the third largest group after bowls and dishes, with cups being more common than beakers. The majority of the beakers are only partially slipped and have thick, almost stubby rims, varying from upright to everted (28–31), and a groove at the shoulder. A similarly slipped vessel is known from Ancaster (Todd 1969, fig. 1, 4). These vessels lack the delicacy of early Lyon beakers although 32, with a cornice rim, is more reminiscent of the Lyon types.

Cups consist of close copies of both pre-Flavian samian and Lyon ware forms, the former being much more common than the latter. A high proportion of these are only body sherds (see 44, with a neat footring base), but the rims of Lyon-type cups are consistent in style, with a series of grooves below a narrow bead (33–5). One vessel (35) exhibits scars that are probably the remains of barbotine decoration. The majority of the cups resembling samian types are derivatives of form Dr. 24; some have plain rims (36–7), the upper walls varying from rounded to flared. Nos 38–40 are similar but have beaded lips to the upper rim, whereas 41, which is superficially similar, is exactly paralleled by Camulodunum form 60. Darling (*op. cit.* 402) notes that these forms are less common nationally than Dr. 27, but a fragmentary example was found at the Longthorpe kilns, in a local red-brown fabric without slip coating. Copies of the more common 1st century samian cup form Dr. 27 are found comparatively frequently elsewhere, for instance at Wroxeter, Fishbourne, and London, whereas they are virtually absent from Lincoln.

Unusual cup forms consist of a vessel with a fragmentary rim (42) that resembles Loeschcke (1909) forms 7 and 8 and an unusual vessel (43), probably a cup, for which there is no apparent parallel.

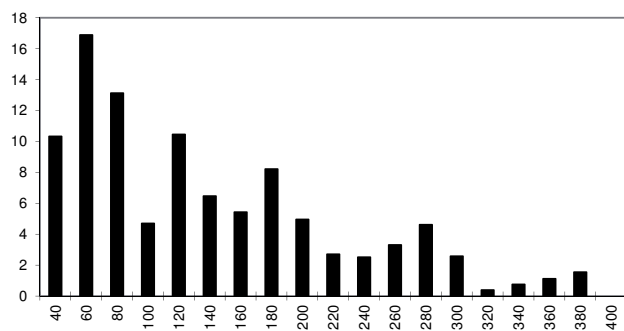


Fig. 10. Early Red Slipped Ware: plotdate by sherd percentage.

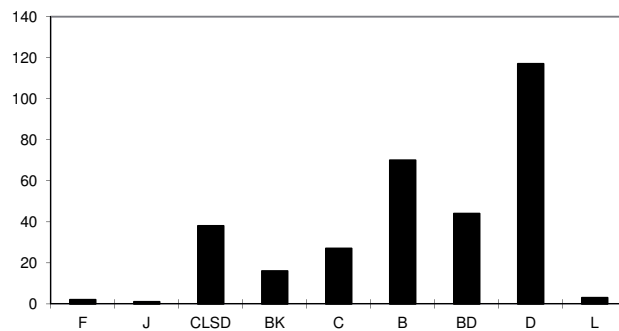


Fig. 11. Early Red Slipped Ware: forms by sherd count (see Appendix II for form codes).

Bowls (Fig. 13, 45–54)

A relatively large amount of otherwise undiagnostic body sherds are from open forms that might be either bowls or dishes. Nevertheless, definite bowl forms constitute the second largest group of vessel types. The majority are close copies of samian form Ritt. 12 (45–52), some with surviving pouring lips. With the exception of 52, which has a markedly downturned flange and a carinated upper body wall, the rims and basic profiles are consistent, but the flanges vary in detail and angle. Most have a groove towards the edge of the flange; 51 is unusual in that it has a double groove.

Other bowls in the RDSL repertoire are rare and are unlike samian forms. They consist of an example with an upturned flange (53), reminiscent of some PRW forms known mainly on the continent and in northern Africa; a similar vessel was noted at Wroxeter (in Rowley House Museum, unpublished; Margaret Darling, *pers. comm.*). Another is a carinated vessel (54), similar to Danubian types. There are just four fragments of probable reeded-rimmed bowls, which generally appear in early Roman assemblages but are more common in the Flavian/Trajanic period; the type is relatively common elsewhere, as at London and York.

Dishes and plates

(Fig. 13, 55–60 and Fig. 14, 61–72)

Dishes and plates form the largest group, and are mainly represented by copies of samian forms Dr. 15/17 (55–9, 62 and possibly 60) and Dr. 18 (61, 63 and possibly 64), in almost equal proportions. Bases with footrings (71–2), internal mouldings, and incised concentric circles (72), are from large platter forms. The rouletted circles on 70 are reminiscent of those on both Dr. 15/17R and 18R. These designs also appear on some PRW platters, and a relatively large number of the plates in RDSL resemble this type of vessel (66 and 68). A larger version with a slight carination towards the base (67) is similar, but is not a typical PRW form.

Other dishes include a small handled vessel with a reeded rim (65); it is poorly made in comparison with the rest of the RDSL assemblage and, although the fabric and colour coat is similar, it is not a samian form and differs from the bulk of the RDSL repertoire. Darling (*op. cit.* 403) notes that a shallow dish or possibly a lid (69) may be paralleled with two shallow vessels at the Nijmegen fortress kilns (Holwerda 1944, pl. III, 271 and 281), post AD 71.

Other forms (Fig. 14, 73–4)

Two unusual vessel fragments are in fabrics that are less certainly RDSL. The first (73) features an applied decoration, probably a face, and the second (74) could be an ear from a face pot. This type of vessel

occurs within the closely allied fabric PINK (see, for example, Fig. 51, 473).

South Carlton Colour-coated ware (SCCC)

This ware appears to be poorly represented in Lincoln assemblages in view of the locality of the kiln site, c. 5km to the north-west of the city (Fig. 243; Webster 1944): only 13 sherds are certainly SCCC, while a further 106 sherds are more tentatively identified as South Carlton products. It is possible that the bulk of the fine wares were exported together with the mortaria (see p. 310). However, as noted above, identification is problematical: SCCC is very similar in both fabric and vessel style (especially the roughcast beakers) to KOLN (see p. 16) and to other roughcast fabrics that are possibly from the Nene Valley area (see 3.3 RC, below), and some SCCC may have been erroneously attributed to these other groups.

Dating: MROM

The dating of SCCC has been securely placed within the Antonine period, mainly by the occurrence of stamped mortaria on the Antonine Wall: at least two of the South Carlton potters, Vorolas and Crico, are dated to c. AD 140–180 (identification by K. F. Hartley). For further discussion of the dating for the South Carlton kilns, see below (p. 310).

Fabric and technology

NRFC: SOC CC

LRFK23B (Pl. 2.21)

The fabric is difficult to distinguish from that of good Nene Valley products and from some KOLN roughcast beakers, as all three fabrics are generally fine and white in colour, with sparse quartz (SA >0.1mm) and sparse fine red particles. Occasional large quartz (>0.3mm) and sparse mica is present in the plain colour-coated SCCC fabrics, but no mica is visible in the colour-coated, roughcast wares. Colour coating varying from pinkish red to reddish brown, painted designs in a similar colour range, and clay particle roughcasting are the main forms of decoration.

Forms (Fig. 14, 75–6)

Virtually all the securely identified SCCC forms consist of beakers with roughcast decoration. Most survive only as fragments but both everted and cornice-rimmed (75) examples are present; both types were found at the kiln site (Webster *op. cit.* fig. 6, 5A; fig. 9, 5B and 5C). A flanged bowl (76) is the only other type represented in the city, and is closely paralleled by one from the kiln (*ibid.* fig. 8, 10). The assemblage of less certain SCCC fabrics is almost identical, with a predominance of roughcast

beakers, including a folded type (there is also a single example of a folded beaker from the kiln; unpublished).

Swanpool Colour-coated ware (SPCC)

The Swanpool area lies some 2km to the south-west of the city (Fig. 243); Webster and Booth (1947) suggest a production date for the kilns *c.* AD 280–350.

Dating: LROM

The stratified assemblage from Lincoln (242 sherds) reflects the dating of the kiln site to some extent but has a much later bias towards the end of the 4th century (Fig. 12), which would be consistent with use and eventual discard. Very little of the material is contemporary with the production of this ware, as most of the assemblage came from secondary deposits such as road make-up and dumps, some of the latter dating to the very late 4th century, and a high proportion was found in post-Roman contexts. A single sherd from an early to mid 3rd century road surface may reflect a stratigraphic anomaly, as all of the associated pottery was late 4th century, possibly indicating a later, unrecognised repair to the 3rd century road.

Fabric and technology

NRFCR: SWN CC

LRF258

The Swanpool fabrics vary considerably in texture, ranging from very fine and almost grit-free to quite heavily tempered, coarse-textured wares (Darling 1977a, 27). The type-herd LRF258 (Pl. 1.10) is hard and brick-red in colour; the hackly fracture reveals moderate amounts of rounded, ill-sorted multicoloured quartz varying in size from 0.2mm to 1.0mm, set in a silty matrix. Other inclusions consist of rare, rounded calcareous and iron-rich particles (both >1.0mm), and sparse flakes of white mica. The fabric has a cream underslip over which is a dark brown colour coat.

The colour quality can vary: not all sherds are under-slipped cream, and then over-slipped with a colour coat. Some vessels are decorated with either cream or dark brown paint in a variety of patterns. The Swanpool potters copied typological and decorative elements of both the Nene Valley and Oxfordshire repertoires, including those based on samian forms.

Forms

Flagons and jars

Flagons and jars are very rare finds and only occur as body sherds, the latter including fragments of a

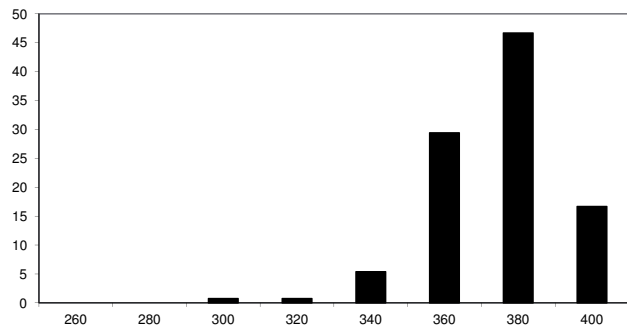


Fig. 12. Swanpool Colour-coated Ware: plotdate by sherd percentage.

possible handled jar and a narrow-necked vessel. A high proportion of body sherds from indeterminate closed forms may belong to this group or could be from beakers.

Beakers

This vessel form is equally rare and is mainly represented by body sherds; these include funnel-necked and folded types, and also a possible pentice-moulded beaker.

Bowls (Fig. 14, 77–82)

Bowls form the largest part of the SPCC repertoire, and the assemblage consists of a diverse range. Three vessel types are similar to samian forms. The first (77) is probably, though not certainly, SPCC and is a very close copy of Dr. 36. This rare vessel is slipped pale pink, and painted a darker pink and dark grey-brown. Slightly more common are bowls of form Dr. 38 (78). Both of these forms can be paralleled with similar types in the kiln assemblage. The third (79) is similar to Dr. 31, but the fabric is uncertain and the form does not appear among the kiln material.

Hemispherical (80) and necked bowls (81) in SPCC were not found at the kiln site. Both illustrated examples have white linear decoration over a dark colour coat, and 81 has a cream underslip. Bead-and-flange bowls (82) are the most common type; those from the kiln site have a variety of rim types (Webster and Booth *op. cit.* fig. 4, D1–12).

Dishes (Fig. 14, 83–4)

Dishes form the second largest group. Plain-rimmed dishes (83) are by far the most common type, and are well represented at the kiln site (*ibid.* fig. 5, E2–7). A shallow bead-and-flange dish (84) is a rare form that does not appear in the kiln assemblage.

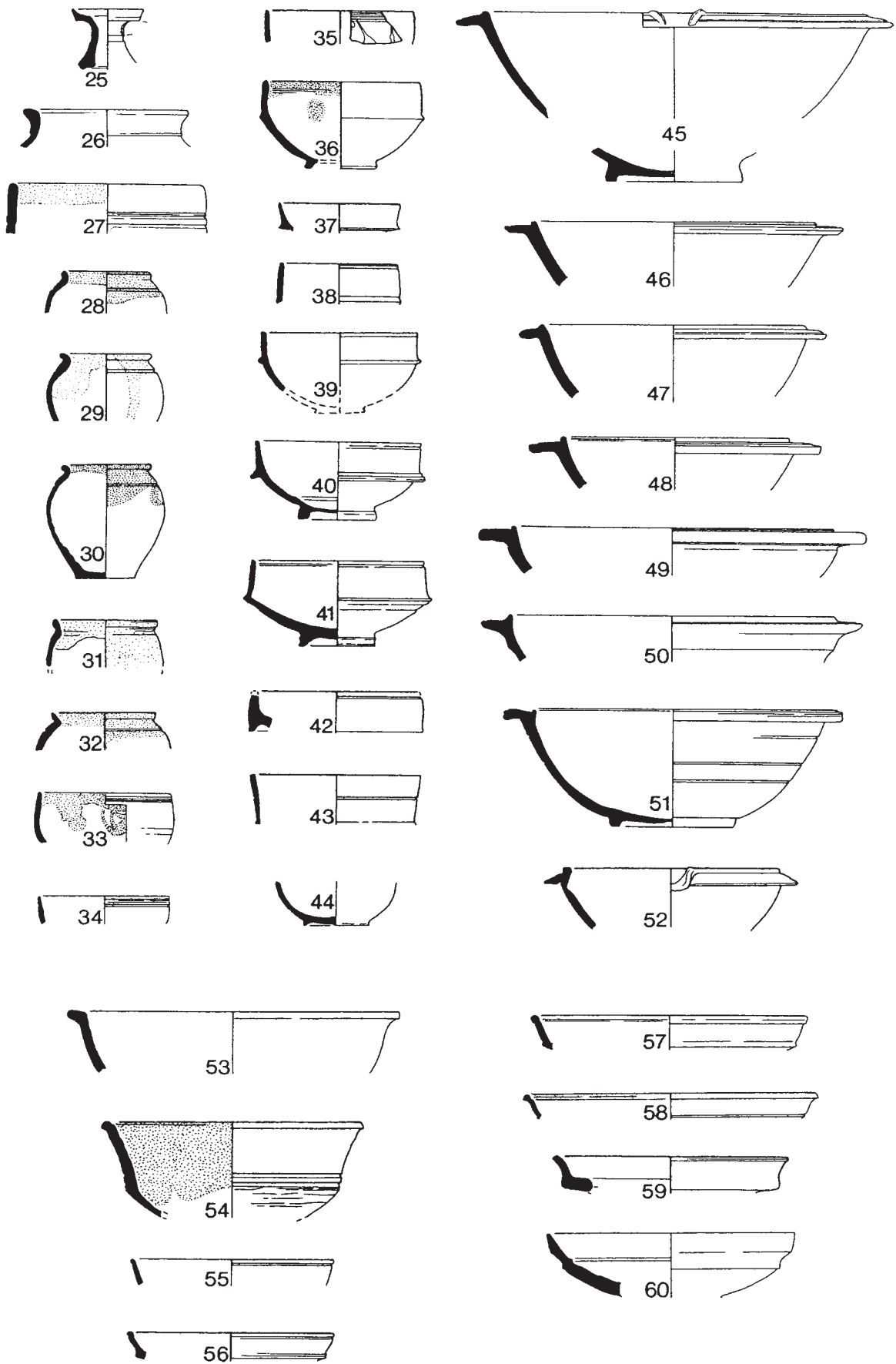


Fig. 13. Early Red Slipped Ware 25-60. Scale 1:4.

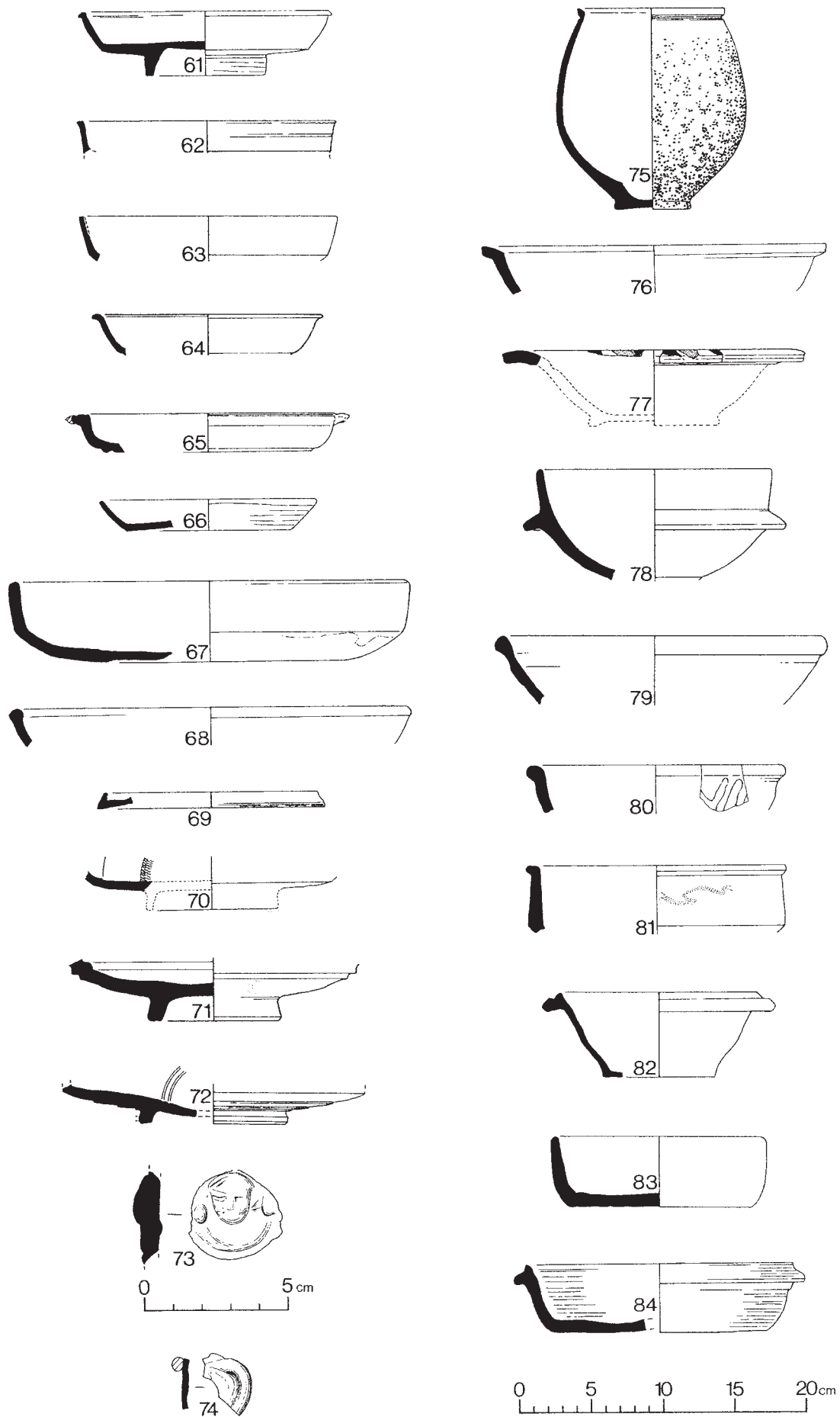


Fig. 14. Early Red Slipped Ware 61–74; South Carlton Colour-coated Ware 75–6; Swanpool Colour-coated Ware 77–84. Scale 1:4; appliqué 73 scale 1:2.

3.3 Romano-British Fine Wares

Romano-British fine wares form the largest group of the total fine ware assemblage, comprising 14 different ware types. By far the most common are Nene Valley colour-coated wares; most other positively identified fabrics rarely occur, and only Parisian-type wares (PART) and Fine Grey wares (GFIN) are found in any appreciable quantities. Some of the unsourced categories, such as the miscellaneous Colour-coated wares (CC) and Roughcast wares (RC) may include a small proportion of local fine wares, as the fabrics are complex and difficult to differentiate.

Romano-British fine wares were predominantly supplied by manufacturers operating during the mid to late Roman period, mainly those working in the Nene Valley.

Colour-coated wares (CC)

This category is the third largest group (515 sherds); it consists of colour-coated sherds with red-brown fabrics, almost certainly from more than one unidentified source. It may include some of the later Nene Valley fabrics, which are difficult to distinguish visually, as well as some local products.

Dating: MLROM

CC has a predominantly late 2nd to 4th century date range (Fig. 15), which is similar to that of NVCC (see below) and possibly reflects the inclusion of some unrecognised sherds of later NVCC fabrics within this group. Its early occurrence during the Antonine period may be due to the inclusion of undiagnostic sherds of local and Romano-British fine ware fabrics, such as SCCC (see p. 22) and RC (see below), respectively.

Fabric and technology

LRF220, 229–32

LRF220, with a white fabric and surface abrasion or possible traces of clay particle roughcasting

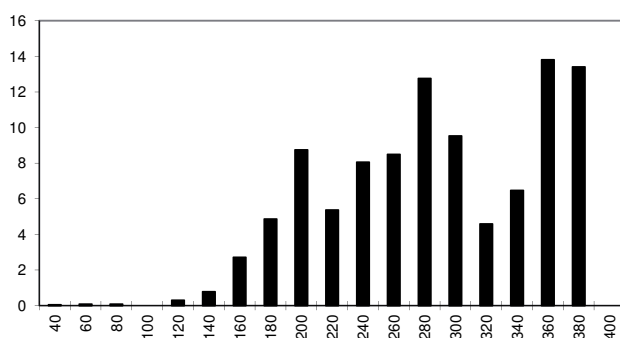


Fig. 15. *Colour-coated Ware: plotdate by sherd percentage.*

(see also RC, below), is similar to the white NVCC fabrics, with almost identical inclusions. LRF231 differs in that the paste colour is red-brown, which is rare in NVCC, and has a dark red-brown colour coat. LRF229 falls within the same colour range as, and the matrix is similar to, NVCC but with additional sparse larger quartz (SA >0.5mm) and sparse large calcareous inclusions, some of which are iron-stained. LRF230 has the same colour range, but with abundant quartz (SR 0.2–0.5mm) and occasional black iron-rich particles (>0.5mm) set in a soapy matrix.

LRF220, 229 and 230 may well be variants of NVCC but LRF232 is quite different. This pale brown fabric with a light grey core could be either a colour-coated or an oxidised ware with a strong self-slip, which is light brown in colour. The matrix contains moderate fine quartz (SA >0.2mm), with moderate red iron-rich particles (0.1–0.3mm) and sparse calcareous inclusions (0.4mm). Unlike the others, this has sparse white mica in the fabric that appears more abundant in the surface.

A wide range of decorative techniques includes barbotine, paint, rouletting, occasional roughcasting and a rare example of roller-stamped decoration.

Forms

Beakers comprise by far the largest proportion of this assemblage; bowls are only slightly more common than flagons, and other forms occur infrequently.

Flagons (Fig. 19, 85–6)

Flagons, some with white painted and rouletted decoration, are represented only by body sherds or handles. This group also includes a complete pinch-necked flagon (85) with a three-ribbed handle. The fabric is red-brown in colour, with a red-brown colour coat giving a bronze sheen. It is hard and gritty with common small quartz grains and black grits. Round areas of burning are evident on the wall above and below the maximum girth, possibly related to deposition. The vessel is similar to NVCC pinch-necked flagons (Howe *et al.* 1980, fig. 6, 63–5), but those lack the fine footring base of the Lincoln example. No. 86 is more unusual, with an incurved rim and a groove near the exterior lip. Similar vessels occur in NVCC, both here (see Fig. 21, 145–8) and at Caister-on-Sea (Darling with Gurney 1993, fig. 142, 178).

Jars (Fig. 19, 87)

No jars have been positively identified, although an unusual vessel with a stubby handle and everted rim (87) is a possible candidate; alternatively, it could be a bowl. The fine light brown speckled fabric has sparse black iron-rich inclusions and a shiny red-brown colour coat.

Beakers (Fig. 19, 88–93)

Most of the beakers survive only as body sherds, but these display the whole range of decorative motifs. The most common form has a cornice rim (88–9); 89 is a rare example with roller-stamped decoration that is unparalleled. Beakers with undiagnostic rims and folded bodies, some with applied scale decoration, are almost as common. This group includes a rare slit-folded example (93) similar to Nene Valley type 53. Funnel-necked beakers (92) form the third largest group, and are represented mainly by body sherds. Other beakers, which occur more rarely, include plain-rimmed and pentice-moulded types. Nos 89, 90 and 91 are all singletons with flattened and slightly everted rims; beneath the rim of 90 are a series of grooves.

Bowls and plates (Fig. 19, 94)

These vessels again occur mainly as body sherds, but identifiable forms include close copies of samian forms Dr. 31 and Dr. 38. Others, represented by fragmentary rims, are plain, flanged, grooved and bead-and-flange types, the latter being the most common. There is a single example of a segmental bowl and an unusual thin-walled vessel with multiple grooves on the straight body wall (94).

Other forms (Fig. 19, 95)

An unusual vessel with a single pre-firing perforation (perhaps for suspension?) through the moulded footing base (95) is in a fairly coarse fabric with a dark brown colour coat, resembling the local Swanpool fabric SPCC. It is well-made, decorated with grooves on the body wall, and seems to be unused. The form is unparalleled and may have been intended for use as a dice box or an ink-pot, as it appears to be too wide for a conventional candle holder. It was associated with late 3rd to 4th century pottery.

Colchester Colour-coated ware (COLC)

The production of fine colour-coated ware probably commenced in Colchester shortly after the conquest and seems to have continued for most of the Roman period. Early products had a relatively local distribution, but after the Hadrianic period COLC was widely traded, especially during the mid 2nd to the early 3rd century. This ware is very rare in Lincoln, consisting of only four positively identified sherds and a further eleven uncertain sherds.

Dating: MROM

The securely identified fragments were found with other pottery ranging in date from the mid-late 2nd to the mid 3rd century, whereas those that are less certainly Colchester products were mainly associated

with pottery dating from the later 2nd to the late 4th century.

Fabric and technology

NRFRC: COL CC 2

LRF181: COLC?

The Lincoln type-sherd was identified by Dr. Robin Symonds as either a Colchester product, or possibly from Sinzig in the Rhineland. Decoration consists of clay particle roughcasting or, less frequently, rouletting.

Forms

There is a single example of a folded, cornice-rimmed beaker and one with rouletted decoration. Rouletting tended to be more common in the later Roman period and the Lincoln vessel, dated to the mid 3rd century, reflects this pattern. A fragment of a castor box is from a late 3rd century context, but the fabric is uncertain.

Fine Grey Ware (GFIN)

This category consists of a moderately sized group (436 sherds) of fine grey ware fabrics from several unidentified sources.

Dating: EMROM

This ware occurred throughout the Roman period, but appears to have been most common in the early 2nd, declining towards the mid 2nd century (Fig. 16). A second peak towards the end of the 2nd century may reflect wares from another, later source – possibly due to the inclusion of unrecognised PART body sherds without the distinctive decoration (see below). Typologically, the forms resemble early to mid 2nd century wares, in particular rusticated jars, poppy-head beakers and copies of samian forms Dr. 18/31 and Dr. 37. The material within groups postdating *c.* AD 200 was almost certainly residual, as these were mainly from secondary contexts, or were late assemblages found in post-Roman deposits.

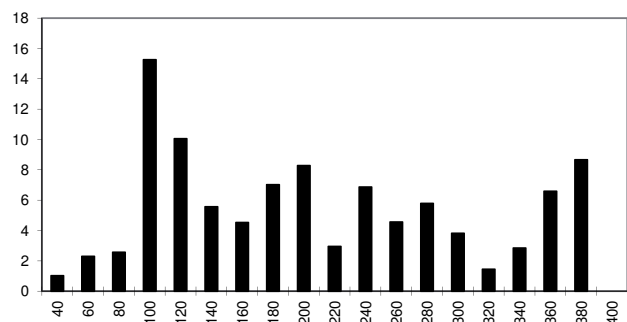


Fig. 16. Fine Grey Ware: plotdate by sherd percentage.

Fabric and technology

LRF281

This is a fine hard-fired fabric, light grey to light brown in colour, with dark grey margins. The smooth fracture reveals a very fine matrix with moderate amounts of sub-angular (>0.1mm and occasionally larger >0.4mm) quartz. Black iron-rich particles (R >0.3mm) occur sparsely, together with rare calcareous inclusions (R >0.3mm) and sparse mica, which is more noticeable in the surface.

The exterior surface is often burnished and decoration includes both linear and webbed rustication, rouletting, barbotine dots and occasional burnished acute lattice decoration.

Forms

Flagons

This form is represented by a single body sherd only tentatively identified as a flagon.

Jars

Everted-rimmed jars appear to be the most common type, whereas narrow-necked and curve-rimmed types are scarce. Rustication, both linear and webbed, is the main type of decoration but rouletted zones also occur. Everted- and curve-rimmed jars with rustication were also produced in a local grey ware (LEG: see Fig. 76, 770–4).

Beakers (Fig. 19, 97–100)

Beakers are the dominant vessel forms in this assemblage, with everted-rimmed types (98) forming the highest proportion. Poppy-head beakers (99) are well represented, and feature zones of barbotine dot decoration. There is a single example of a funnel-necked type, and one with a slightly curved bead rim (97). However, the majority of these vessels only survived as body sherds, some with zones of rouletted decoration (100).

Bowls and dishes (Fig. 19, 101–5)

Bowls are less common than jars, and there is only a single dish. Most are represented by single examples, and these include a segmental bowl (101), close copies of samian forms Dr. 38 (102) and Dr. 18/31 (104), and a flanged bowl (105). No. 103a is also reminiscent of a samian form, Dr. 37, and is decorated with a stamped design. It is the only example from Lincoln with possible East Anglian connections, as the fabric and quality of the stamp is similar to the East Anglian style described by Rodwell (1978, 248–9; for similar stamps, see also Darling 1984, 77, stamp no. 1).

Glazed wares (GLAZ) (Fig. 19, 96)

Apart from those identified as Central Gaulish Glazed ware (see CGGW, p. 14), there are only three other

sherds with glazed surfaces from Lincoln and it is not possible to determine, other than by chemical analysis, whether they are Romano-British or imported wares. Two are from undiagnostic closed forms, one in a cream fabric with a light grey glaze, and the other is a thick sherd, yellow-brown in colour with a yellow-brown glaze. Their dating is equally indeterminate, as one was associated with very late 4th century pottery and the other came from an assemblage that is only broadly dated from the mid-late 2nd to the 4th century. Unfortunately, the third example, an unstratified beaker base (96), can no longer be located.

Fine Grey Micaceous ware (GMIC)

This rare but distinctive ware consists of fine grey fabrics in various shades of grey and/or black, with abundant mica obvious in both matrix and surface. No exact sources are known for this ware, although the 17 Lincoln sherds form a reasonably consistent group, and appear markedly similar in both fabric and form to the London fine grey micaceous ware, produced in the late 1st to early-mid 2nd century (FMIC: Davies *et al.* 1994, 154).

Dating: EMROM?

The assemblage is too small to date with any precision; a number of sherds were clearly redeposited in late Roman secondary or post-Roman contexts. At least two examples were found with exclusively late 1st to 2nd century pottery, a date consistent with the London fabric.

Fabric and technology

LRF280

This fine fabric is hard and light grey in colour, and the slightly irregular fracture reveals a fine silty, moderately micaceous matrix with almost no large inclusions. Occasional rounded dark grey pellets occur, which might be either organic or iron-rich, together with sparse calcareous particles (>0.2mm). The external surface is darker grey and occasionally black in colour, possibly a self-slip, and is often burnished. Decoration is rare and limited to groups of barbotine dots.

Forms

This ware has been found only as body sherds from closed vessels, the single diagnostic piece being the base and body wall of a beaker decorated with groups of barbotine dots.

Hadham/Oxfordshire Colour-coated ware (HADOX)

This small group (50 sherds) is composed of red colour-coated or burnished sherds that exhibit

certain characteristics of both the Much Hadham (Hertfordshire) and Oxfordshire colour-coated wares of the mid 3rd and 4th centuries; these fabrics cannot be conclusively differentiated (Darling 1999, 86) and the exact sources of the Lincoln vessels are unknown.

Dating: LROM

Small quantities of this ware occurred in 3rd century assemblages, but the majority were associated with 4th century wares, occasionally from post-Roman deposits. The date range is similar to that of products from both the Oxfordshire and Much Hadham kilns.

Fabric and technology

LRF171

The type-*sherd* is brick-red in colour with a light greyish brown core. It is hard-fired with orange-red, ?slipped and burnished surfaces. The irregular fracture reveals moderate ill-sorted quartz (SR >0.2mm) set in a moderately micaceous silty matrix. Occasional larger quartz occurs (SR >0.4mm-1.0mm), together with sparse iron-rich particles (R >1.5mm). The thin-section (L1667; Pl. 2.26) shows sparse rounded (>0.5mm) and abundant angular (>0.2mm) quartz, sparse reddish clay pellets (R >1.0mm), sparse altered ?glaucanite (R >0.1mm), and moderate flakes of muscovite (>0.2mm), in an isotropic matrix.

Apart from burnishing, decoration consists of rouletting, white painted designs and stabbed finger-impressions.

Forms (Fig. 20, 106–10)

Bowls and indeterminate open forms are the most common vessel types, but closed body sherds, including fragments of a flask and a beaker, also occur. Close copies of samian forms Dr. 31 and Dr. 38 (106–8) include one with rouletted decoration on the internal base (108). These vessels are also similar to Young type C45. A bowl with a D-type rim (109) is also very close to Young type C46 while 110, with rouletted decoration towards the base, resembles Young type C55. All of these vessels were found with 4th or very late 4th century wares, a date consistent with that of OXRC (see p. 38), suggesting that some fabrics within this group may be OXRC variants.

London-type ware (LOND)

This fine grey or black fabric with characteristic incised or compass-scribed lines together with stabbed, stamped and rouletted decoration, was manufactured at a number of sites, including London (Marsh 1978, 124), Oxford, and the Upchurch Marshes of Kent (Rodwell 1978, 228). Closer to Lincoln are the production sites of West Stow and Wattisfield in Suffolk (*ibid.* 248), and there is a strong likelihood,

suggested by a possible 'second' from Water Newton, that they were also produced in the Nene Valley (Howe *et al.* 1980, 10; Perrin 1980, 10).

Only 11 sherds with the distinctive decoration are certainly identified as LOND; however, the main characteristics of the fabric are very similar to those of Parisian-type ware (see PART, below) and some Fine Grey wares (GFIN, above), and undecorated body sherds cannot be readily distinguished.

Dating: EMROM

In contrast to the dating of this ware in London, where it was present from the early Flavian period but predominant during the early 2nd century (Davies *et al.* 1994, 151), in the Nene Valley it was limited to the second quarter of the 2nd century (Howe *et al. op. cit.*). LOND in Lincoln mainly occurs with pottery dated from the later 1st to the early-mid 2nd century.

Fabric and technology

NRFC: LON FR

LRF297, 335

In common with LOND from the Nene Valley (Perrin *op. cit.*), the Lincoln examples are in a range of fabrics. The type-*sherd* LRF297 (Pl. 2.22) is hard-fired and dark grey to black in colour, with lighter grey margins giving a 'sandwich' effect. The smooth fracture shows a virtually inclusion-free silty matrix (quartz >0.1mm) with very rare red and brown particles (R >0.1mm). Moderate amounts of white mica are visible in the surfaces; the exterior is slipped and burnished and decorated with compass-scribed circles.

LRF335 is medium grey with dark grey margins and hard-fired; the smooth fracture reveals a silty matrix (quartz >0.1mm) with rare black and brown, probably iron-rich, inclusions (R >0.6mm) and very rare calcareous particles (R <0.7mm). White mica is rare in the fabric but common in the surfaces. The exterior surface is slipped and burnished with faint scored, vertical lines grouped in fours. It closely resembles the London fabric LONW (FMIC-1659: Davies *et al. op. cit.*, 151).

Forms (Fig. 20, 111–15)

Bowls are the most common forms, and all are close copies of samian form Dr. 37 (111–4). Decoration is varied but mainly consists of compass-scribed circles and grouped vertical lines with, more rarely, rouletting (113; see also Darling 1984, fig. 17, 145). The stamped decoration on 114 is identical to that on an example illustrated by Rodwell (*op. cit.* fig. 7.13, 104) and falls within his group of East Anglian types. Flanged plates or dishes (115) also occur; some are decorated with rouletted zones on the flange (see also PART, Fig. 36, 277).

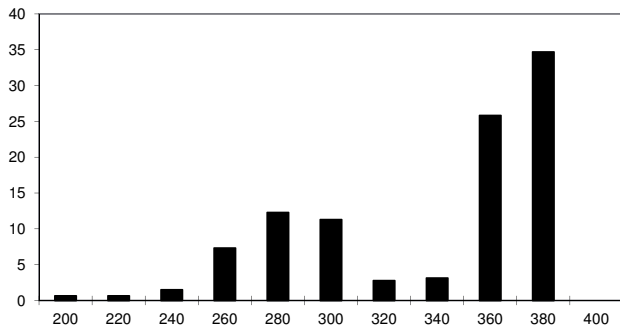


Fig. 17. Much Hadham Ware: plotdate by sherds percentage.

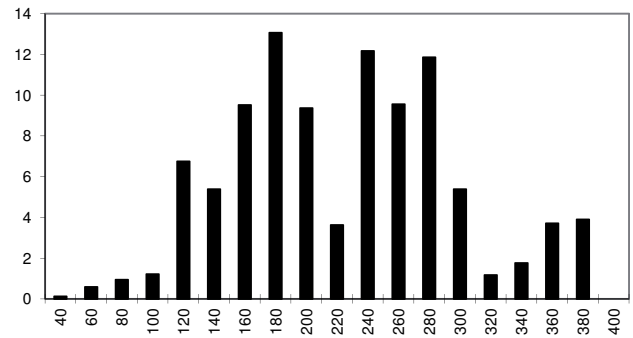


Fig. 18. Mica-dusted Ware: plotdate by sherds percentage.

Much Hadham wares (MHAD and MHADR)

Red colour-coated wares (MHAD) were the main fine wares manufactured at the Much Hadham kilns in Hertfordshire c. AD 200–400. A fine reduced version (MHADR) was also produced, but in smaller quantities. MHAD is relatively rare in Lincoln (152 definite sherds), and there is only a single MHADR sherd.

Dating: LROM

Figure 17 suggests that MHAD appeared at the beginning of the 3rd century, but this is a 'tail' due to material from assemblages that can only be broadly dated to the 3rd century or later (see p. 7), and a mid 3rd century date is probably a more accurate reflection of its first appearance in Lincoln. There is a stronger presence in later 3rd century groups and the majority occurs in late to very late 4th century assemblages, although a high proportion of these came from post-Roman deposits. The probable MHADR sherd was also associated with late to very late 4th century pottery, but in a post-Roman context.

Fabric and technology

NRFRC: HAD OX (Oxidised); HAD RE 1 (Reduced); HAD RE 2 (Burnished Reduced)

LRF208: MHAD; LRF298: MHADR

LRF298 MHADR is hard-fired and fine, with a slightly laminar fracture, and features impressed thumbed decoration. It has a dark grey core with lighter grey margins and dark grey edges giving a 'sandwich' appearance. The matrix has virtually no inclusions, consisting of very fine silty quartz with rare larger inclusions (SA >0.5mm) and very rare black inclusions (R >0.6mm). Sparse mica is more obvious in the slipped and highly burnished exterior.

Vertical burnishing is a distinctive feature on

MHAD and embossed decoration is occasionally present.

Forms (Fig. 20, 116–18)

MHAD is represented mainly by body sherds from closed vessels that may be flasks, jars or – more rarely – beakers. Flagons or flasks, including a disc-necked type, are present in small quantities and only a single sherd is likely to be from a beaker. No. 116, with a curved rim and cordon at the neck, may be either a jar or a bowl. Necked bowls occur only as body sherds. There is a single example of a bowl with a slightly hemispherical body and a thick, slightly out-turned rim (117). The MHADR sherd (118), with impressed thumbed decoration similar to that on GREY 'Romano-Saxon' bowls (see Fig. 129, 1303–19), is also likely to be a bowl.

Mica-dusted ware (MICA)

This relatively small assemblage (189 sherds) comprises mica-dusted wares that do not fall within either the imported category (IMMC, p. 15) or those that were probably manufactured in the Nene Valley area (see NVMIC, below). There is a range of fabrics, suggesting that they are likely to derive from more than one source.

Dating: MROM

Figure 18 indicates that very small quantities of MICA were associated with 1st century pottery, but that it mainly occurred in 2nd and 3rd century assemblages, in particular those of the mid to late 2nd and the mid to late 3rd century. However, a high proportion of the latter were from secondary deposits.

Fabric and technology

LRF182, 222–4, 226–8

LRF182 (Pl. 1.16): this fabric is very similar to a

coarse variant of the Mica-dusted ware from London (LOMI-1244: Davies *et al.* 1994, 136–8). It is pale reddish brown in colour and hard and granular in texture; the irregular, slightly laminar fracture reveals abundant well-sorted clear and opaque quartz (SA 0.2–0.8mm) and sparse black and red iron-rich inclusions (R >0.4mm). A small amount of mica is visible in the fabric and the exterior is decorated with a dark gold mica slip.

LRF222 (Pl. 1.17): a coarse, hard fabric with an irregular fracture and a grey core with pale red-brown margins. Abundant clear and opaque quartz (SR >0.8mm) and very rare black iron-rich particles (R >0.5mm) are the only obvious inclusions. The dark grey exterior is decorated with a gold mica slip. A more oxidised example is orange-red in colour with a dark grey core and features a mica-slipped strip on an otherwise plain body wall.

LRF223: brick-red fabric and surfaces, with an irregular fracture revealing moderate to abundant ill-sorted multicoloured quartz (SR >0.4mm, occasionally 0.8mm) and sparse red and black iron-rich inclusions (R >0.3mm), sparse white mica and rare rounded calcareous particles. The exterior surface has a gold mica slip. The fabric is very similar to the London fabric 1245 (*ibid.* 139), which is possibly from a Colchester source.

LRF224: a fine pink fabric with a laminar fracture showing moderate clear and opaque quartz (SA 0.1–0.2mm) and moderate to sparse red iron-rich particles (R 0.1–0.7mm), together with rare calcareous inclusions (R 0.2–1.0mm). The slightly darker exterior surface has a gold mica slip.

LRF226 (Pl. 1.18): a fine fabric with a smooth fracture, a light grey core and brick-red margins and surfaces. The silty matrix also contains rare larger quartz (SA >0.3mm) and fine black (R >0.1mm) and occasionally red (R >0.5mm) iron-rich inclusions, together with rare calcareous particles (R >0.3mm). The exterior surface is coated with a fine gold mica slip.

LRF227: a slightly granular fabric with a medium grey core and pale brick-red margins and surfaces. The silty matrix (A >0.1mm) contains moderate amounts of ill-sorted clear and opaque quartz (SR >0.4), sparse calcareous inclusions and rare white mica. The exterior is decorated with a gold mica slip.

LRF228: this fabric is very similar to LRF224, but the laminar fracture contains moderate amounts of larger clear and opaque quartz (SR >0.6mm).

Forms

Bowls are the most common forms in MICA, followed by dishes/plates and beakers; other forms occur infrequently.

Flagons and jugs (Fig. 20, 119)

Flagons are scarce and represented only by body sherds, one of which is similar to Marsh type 3 or 4. There is also a single example of a jug (119) that resembles Marsh type 2.

Jars (Fig. 20, 121)

Jars in this fabric occur very rarely in Lincoln. No. 121, with a thickened straight rim, may be a narrow-necked jar or possibly a bowl.

Beakers (Fig. 20, 120)

Beakers are mainly restricted to body sherds. There are two rim fragments, one curved and the other everted. The illustrated vessel (120) is folded with an everted rim, similar to Marsh type 21.10. A single body sherd is decorated with rouletting, and two sherds from closed forms – one decorated with ribs and the other with bosses – are also possibly beakers.

Bowls (Fig. 20, 122, Fig. 21, 123–30 and Fig. 36, 297)

Bowls that are close copies of samian forms are most common and include vessels similar to Dr. 31 (126–9), one of which features an internal rouletted circle (127), and copies of Dr. 36 (123) and Dr. 38 (124). Other bowls occur only as single examples and include: 122, which is similar to Marsh type 44.22; 125, a carinated or possibly flanged type; 130, which is probably a bowl with an internal groove; a plain-rimmed, round-bodied bowl, and a bowl of Marsh type 37. A single example of a reeded-rimmed bowl (297) is similar in form to London examples and in a fabric (LRF182, above) closely resembling London Mica-dusted ware coarse fabric (LOMI-1244: Davies *et al. op. cit.* 136–8, with fig. 116, 749).

Plates and dishes (Fig. 21, 131–6)

The most common plates/dishes (131–3) resemble the typical PRW dish form that is also very similar to Marsh type 24. Nos 135 and 136 are flanged vessels paralleled by Marsh type 26, and 134 is very similar to Marsh type 38.1, although there is no evidence of applied handles on the Lincoln vessel.

Lids

Lids are scarce and only body sherds survive.

Nene Valley Colour-coated ware (NVCC)

This ware dominates the Romano-British fine wares and, after Grey wares (GREY), is the second largest group (17,251 sherds) represented in the entire Lincoln assemblage, although this may be due to its relative fragility and the tendency, particularly of beakers, to shatter into numerous fragments. Evidence suggests that production of colour-coated wares commenced

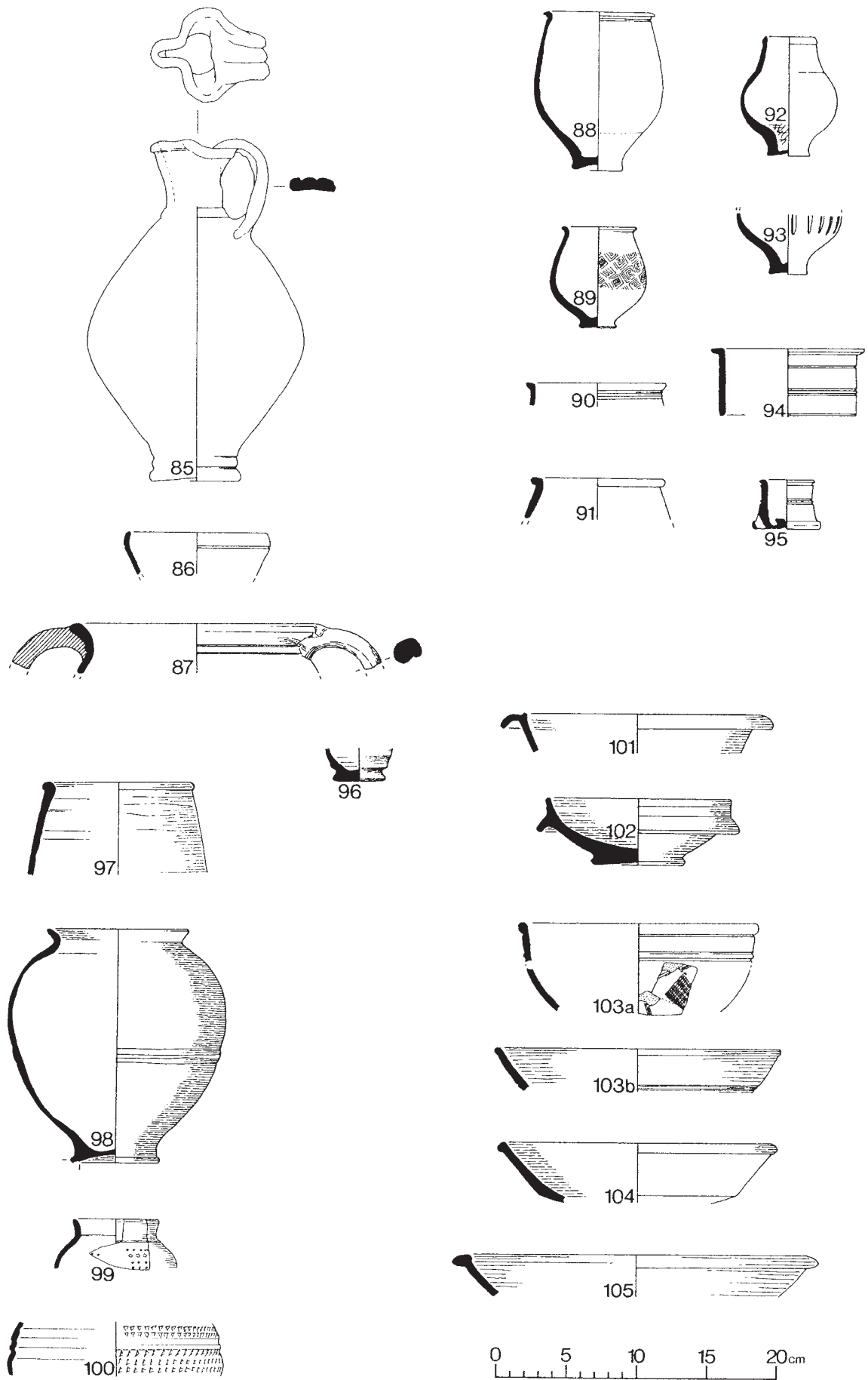


Fig. 19. Colour-coated Ware 85–95; Glazed Ware 96; Fine Grey Ware 97–105. Scale 1:4.

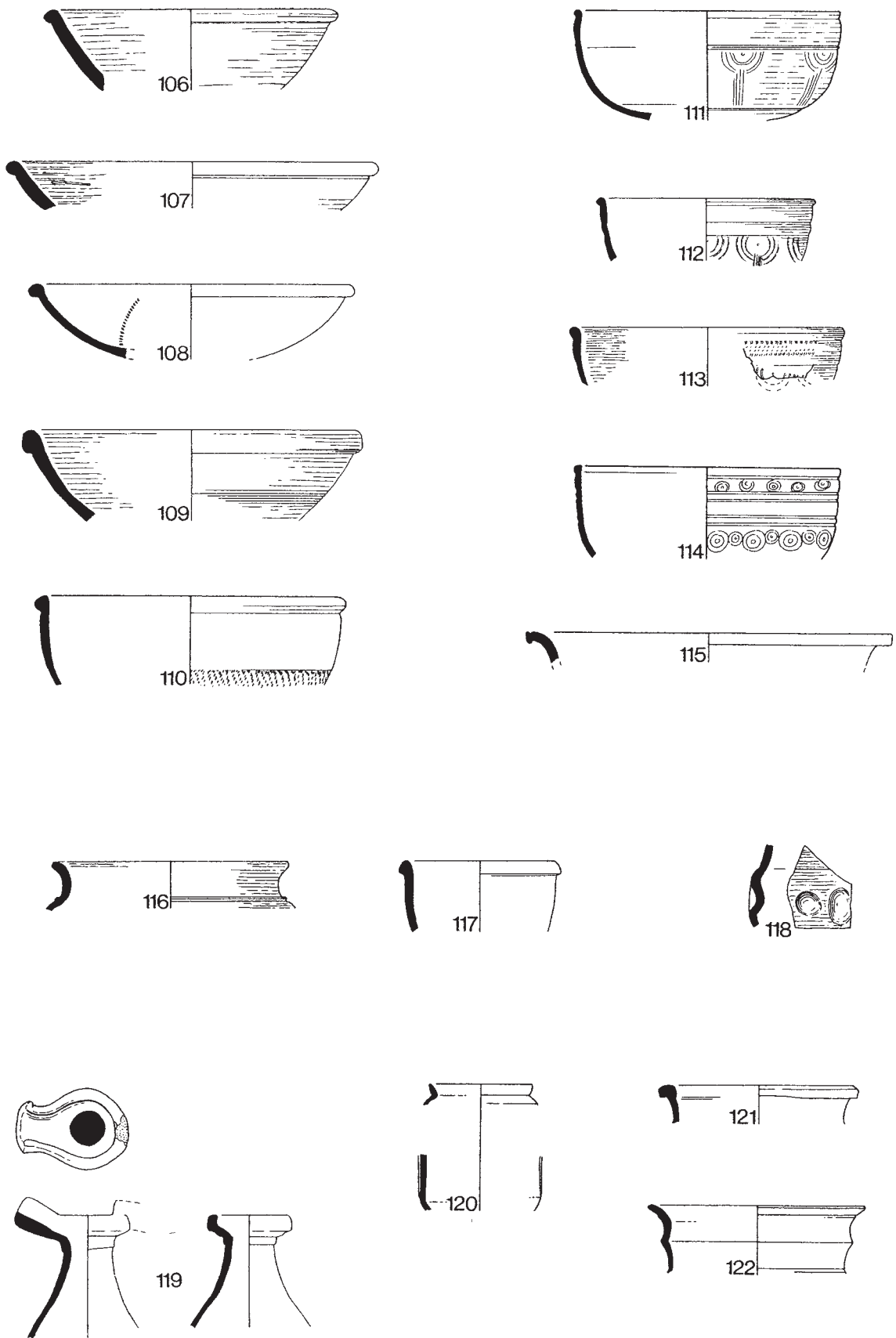


Fig. 20 Much Hadham/Oxfordshire Colour-coated Ware 106–10; London-type Ware 111–5; Much Hadham Ware 116–7; Much Hadham Reduced Ware? 118; Mica-dusted Ware 119–22. Scale 1:4.

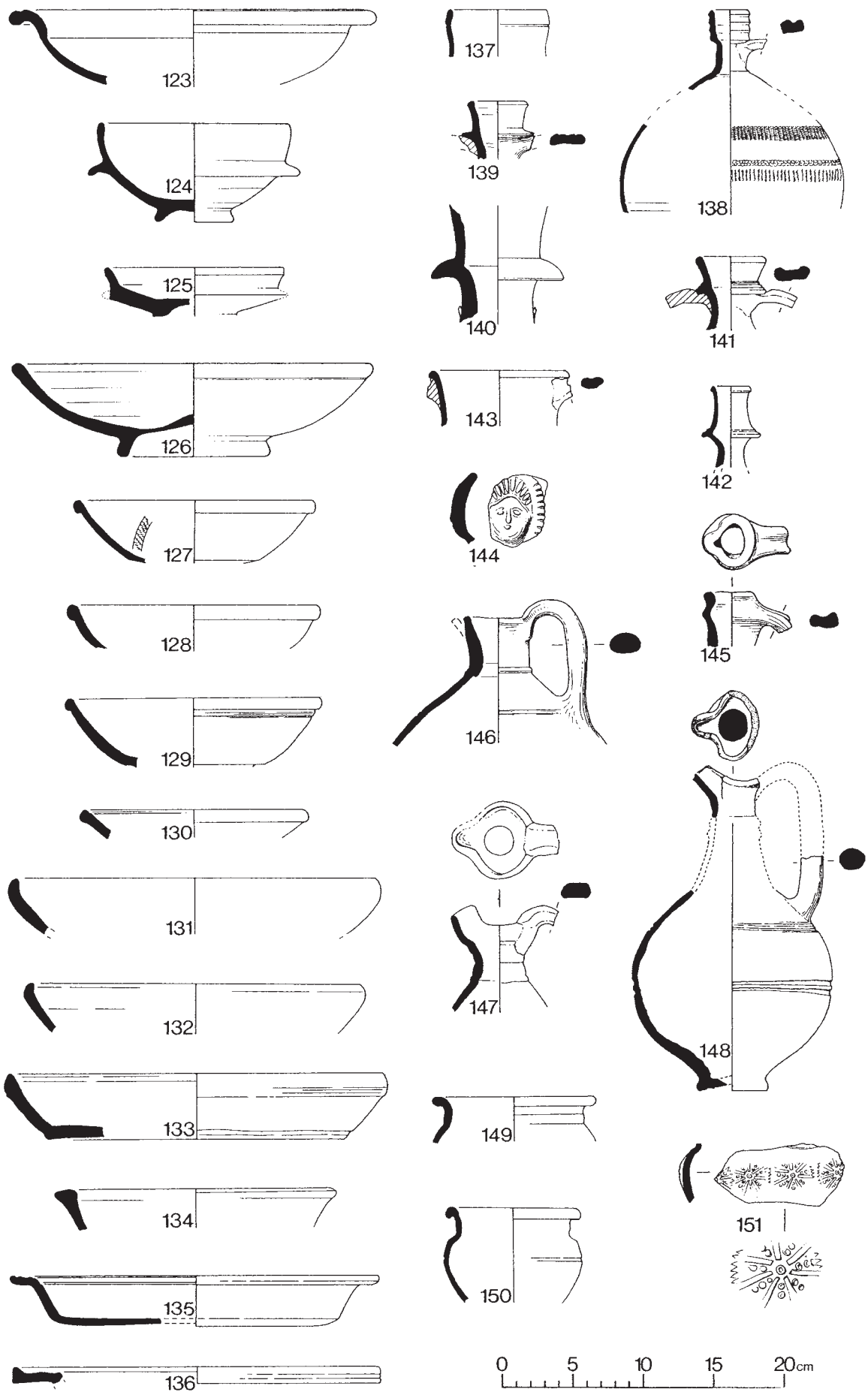


Fig. 21. Mica-dusted Ware 123–36; Nene Valley Colour-coated Ware 137–51. Scale 1:4; stamp 151 scale 1:2.

in the mid 2nd, flourished in the 3rd, and continued until the end of the 4th century at a number of kilns in the Nene Valley (Tyers 1996, 173).

Dating: MLROM

Figure 22 suggests that very small quantities of NVCC appeared in Lincoln by the middle of the 2nd century, but this is partly a 'tail' caused by its occurrence in small groups with broad date ranges, as well as the presence of cornice-rimmed bag-shaped beakers of Antonine date. It was not present in any quantity until the early 3rd century, with a substantial increase thereafter from the middle to the late 3rd century; the apparent drop in the early to mid 4th century may be due to the general difficulty of dating groups to this period (see p. 8). NVCC appears to have peaked in the mid to late 4th century, but a substantial proportion of this later material occurred in assemblages from post-Roman deposits.

Fabric and technology

NRFC: LNV CC

Decoration includes rouletting, painted designs, barbotine and scale decoration.

Forms

There are over 100 different form types within the Lincoln NVCC assemblage. Beakers are by far the most common, followed by indeterminate closed forms. Flagons are the next most common group, followed by bowls and dishes, but jars are rare in comparison.

Flagons (Fig. 21, 137–48)

Unassigned flagon sherds form the largest group in this assemblage. Jugs with pinched necks (145–8) are the most common type, followed by flasks, mainly represented only by body sherds. Disc-necked flagons (139–42) are the third most common group. The remaining flagon types occur less frequently, consisting of those with an inturned grooved rim (137), ring-necked flagons or jugs (138), two-handled (143) and face-necked flagons (144), as well as cup-mouthed vessels, some of which are ringed, and flagons with a bead-and-flange rim.

The date range of flagon forms lies between *c.* AD 180 and 400; notwithstanding the usual early 4th century drop (see p. 8) they occurred most commonly from the mid to late 3rd century onwards, peaking in late 4th century assemblages (Fig. 23), although most of those came from post-Roman contexts.

Jars (Fig. 21, 149–51 and Fig. 30, 249)

The majority only survive as unassigned body sherds. Identifiable jar forms are rare but within this group rounded-rimmed types (150) are the most abundant.

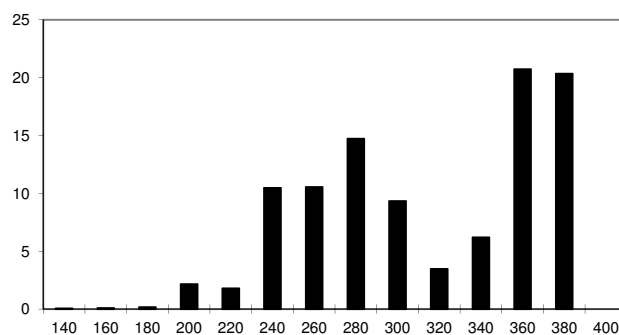


Fig. 22. Nene Valley Colour-coated Ware: plotdate by sherd percentage.

Handled jars similar to Nene Valley type 74 also occur; the illustrated example (151) is stamped with lines and circles forming embossed star-shapes. A sherd from an unusual, indented closed vessel, possibly a jar (249), is decorated with rouletting and a series of painted motifs, each comprising a circle of dots around a central cross. Curve-rimmed jars (149), triangular-rimmed examples and those identical to Nene Valley type 70 also occur.

Jars in general were present by the early 3rd century and, as far as can be judged from this small group (46 sherds), appear to have been more common towards the end of the 4th century (Fig. 23).

Beakers and cups (Figs 26–8)

Beakers in general occurred most commonly during the mid to late 3rd century, but were clearly diminishing by the end of the 4th century (Fig. 23). Unassigned body sherds account for over 35% of the beaker assemblage. Plain upright-rimmed beakers (152–60), most often found in mid to late 3rd century groups (Fig. 24a), feature a variety of barbotine decoration including diagonal stripes (155), contrasting colour(s) (156), scrolls (158 and 160) and hunting scenes (159); others have zones of rouletting (157). Much more rarely found are groove-rimmed beakers such as 161 and 162, which is also decorated with diagonal barbotine stripes.

Cornice-rimmed beakers (163–72) occur in very small quantities in mid to late 2nd century groups, but are most common in mid to late 3rd century assemblages. Within this group, undecorated bag-shaped beakers (163–7) predominate. Decorated vessels include painted examples (168), and those with a variety of barbotine decoration: lattice (169), a dolphin (170), phalli (171), and hunting scenes (172). Folded cornice-rimmed beakers such as 175 are rare. Beakers with constricted girths (173–4) are relatively scarce; some of these feature barbotine vegetable motifs (173).

Folded curve-rimmed beakers (176–7) are moderately common and occasionally feature barbotine scale decoration (178–9). Folded beakers similar to Nene Valley types 51 and 52 (180) occur more rarely. Funnel-necked types (181–3) form a substantial proportion of the folded beakers and are most often ornamented with zoned rouletting (182–3). Scale-decorated folded beakers (184–9) are the second largest individual group within the entire beaker assemblage, and occasionally have a grooved rim (189). Most abundant from the later 3rd to the early 4th century, this type is well represented in mid to late 4th century contexts.

Pear-shaped beakers (190–2), similar to Nene Valley type 27, are rare and generally feature zones of rouletted lines and barbotine scrolls. Funnel-necked beakers mostly occur only as body sherds; their date span is very similar to that of the scale-decorated folded beakers, but they are found in greater quantities in late 4th century assemblages (Fig. 24b). A variety of types within this group includes bead-rimmed vessels with barbotine scrolls and rouletted zones (193) and groove-rimmed types with barbotine and painted decoration resembling Moselkeramik motifs (194–5). No. 197, a folded beaker, is also decorated in the style of Moselkeramik folded and rouletted beakers, and 196 has a combination of folds and painted decoration.

Beakers with tall necks and out-curving rims are scarce and feature barbotine, painted and rouletted decoration (198–9). No. 200 is similar but the form is more like that of pentice-moulded beakers. The latter (201–3) are moderately common, and only occur in any frequency in 4th century groups, particular those dated to the late 4th century (Fig. 24b).

Other beakers are uncommon but include a small number of ‘motto’ types (204–5). Graffiti are a rare but distinctive feature on some vessels (206–10); four of these (207–10) were found at Holmes Grainwarehouse, albeit in very late Roman/Late Saxon dumps. Beaker fragments with unusual decorative motifs include: 211, a footring base with painted decoration on the body wall; 212, a folded beaker with unusual painted decoration; 213, a folded beaker with painted, rouletted and stamped decoration; and several featuring barbotine figure decoration (214–16).

A vessel described as one of the finest figured beakers to have been produced in this ware (Webster 1989, 13) was found at the East Gate. It is bag-shaped with a squashed everted or cornice rim and Darling (1989, 29) describes the surviving fine, barbotine decoration as depicting a man with a raised club (Hercules) mounting a hind; there is also a hand brandishing a thunderbolt (Jupiter), and a detached sherd showing a hand clutching what could be Mercury’s purse. The bag-shaped body and rim are

similar to those of mid to late 2nd century types from the Nene Valley, but this example was associated with two barbarous radiates dated to AD 286–93 and other pottery of 4th century date.

Cups in NVCC are extremely rare; the illustrated example (217) is similar to samian form Dr. 33.

Bowls (Fig. 29, 218–28)

Bowls occur in small quantities in 3rd century groups but, unlike most beaker forms, are most often found in mid to late 4th century assemblages (Fig. 25). Over 56% of the bowl assemblage consists of undiagnostic body sherds. Flanged bowls (226–8) including those with bead rims of varying heights as well as small versions, are by far the most common, followed by close copies of samian form Dr. 38 (218–9). Hemispherical bowls (221), including small examples (220), are moderately common. Most other bowls are represented largely by body sherds and include: vessels similar to samian forms Dr. 31 (222), Dr. 36, and Dr. 37; plain- and reeded-rimmed examples; segmental, necked and wide-mouthed types. The illustrated vessels also include examples of a triangular-rimmed bowl (223), a bifurcated-rimmed vessel with rouletted decoration (224), and an unusual shallow bead-and-flange bowl (225).

Dishes and plates (Fig. 29, 229–38)

The date range of NVCC dishes and plates is virtually identical to that of the bowls, although dishes are more common in groups dated towards the end of the 4th century (Fig. 25). Plain-rimmed dishes (229–34) dominate this assemblage, varying from straight-sided vessels (229) to those with more rounded bodies (230–1). Variants of this form include those with a groove at the rim, varying from slight (232) to more sharply defined (233–4). Flanged dishes (235–6) are distinctive but rare, and other types include examples with triangular and flanged rims. Plates are less common but include vessels with distinctive painted decoration (237–8), which are similar to the 4th century Nene Valley type 88.

Castor boxes and lids (Fig. 30, 239–49)

Castor boxes and lids are almost equally represented. Both have similar dating profiles, being most common between the mid to late 3rd century and the mid to late 4th century (Fig. 25). Howe, Perrin and Mackreth (*op. cit.* 24) note that the box form continued into the 4th century, but that the later vessels lack a carination, feature poor rouletting, and have wider bases. Two examples from Lincoln with slack profiles and wide bases (244–5) are from contexts dated to the late 3rd–4th and mid to late 4th century, respectively. Castor boxes with pronounced carinations are either plain (239) or feature well-executed rouletting (243). No. 246 is an almost complete lid. ‘Coffee-pot’ lids

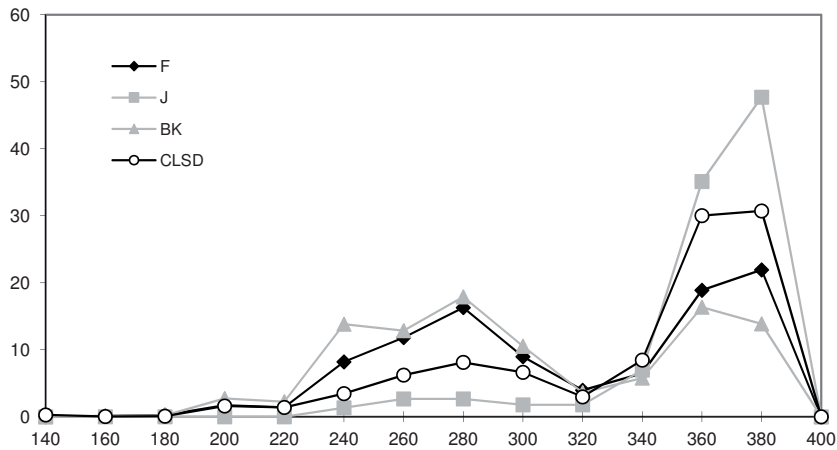


Fig. 23. Nene Valley Colour-coated Ware, plotdate of closed forms by sherds percentage: flagons (F), jars (J), beakers (BK) and unidentified closed vessels (CLSD).

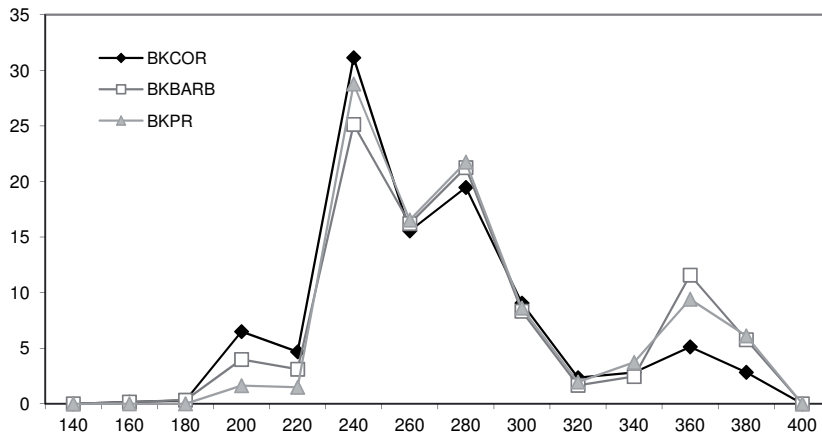


Fig. 24a Nene Valley Colour-coated Ware: plotdate of common beakers by sherds percentage: cornice-rimmed (BKCOR), barbotine (BKBARB) and with plain upright rim (BKPR).

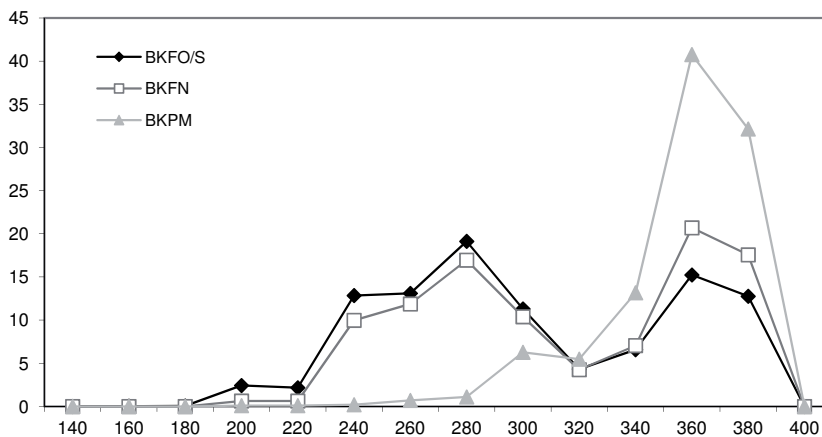


Fig. 24b Nene Valley Colour-coated Ware: plotdate of common beakers by sherds percentage: folded/folded scaled (BKFO/S), funnel-necked (BKFN) and pentice-moulded (BKPM).

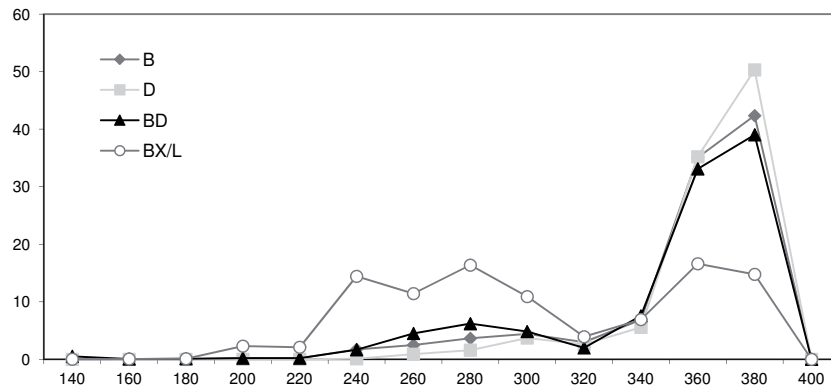


Fig. 25. Nene Valley Colour-coated Ware, plotdate of open forms by sherd percentage: bowls (B), dishes (D), bowls/dishes (BD), castor boxes and lids (BX/L).

(247–8) with their diagnostic steam holes are dated specifically to the 4th century (*ibid.* 22); 247 bears scratched graffito.

Nene Valley Colour-coated Mica-dusted ware (NVMIC)

This appears to be a rare variant of the main colour-coated ware; only 13 sherds have been found in Lincoln. The fabric and colour coating are almost identical, with the addition of a gold mica slip over the base colour coat. No kilns with associated NVMIC have been located in the Nene Valley to date, but the similarity of the fabric, colour coating and form types to NVCC suggest that NVMIC came from the same source.

Dating: MLROM

Most sherds occurred in mid to late 3rd century assemblages.

Fabric and technology

LRF221 (Pl. 1.19)

The fabric is hard and white in colour, with a fine fracture revealing abundant well-sorted quartz (SA >0.1mm; very occasionally larger, >0.3mm). Sparse to moderate rounded, iron-rich particles varying in colour from dark red-brown to pink are the only other inclusion. The colour coat of the type-sherd is red-brown and is covered by a thin gold mica slip.

Forms

Only body sherds survive, the majority of which are from beakers. Within this group folded and funnel-necked types can be discerned, including one with a decoration of diagonal barbotine stripes. Two sherds may be flagons whilst a further two sherds are from indeterminate closed forms.

Oxfordshire Red Colour-coated ware (OXRC)

This colour-coated ware was produced at the Oxfordshire potteries from the mid 3rd to the end of the 4th century; it is comparatively rare in Lincoln (185 positively identified sherds).

Dating: LROM

A few sherds are from groups that can only be broadly dated from the later 3rd to the 4th century; OXRC was rare before the mid 4th century (Fig. 31). It is worth noting that less than half of the assemblage was stratified in Roman deposits but the majority of this (81 of 88 sherds) came from late to very late 4th century contexts.

Fabric and technology

NRFC: OXF RS

LRF180

Decoration mainly consists of rouletting and white painted designs.

Forms (Fig. 30, 250–3)

Bowl forms predominate, and closed forms such as jars are rare. Close copies of samian forms – Dr. 31, Dr. 36 and Dr. 38 in particular – are moderately common. No. 253, a bowl copying Dr. 36, can be paralleled with Young type C48. Necked bowls similar to Young type C75 (251–2) are the most common form. No. 250 is similar, but the body wall is less rounded. All three illustrated vessels are decorated with rouletting, and 250 also features white painted scrolls. The remaining bowl types, which only survive as body sherds, include carinated, flanged and wide-mouthed forms. This group also includes a probable pentice-moulded beaker and a possible cup.

Parisian-type ware (PART)

PART forms the second largest group within the Romano-British fine ware assemblage, with 1,001

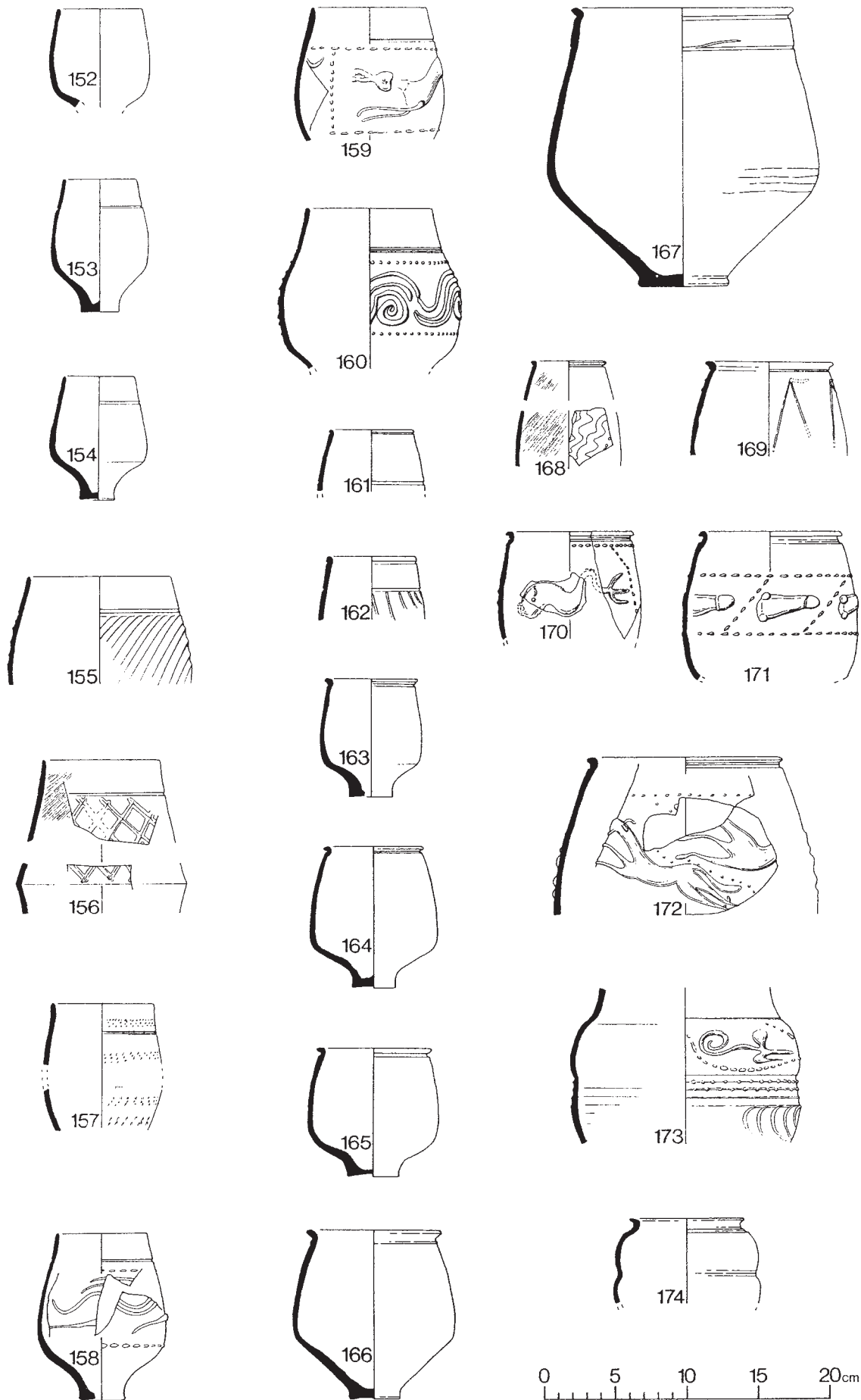


Fig. 26. Nene Valley Colour-coated Ware: beakers 152-74. Scale 1:4.

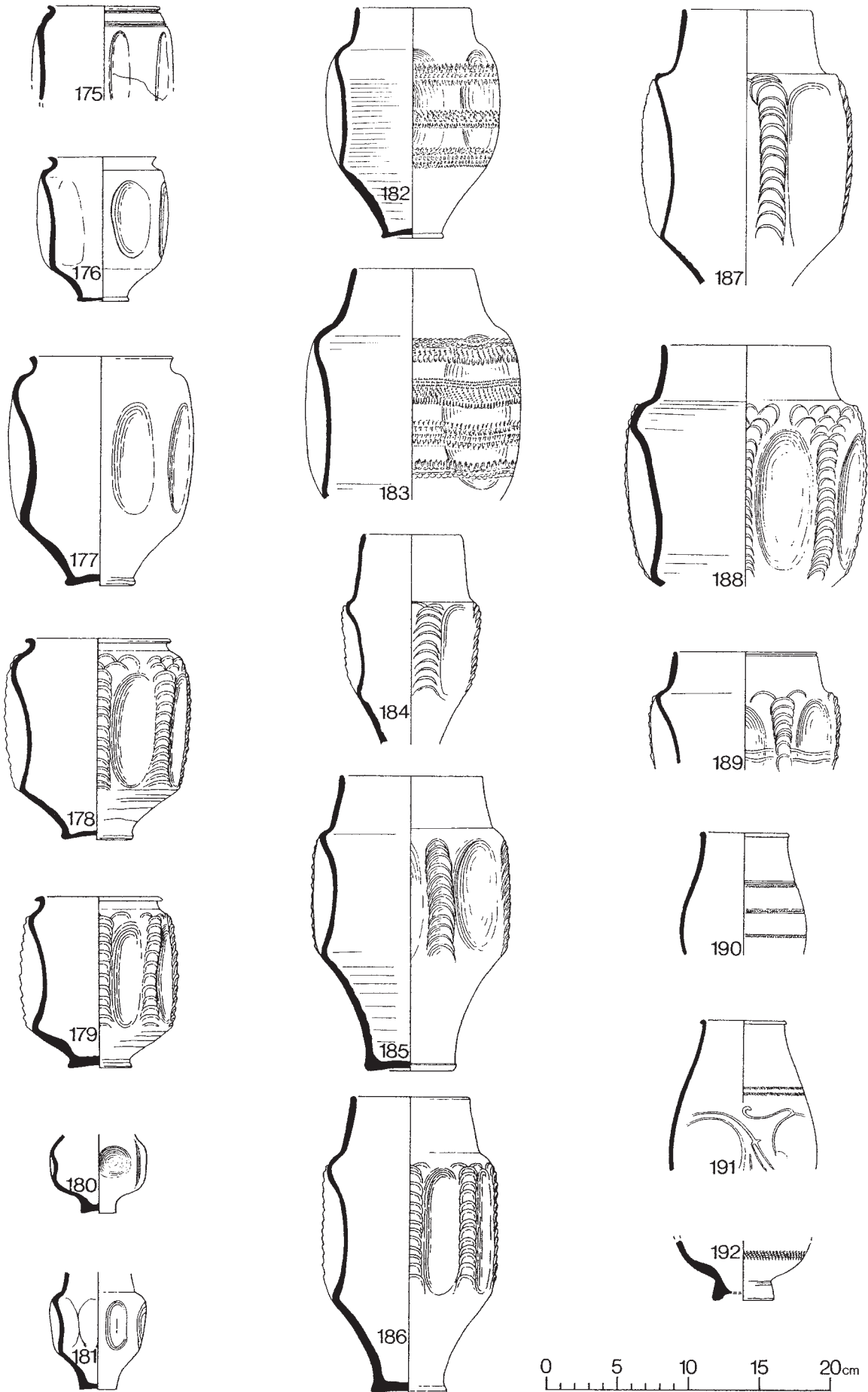


Fig. 27. Nene Valley Colour-coated Ware: beakers 175-92. Scale 1:4.

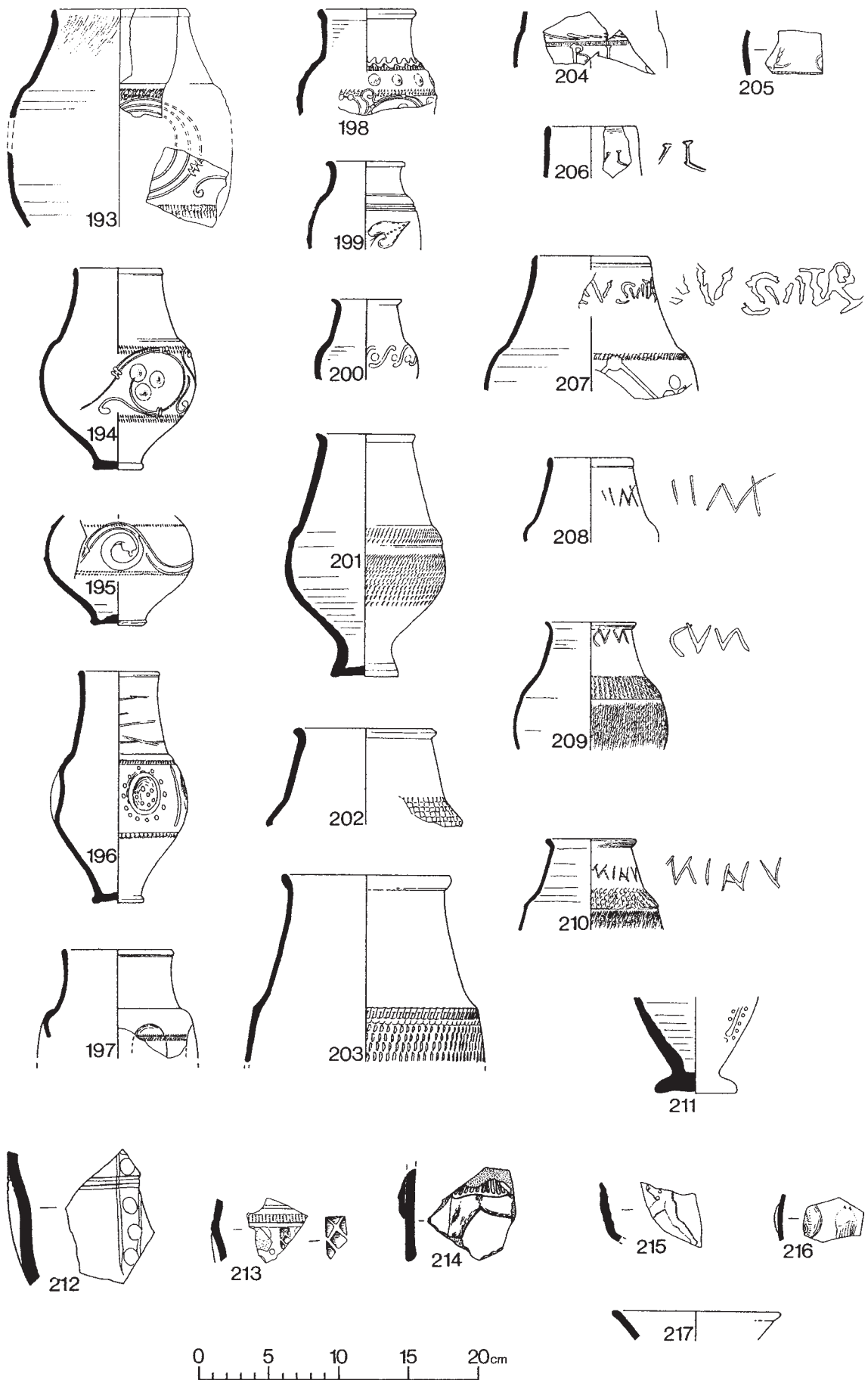


Fig. 28. Nene Valley Colour-coated Ware: beakers and cup 193–217. Scale 1:4; graffiti 207–10 scale 1:2.

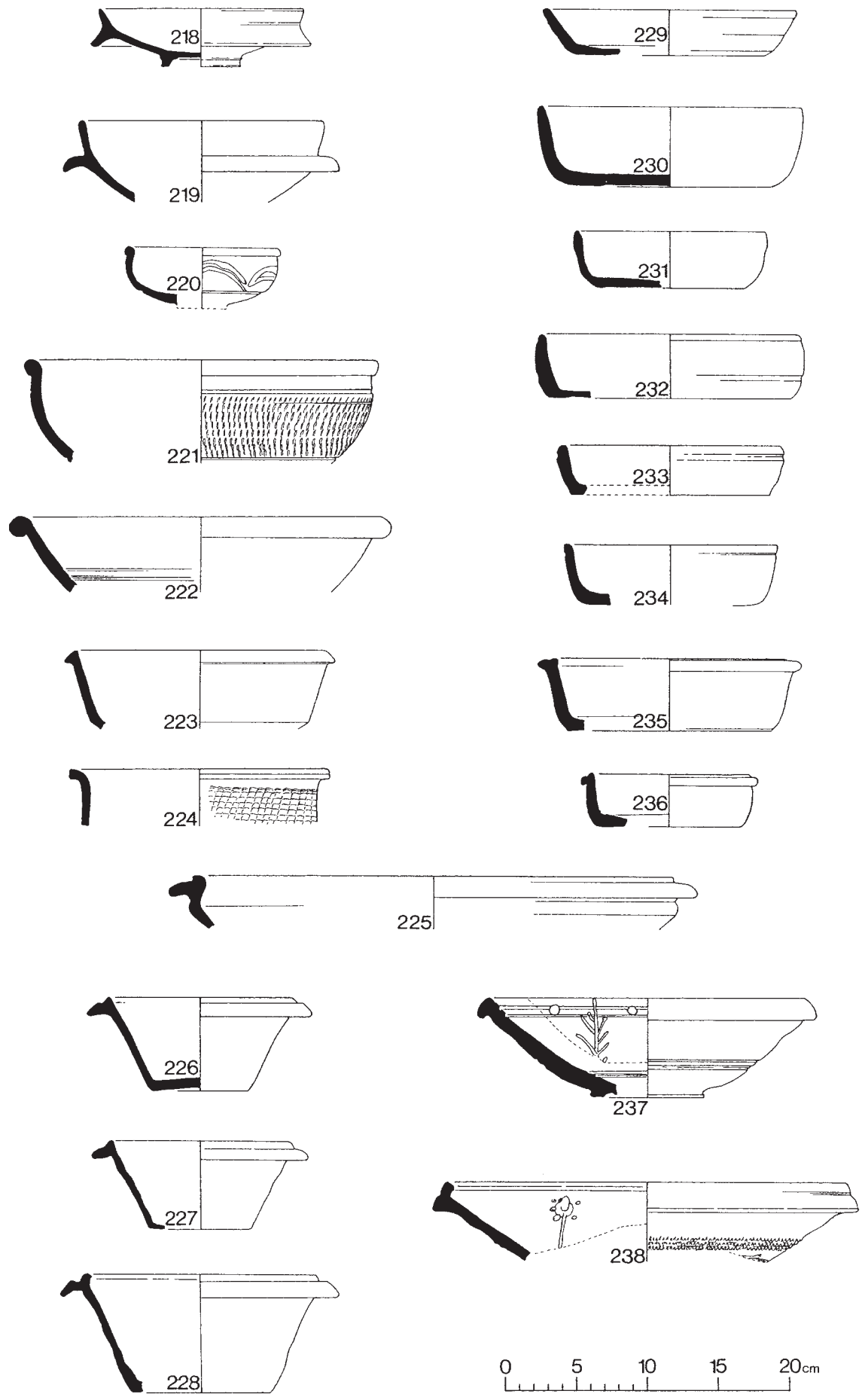


Fig. 29. Nene Valley Colour-coated Ware: bowls and dishes 218–38. Scale 1:4.

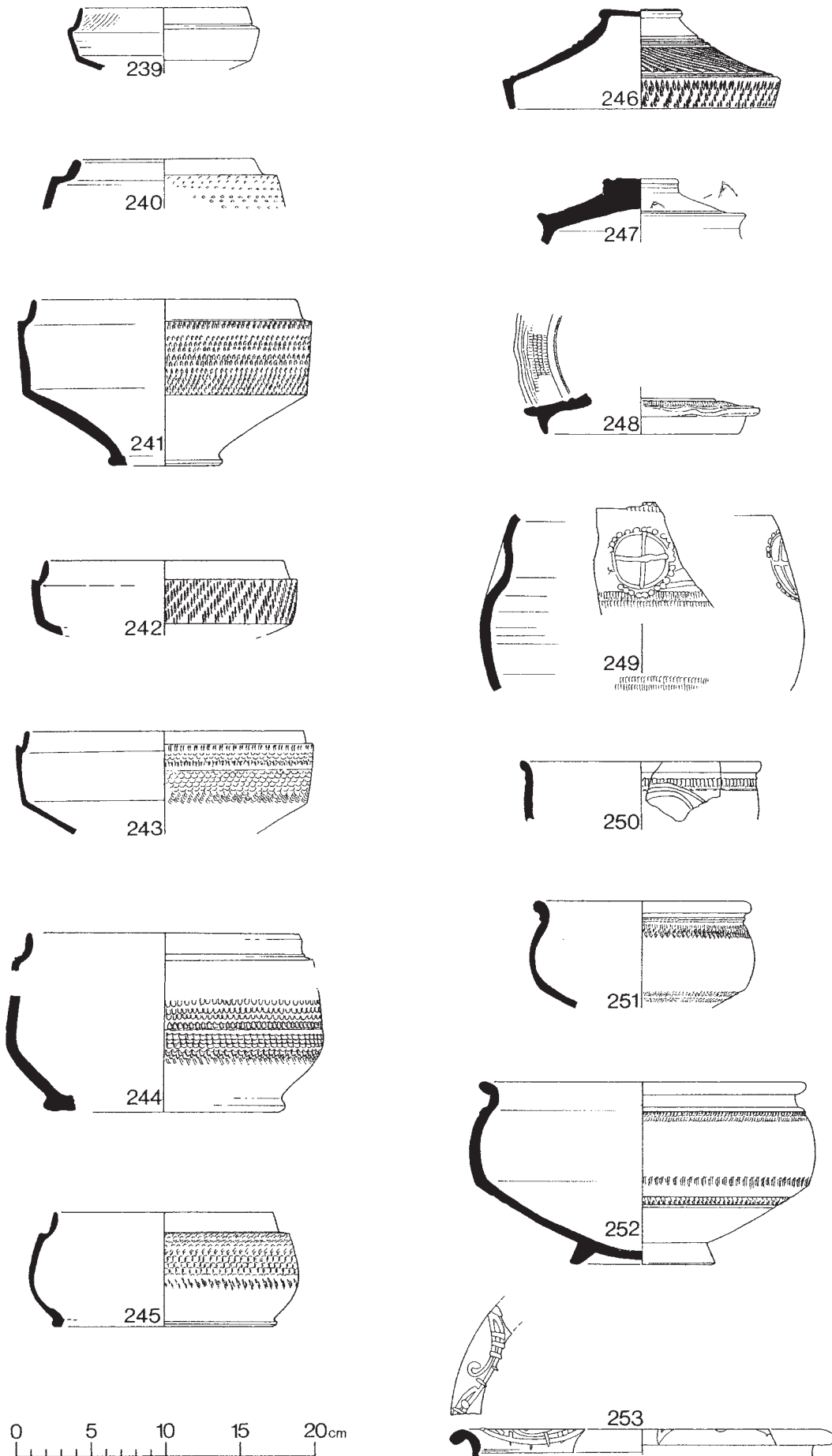


Fig. 30. Nene Valley Colour-coated Ware: castor boxes, lids and unusual types 239–49; Oxfordshire Red Colour-coated Ware 250–3. Scale 1:4.

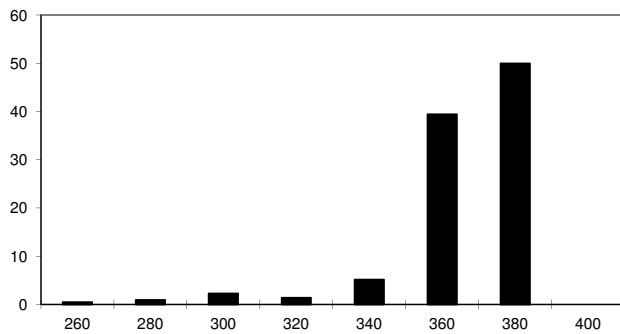


Fig. 31. Oxfordshire Red Colour-coated Ware: plotdate by sherd percentage.

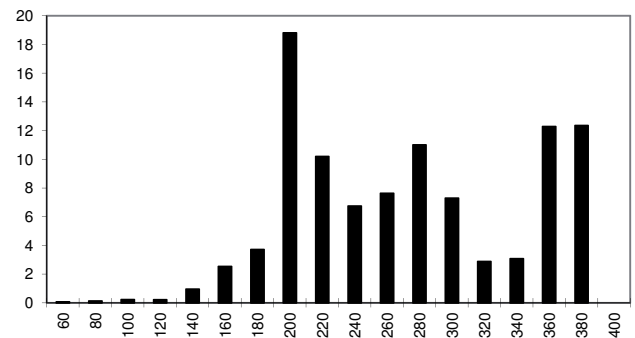


Fig. 32. Parisian-type Ware: plotdate by sherd percentage.

positively identified sherds in a range of fabrics, probably derived from several sources. However, owing to the difficulty of distinguishing undecorated body sherds of LOND (see p. 29) or fine poppy-head beakers that are in similar fabrics (GFIN, GMIC, LOND), some of those types may be included in this category.

This fine grey ware with characteristic stamped decoration was produced from the later 1st to the 3rd century at Rossington Bridge (Buckland *et al.* 2001), while another possible source may have been Roxby/Dragonby, although there is no hard evidence to support this latter suggestion (Elsdon 1982, 19). A wider range of stamped vessels in a similar fabric was made at Market Rasen (Darling forthcoming, b) and, although these wares cannot be distinguished in the hand specimen, the relative proximity of the Market Rasen kilns to Lincoln (Fig. 247) and die links suggest that it may have been one of the main sources of supply.

Darling (1984, 79–81) discusses in detail the antecedents for some of the Lincoln stamped wares, including a small group of stamped sherds from East Bight (EB66) and Temperance Place, for which there are good die-links with those from north Lincolnshire and Yorkshire; the ware is widely but thinly distributed as far north as the Antonine Wall (Robertson 1975, 217). Some of the other stamps from Lincoln are similar to those on stamped wares from the Nene Valley, and from West Stow.

Dating: MLROM

Figure 32 suggests that very small amounts of this ware may occur in 1st century groups, but it is not until the mid to late 2nd that it appeared in any notable quantity. The main flourish lay within the 3rd century and, although there appears to have been a second flourish in the mid to late 4th century, a high proportion of this later material came from

secondary contexts such as dumps, and it is not clear if the ware continued in use to that date. This corresponds with Elsdon's evidence for two periods of production, with the earlier stamps from Lincolnshire and Humberside dated to the late 1st-early 2nd century (Elsdon *op. cit.* 15) and the later examples from north-west Lincolnshire and Market Rasen peaking in the later 2nd to early 3rd century (*ibid.* 24).

Fabric and technology

NRFRC: LMR FR

(Market Rasen Fine Reduced ware)

LRF 282–3; LRF 286 (Market Rasen)

All three fabrics share the same basic fine constituents, having a slightly laminar fracture and a silty matrix with sparse white mica, which is more abundant in the surface. The grey cores range in shade from dark (LRF282; Pl. 2.23) to medium (LRF286; Pl. 2.25) and light (LRF283; Pl. 2.24), while the margins are all a paler version of the core colour, giving a 'sandwich' effect. Both LRF282 and 283 contain sparse black or red iron-rich particles ($R > 0.1\text{mm}$), but the Market Rasen example (LRF286) has larger red-brown iron-rich inclusions ($R > 0.1\text{--}1.0\text{mm}$). Both LRF282 and LRF283 have sparse inclusions of larger opaque quartz ($SR > 0.3\text{mm}$). In addition, LRF282 contains sparse to moderate irregular black inclusions and some voids, possibly burnt-out organics ($0.1\text{--}1.0\text{mm}$).

The external surfaces are usually polished and silky, often with a high sheen. Decoration mainly consists of stamped, combed or rouletted motifs. Zones of barbotine dots also occur, but only rarely, and are probably confined to poppy-head beakers.

Forms

Beakers are the most common forms represented and a high proportion of the unassigned closed body sherds are likely to be from beakers or jars. Bowls and dishes are the second most common form, followed

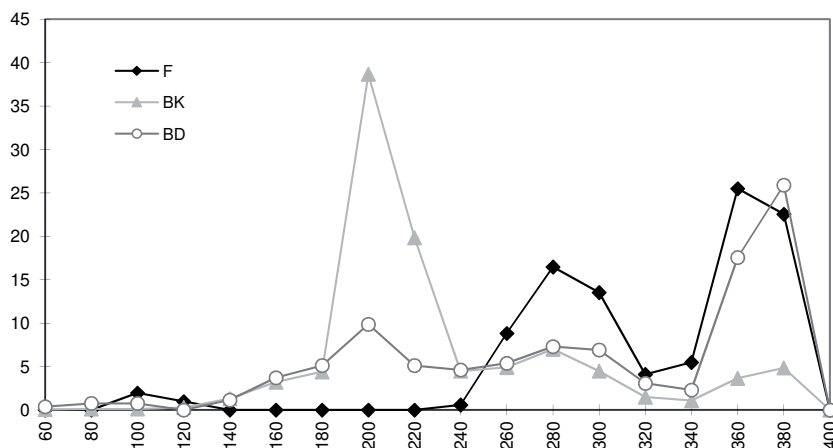


Fig. 33. Parisian-type Ware, plotdate of forms by sherd percentage: flagons (F), beakers (BK) and bowls/dishes (BD).

by flagons and flasks. Jars are uncommon and plates are very rare.

Flagons and flasks (Fig. 35, 254–6)

Flagons and flasks, the latter being the most common type in this class, are represented mainly by body sherds. Disc-necked flagons (254–5) are the second most common type in this category. Apart from a small proportion in early 2nd century groups, flagons (35 sherds altogether) appear to have been confined to the mid 3rd and 4th centuries (Fig. 33); those found in 4th century contexts may be residual (see Dating, above).

Jars

The few jars present, including narrow-necked types, seem to have been confined to the mid-late 3rd century.

Beakers (Fig. 35, 257–71)

Beakers occurred sporadically in groups dating from the later 1st to the 4th century but appear to have peaked in the very early 3rd century (Fig. 33).

A distinctive type of cordoned beaker (257–61) is paralleled at Winterton (Rigby and Stead 1976, fig. 91, 22) and Birrens (Robertson 1975, fig. 76, 33), and also occurs at Market Rasen (Darling forthcoming, b). Too little remains to identify the stamp on 257, and the block stamp on 258 appears to be from the same die as Elsdon 1982, fig. 6 A4, from Brough-on-Humber and recent finds from Market Rasen, while the circle filled with square motifs is similar to Elsdon stamp FC6 (Elsdon *op. cit.* fig. 11). The ring stamps on both 259 and 260 are known from the Market Rasen kilns, and while the diagonal comb stamp on 259 is less easy to identify, the curved stamp on 260 is from the same die as a recent Market Rasen find. Stamp 261 is probably from a similar type of vessel; the

decoration consists of parallel comb-stamped lines arranged in a 'V' shape, interspersed with groups of stamped lozenges.

A wide range of other beakers, occurring mostly as singletons, includes small everted-rimmed vessels (262–3), one (264) with a band of rouletting at the shoulder. Poppy-head beakers are well represented; the illustrated vessel (265) is tall with a flaring rim and a fine footring base. Other types include beakers similar to Camulodunum form 120, wide-mouthed beakers (266–7), and tall-necked types with an out-curved rim (268). A distinctive beaker has a similar neck and rim, but with a sharp cordon at the shoulder and unparalleled stamped lozenges on the body wall (269). Cornice-rimmed, curve-rimmed and funnel-necked vessels complete the repertoire of beakers in PART. Nos 270 and 271, which feature stamped lozenge motifs and zones of rouletting, are also probably from beakers.

Bowls and dishes/plates

(Fig. 35, 272–4 and Fig. 36, 275–8)

There are comparatively few open forms in this assemblage (39 sherds altogether), but these seemingly occurred from the mid 2nd century onwards, and especially in mid to late 4th century assemblages (Fig. 33). Close copies of samian forms – Dr. 37 and Dr. 38, in particular – are most common. Copies of Dr. 37 include two decorated bowls: 272 has a zone of rouletting under the rim that is reminiscent of conventional LOND wares, whilst 274 is more distinctive, with zones of comb stamps and ring stamps (dies known at the Market Rasen kilns) set in irregular diamonds of comb-stamped lines. Vessels similar to Dr. 38 are decorated with bands of rouletting under the flange (275) and concentric rouletted circles under the base (276). No. 273 is a plain hemispherical bowl.

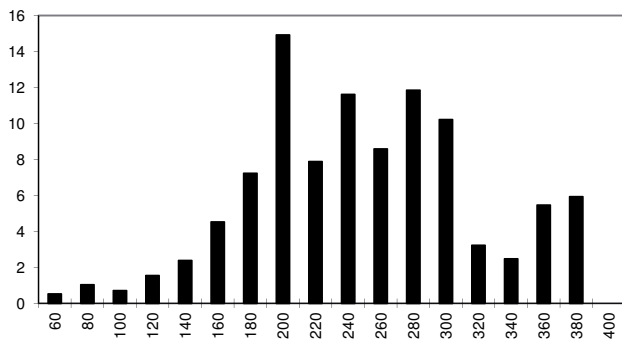


Fig. 34. *Roughcast Colour-coated Ware: plotdate by sherds percentage.*

Flanged bowls occur less frequently: 277 is decorated on the upper surface of the flange, similar to some LOND; 278 has only a slight flange and is undecorated. More rarely found are those with expanded rims (279), and an unusual vessel has a thick, flanged rim (280). Other types, represented only by body or rim sherds, include segmental and triangular-rimmed bowls, and flanged and wall-sided plates.

Other closed forms (Fig. 36, 281–93)

A number of closed body sherds have either distinctive decoration or unusual profiles; the majority are probably beakers. No. 281 has two constrictions on the body wall defined by zones of rouletting, and is probably a flask; 282 is a well-defined footring base, whilst 283 is a curved body sherd with zones of stamped lozenges. No. 284 features an infilled triangular motif beneath a double cordon; 285 is decorated with stamped circles between diagonal comb-stamped lines beneath a sharply defined groove and cordon, and 286 has a horizontal zone of decoration comprising a series of two stamped circles linked by blocks of ?comb-stamping. The decoration on 287 consists of vertical zones of filled circles separated by comb-stamped lines, reminiscent of some Market Rasen motifs (Elsdon *op. cit.* fig. 9, 42). No. 288 is a curved body wall with two horizontal grooves between which a comb-stamped horizontal line terminates in a stamped circle, similar to Elsdon stamp 109, and 289 features a zone of rosettes similar to stamp 83; both stamps are from Lincolnshire and south Humberside (*ibid.* fig. 7). No. 290 features a demi-rosette above a series of cordons and grooves (*ibid.* fig. 12, 112).

The remainder all feature distinctive and highly unusual stamped motifs. No. 291 is particularly unusual in featuring a possible *caduceus* – the symbol of Mercury – beneath a groove, while 292 consists of a series of complex zoomorphic motifs, and 293 is

Elsdon stamp 117 (*ibid.* fig. 7): a square motif above the cordon shows a ?skirted figure advancing to the left. Darling (1984, 78, no. 5) discusses this stamp in detail, with reference to depictions of human figures on pottery in general.

Roughcast Colour-coated ware (RC)

This category comprises colour-coated beakers with clay roughcasting, of unknown origin. Vessels with this type of decoration are mainly Hadrianic-Antonine in date, c. AD 120–200, and were produced in Lincolnshire at the South Carlton kilns, and at Colchester. There is also evidence that roughcast wares were produced in the Nene Valley at Great Casterton (Swan 1984, 97), and recently a group of wasters was excavated at Brough-on-Humber (Darling 2005a). It is difficult to distinguish these wares both from one another and from the Central Gaulish (CGCC), north Gaulish and Cologne (KOLN) examples, and a number of roughcast vessels from those sources may have been subsumed within this category. The assemblage is relatively small (158 sherds).

Dating: MROM

A small quantity of RC from 1st century groups is likely to consist of unrecognised Central Gaulish products (CGCC). The dating profile (Fig. 34) indicates that RC was in use by the early 2nd century, peaking c. AD 200. A high proportion occurred in later assemblages (mid 3rd century onwards) but these came from secondary deposits and post-Roman contexts. This highlights the residuality of the pottery in many Lincoln deposits, as roughcast decoration was rarely used in Britain after the end of the 2nd century.

Fabric and technology

LRF210–9

This assemblage consists of a wide range of fabric types, suggesting a number of possible sources including known production centres in Central Gaul, Cologne and South Carlton.

LRF210: a coarse red-brown fabric with a grey core and an irregular fracture, showing ill-sorted clear and opaque quartz (SA-SR 0.1–0.5mm) with rare calcareous and black iron-rich particles (R 0.1–0.3mm). The exterior colour coat is dark red-brown in colour.

LRF211: a moderately fine red-brown fabric with dark brown colour coating and rare mica visible in the surface; it is almost identical to LRF181, which is identified as a Colchester (or perhaps Sinzig) fabric (see COLC, p. 27).

LRF212: a fine fabric with very fine clay roughcasting; it is high-fired, giving a conchoidal

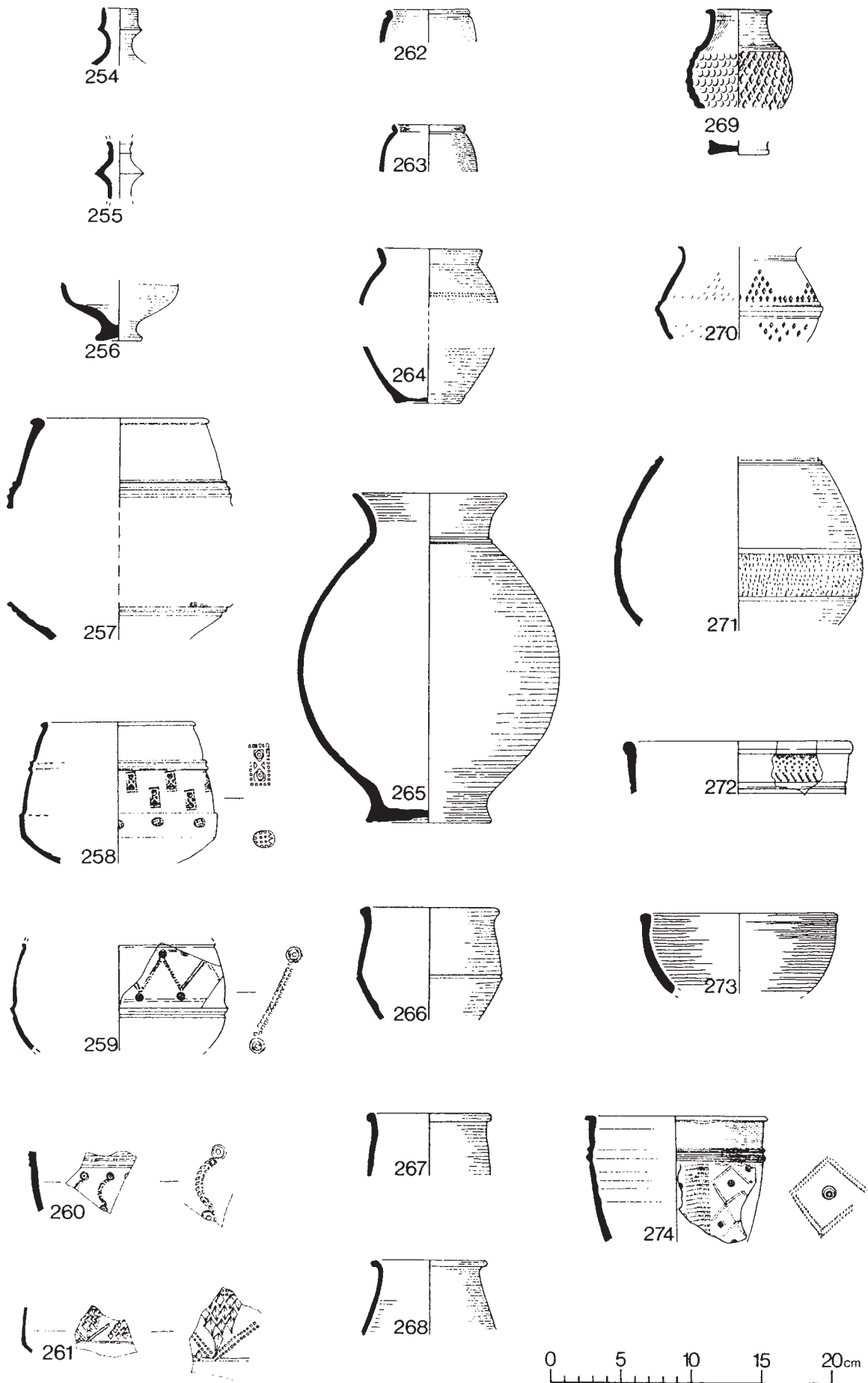


Fig. 35. Parisian-type Ware 254-74. Scale 1:4; stamps 258-61 and 274 scale 1:2.

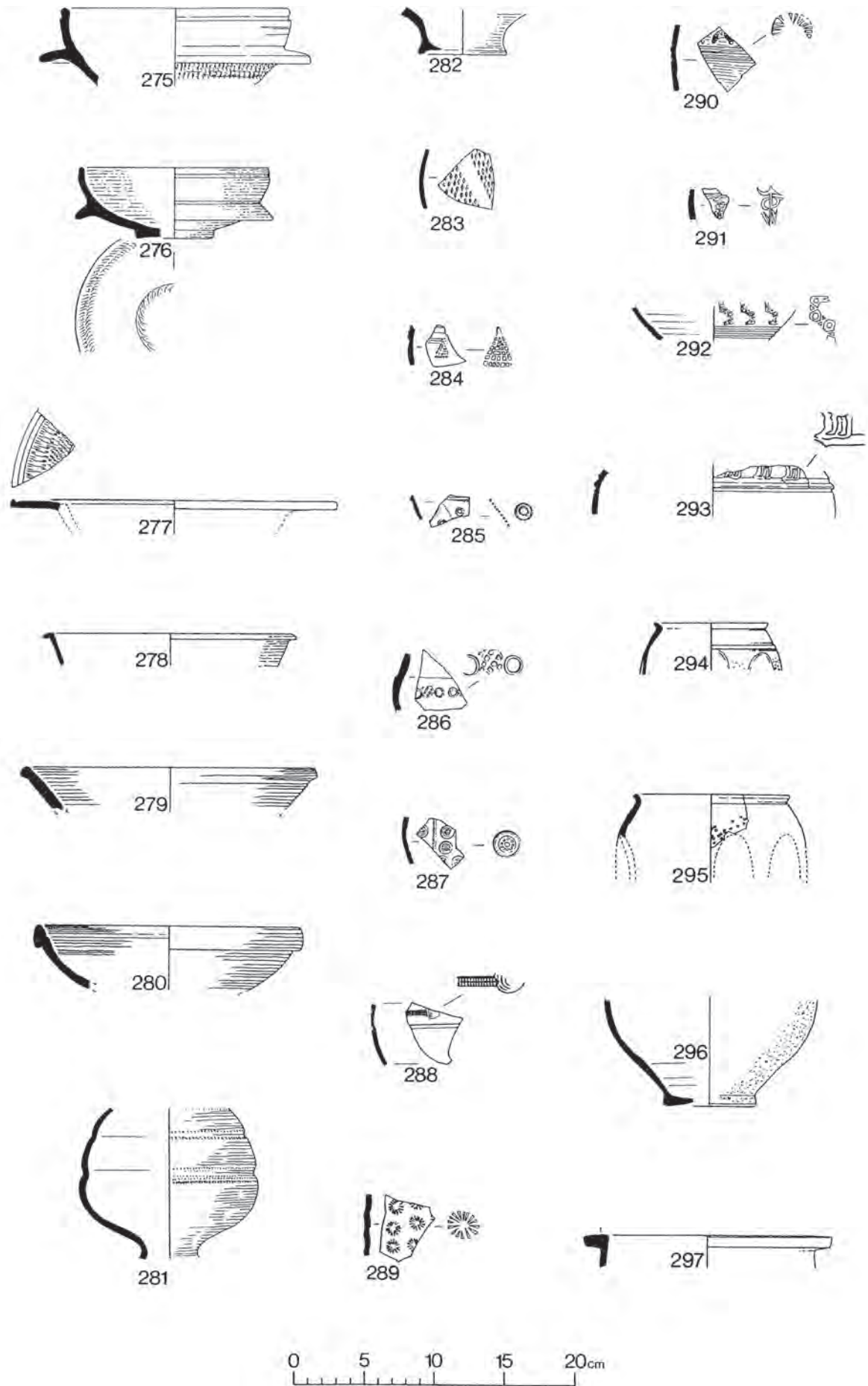


Fig. 36. Parisian-type Ware 275–93; Roughcast Colour-coated Ware 294–6; Mica-dusted Ware 297. Scale 1:4; stamps 283–93 scale 1:2.

fracture, with a light grey core, light red-brown margins and a red-brown exterior colour coat. Numerous narrow horizontal voids are visible in the fine silty fabric, which also includes sparse ill-sorted clear and opaque quartz (SR 0.1–0.4mm), rare calcareous and red iron-rich particles (R >0.2mm); moderate amounts of white mica are visible in the surface.

LRF213: a very fine red-brown fabric with a dark brown colour coat, similar to LRF211 but with a hard-fired silty matrix (SA >0.1mm) and rare red iron-rich particles (R >0.2mm); moderate amounts of white mica are visible in the surface.

LRF214 (Pl. 1.20): a fairly hard fabric with an irregular fracture, light grey in colour with light brown margins, and a red-brown colour coat with white clay roughcasting. The matrix is silty with clear and opaque quartz (SA >0.1mm) and sparse red iron-rich inclusions (mostly <0.1mm). Occasionally visible are larger red iron-rich conglomerates (R >1.0mm), which contain quartz similar to that in the matrix, and limestone. Rare calcareous particles (R >0.5mm) also occur, and moderate to abundant white mica is visible in the surface. The broken edges and surfaces are covered (probably post-deposition) with drips of a vitrified, glaze-like material.

LRF215: a hard white fabric with a dark brown colour coat and abundant well-sorted quartz (SA >0.1mm); it is very similar to standard KOLN/NVCC fabrics but slightly powdery in texture, and with sparse red and black iron-rich particles (R >0.1mm).

LRF216: a hard pinkish white fabric, with inclusions that are very similar to those of LRF215 but with very occasional larger clear and opaque

quartz (SA >0.4mm). The colour coat is dark brown. This may be a South Carlton product.

LRF217: a hard light yellow-brown fabric with a dark brown colour coat, and inclusions very similar to those of LRF214.

LRF218: the matrix is very similar to that of LRF217 but it is very high-fired with a grey core and pale yellow-brown margins, a dark brown colour coat, and very fine clay roughcasting.

LRF219: this fabric is completely different to the others, which are probably all Romano-British in origin. It is hard and light red-brown in colour with a dark brown colour coat. The slightly irregular fracture reveals a hard-fired silty matrix with abundant ill-sorted limestone (SR >0.2mm), giving a 'porridge-like' appearance. Very rare inclusions of larger clear and opaque quartz (SA >0.5mm), sparse black and dark red iron-rich particles, together with flakes of gold mica (F >0.2mm) are apparent. The mica is visible in moderate quantities in the surface. This fabric could be Central Gaulish in origin, perhaps from the Lezoux area.

Forms (Fig. 36, 294–6)

The forms are confined to beakers, with a limited range of types, but otherwise undiagnostic body sherds with roughcast decoration and probable 'bag-shaped' profiles (296) account for the bulk of the assemblage. Cornice-rimmed beakers are most common among the identifiable types, followed by folded beakers with cornice rims (294–5) and unassigned folded beakers. Other types are rare; these include everted and ?plain-rimmed beakers and a possible funnel-necked example with a bead rim.

4 The Oxidised Wares

Barbara Precious

The oxidized wares are less well represented than either the fine or reduced categories (Fig. 4) and, unlike the fine ware group where Romano-British products are most common, locally produced wares predominate. Romano-British oxidised wares comprise a moderate sized assemblage but imported oxidised wares are scarce.

The majority of these wares date to the early-mid Roman period, when Cream ware (CR) flagons and serving vessels were at the height of production. The late Roman wares consist mainly of coarser tempered oxidised vessels from the local 4th century Swanpool kilns.

4.1 Imported Oxidised Wares

This group comprises just three definite imports – Eifelkeramik (EIFL), North Gaulish Cream ware (NGCR), and an Italian vessel (LRF252) – and one, Sandy Cream ware (SACR), that is less certainly so. Undiagnostic body sherds of imported wares are difficult to distinguish from the early micaceous local Cream wares (CR) without microscopic examination, and some may have been included in the CR assemblage (see 4.2, below).

Eifelkeramik (EIFL)

This category is a loose grouping of coarse wares imported from the Eifel mountain region of Germany; it is extremely rare in Lincoln, consisting of a single positively identified sherd and three probable examples. EIFL is found mainly in south-east England, in particular at sites along the south and east coasts as far north as Caister-on-Sea (Fulford and Bird 1975; Darling with Gurney 1993, 162). Lincoln lies beyond the main area of distribution, almost certainly accounting for its scarcity here. The ware generally occurs in mid 3rd to 4th century

contexts in Britain; all four Lincoln sherds were associated with 4th century pottery but in post-Roman deposits.

Fabric and technology

NRFC: MAY CO (Mayen); SPE CO (Speicher)
LRF291, 295

Both the Lincoln fabric samples appear to be from a Mayen source, but kilns are also known at Speicher.

Forms (Fig. 60, 532)

A single rim fragment of probable EIFL (532) is from a bowl similar to Gose forms 488 and 491, dated to between the mid-late 3rd and the 4th century. The other three are undiagnostic body sherds.

North Gaulish Cream wares (NGCR)

This category is used to differentiate wares that are oxidised (NGCR) rather than reduced (NGGW: see p. 99) products of the north-west Gaulish industries. The Pas-de Calais/Picardy region has been identified (B. Richardson 1986, 106–9) as the main source of these wares, which were exported to Britain from the later 2nd to the early-mid 3rd century. Large flagon types formed part of the repertoire although the main products were fine pentice-moulded beakers, in a range of colours from cream to light grey. NGCR occurs rarely on Lincoln sites (23 sherds).

Dating: MROM

The Lincoln assemblage came from mid 3rd to 4th century groups, a high proportion – the majority from a single vessel – being found in secondary deposits of the later 3rd to 4th century at The Park. This suggests that NGCR was imported and used in Lincoln within the period proposed by Richardson, and was discarded by the later 3rd century.

Fabric and technology

NRFC: NOG WH 4; NOG WH 5 (Amiens)

LRF248

The main form of decoration on pentice-moulded beakers consists of fine juddered rouletting.

Forms (Fig. 60, 533–5)

Thin-walled sherds probably from beakers, including those with rouletted decoration, form the bulk of the NGCR assemblage. These are likely to be fragments of pentice-moulded beakers, but only one example survives sufficiently for illustration (535).

Two large flat-rimmed vessels, probably two-handled flagons (533–4), in a similar fabric to that of the beakers, closely resemble those discussed by Richardson (*op. cit.* 104 with fig. 105, 1.25–29), and are paralleled at Caister-on-Sea (Darling with Gurney 1993, fig. 142, 167 and 176, respectively). Richardson suggests a source in northern France, based on similar vessels illustrated by Tuffreau-Libre (1977).

Sandy Cream ware – imported? (SACR)

This fabric is extremely scarce and has only been identified at one site, The Park. There are just four sherds from a single vessel, probably a flagon, found in a late 3rd to 4th century rampart dump. The fabric is hard, cream in colour, with fairly common well-sorted sub-angular quartz, sparse red iron ore and streaks, and has traces of an internal coating. The exterior is probably self-slipped (Darling 1999, 86).

Italian? (LRF252)

Eleven sherds are from a single flagon (too fragmentary for illustration), identified originally as oxidised ware from an unknown source (OX); microscopic examination subsequently showed that this is undoubtedly an import. The fabric is hard and pale brown in colour with moderate to abundant limestone ($R > 0.1\text{mm}$, occasionally 0.2mm), a moderate amount of glassy black sand ($A > 0.3\text{mm}$), rare clear quartz ($A > 0.2\text{mm}$) and red iron-rich particles ($R > 0.4\text{mm}$). Moderate gold mica is visible in the surfaces (F mostly 0.1mm , occasionally 0.3mm). The glassy black sand and gold mica inclusions suggest an Italian source. The sherds were found in 3rd century deposits within three adjoining rooms in the east range of the forum (at St Paul-in-the-Bail), but all in assemblages containing residual 1st or early 2nd century material.

4.2 Local Oxidised Wares

The petrological compositions of the fabrics suggest that the wares within this group are local products,

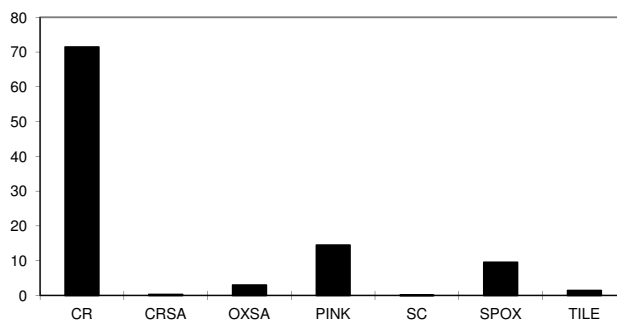


Fig. 37. Local Oxidised Wares by sherd percentage.

and that some may be from the same sources as the locally produced fine wares (see p. 20). These oxidised wares were manufactured from the 1st century and were most common in the 2nd century, but production continued throughout the Roman period.

Local potters are likely to have used the same clay beds as those exploited later, but probably closer to the city. The earliest kilns identified, those at the Technical College and South Carlton, were certainly in operation by the 2nd century (see 10.2, below). There is little evidence for products except mortaria from the latter being widely used within the city, and no firm evidence that the former manufactured any vessel types other than mortaria. Later Roman oxidised wares of 4th century date were mainly produced at the Swanpool kilns.

CR, a loose grouping of a variety of cream fabrics (see below) is by far the most common in this category, followed by Pink Micaceous ware (PINK), and then Swanpool Oxidised ware (SPOX); the remaining wares – Oxidised Sandy (OXSA), Tile Fabric (TILE) and Later Cream Sandy ware (CRSA) are comparatively scarce, while only a single sherd is positively identified as South Carlton Cream ware (SC; Fig. 37).

Cream ware (CR)

This category (7,563 sherds) covers a variety of cream-coloured fabrics with a relatively wide date range. It may include some unrecognised imported wares, which are difficult to distinguish visually from the more micaceous local products.

The early fabric is more noticeably micaceous and is virtually identical to that used for RDSL, PINK and LEG (see pp. 20, 61 and 100, respectively). No kilns associated with the 1st century production of CR have been located; although the fabric resembles that of wares from the 2nd century South Carlton kilns, analysis suggests that the clay came from a different source (see p. 305). The decorative technique of red painted designs and slips, which arrived with the

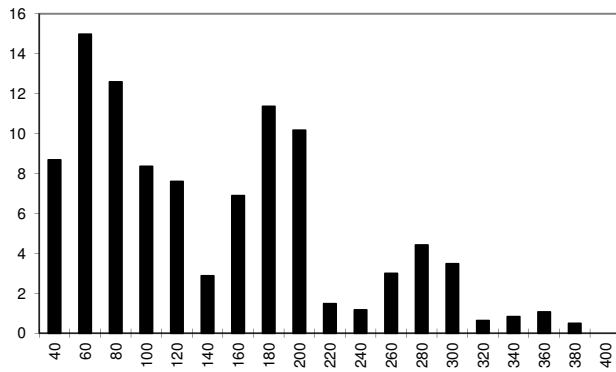


Fig. 38. Cream Ware: plotdate by sherd percentage; sites East Bight (EB80), Holmes Grainwarehouse (HG72) and The Lawn (L86).

legions, is common to both industries. It was also used on later Roman Parchment wares (see PARC) but those vessels, mainly self-coloured cream-white wares, are rarely micaceous.

Fabric descriptions of the South Carlton Cream ware (SC) and a rare grey-slipped cream variant (CRGS) are included below for comparison, although they have rarely been identified on Lincoln sites. There is only a single positive identification of SC among the Lincoln material; the sherd, from a closed form decorated with a red painted design of a row of dots between two narrow horizontal lines, is identical to examples from the kiln site. CRGS is very rare, occurring only as a single sherd from a large closed vessel, probably a flagon, which was associated with other pottery dated to the early-mid 2nd century.

Dating: EMROM

In an attempt to clarify the dating for the CR assemblage, sites with little or no evidence for 1st century occupation but with a high proportion of redeposited early material were excluded from analysis. The three sites selected – East Bight (EB80), Holmes Grainwarehouse and The Lawn (L86) – had well-stratified sequences of 1st century activity but occupation continued into the 4th century and beyond.

Figure 38 shows a series of peaks, that in the mid to late 1st century probably reflecting 'legionary' production, and that in the mid to late 2nd century coinciding with output from the South Carlton kilns. The mid to late 3rd century material is from later Roman secondary deposits containing redeposited earlier material, suggesting that CR was residual in those contexts. Alternatively, some of these sherds may be cream-coloured, undecorated body sherds of later Parchment ware (PARC: see below). The later 3rd and 4th century material derived

mainly from post-Roman layers and can therefore be discounted.

Fabric and technology

LRF234, 237, 245, 253 (CR)

LRF238 (CRGS)

LRF179, K23A (SC)

In general, the fabric and surfaces of this ware group are cream in colour, sometimes with darker exterior surfaces. White fabrics also occur, particularly on 2nd century vessels. Some self-coloured slip is evidenced by drips on the interior surfaces. The fabrics can vary from fairly soft to very hard in texture, and have sparse to common ill-sorted very small sub-rounded quartz, some angular, and sparse ill-sorted sub-rounded red (less frequently black) iron ore. Occasionally the fabric is slightly micaceous when fired at a lower temperature than usual (Darling 1999, 84).

CR

K23A (Pl. 1.2): South Carlton kiln. The fabric is fine and slightly powdery with a calcareous, silty matrix (abundant SA quartz > 0.1mm) containing very rare larger quartz inclusions (SR > 0.4mm) and sparse to moderate red iron-rich particles (mostly > 0.1mm; less frequently > 1.0mm). There is a single large limestone and quartz conglomerate (R 2.0mm). Rare fine white mica is visible.

LRF179: this fabric is very similar to K23A but with moderate, larger red iron-rich inclusions (> 0.9mm) and abundant pale gold mica in the surface (> 0.2mm).

LRF234 (Pl. 1.1): this example of the early fabric is creamy white in colour and in most respects is the same as the general description given above. However, it has a range of red (rarely black) iron-rich inclusions (mostly R > 0.2mm, but also less frequently larger SA particles > 1.5mm), and sparse white mica that is abundant in the surfaces.

LRF237: the fabric has a pinkish inner cortex and surface with a light cream exterior cortex and a darker cream surface. It is similar to LRF234 but with smaller iron-rich particles (R 0.1mm, more rarely 0.5mm) and very rare calcareous inclusions (R > 0.4mm). The fabric closely resembles that of the South Carlton kiln example (see K23A, above).

LRF245: this fabric is light cream in colour, with darker cream surfaces and a decoration of thick, dark red-brown painted circles. The matrix is identical to that of CRGS LRF238 (below). The fabric is very similar to that from the South Carlton kilns, where some of the products are decorated with red painted designs.

LRF253: a fragment from a flagon waster that is over-fired and spalled on the surface; it is grey in colour with a cream interior and a cream and grey mottled exterior surface. The fracture is conchoidal

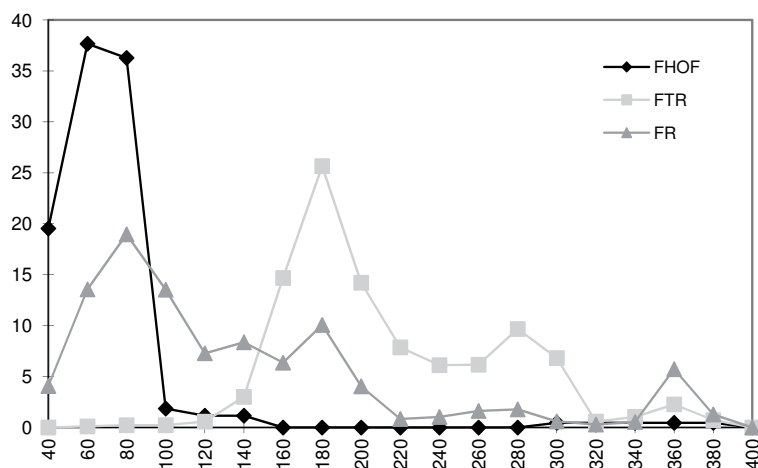


Fig. 39. Cream Ware, main flagon types, plotted by sherid percentage: ringed (FR), ringed with dominant top ring (FTR) and Hofheim collar type (FHOF).

and brittle and the inclusions are virtually the same as those of LRF234 apart from the iron-rich inclusions, which are dark grey because the vessel is over-fired, and the mica is less obvious.

A wide range of decorative techniques includes: applied decoration; barbotine dots and circles; burnished intersecting arcs, vertical and wavy lines; finger frilling; rilling; nodular and webbed rustication; rouletting and scored wavy lines. Some vessels are also decorated with red painted designs.

CRGS

LRF238 (Pl. 1.7). This cream fabric is a rare variant of CR with a light grey exterior wash/slip. The fabric is similar in texture to that of LRF234 and 237 but lacks the larger quartz inclusions. Instead, the matrix consists of moderate to abundant well-sorted quartz (SA >0.1mm) and sparse red iron-rich particles (mostly >0.1mm, occasionally >0.4mm); mica is present but sparser.

Forms

The CR repertoire includes a wide range of forms. Flagons are by far the most common, followed by jars (including honey pots), bowls and then beakers and lids. Cups and dishes are present in very small quantities and other forms include lamp holders, tazze, triple vases and unguent jars. A rare, but distinctive, group consists of bowls decorated with red painted designs.

Flagons, flasks and jugs (Figs 41 and 42)

There are a wide variety of flagons. The most common types are ring-necked vessels with a dominant top ring equivalent to Gillam types 5–7 (318–9); there are insufficient examples suitable for illustration and 318–9 are somewhat atypical. After standard ring-

necked flagons (313–7), cordoned flagons appear to be the next most common group, but this is mainly due to the presence of a large number of sherds from a single vessel (298), which is covered with a reddish wash rather than a slip, similar to the red-slipped fineware RDSL. It is the only example of such a flagon in CR, but typologically has more in common with Hofheim types and their variants (299–305). Many of these can be paralleled at Longthorpe (for 300, see Dannell 1987, fig. 38, 1; for 301, *ibid.* fig. 38, 3).

A single Hofheim type with a distinctively grooved rim (303) is identical in fabric and form to two vessels from London (Davies *et al.* 1994, fig. 52, 288–9), both identified as north French/south-east English products. These vessels are relatively rare but are seen on a number of sites in south-east England, and appear to date to the early 1st century (*ibid.* 62–3).

A variety of two-handled vessels are mainly flagons (331–3, possibly 334, 335 and 338–9) but also include two unusual vessels with constricted, well-defined necks (336–7) that may be either atypical flagons or possibly honey pots.

Figure 39 shows the dating profiles of the most common flagon types. Excluding obviously residual examples, Hofheim flagons (a small group of just 40 sherds altogether) are confined to 1st century deposits, and to the early Flavian period in particular. Ring-necked types peaked towards the end of the 1st century, dropping markedly by the 2nd century, whereas those with a dominant top ring (products of the South Carlton kiln) were most common in the Antonine period.

Other flagon types include: large vessels with grooved and collared rims (306–8) or with prominent upper rims reminiscent of Gauloise-type amphorae (328–9); vessels with taller collared rims (309–310)

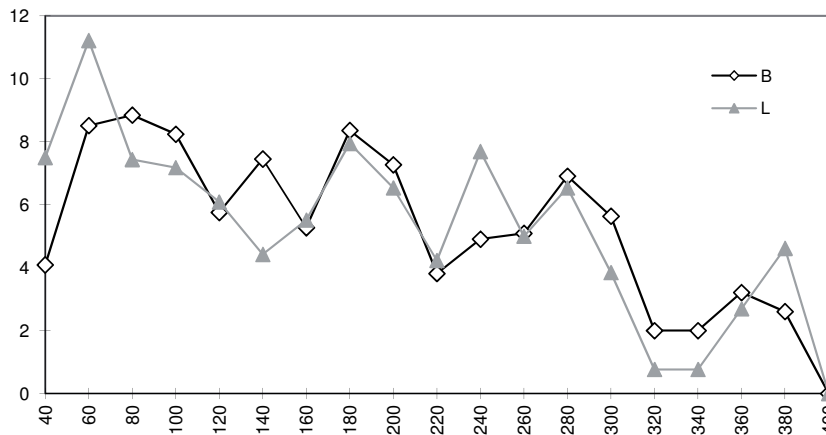


Fig. 40. Cream Ware: plotdate of bowls (B) and lids (L) by sherd percentage.

that are classic Rhineland types; similar vessels with grooved (311–12) or beaded rims; cup-mouthed, ring-necked flagons (320–2) with an unusual variant (323); and disc-rimmed types (324–5). Both 324 and the ring-necked flagon 314 are splashed with red paint and may be RDSL rather than CR. Less common vessels include those with wide, everted and occasionally grooved rims (326–7) and there is a single example (330) of Marsh type 3, a form based on metal prototypes.

A variety of flasks (340–2) and jugs include pinch-necked types (344–5). Unusual examples are a tubular-necked vessel (343) and a face-necked flagon (346); the latter closely resembles Nene Valley types and could in fact be an example that has lost its colour coating.

Jars (Fig. 43, 347–63)

Jars appear to be most abundant in early 1st century groups. The most common forms are honey pots (347–54 and possibly 336 and 337), most of which have everted rims and a groove at the shoulder. Fifteen sherds are probably from a single face jar (too fragmentary for illustration). The remainder (355–62) include narrow-necked, everted- and curve-rimmed vessels, and an unusual example with a finger-frilled rim (363), similar to the decoration on tazze.

Beakers and cups (Fig. 43, 364–77)

Beakers occurred mostly in mid to late 1st century groups. The illustrated vessels include a single example of a butt beaker with rouletted decoration (364); others have plain, grooved rims (365–6). Everted-rimmed types (367–73) predominate; one of these is decorated with thick red painted circles and ?lines (372), and another has rows of barbotine dots (373). A narrow-necked everted-rimmed beaker with a notched cordon on the shoulder (374) is a mid to late 3rd century type (BK120) that was more commonly made in GREY (see Fig. 112, 1076–83). No.

375 is an example with a tall footring base, probably also from a beaker.

Cups include close copies of samian form Dr. 27. A handled vessel (376) is probably a cup, and 377 is the base of a cup or beaker with an unidentifiable internal stamp. Cups also occurred in early to mid 1st century groups, and appear to have been particularly common during the Trajanic period.

Bowls (Fig. 44 and Fig. 45, 398–410)

Figure 40 shows a series of low peaks from the mid 1st to the mid 2nd century, possibly suggesting two discrete periods of production (see also Lids, below); the 3rd century material may be residual.

There is a wide range of bowl types, the most common being reeded-rimmed vessels (401–6); one of these (402) is decorated with scored wavy lines on the upper surface of the flange, a style of decoration that also occurs in RDSL. Surface scars on 404 suggest that this originally may have been a handled bowl. Hemispherical bowls (382 and 385) and close copies of samian form Ritt. 12 are the next most common types. Other forms include close copies of samian forms Dr. 29 (378 and possibly 379) and Dr. 37 (probably 380 and, more certainly, 381–3), and bowls with moulded rims (386–7). Both 381 and 383 have rouletted decoration; on 381 it is combined with barbotine 'hair-pins'.

One of the most remarkable vessels in this repertoire is a handled bowl with a constricted, almost campanulate, profile (384). It is from East Bight (EB80), a site that produced a unique assemblage of early legionary wares, and is closely paralleled by vessels from Usk (Greene 1993, fig. 5, types 20 and 36–8), where they account for over 3% of the total pottery assemblage. Elsewhere these have only occurred as single vessels; there is a remarkably similar vessel from Longthorpe (Dannell 1987, fig. 41, 63) and a heavily modified version from a kiln at Brockley Hill, St Albans (K. M. Richardson 1948, fig. 4). The

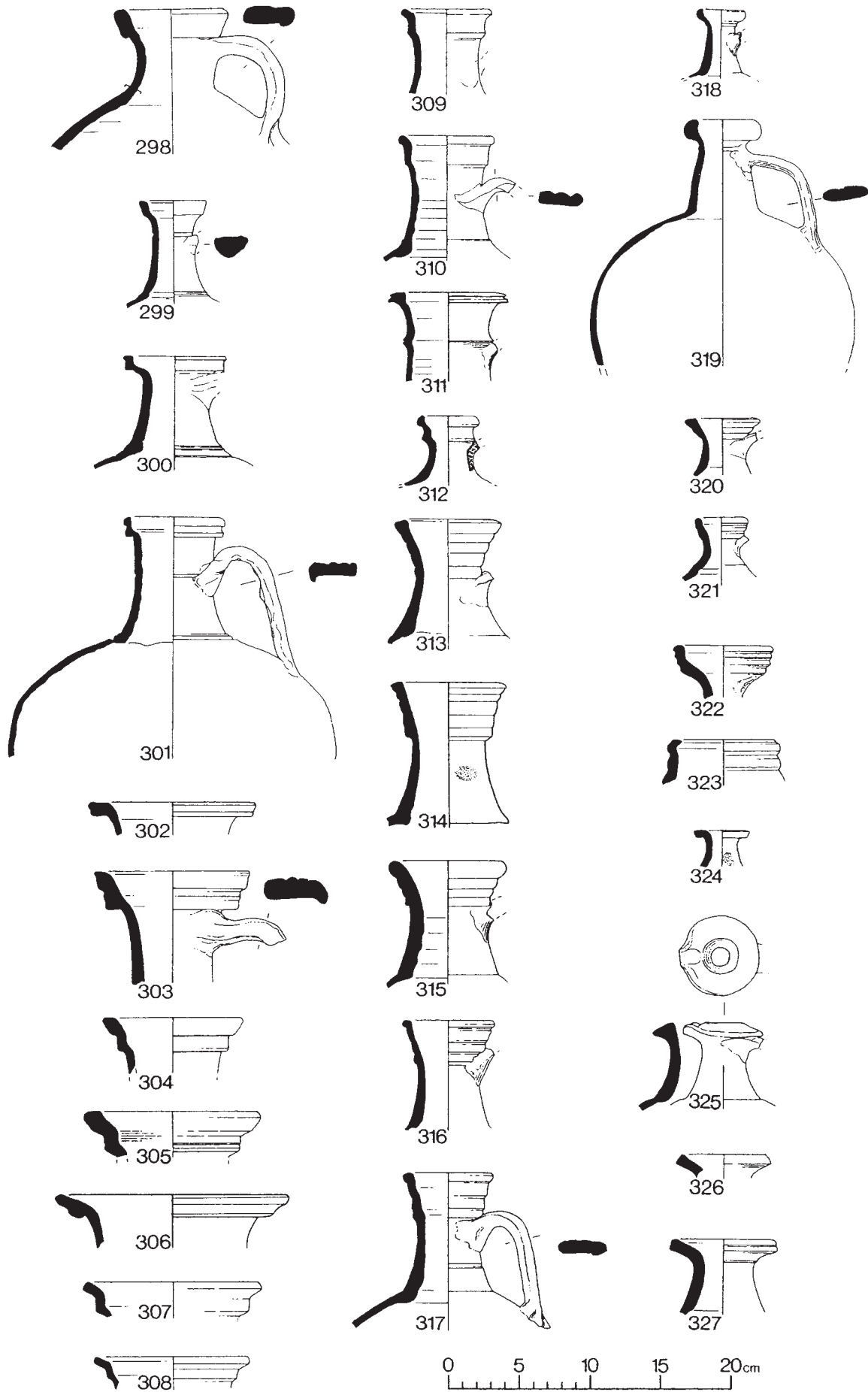


Fig. 41. Cream Ware: flagons 298–327. Scale 1:4.

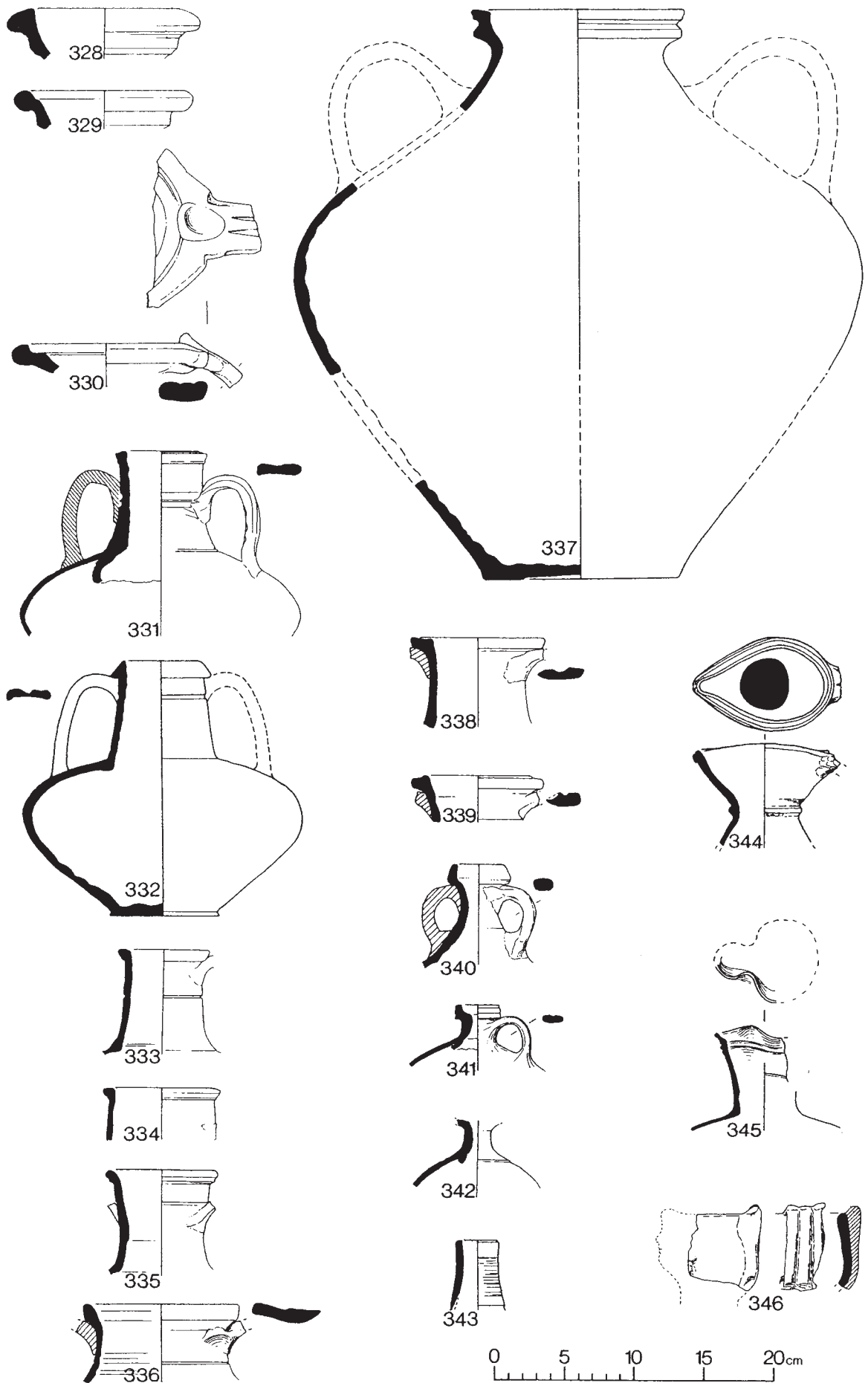


Fig. 42. Cream Ware: flagons 328-46. Scale 1:4.

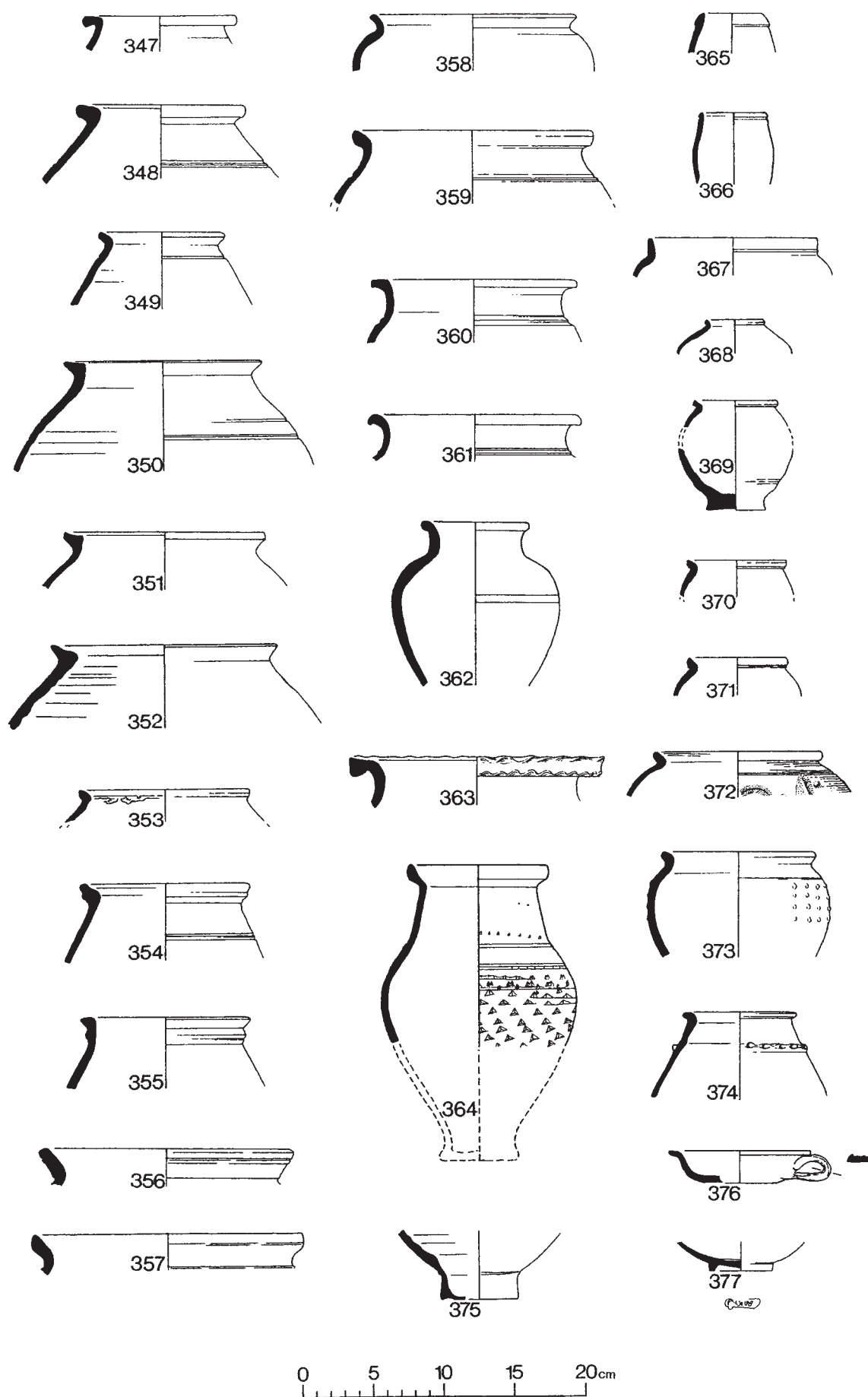


Fig. 43. Cream Ware: jars, beakers and cups 347-77. Scale 1:4.

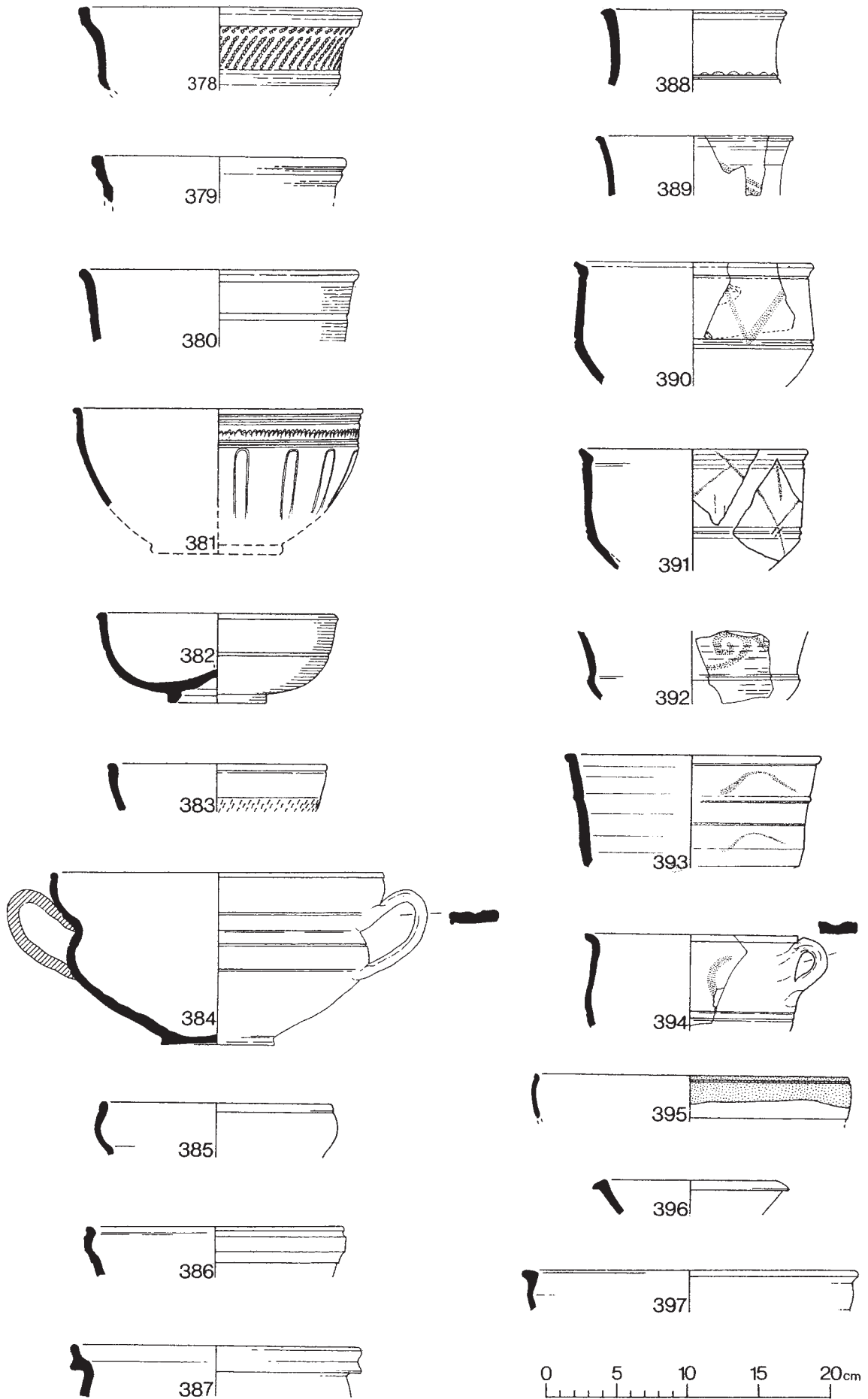


Fig. 44. Cream Ware: bowls 378-97. Scale 1:4.

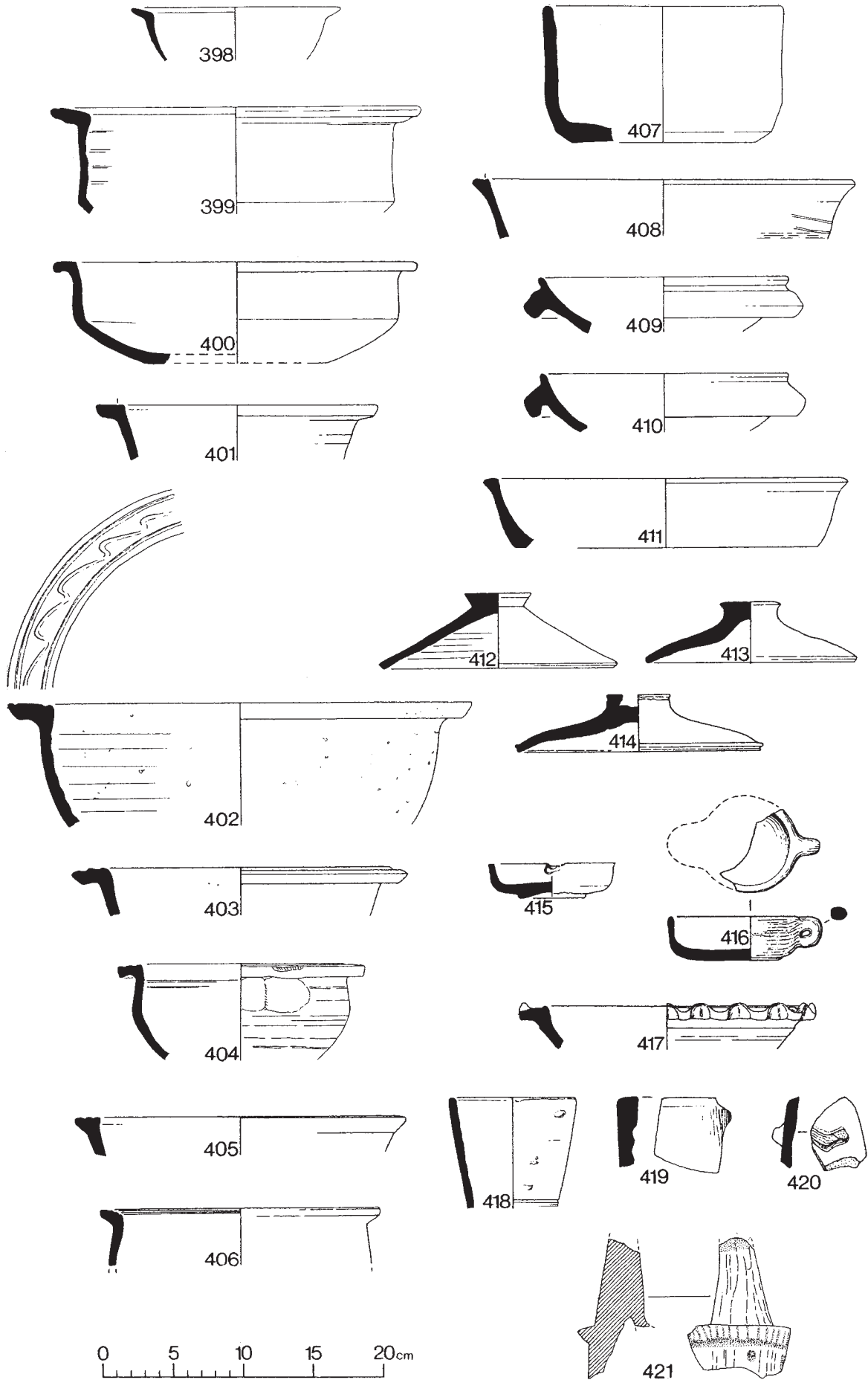


Fig. 45. Cream Ware: bowls, lids and unusual types 398–421. Scale 1:4.

constricted form may suggest that it is part of a wine service, with the internal ledge providing support for a strainer.

Several bowls feature red painted decoration; these include 388 and 389 with tall flaring rims, and a series of carinated vessels with everted rims: 390, 391 (with slight smearing for a handle attachment?), 392 and 394, which is a less carinated type with a handle. Darling (1981b, 401–2) discusses these vessels in detail in relation to the early RDSL. Other painted bowls are 393, with a tall, cordoned profile and a carination towards the base, and 395 with a beaded rim and rounded body wall.

The remaining illustrated vessels consist of triangular-rimmed (396) and flanged bowls (397–400); a plain-rimmed bowl (407); an incipient bead-and-flange type (408), and bead-and-flange bowls similar to small mortaria (409–10).

Dishes (Fig. 45, 411)

Plates and dishes are rare and appear to have been produced only intermittently during the 1st and 2nd centuries. Plates similar to plain-rimmed PRW dishes are present as well as triangular-rimmed vessels (411).

Lids (Fig. 45, 412–14)

The dating profile of lids is similar to that of the bowls (Fig. 40), perhaps suggesting that at least some may have been intended for use together. There are several lid styles, including square- and expanded-rimmed types. No. 412 was used with a rusticated jar in LEG (Fig. 76, 771) to hold a cremation. Nos 413 and 414 illustrate plain and moulded-rimmed examples, respectively.

Other vessels (Fig. 45, 415–21)

This group includes lamp holders, lamps, tazze, triple vases, and unguent jars, together with a number of *curioso*, all of which occur very rarely and are not securely datable although tazze (417) were most common during the Trajanic and Antonine periods. The illustrated vessels include lamp holders (415 and 416, a handled example), an unusual tall-rimmed vessel with a groove towards the lower wall (418) and part of a straight-sided, possibly cylindrical object (419). A fragment from a narrow closed vessel bears what may be the foot of an applied figure (420) while 421, decorated with red paint, is possibly part of a finial or, more likely, a fragment of lamp chimney (*cf.* Fig. 55, 523 for a lamp chimney in TILE).

Later Cream Sandy ware (CRSA)

CRSA is rare in Lincoln (28 sherds). Positive identification is, in any case, difficult; Darling (1999,

85) notes that CRSA is very similar to a harder fired, grittier version of OXSA (see below), but seems to occur only in later contexts. The fabric is also similar in texture to Verulamium Region White ware (VRW; see p. 75 below) but is harder fired with a more yellow tone and with less well-sorted quartz. The forms in CRSA are quite different to those of the mainstream VRW assemblage, although it is possible that some undiagnostic VRW sherds may have been included within this group. The origin of CRSA is unknown, and it may or may not be a local product, although the petrology indicates a local source.

Dating: MLROM

A small amount of CRSA appeared in 2nd century groups, but these few sherds could be misidentified VRW. It occurred mainly in mid to late 3rd century assemblages, continuing into the mid–late 4th century.

Fabric and technology

LRF233 (Pl. 1.12), 246, 260

A cream (sometimes pinkish) fabric and internal surface, with a darker cream to yellow external surface; it is very hard with a rough feel, composed of common to abundant ill-sorted clear and opaque quartz (>0.6mm), and sparse ill-sorted red iron-rich inclusions (SR-SA >0.9 mm). The quartz in thin-walled sherds is markedly smaller than that in thicker walled vessels. A group of fairly thin-walled sherds from an open form found at The Park are decorated on the interior with red-brown paint (Darling *op. cit.*).

Forms (Fig. 50, 422–3)

The majority of the CRSA consists of unassigned body sherds or closed forms. There are two flagon sherds in an uncertain fabric, and a sherd from a bowl that is similar to samian form Dr. 38. The fabric of the illustrated vessels (422–3) is uncertain, but is probably CRSA; both are jars. The first has an upright, slightly curved rim and the second a lid-seated rim.

Early Oxidised Sandy ware (OXSA)

The OXSA assemblage is relatively small (314 sherds); this ware may have some affinity with GRSA, which is a similar but reduced fabric of legionary date (see p. 100). There is also a strong connection between OXSA and the forms and fabric of the oxidised Ware 1 and its variants, from the military works-depot at Longthorpe (see Fabric and Forms, below). Darling (1981b, 403–5) discusses the relationship between Lincoln and Longthorpe, mainly in relation to early RDSL, but also briefly mentioning ‘other sand-tempered Romanized vessels’.

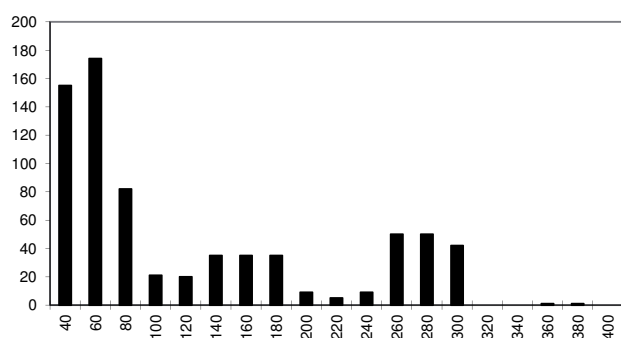


Fig. 46. Early Oxidised Sandy Ware: plotdate by sherd percentage.

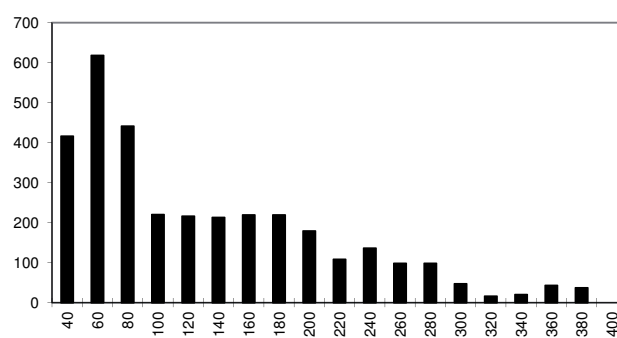


Fig. 47. Pink Micaceous Ware: plotdate by sherd percentage.

Dating: EROM

OXSA is most common in Neronian to early Flavian assemblages (Fig. 46), with virtually 70% coming from groups mostly dated from the 1st up to the early-mid 2nd century. All the later material is from sites where legionary period rubbish was redeposited in later levels; it is possible that a small number of these sherds are the later CRSA fabric rather than OXSA.

Fabric and technology

LRF236 (Pl. 1.8). This light pink-brown fabric with similarly coloured surfaces can vary to having a grey core with cream-brown surfaces. It is hard, high-fired, and has a rough texture with a conchoidal fracture showing inclusions of moderate to abundant ill-sorted, often multicoloured quartz (SR mostly 0.2–0.3 mm, occasionally >0.5mm) and larger quartzite inclusions (>1.0mm). The type-sherd includes moderate red iron-rich particles (0.2–0.3mm), although in some sherds it is sparse and black in colour, and there are wedge-shaped pink-brown inclusions that may be clay or grog (SA >2.0mm). The fabric is similar to Longthorpe Ware 1, which has virtually the same petrology including grog inclusions (Dannell 1987, 134).

Forms (Fig. 50, 424–36)

Many of the vessels in this group can be directly paralleled at, or show similarities with, those from Longthorpe (mainly in Ware 1 and its variants), possibly indicating that at least one potter worked in both places (see p. 306). Flagons are the most common forms identified and are, in the main, early Hofheim types (424–6 and 427, a variant; cf. Dannell *op. cit.* fig. 38, 1a, 1c, 2, 3 and 7); others include ring-necked (428) and disc-rimmed types (429: less certainly OXSA), as well as pinch-necked flagons or jugs (430: *ibid.* fig. 38, 7). Jars are rare, and consist mainly of honey pots; an everted-rimmed vessel,

possibly a butt beaker (431: *ibid.* fig. 39, 12a), as well as handled and lid-seated vessels also occur.

Beakers are all everted-rimmed (432), and there is a fragment of a Lyon-type cup. Bowls are almost as rare as jars and include those with moulded rims (433 and 434, the latter less certainly OXSA) similar to those on some PINK vessels (see Fig. 51, 469–71), and reeded-rimmed bowls (435: see Dannell *op. cit.* fig. 41, 58a for a similar vessel). Plates are scarce; one fragment resembles the PRW plain-rimmed dish form. Other vessels include plain- (436) and expanded-rimmed lids, as well as fragments of tazze and unguent jars.

Pink Micaceous ware (PINK)

This ware (1,530 sherds) is very similar to early CR fabrics and may be a variant produced under different firing conditions; it is also related to RDSL and LEG.

Dating: EROM

PINK is a fairly common component of early Roman assemblages, particularly those of the Neronian to early Flavian period (Fig. 47). The dating profile shows a sharp drop by the end of the 1st century; its apparent presence in contexts postdating *c.* AD 100 is mainly due to its occurrence at sites with a high level of residuality and/or redeposition of early material in later deposits, particularly those on or near the defences of the Upper City such as Chapel Lane, Westgate, The Lawn and East Bight.

Fabric and technology

LRF235 (Pl. 1.4), LRF242–3

The fabric and surfaces are usually in a range of light pink tones, but can be darker or tinged with cream. It tends to be softer than the early CR fabric but is similar in its inclusions, with moderate clear quartz (SA >0.1mm); some of the quartz is light brown

in colour and there is also very sparse ill-sorted opaque quartz (SR >0.3mm) together with sparse red iron-rich particles (>0.2mm), often only flecks, and a varying amount of white mica that is more abundant in the surfaces.

Decoration occurs very rarely, and consists of rouletting, webbed rustication, barbotine dots and circles, and red-brown slipped and painted designs.

Forms

Flagons are by far the most common forms identified, followed by jars and bowls, beakers and lids.

Flagons (Fig. 50, 437–45)

Early Hofheim-type flagons (437–8) and their variants (439) predominate in this category; 438 is paralleled at Longthorpe (Dannell 1987, fig. 38, 10d). These are followed by ring-necked examples (441 and 442 with a complex red painted design). Other flagons include disc-rimmed types (443), large examples (444), and early, two-handled flagons (445). No. 439 is identical to a vessel at Longthorpe (*ibid.* fig. 38, 8b); 440 is similar, with a three-ribbed handle and a delicate rim.

Jars (Fig. 50, 446–8 and Fig. 51, 449–54)

Honey pots (448–50) are the most common type; others that occur more rarely include two unusual vessels with inturned rims (446–7); these are Usk type 17, important as an Italian type dating from the Republican period, as in a pit group near Sutri (Duncan 1965, 152, fig. 7, A32–3, form 26). Small jars or beakers, one with a distorted rim (451; possibly a honey pot) and another with an everted rim (452), a slightly flaring plain-rimmed example (453) and rounded-rimmed examples (454) complete the jar repertoire.

Beakers and cups (Fig. 51, 455–8)

There is no dominant beaker form within the PINK assemblage; most are body sherds of indeterminate type. The illustrated vessels are a butt beaker with rouletted decoration (455), a curve-rimmed vessel with thick red painted circles and dots (456), a small jar or beaker with a short curved rim and grooving on the shoulder (457), and a larger jar or bowl with a flat expanded rim (458).

Bowls and dishes (Fig. 51, 459–72)

Reeded-rimmed bowls such as 459 (with a flaked red slip similar to RDSL) and 460 are marginally the most common types in this category, followed by close copies of samian form Ritt. 12 (461), a form that is common within the RDSL repertoire (see Fig. 13, 45–52). Others include a hemispherical flanged vessel (462), a tall bead-rimmed bowl similar to samian form Dr. 30 (463) and a moulded-rimmed bowl with

a rounded body and red painted circles (464). No. 465, with a neat footring, is finely burnished and 466, decorated with fine rouletting, is similar to samian form Dr. 29.

Carinated bowls (467–8) and fragments of round-bodied vessels (469–71), both with delicately moulded rims, also occur. Nos 470–1 are Danubian types with a probable Hellenistic background, according to Greene (1977, fig. 8.3, 10–2).

Plates and dishes occur very rarely, the only identifiable types being close copies of PRW dishes and an unusual dish with a square, inturned rim (472).

Lids (Fig. 51, 474–5)

Lids (474–5) are less common than bowls. No. 474 has a slightly grooved lip; a similarly grooved type occurs in LEG (see Fig. 77, 799).

Other forms (Fig. 51, 473 and 476–9)

The most distinctive of these rarer types is 473, a large face beaker with a high shoulder and a neat, slightly lid-seated rim. The features are fragmentary, but it has a grotesque face, typical of the north Italian examples (Braithwaite 2007, 247, fig. J4, 2). It is one of only two face beakers of this type known in Britain, the other is from Colchester (Symonds and Wade 1999, 339; fig. 6.23:656), both copying beakers of the north Italian type common at the Magdalensberg (Noricum); the type is similarly very rare in the Rhineland. It is one of the most remarkable vessels of the Lincoln legionary period and is most likely to date to the period of occupation by *legio IX Hispana*. As with other legionary period pottery, it has probable Danubian connections.

A tazza with a neatly moulded rim (476) has a similar profile to that of bowls 467–71. Slight burning on the internal base lends credence to the proposed function of this vessel for either burning incense or, because of the hollow pedestal base, serving as a standing lamp. All the tazze found in Britain and on the continent appear to be decorated with frilled rims but the Lincoln example is without a frill. It may be significant that tazze with hollow feet seem to be confined to the Upper Rhine, for example Raetia and Pannonia, whereas those from the Rhineland always have solid bases (Margaret Darling, *pers. comm.*).

The remaining illustrated vessels consist of several unusual closed forms (477; 478 with a grooved lower wall), and 479, which may be an unguent jar.

Swanpool Oxidised ware (SPOX)

This assemblage (1,007 sherds) comprises oxidised products of the Swanpool kilns, operating in the late 3rd and 4th centuries (Webster 1947).

Dating: LROM

Figure 48 suggests that small quantities of SPOX were in use in the mid 3rd to early 4th century but this is a 'tail' due to its occurrence in groups that can only be broadly dated. It is relatively rare in early to mid 4th century assemblages and only becomes prominent in those of the mid to late 4th century.

Fabric and technology

LRF259

Swanpool oxidised fabrics are diverse, ranging from very fine and almost quartz-free to quite heavily tempered coarse-textured wares; some feature a self-slip. The fabric of the type-sherd (LRF259; Pl. 1.11) is high-fired and orange-red in colour with darker surfaces. The slightly irregular fracture reveals abundant ill-sorted grey, clear and opaque quartz (SR mostly 0.1–0.2mm, some 0.3–0.4mm and less frequently >0.8mm), sparse red iron-rich inclusions (R and SR >1.0mm), and very rare calcareous particles. Rare white mica is apparent in the surfaces.

Decoration mainly consists of rouletting and white or red painted designs and, less frequently, notches, dimples and stamps.

Forms

Many of the white painted designs and a number of the forms closely resemble those of the Oxfordshire red colour-coated vessels (OXRC; Young 1977). The Swanpool potters were also influenced by later products of the Nene Valley industry (Howe *et al.* 1980), in particular the bead-and-flange bowls, but also some beakers and rare castor boxes and their accompanying lids. Bowls are the dominant forms, followed by beakers and jars.

Flagons (Fig. 52, 480)

Flasks (480) are the most common type in this category; others include those represented at the kiln site (Swanpool types B1 and B2), together with jugs.

Jars (Fig. 52, 481–3)

The range of jars found in the city is limited but includes everted- (483) and curve-rimmed types, as well as narrow-necked and large vessels. No. 481 is a very unusual example with an applied face medallion and white painted decoration. Handled jars (482) are distinctive but rare.

Beakers (Fig. 52, 484–9)

The most common beaker types are those similar to Nene Valley type 60; 486 is also similarly decorated, but with white paint, as are 485 and 489. Other beakers include everted-rimmed types (484), folded vessels (488), and funnel-necked beakers with short everted rims, identical to those found at the kiln site (Swanpool type C13).

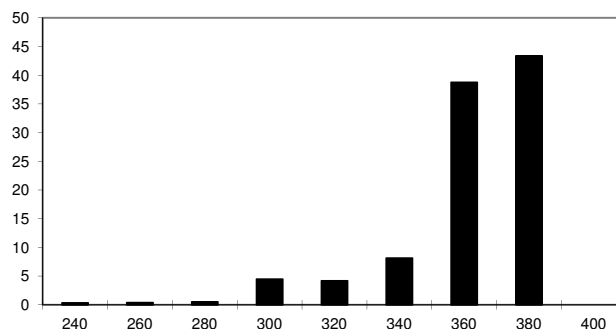


Fig. 48. Swanpool Oxidised Ware: plotdate by sherd percentage.

Bowls (Fig. 52, 490–9 and Fig. 53, 500–13)

This category includes a much wider range of types, among which close copies of samian form Dr. 38 (491–7) are predominant. These are frequently decorated with white painted designs resembling those on the Oxfordshire red colour-coated vessels of Young type 52. Necked bowls (502–5), some of which are dimpled and painted, are similar to Young type 77. Shallow dimpled bowls as 505 are also known in GREY from the Swanpool kilns (see Fig. 129, 1304–19).

Bead-and-flange bowls (507–8) are almost as common as necked varieties, and 509 is an inturned vessel similar to Swanpool type D13, 23. Others include those resembling samian form Dr. 36, bead-rimmed types with rounded bodies and red painted decoration (498), and carinated examples with red and white painted decoration (499–500), similar to Young type 82. A hemispherical bowl stamped with a rosette motif (501) is again reminiscent of those on some Oxfordshire vessels (see also Darling 1999, 122, no. 613, with fig. 52). The remaining illustrated vessels include a flanged bowl (506) and a series of shallow, wide types with triangular or expanded rims (510–3).

Dishes (Fig. 53, 514–15)

Plain-rimmed dishes or variants (514) are most common; other forms include wall-sided types and slightly flanged vessels (515).

Other forms (Fig. 53, 516–17)

Lids are scarce, but there is a rare example of a castor box lid (516), a form that appears among the kiln material (Swanpool type G4), and a single fragment of a castor box. No. 517 is a body sherd from a closed vessel, decorated with an unusual stamped motif of demi-rosettes forming a shell-like design, and horizontal and vertical stamped lines forming an 'H' shape. The vessel is similar to Young type C30,

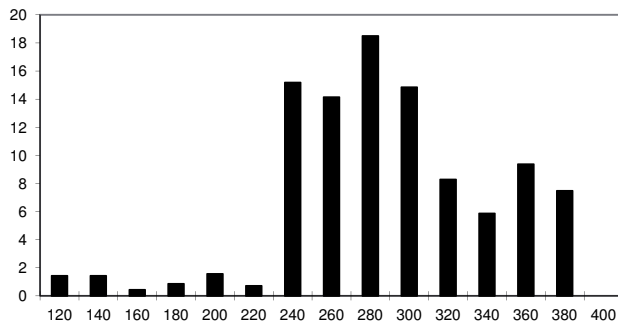


Fig. 49. Tile Fabric Ware: plotdate by sherd percentage.

a globular beaker with a tall neck, and to one vessel in particular, which has a stamped design of straight lines and demi-rosettes (Young type C30.2). Young (*op. cit.* 154) suggests a date of AD 340–400+ for this form and decoration.

Tile Fabric ware (TILE)

This rare but distinctive group (147 sherds), mostly recovered from a single site, St Mark's Church, consists of a number of large closed handmade vessels in a tile-like fabric that has similar characteristics to those of some Roman tile and lamp chimney fabrics. Future comparison between the thin-section analyses of the TILE fabric and those of locally manufactured building materials may provide more conclusive evidence for the local production of these vessels.

Dating: MLROM

Figure 49 suggests that TILE occurred in very small quantities in the 2nd century and was most common in the mid-late 3rd to the early 4th century, this mainly reflecting the well-dated groups from St Marks. It was probably residual in mid to late 4th century assemblages, which all came from post-Roman contexts.

Fabric and technology

LRF254–5

LRF254 (Pl. 4.69): a high-fired red-brown fabric with paler surfaces and a slightly soapy feel. The almost conchoidal fracture reveals moderate to abundant well-sorted clear and opaque quartz (SR 0.1–>0.3mm, but mostly 0.2mm and less frequently 0.4mm); very sparse quartzite fragments (SA >1.0mm) are also visible. Sparse to moderate iron-rich particles (R >0.2mm) and rare calcareous inclusions are present, together with sparse, pinkish red wedge-shaped grog fragments (>1.5mm), and very rare white mica is noticeable in the surfaces. The thin-section (L1709) shows abundant quartz (R >0.4mm), sparse chert

(R >1.0mm), and moderate opaques (>0.6mm) in an anisotropic matrix.

LRF255 (Pl. 4.70): this creamy white fabric with pink margins and pale pink surfaces is hard and slightly powdery with an irregular fracture. The calcareous matrix contains moderate well-sorted clear and opaque quartz particles (SA >0.1 mm), sparse red iron-rich inclusions (R >0.3mm) and very rare ironstone fragments (>1.3mm), together with large fragments of calcareous clay or grog containing the same quartz as the matrix (SR >2.5mm), and a single fragment of ?flint (SA >1.0mm). Very rare white mica is visible in the surfaces. The thin-section (L1694) reveals a variegated fabric (low in iron), with abundant rounded (>0.1mm) and angular (>0.1mm) quartz, in an anisotropic matrix.

The fabric of L1694 is quite similar to that of a MOTILE mortarium (see p. 206, L1627), and the clay is probably from the Lower Estuarine beds, which outcrop below the Lincolnshire Limestone.

Forms (Figs 54 and 55)

Darling (Steane *et al.* 2001, 276) notes that the vessels from St Mark's Church have rim diameters in the range of 24cm, and base diameters in the region of 20–24cm, while body diameters may be 50cm or more. The illustrated forms include a large storage jar with an everted rim and a constricted neck (518), and another with a more strongly curved rim and constricted neck (519). No. 520 is similar but has a series of stabbed circles on the upper surface of the rim. Such decoration is unusual although a vessel from York, a storage jar with a squat rim, is decorated in the same way (Monaghan 1997, fig. 340, 3211), but it is in calcite-tempered ware and is dated to the 5th century (*ibid.* 909). Other storage jars have more open necks with thickened, slightly curved rims (522). A series of bases (525–9) may belong to some of these closed vessels.

No. 521 has a thumbbed cordon or flange immediately beneath a plain rim, and resembles the oven from Holt (Grimes 1930, fig. 60, no 9). A fragment of possible oven or brazier from Catterick, North Yorkshire, recently discussed by Williams and Evans (1991, 51–3), is also in a tile-like fabric. Unlike the Catterick fragment, 521 has no trace of burning or sooting. Only two fragments of TILE pots from the Lincoln assemblage are burnt; one is only a small undiagnostic sherd and the other, 520 (see above), is burnt on the interior. Roman ceramic ovens are discussed by Darling (2012), who identifies the Holt oven as a very rare *tannur* (tandoor), and considers that more evidence is needed for identification of the function of these tile vessels from Lincoln. The largest group of fragments came from the strip buildings at St Mark's Church where hearths and oven bases suggest several functions, principally commercial, which could have

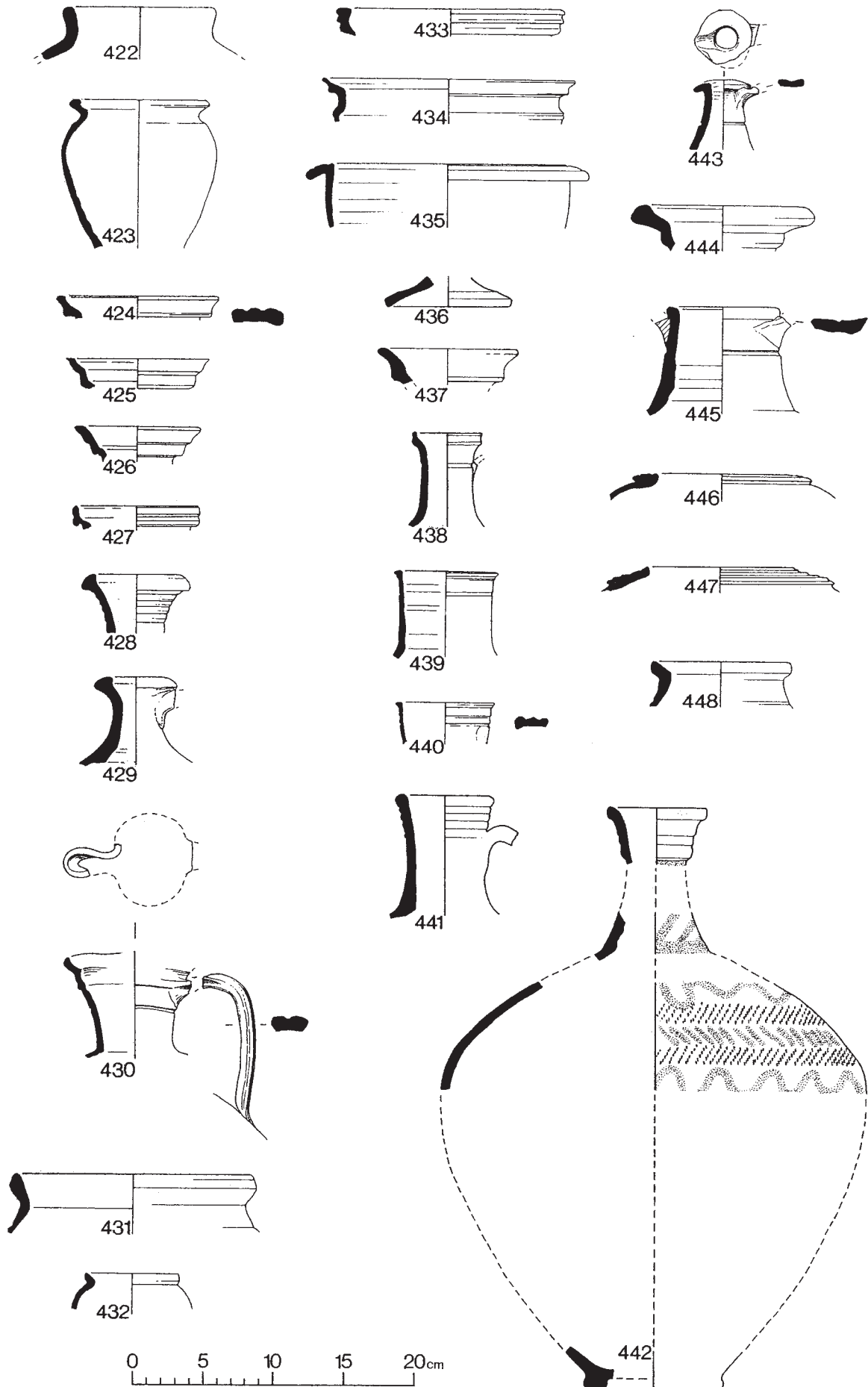


Fig. 50. Later Cream-sandy Ware? 422-3; Early Oxidised-sandy Ware 424-36; Pink Micaceous Ware 437-48. Scale 1:4.

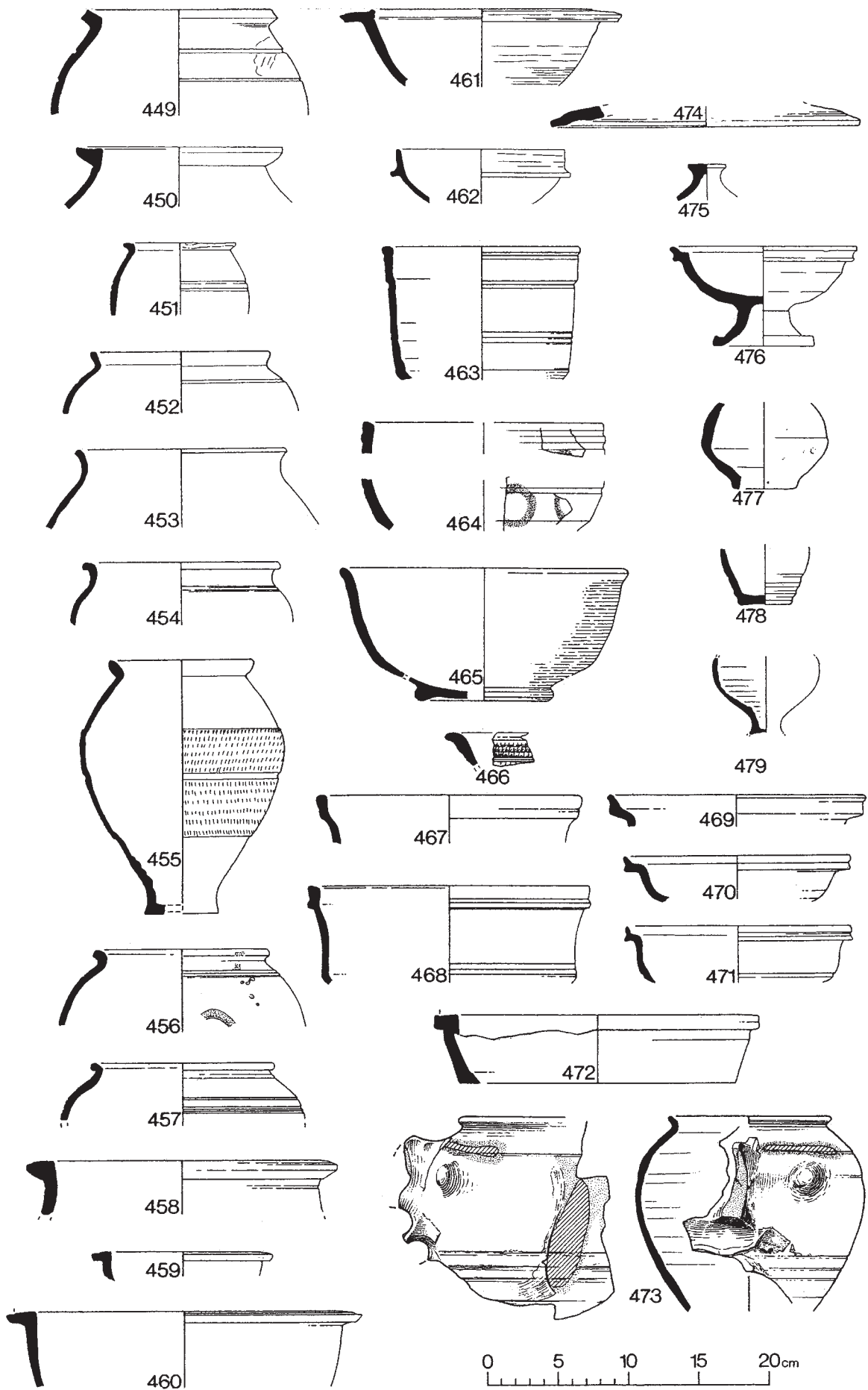


Fig. 51. Pink Micaceous Ware 449-79. Scale 1:4.

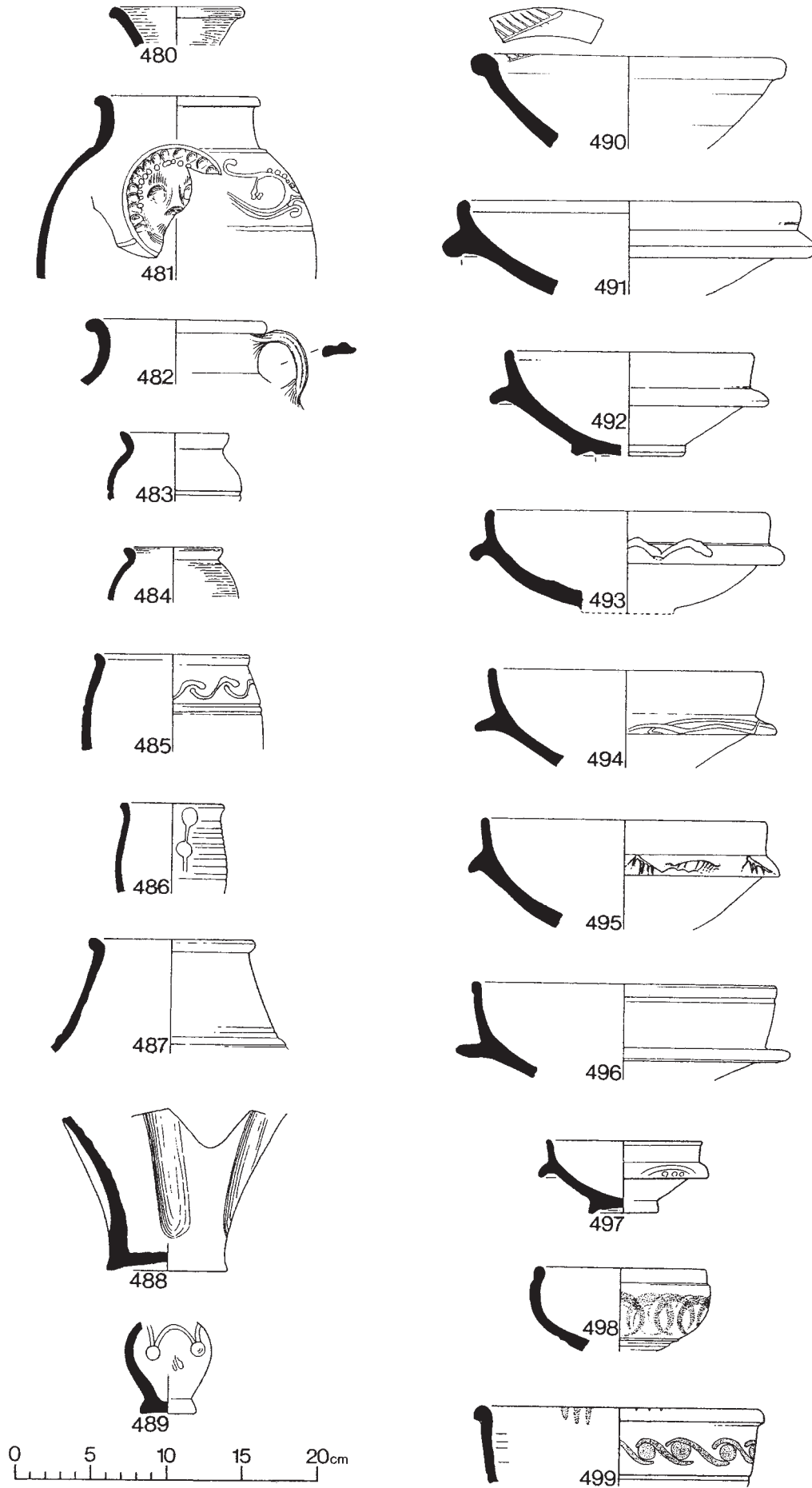


Fig. 52. Swanspool Oxidised Ware: flask, jars, beakers and bowls 480–99. Scale 1:4.

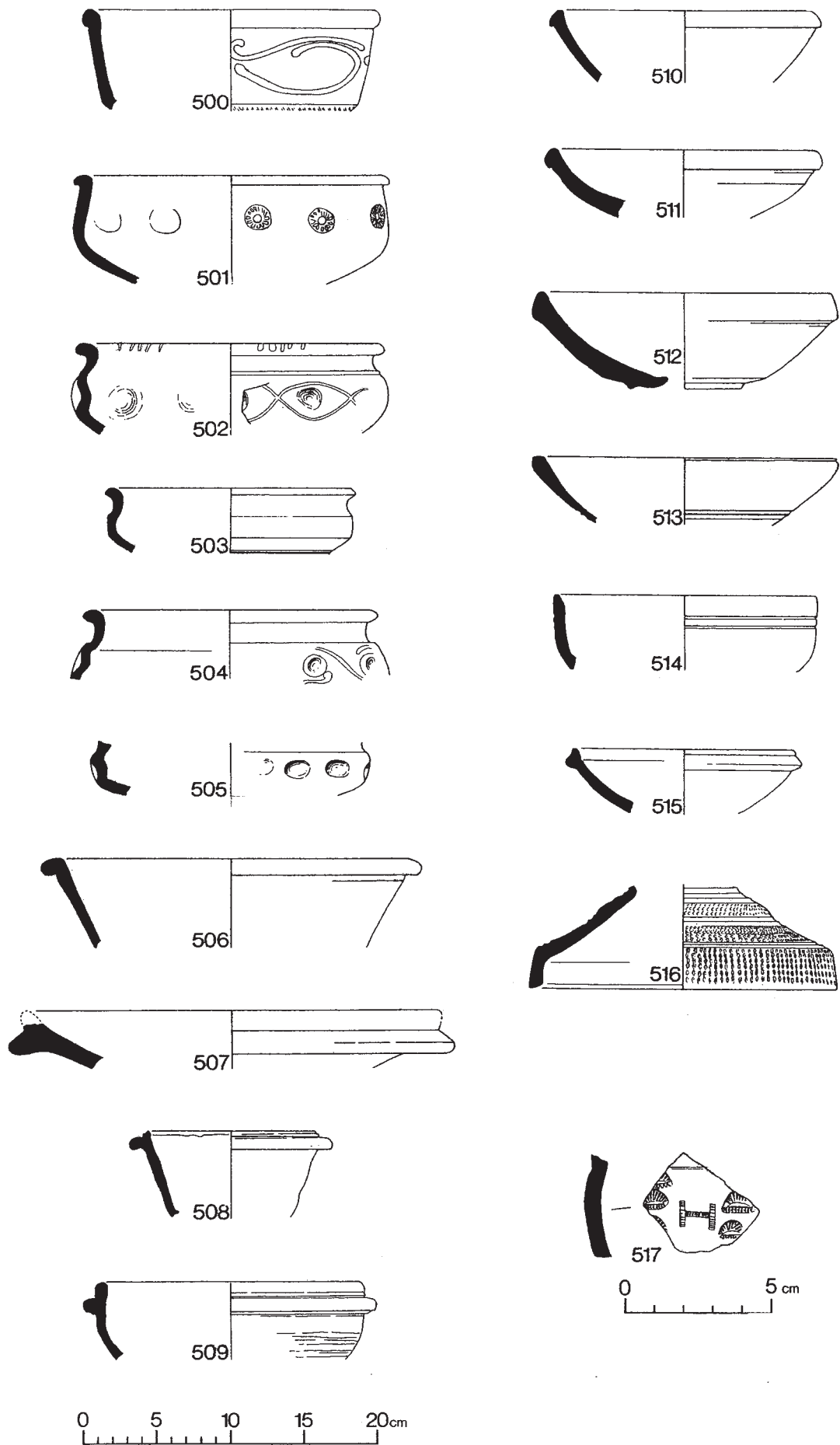
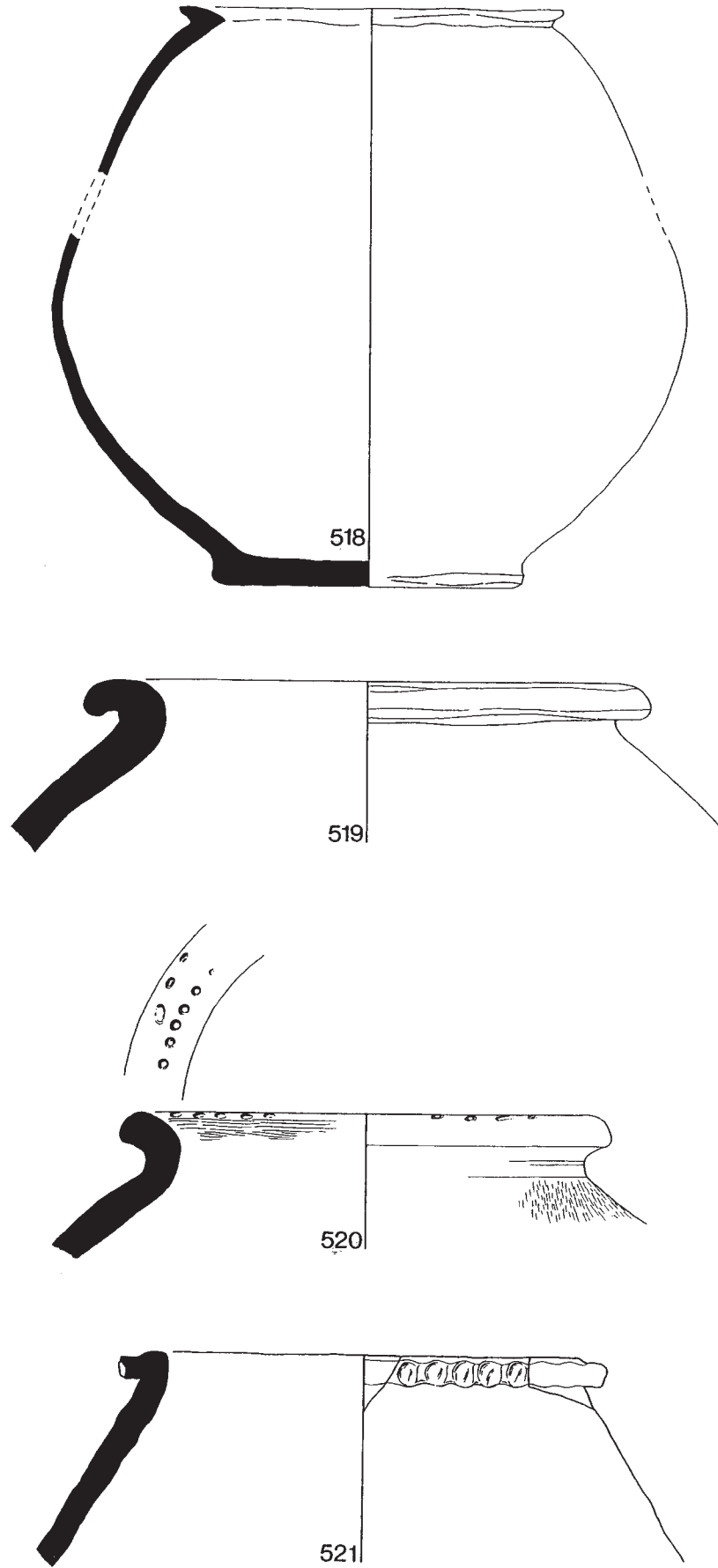


Fig. 53. Swanpool Oxidised Ware: bowls, dishes and other forms 500–17. Scale 1:4, 517 scale 1:2.



0 5 10 15 20cm

Fig. 54. Tile Fabric Ware 518-21. Scale 1:4.

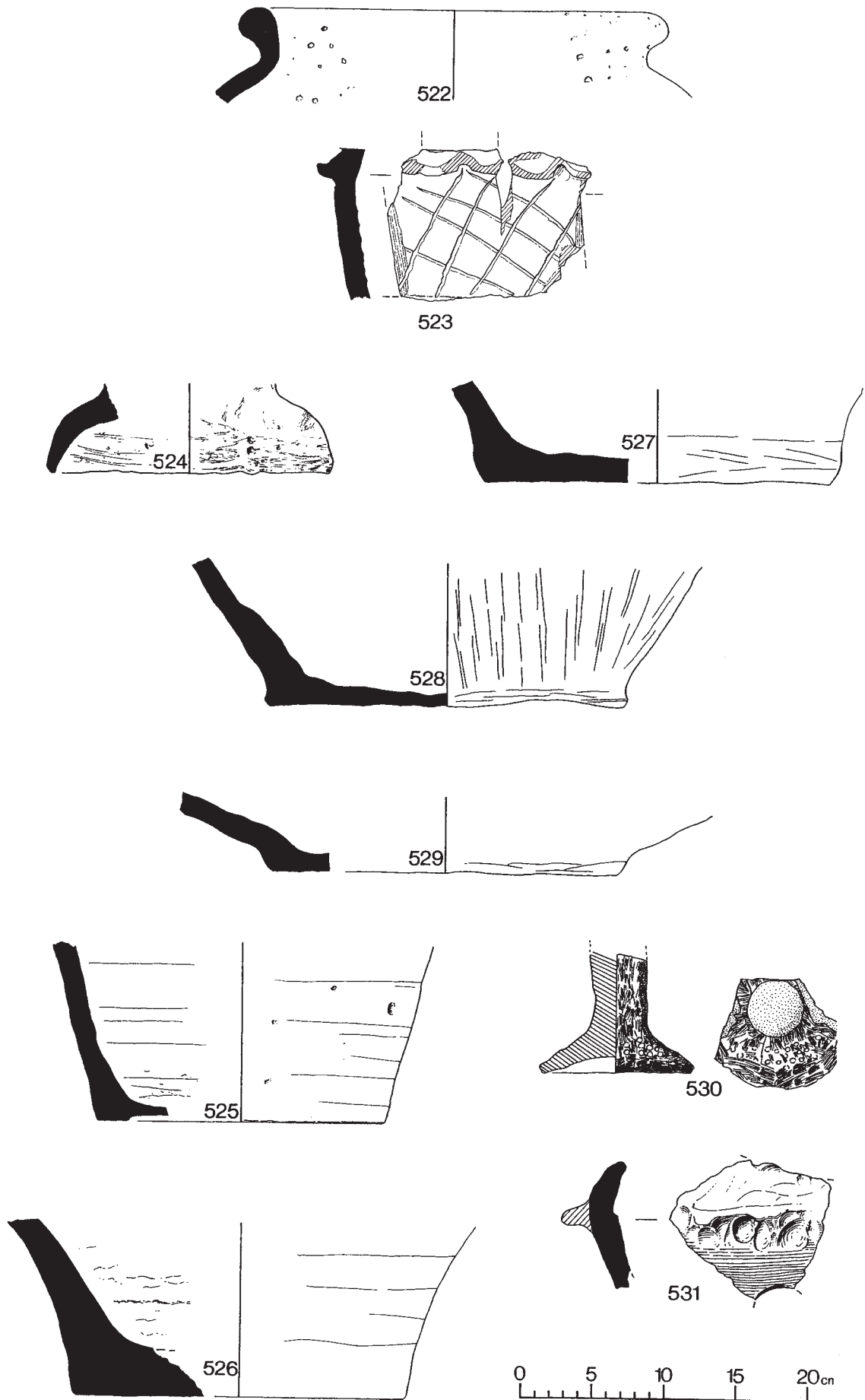


Fig. 55. Tile Fabric Ware 522-31. Scale 1:4.

been associated with preparing food on a large scale (Steane *et al.* 2001, 273).

No. 523 is a fragment from a so-called lamp chimney, handmade in standard tile fabric. This has a zone decorated with deeply scored lattice, demarcated by cordons fingered into a wavy frill, one surviving at the top, with evidence for another at the bottom of the fragment. There are oblique knife-cuts denoting apertures on both sides, with a horizontal cut of another aperture above the frilled cordon. The oblique cuts are on the same alignment, which may indicate alternating upright and reversed triangular apertures on the same tier; apertures in the upper tier may be of different form. The diameter at the bottom of the fragment is *c.* 26cm. Other similar fragments are known from The Park (Darling 1999, 122–3; pl. 29), and an unusual finial with parallels in the Danubian provinces was found at a tile kiln at Heighington, near Lincoln (Darling 1977c). While the function of these tile objects is still unproven, cumulative evidence suggests that they were connected with religion, perhaps as finials on the roof of a shrine, or for some other ritual purpose. Thus this find from St Mary's Guildhall is of interest due to the proximity of both early cremation burials and later inhumations in the area, at Monson Street (Steane *et al.* 2001, 20 and 31–5; Allen *et al.* 2010).

No. 531 features similar protrusions together with an opening, but it does not appear to be large enough for this purpose. No. 524 is another unusual piece, a hollow pedestal, for which there is no apparent parallel. Two further items are both from St Mark's Church. No. 530 is possibly a lid with a phallic handle or a cult object: an upright phallus on a base. The other is a shallow cylinder from an oven destruction layer. Darling (in Steane *et al.* 2001, 277) notes that similar 'collars' have been found at Flaxengate but their function, whether domestic or industrial, is unknown. These show signs of burning, but not excessive heat, perhaps indicating use as some type of stand.

4.3 Romano-British Oxidised Wares

Romano-British oxidised wares are not very well represented in the Lincoln assemblage, as local production centres supplied the majority of oxidised vessels. Most are unsourced; the largest group is Oxidised ware (OX), which consists of a number of fabrics that are likely to have come from several production centres, probably including local kilns. Others are Parchment ware (PARC), Late Roman Grooved ware (SPIR) and White-slipped Oxidised ware (OXWS). The smallest groups are those from known production centres: Verulamium Region White ware (VRW); Crambeck Parchment ware

(CRPA); Oxfordshire Parchment ware (OXPA); Derbyshire-type ware (DERB) and Oxidised Grog-tempered ware (OXGR).

As the most common of the wares are miscellaneous categories it is not possible to refine the dating further than noting that they occurred throughout the Roman period. Early to mid Roman wares in this category are rare, and are represented solely by VRW. Mid to late and late Romano-British oxidised wares were probably supplied by the Nene Valley and Oxfordshire kilns.

Crambeck Parchment ware (CRPA) (Fig. 60, 536)

NRFRC: CRA PA

LRF321

A single vessel (four sherds) is positively identified as a Crambeck product, although some unrecognised sherds may have been included in the PARC group (see below). The vessel (536) is an open, shallow bowl or dish decorated with a red painted design typical of the standard Crambeck products (Wilson 1989, pl. III). The Crambeck industry started production towards the end of the 3rd century and developed in the early 4th (*ibid.* 73). The Lincoln example is from a very late 4th century dump.

Derbyshire-type Ware (DERB)

NRFRC: DER CO

There is only one probable sherd of Derbyshire ware from Lincoln, from a closed form. It was associated with very late 4th century pottery but in a medieval context. There is minimal evidence, to date, for the ware having travelled much beyond the eastern fringes of the Trent Valley.

Oxidised Grog-tempered ware (OXGR)

The four sherds are from a single vessel (871), a La Tène beaker; it is discussed in detail by Darling (1988, 46–7, no. 1, with fig. 9, 1), who considers that the vessel is undoubtedly an import into Lincoln and, on the basis of the fabric, decoration and the extremely close parallels in Buckinghamshire (Vaugh *et al.* 1974, fig. 4, 16–23) and Northamptonshire (Friendship-Taylor 1979, fig. 83, 74; Hall and Nickerson 1967, fig. 10, 35 and 69; fig. 12, 53; fig. 15, 102), seems likely to have come from that area.

Dating: LIA-EROM

The closest parallels for this vessel are found in groups dated from the Late Iron Age to the early Roman period (Darling *op. cit.*). The Lincoln vessel was found in the fill of a pit with an assemblage probably dating to the mid-late 1st century.

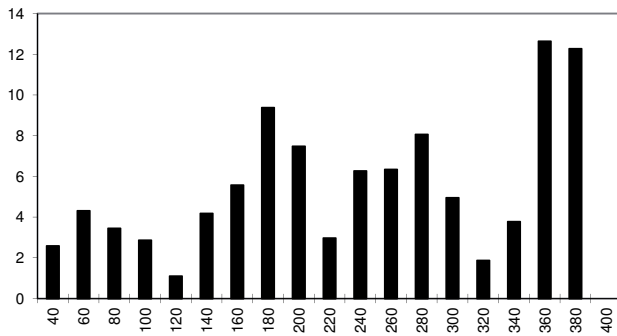


Fig. 56. White-slipped Oxidised Ware: plotdate by sherd percentage.

Fabric and technology

LRF256 (Pl. 2.27)

This is a dark grey-black fabric with red-brown surfaces, darkened externally; apart from sparse sub-angular quartz, inclusions are abundant sub-angular ill-sorted soft black particles, almost certainly grog.

Form (Fig. 85, 871)

The vessel (871) is a wheel-thrown carinated and cordoned beaker, burnished on the rim and cordons; intervening reserved zones have oblique scratched decoration. The interior wall is sharply concave at the cordons. Darling (*ibid.*) notes that I. Thompson (1982, 504) relates these beakers to the classic girth beaker as found commonly at Prae Wood and the Colchester Sheepen site (Camulodunum forms 82–5; see also IASA, Fig. 85, 870).

Oxfordshire Parchment ware (OXPA)

NRFRC: OXF PA

A single positively identified OXPA sherd was retrieved from a context broadly dated from the 3rd to the 4th century; another, less certainly identified, came from a medieval context. A number of centres including the Oxfordshire kilns produced parchment wares, mainly in the mid to late 3rd century (Young 1977, 80); it is not always possible to distinguish the different fabrics, therefore some unrecognised OXPA sherds may have been included in the unsourced PARC assemblage (see below).

White-slipped Oxidised ware (OXWS)

This group (173 sherds) consists of a variety of oxidised wares, usually with red fabrics, which are coated with a white slip.

Dating: ROM

A high proportion of this fabric occurred within later Roman secondary deposits and post-Roman

contexts. Figure 56 suggests that there may have been several phases of production: one during the 1st century, confirmed by the presence of early Roman forms (see below), and another – the main period of production – between the mid-late 2nd and the mid-late 3rd centuries (notwithstanding the early 3rd century dip in the dating profile: see p. 8). The presence of a face-necked flagon (540) and a necked bowl (542) in this category is indicative of production in the late Roman period.

Fabric and technology

LRF263

The fabrics vary from fine to coarse but all have similar inclusions. The type-herd is hard and light red-brown in colour with a white slip. The slightly irregular fracture shows moderate to abundant well-sorted clear, grey and opaque quartz (SA >0.1mm), sparse ill-sorted larger quartz (SR >0.5mm) and sparse to moderate red iron-rich particles (R 0.1–0.2mm, occasionally >0.8mm). Sparse fine white mica is visible in the surfaces.

The slip covers the exterior and is dripped onto the interior of closed vessels, and entirely covers open forms. The majority of the sherds are undecorated, but a few vessels have red painted decoration and there is a single occurrence of rouletting.

Forms

Body sherds from indeterminate closed vessels form a high proportion (c. 40%) of the assemblage. Probable flagons are by far the most common forms identified; bowls and dishes are rare whilst other forms such as jars, beakers, lids and tazze occur mainly as single vessels.

Flagons (Fig. 60, 537–40)

None of the flagon types emerges as a dominant form. The illustrated vessels include an early Hofheim type (537), a two-handled flagon (538) that is probably a 2nd century type, and a pinch-necked flagon or jug (539). A single face-necked flagon with red painted decoration (540) is a late 4th century type.

Jars and beakers (Fig. 60, 541)

Jars and beakers are each only represented by a single sherd; 541 is an unusual lid-seated vessel.

Bowls and dishes (Fig. 60, 542–3)

There is a single bowl, a necked type with red painted decoration (542); 543 is a wide-mouthed bowl or dish with an expanded rim.

Other forms (Fig. 60, 544)

Two sherds are probably from lids, and there is a single tazza (544).

Parchment ware (PARC)

This category is a broad grouping of all parchment wares from unidentified sources (269 sherds). Parchment wares with red painted decoration were produced during the later Roman period in a number of areas including Crambeck (CRPA), Oxfordshire (OXPA), the Nene Valley, Little Chester, and the New Forest. A number of the PARC vessels can be paralleled within the Oxford and Nene Valley repertoires (see Forms, below), but only one example of New Forest ware is known from the Lincoln area, a colour-coated beaker from Navenby that probably arrived in personal baggage (Margaret Darling, *pers. comm.*). This group may also include some unrecognised CR; the fabrics are difficult to distinguish, while a few CR vessels also bear red painted designs (see CR, p. 51).

Dating: MLROM

Figure 57 suggests that PARC mainly occurred in the 3rd century, continuing into the mid-late 4th, which to a certain extent reflects the presence of later forms closely resembling products of the Oxfordshire and Nene Valley kilns.

Fabric and technology

There is a range of cream-coloured fabrics; most are fine-textured with few grits, tiny sparse quartz grains, and red iron-rich flecks. Occasional coarser variants resemble SPOX (see p. 62). All are decorated with paint, varying from dark red-brown to red in colour, in a variety of designs, most commonly stripes.

Forms

Most of the identifiable forms are flagons, followed by bowls, jars and beakers; dishes are scarce.

Flagons (Fig. 60, 545–51)

Flasks are well represented, closely followed by jugs and face-necked flagons. The illustrated vessels include a highly decorated flagon with a double finger-frilled flange below the rim, painted stripes on the body wall, and a notched handle (546). No parallels for this vessel have been found within the published repertoires of either the Oxfordshire or Nene Valley kilns. The rim of the Lincoln vessel broadly resembles those of the moulded-rimmed flagons/flasks from Crambeck (Wilson 1989, pl. VII, 177–9) but they are all in a grey ware and are dated to the 4th century, whereas the Lincoln flagon was found in a mid 3rd century deposit.

No. 547, a jug with evidence of red paint on the base of the handle, resembles some Nene Valley jugs and is not unlike an Oxfordshire type, Young C12.1, a red/brown colour-coated jug decorated with white paint, dated to the 4th century. The Lincoln vessel

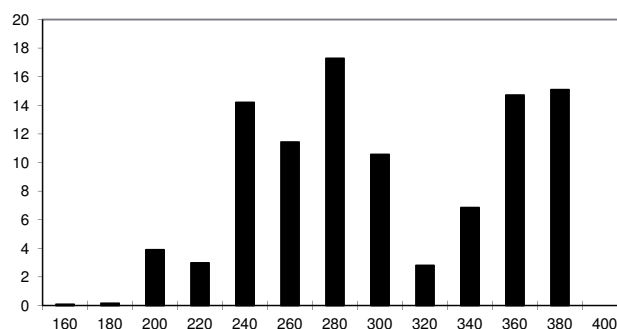


Fig. 57. Parchment Ware: plotdate by sherd percentage.

was associated with late to very late 4th century pottery in a (contaminated) late Roman context, and thus compares well with the date of the Oxfordshire example.

The face-necked flagons (548–51) are almost certainly Nene Valley products, based on the close similarity of hairstyles on the Lincoln vessels to those of Nene Valley type 96. The Nene Valley vessels probably date to the 4th century; all of the Lincoln examples were associated with 4th or very late 4th century pottery.

Jars (Fig. 60, 552–3 and Fig. 61, 554–8)

A narrow-necked jar or flask (552) with a band of yellowish red paint around the neck is closely paralleled by Nene Valley type 95, which is dated to possibly the 2nd century; the Lincoln vessel was associated with mid-late 4th century pottery but in a post-Roman deposit.

A curve-rimmed jar (553) decorated with red paint and two small protrusions, possibly the eyes from a face, was also associated with late Roman pottery. There are no known parallels for 554, a small jar with a short curved rim and horizontal stripes of red paint on the shoulder, which was associated with 4th century pottery but in a post-Roman context.

A lid-seated jar with a handle scar on the shoulder and streaked dark brown paint (555) is similar in form to early CR honey pots (Fig. 43, 347–54). Several vessels within the CR assemblage (but no honey pots) are decorated with red paint, and this vessel may be an unrecognised CR rather than PARC. It was found with late to very late 4th century pottery in a context probably originally deposited as terracing and subsequently redistributed in Late Saxon levelling; honey pots are mainly 1st-early 2nd century forms, and it would therefore have been grossly residual even in its original context.

Two small jars or flasks with moulded rims (556–7) are similar to Young type P11.1. Both vessels were associated with mid-late 3rd to 4th century pottery,

which compares well with the date range for OXPA. There are no parallels for an unstratified vessel from East Bight (EB66), a jar (558) with a finger-frilled rim similar to the decoration on tazze.

Beakers (Fig. 61, 559–61)

Two beakers or small bowls with everted rims (559–60) are both decorated with painted stripes. A type of beaker with a distinctive frilled cordon on the shoulder, which is defined by red painted stripes (561), resembles BK120: a mid to late 3rd century type found more commonly in GREY (Fig. 112, 1076–83).

Bowls and dishes (Fig. 61, 562–70)

Segmental bowls with a slightly beaded rim, and a flange that is usually decorated with painted designs (563–6), are the most common type. They are almost certainly from the Nene Valley, where they are broadly dated from the 2nd to the 3rd or possibly the 4th century, although the preferred date is within the 2nd to 3rd century (Howe *et al.* 1980, 26, with fig. 8, 99; see also OX, below, and Fig. 63, 620). All of the Lincoln examples illustrated here were found in 3rd century contexts and none occurred in 4th century deposits.

Other bowls include a necked type (562) for which there is no direct parallel, a shallow dish or plate (567) that is very similar to Young type 14, and two shallow bowls or dishes similar to samian form Dr. 36 (568–9). No. 568 has a flange and sharp carination; 569, with a grooved rim, is very similar to Nene Valley type 98, which probably dates to the 4th century at Stibbington. The base of a bowl or plate (570) is painted with an intricate design similar to some Oxfordshire styles. Virtually all of the Lincoln bowls came from very late 4th century contexts.

Other forms (Fig. 60, 545 and Fig. 61, 571)

A very small cup-mouthed vessel (545), which could be a flagon/flask or a miniature, is painted with an umber-coloured curvilinear design. Young (1977, fig. 28, P40.1) illustrates a triple vase in OXPA, the top of which is very similar to that of the Lincoln vessel. The suggested date for the Oxford vessel is *c.* AD 240–400+ (*ibid.* 91), the general production period for parchment ware, and the Lincoln vessel came from a late Roman deposit.

Perhaps the most unusual of the PARC vessels is a fragment from a head pot (571). The eye on this piece is very similar to that on a head pot in the Trollope Collection (now at the British Museum) with a painted inscription 'DO MERCVRIO' around the base. Braithwaite (1984, 119, with fig. 12, 3) suggests that the treatment of the eyes on parchment ware head pots would seem to be late Roman. The Lincoln fragment (571) was found in a context dated to the

mid 3rd century at the earliest by associated pottery. A number of head pots from York and the surrounding area are in a different fabric to the Lincoln fragment but have similar facial characteristics; in her recent reassessment of these vessels, Swan (1992, 15–22) considers that some need not be later than the middle of the 3rd century, a date that compares reasonably well with the Lincoln fragment. For head pots in GREY, see p. 156, and Fig. 132, 1406 in particular.

The fabric of 571 is hard, white in colour and coarsely tempered with abundant well-sorted clear and opaque quartz (SA 0.1–0.2mm and rare larger quartz, SA >0.8mm), together with sparse red iron-rich particles (R >0.2mm) and very rare larger fragments of ironstone (SA >1.5mm). The paint is light red-brown in colour.

Late Roman Grooved ware (SPIR)

This group of late Roman vessels with rilled decoration is from an unidentified source; the relatively small quantity (252 sherds) suggests that it was imported into Lincoln rather than locally made. The jars (see Forms, below) are similar to those produced in the 4th century at the Overwey kilns in Surrey (Lyne and Jefferies 1979, 35, with fig. 29), in Portchester 'D' ware (Fulford 1975, 299, with fig. 191, P137), and at Mucking in Essex (Margaret Jones, *pers. comm.*), but the fabric is clearly different. Virtually identical jars were also made of South Midlands Shell-Tempered Ware in Bedfordshire, marginally closer to Lincoln (see SMSH, p. 98).

Dating: LROM

SPIR occurred mostly in very late 4th century assemblages (Fig. 58), although a high proportion of these were in post-Roman deposits. A number of fragments occurred at The Park, always in layers either stratigraphically late Roman and/or well dated by mid to late 4th century coins (Darling 1999, 85).

Fabric and technology

LRF262 (Pl. 1.13)

The fabric is hard and red-brown in colour, occasionally grey, with a hackly fracture revealing common well-sorted quartz (SR mostly 0.2–0.3mm) and sparse large quartz fragments (SR >1.0mm), sparse red/black iron-rich inclusions (R >0.3mm) and very rare calcareous particles (R >1.2mm). Vessels are externally rilled from the shoulder downwards and coated with a slightly micaceous, dirty cream slip. Sooting or burning is often noted on the exterior.

Forms (Fig. 61, 572–7)

The usual form represented is a jar with a triangular undercut rim (572–6). No. 577 is a lid-seated jar in the same fabric.

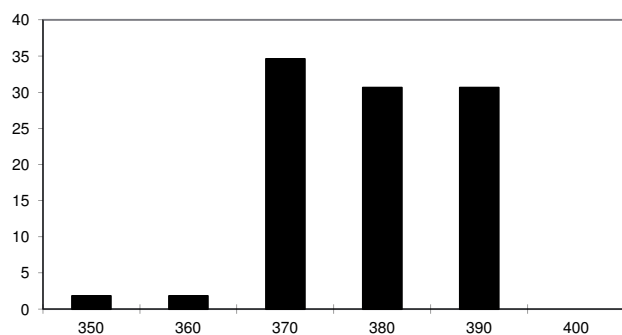


Fig. 58. Late Roman Grooved Ware: plotdate by sherd percentage.

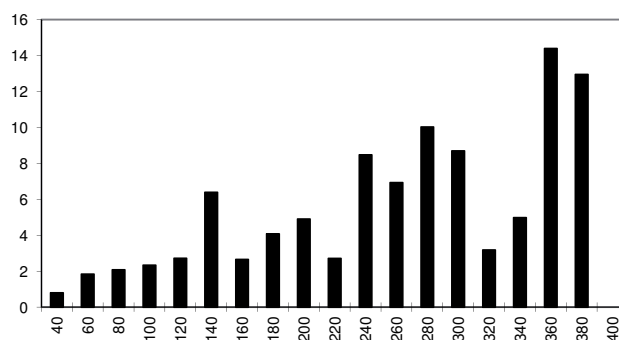


Fig. 59. Oxidised Ware: plotdate by sherd percentage.

Verulamium Region White ware (VRW) (Fig. 61, 578a)

NRFRC: VER WH

VRW is generally dated from the mid 1st to the 2nd century, although clearly declining towards the end of the 2nd century (see also MOVR, p. 205, for additional dating evidence). The Lincoln assemblage is very small (18 sherds); a single sherd is from a mid to late 1st century group, five are from early or early to mid 2nd century groups, and three are from a mid to late 2nd century assemblage. The remainder were clearly residual in very late Roman or post-Roman contexts. Flagons (578a) are most common; other identifiable vessels, each represented by a single body sherd, include a carinated bowl, a lid, and a probable tazza.

Oxidised ware (OX)

This category (2,332 sherds) covers all miscellaneous oxidized fabrics, mainly varying in colour from yellow-brown through to light orange and red-brown, and likely to have come from a different number of sources; a small proportion may be unrecognised variants of SPOX. The fabrics also vary in coarseness, and a representative range is described below.

Dating: ROM

OX was present throughout the Roman period with a small peak in the mid 2nd century, but occurs most commonly in mid to late 3rd and late 4th century assemblages (Fig. 59).

Fabric and technology

LRF240–1, 244, 247, 251, 261

LRF240: a hard, dark yellow-brown fabric with lighter coloured surfaces, and a slightly soapy feel. The hackly fracture contains abundant ill-sorted clear and opaque quartz (SR mostly 0.3mm, occasionally >0.8mm), a single fragment of shell, a few clay pellets/?grog (SR >0.8mm), and sparse black iron-rich

inclusions (R >0.8mm). Sparse white mica is visible in the surface. The form is a wide-mouthed bowl.

LRF241: the fabric is hard and pale grey varying to pink in colour, with dark grey surfaces and a finely irregular fracture revealing abundant well-sorted clear and roseate quartz (SA 0.2mm, occasionally 0.4mm), sparse red iron-rich particles (R >0.3mm) and very rare, rounded calcareous inclusions.

LRF244: hard, fine and light red-brown in colour with a smooth fracture and sparse fine quartz (SA >0.1mm), and rare red iron-rich inclusions (R >0.4mm, occasionally >1.0mm). Abundant fine white mica is visible in the surfaces, and the exterior is burnished with a light red ?self-slip. It is a fragment of a ring-and-dot beaker, which bears some resemblance to those described by Greene (1978, 112).

LRF247: a thin sherd with a light grey inner cortex and red-brown exterior cortex, and a hackly fracture. Abundant ill-sorted clear and opaque quartz (SR 0.3, occasionally 0.5mm) and rare black iron-rich particles (R >0.2mm) are the only inclusions. The exterior is a darker red-brown ?self-slip similar to a fine variant of SPOX.

LRF251: this hard red-brown fabric with an irregular fracture and a silty matrix contains abundant ill-sorted quartz (SR >0.3mm, occasionally 0.5mm) and very rare black iron-rich particles. The fabric is similar to OXSA.

LRF261: red-brown in colour, very high-fired with a slightly conchoidal fracture; a fine fabric containing sparse clear and opaque quartz (SR 0.2mm, occasionally 0.3mm) and red iron-rich inclusions (R >0.4mm, occasionally >1.0mm). There are some voids and sparse white mica is visible in the surface, which has a darker ?self-slip. Fragment from a dimpled beaker.

Forms

A notable proportion of the assemblage comprises unassigned body sherds. Bowls are the most common forms identified, followed by jars, beakers and flagons; other forms rarely occur.

Flagons (Fig. 62, 578b–85)

Flasks predominate among the flagon types; they include an unusual example with a band of red paint on the neck below a cordon (584; see also PARC, Fig. 60, 552). The fabric is darker but in other respects the vessel is similar to Nene Valley type 95. Disc-necked (582) and bead-and-flange flagons (583) are more common than the remaining types, which consist of a vessel with a plain flared rim (578b), a collared flagon (579), a large vessel with a multiple grooved rim (580), a disc-rimmed type (581) and a large two-handled vessel with a flat rim (585).

Jars (Fig. 62, 586–92 and Fig. 132, 1407)

Everted-rimmed and narrow-necked jars (590–1) are the most abundant; others include a lid-seated jar or bowl (586), a jar with a grooved rim (587), a vessel with a thickened, everted rim (588), a jar or beaker with an everted lip and a cordon at the neck (589), and a possible honey pot (592). Double lid-seated jars and copies of Dales-type jars (see p. 85) are also represented, and scarcer forms include fragments of face jars.

One of the finest vessels in this group is a smith-god pot (1407). Fragments of five other smith-god jars are all in GREY, and it is possible that the oxidised fabric of 1407 is the result of differing firing conditions rather than a deliberate variation; all are therefore discussed and illustrated together below (p. 156, with Fig. 132).

Beakers and cups (Fig. 62, 593–602)

None of the beakers emerges as a dominant type. The illustrated vessels show a range of styles: a beaker/jar with a cordon immediately below the rim (593); a carinated beaker similar to Camulodunum form 120 (594); a butt beaker with a high shoulder and a zone of rouletting beneath the shoulder cordon (595); everted-rimmed vessels (596: high-shouldered with a row of barbotine dots, possibly a ring-and-dot beaker, and 597); a beaker with internal lid-seating (598); a high-shouldered curve-rimmed beaker (599), and a small vessel with an everted rim and a zone of rouletted lines beneath a groove (600). A beaker with an everted rim and a notched cordon (601) is a mid to late 3rd century type (BK120) that is more commonly found in GREY (see Fig. 112, 1076–83), and may be related to the smith-god pot (1407) noted above. Cups are rare, but two are close copies of samian form Dr. 33 (602).

Bowls and dishes

(Fig. 63, 603–28 and Fig. 64, 629–36 and 648)

There is a wide range of bowls, the most common being close copies and variants of samian form Dr. 38 (621–5). A very unusual type of shallow bead-rimmed bowl or dish (B332: 626–7) sits on the flange

rather than the base (for similar vessels in GREY, see Fig. 129, 1330–1). The illustrated vessels include hemispherical bowls with rouletted decoration similar to samian form Dr. 37 (603–4) and one painted with cream arcs (605); plain-rimmed undecorated hemispherical bowls also occur (609–10). One of two small vessels has an inturned rim (606) and the other has a vesicular surface and a bead rim (607), while a well-made vessel has a footring base similar to that of samian form Dr. 31 (608). Flanged bowls (611–15) include bead- and triangular-rimmed types.

Shallow bowls or dishes include rounded-rimmed types (616), those similar to samian form Dr. 36 (617), and segmental bowls (618–20). No. 620 is in a red-brown fabric with red painted decoration similar to some PARC types (see Fig. 61, 564), and 618 is in a fabric close to OXSA. An inturned-rimmed vessel with a pronounced cordon (628) completes this category. Other bowls consist of broad copies of samian form Dr. 31 (629 and 631), an everted-rimmed type (630), and large bowls with expanded rims (632–3), of late Roman date.

Dishes include plain-rimmed types with a sloping body wall (635), and a large shallow vessel with a rounded rim (636), which could be a lid (*cf.* 637) rather than a dish. Dishes with inturned rims such as 634, of late 1st century to Antonine date, derived from a late Gallo-Belgic form (see GREY D452: Gillam 337). A base fragment from one of these vessels (648), burnished throughout, is broken across a centrally placed stamp reading SACE. Darling (1988, 24) notes that the same stamp, also found at Doncaster and Templeborough, seems to be related to a stamped bowl from Old Winteringham. The vessel may be a copy of Camulodunum form 16 and the stamp closely resembles that on a GREY vessel (Fig. 131, 1385). However, the latter is from a different die, and is surrounded by a band of rouletting. Sace was one of a number of potters possibly working in the Doncaster area during the Flavian period (Rigby 1998, 192).

Lids (Fig. 64, 637–9)

Lids are plain (637, an unusually large example) or triangular-rimmed (638–9).

Other Forms (Fig. 64, 640–7)

A variety of unusual forms in OX include a possible crucible with a highly burnt interior (640), a miniature vessel or dice pot (641), a tazza with a finger-frilled rim (642) and a candlestick (643). There are several decorated vessels: 644 with angular and round, stamped and rouletted motifs; a barbotine decorated beaker (645); a large vessel, probably a flask, with a red painted design of dots and horizontal and wavy lines (646); and a handle (647), probably from a flagon, with a design of stabbed or comb-stamped circles.

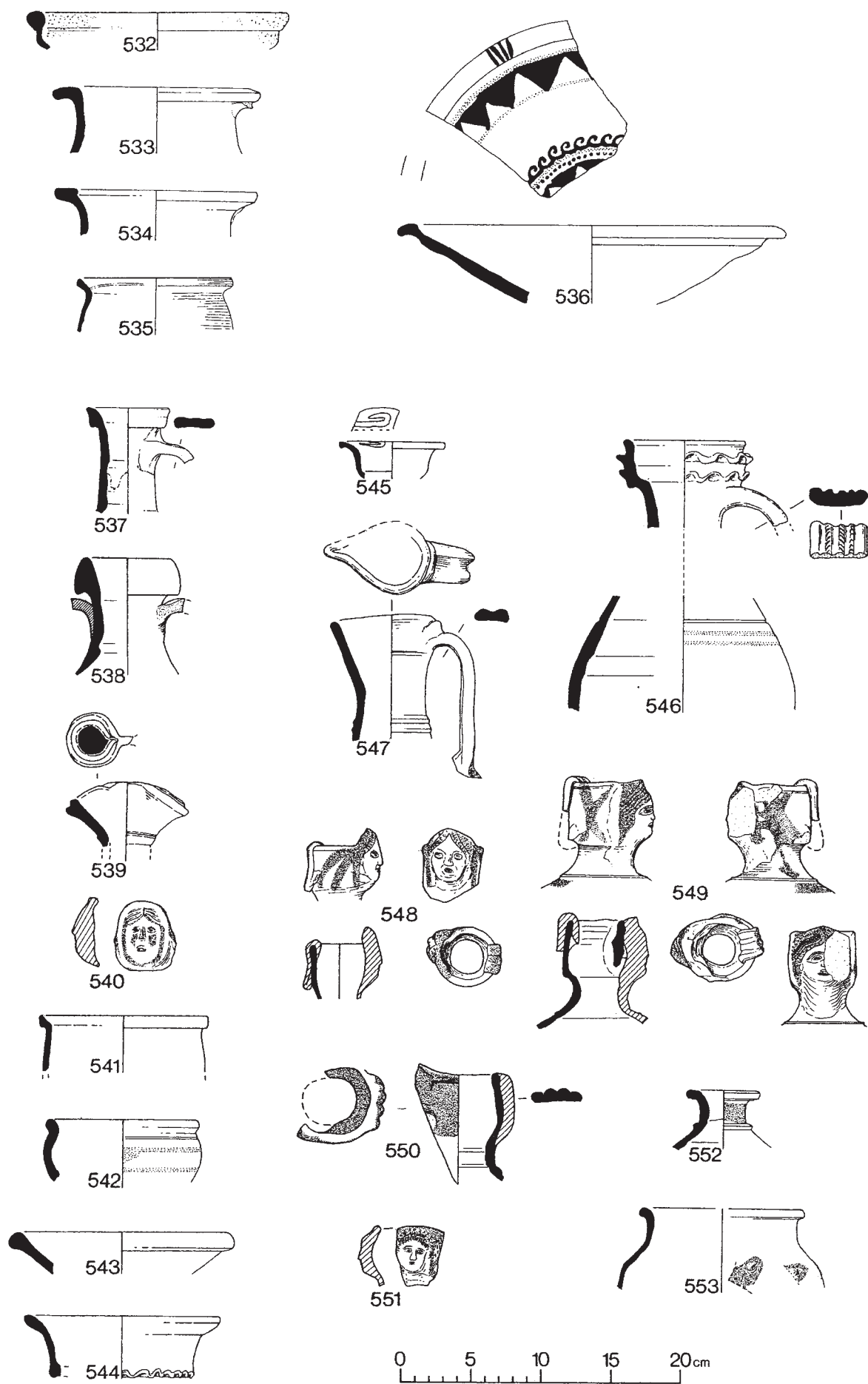


Fig. 60. Imported oxidised wares: Eifelkeramik? 532; North Gaulish Cream Ware? 533–5; Romano-British oxidised wares: Crambeck Parchment Ware 536; White-slipped Oxidised Ware 537–44; Parchment Ware 545–53. Scale 1:4.

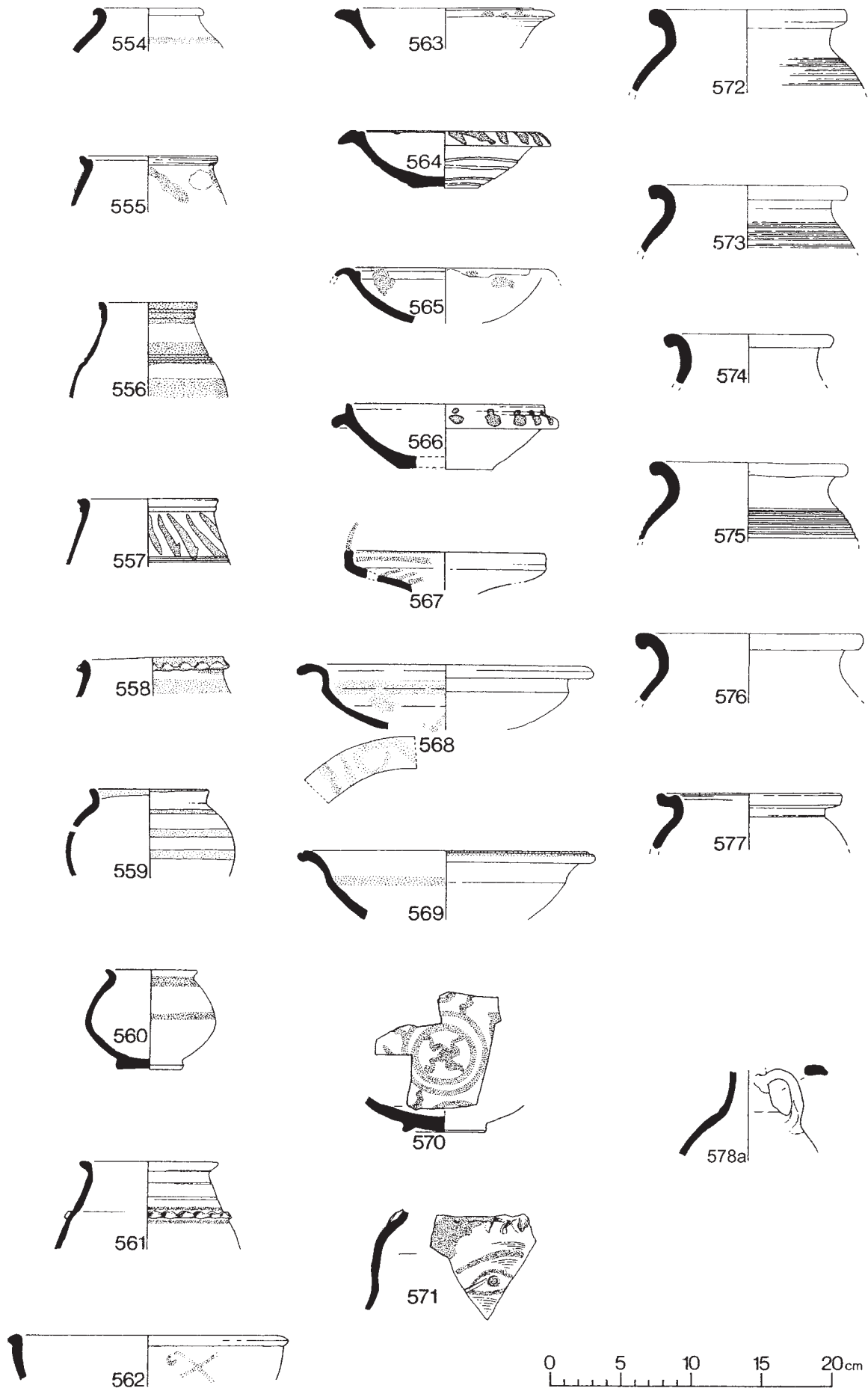


Fig. 61. Parchment Ware 554–71; Late Roman Grooved Ware 572–7; Verulamium Region White Ware 578a. Scale 1:4.

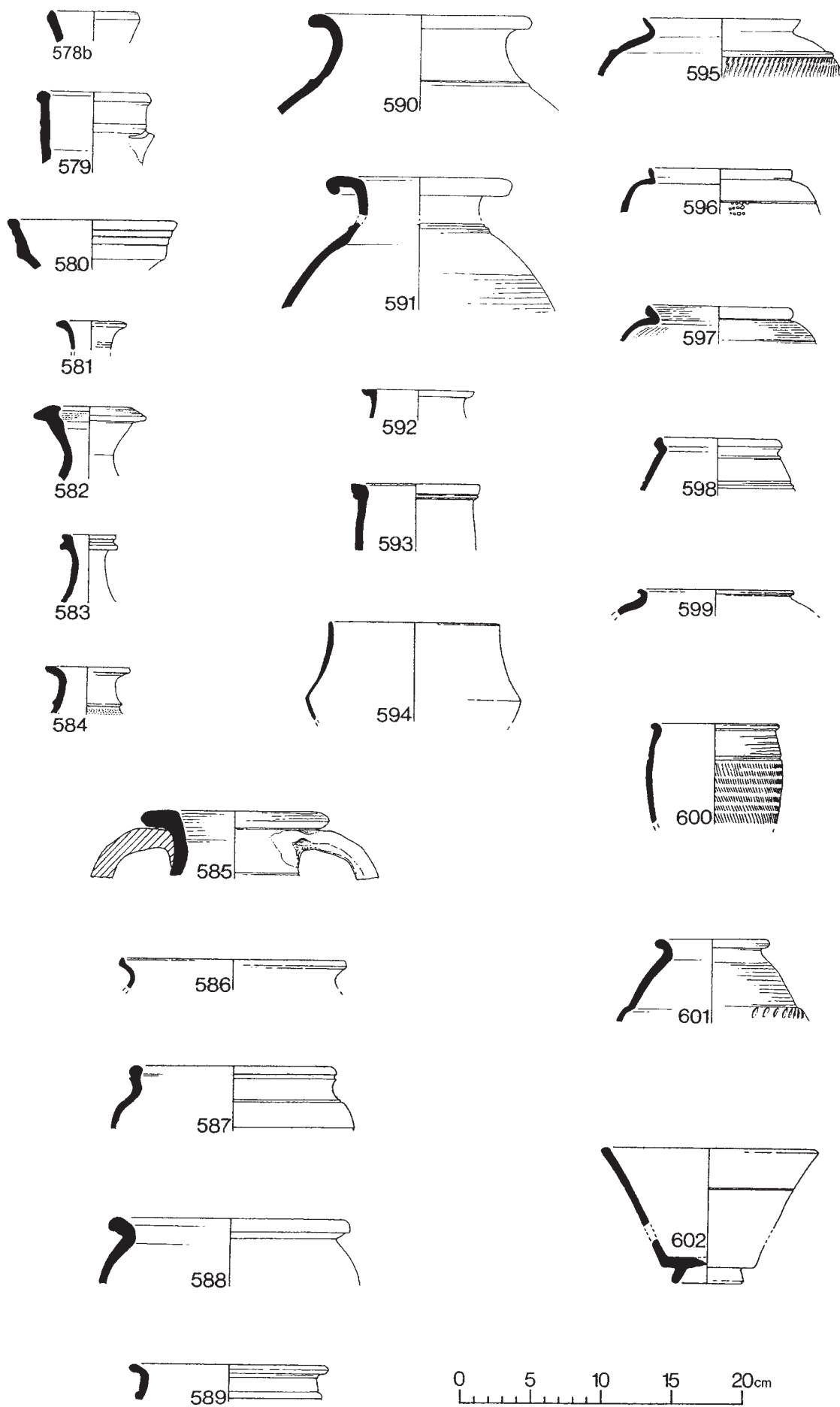


Fig. 62. Oxidised Ware: flacons, jars, beakers and cup 578b–602. Scale 1:4.

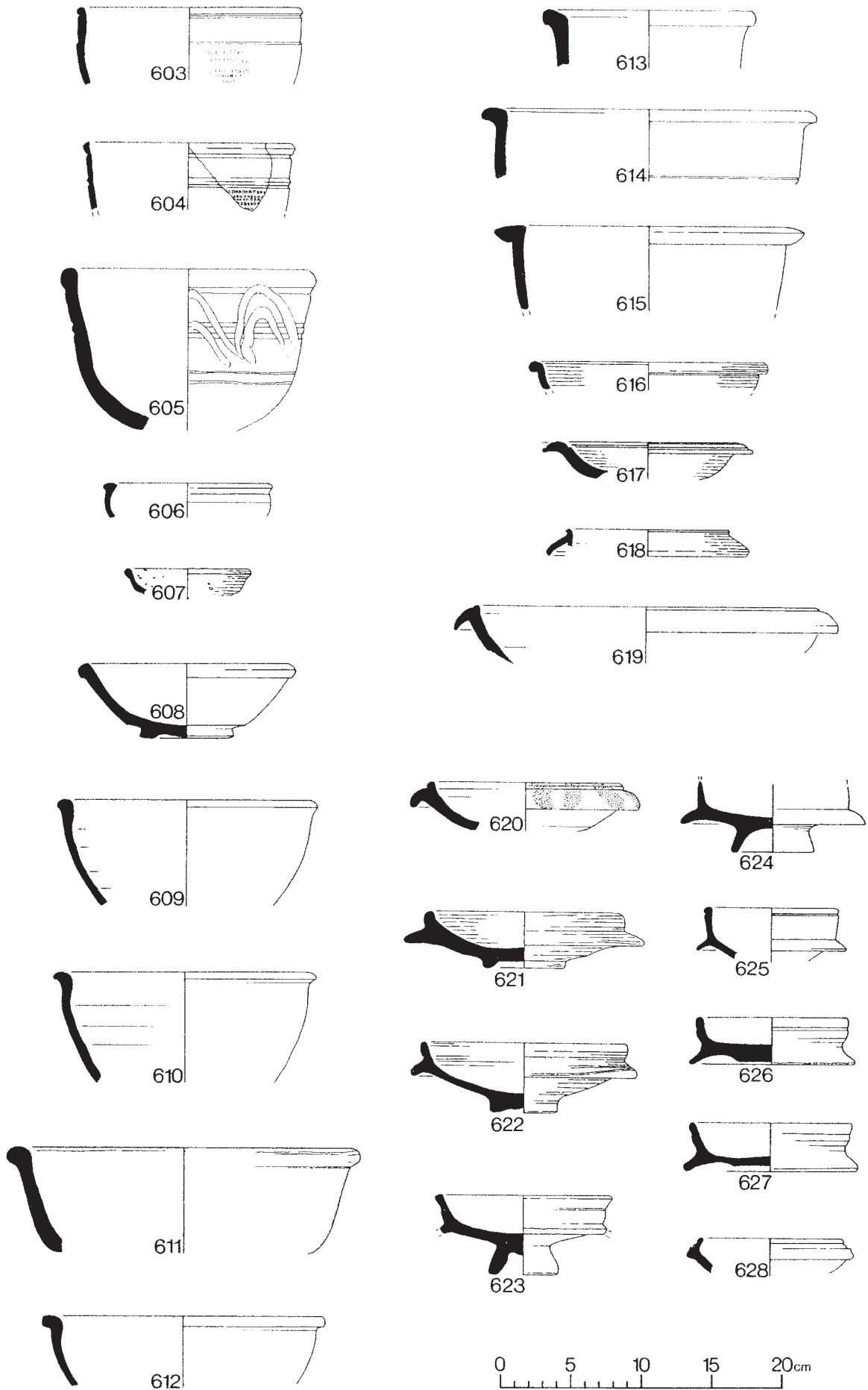


Fig. 63. Oxidised Ware: bowls 603–28. Scale 1:4.

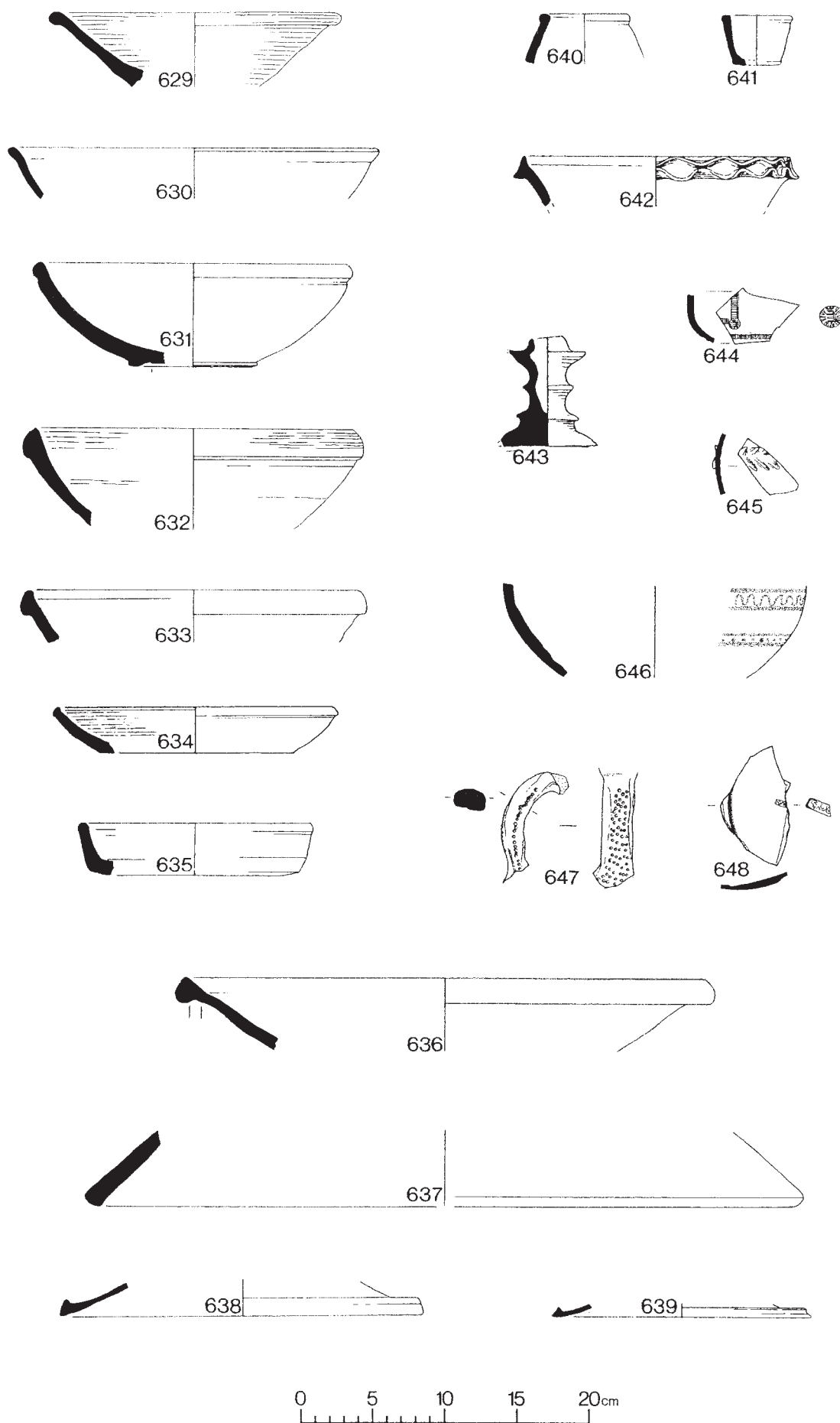


Fig. 64. Oxidised Ware: bowls, dishes, lids and other forms 629–48. Scale 1:4; stamps 644 and 648 scale 1:2.

5 The Shell- and Calcite-tempered Wares

Barbara Precious

Shell- and calcite-tempered wares constitute the smallest of the main fabric groups other than specialist wares (Fig. 4); there are no continental imports, and local products are much more common than Romano-British wares. Small quantities occur in late Iron Age and early Roman contexts but there was a noticeable hiatus during the mid to late 2nd century; these wares increased in quantity from the mid 3rd century, and were most common during the later 4th century.

5.1 Local Shell-tempered Wares

Despite the size of this fabric group (over 10,000 sherds), there are only two main ware types: Dales ware (DWSH), which is by far the most common, and Native Tradition Shell-tempered ware (IASH). However, the former is a composite group which includes related late shell-tempered wares, while there are several variants within the latter: IASHC, IASHD and IASHF.

The majority of the local shell-tempered wares occurred in the mid to late Roman period and were confined to the Dales and related late shell-tempered wares. In contrast, Native Tradition Shell-tempered wares were present from the late Iron Age/early Roman period and were more common in the early to mid Roman period.

Dales ware and related Late Shell-tempered wares (DWSH)

This fabric group (8,909 sherds altogether) covers the mid 3rd to 4th century Roman shell-tempered wares that can be almost certainly identified as classic Dales ware (Loughlin 1977), the associated forms being jars with the characteristic outspringing rim and internal ledge (*ibid.* 86) and a small number of bowls and lids with the same lip as the jars, types

noted at Winterton (Rigby and Stead 1976, 189; fig. 43). It also includes the related Late Shell-tempered ware of late 3rd to late 4th century date, consisting of single and double lid-seated jars, bead-and-flange bowls, plain-rimmed dishes, and inturned bead-and-flange bowls. The association of Late Shell-tempered ware to Dales ware was originally made in the 1980s, based on the similarity of the fabrics: undiagnostic body sherds are virtually indistinguishable in the hand. Loughlin (*op. cit.* 90) notes the high presence of 4th century double lid-seated shell-tempered jars in north Lincolnshire, considering them to be hybrid versions of the classic Dales ware jar. However, the classic Dales ware jars are handmade and wheel-finished, whereas the Late Shell-tempered fabric tends to be harder and the forms are entirely wheel-thrown.

The close relationship between these fabrics is borne out by some of the results of thin-section analysis, in particular by those from a typical handmade and wheel-finished Dales ware jar (LRF304) and a wheel-made, double lid-seated jar (LRF303; see Fabric and technology, below) although as noted below, such vessels may have been supplied from several different sources. There is, however, a clear distinction between the two groups in both manufacture and chronology.

Darling (1977a, 31) notes the absence of kilns producing shell-gritted wares in the immediate vicinity of Lincoln, although the concentration in north Lincolnshire, south Yorkshire, and north Nottinghamshire may suggest a centre of production perhaps in the vicinity of the Humber.

Loughlin (*op. cit.* 88) concluded that there were no permanent kilns producing Dales ware and that it was probably produced by bonfire firing, which would leave little or no trace in the archaeological record. However, his research into the mineralogical and distributional evidence suggested that shell-gritted Dales ware was probably made from clay obtainable

from a single stratigraphic horizon, exposed only on the escarpment south of Trent Falls, on the south side of the Humber. He also noted a report (Dudley 1949, 174) on the occurrence at Cogglesfield, in the parish of Normanby by Burton and just south of the suggested area, of a deposit of very dark earth (suggestive of a kiln site) containing fragments of the classic Dales ware jar and also shallow rimless dishes.

Firman's reappraisal of Loughlin's proposals (1991) was prompted by the discovery of a kiln site at Barnetby Top, South Humberside, which produced hard, grey 'calcite-gritted' Dales ware (Samuels 1979). Firman (*op. cit.* 49) notes that this site is some 21km east-south-east of Loughlin's favoured locality; however, he also notes that the clay may have been derived from further afield, perhaps near Wragby, Lincolnshire. Paradoxically, his re-examination of the evidence of the seleniferous clays points to exactly the same geographical location as that originally proposed by Loughlin (*ibid.* 47), but at a higher stratigraphical level. However, he also points out that the fossil-shell content of Dales ware could, potentially, provide diagnostic evidence of the provenance, and that there are other seleniferous outcrops such as the Lower Lias and the Amptill Clays (2–3km south-west of the Barnetby Top kilns). Until further evidence comes to light, Loughlin's original suggestion that the main production area for DWSH was in north Lincolnshire remains valid, although recent research highlights the possibility that Lincoln was supplied by more than one source.

A collection of pottery found during agricultural work in the late 1970s at Messingham, south of Scunthorpe, produced a sizeable assemblage of Dales ware consisting of the typical jars, but also including examples of plain-rimmed dishes. The fabrics showed evidence of clamp flaming, with a fair proportion of orange oxidised sherds (Rowlandson 2010). More recently, excavations at Burringham Road, Scunthorpe, south of the main town, produced a large assemblage of Dales ware that included a pronounced proportion of distinctive highly oxidised sherds. The assemblage included dishes with rims identical to that of the typical Dales ware jar (JDW). Wasters, clay lining and kiln furniture were found on the site, and there was evidence suggesting the remains of a possible kiln for the production of Dales ware (Darling 2009, 43).

Excavations in Partney, Lincolnshire by the Cambridgeshire Archaeology Unit produced three main categories of Dales ware fabrics. Dr. Alan Vince undertook a programme of characterisation of the material using thin-section and chemical analysis; the results indicated the probability of production areas for Dales-type ware other than the standard known area (Vince 2006).

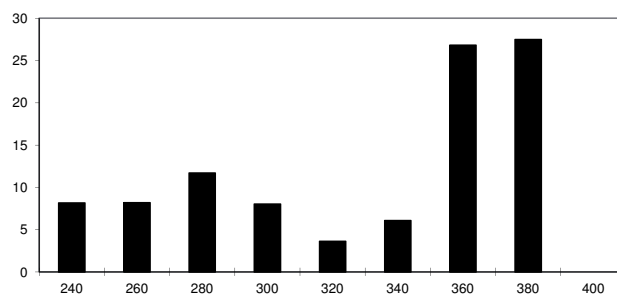


Fig. 65. Dales and Related Late Shell-tempered Wares: plotdate by sherd percentage (excluding sherds from post-Roman dumps).

Dating: MLROM

Gillam (1951, 160) gives a date range of *c.* AD 230–370 for Dales ware although Loughlin (*op. cit.* 88–9) points out that Dales Ware was present at Winterton villa and Old Winteringham *c.* AD 200 (see also Monaghan 1997, 898). Darling (1977a, 29) discusses in detail its dating in Lincoln, where there is scant evidence for its occurrence in any deposit that can be confidently dated earlier than the 3rd century (*ibid.* 30).

In order to refine the dating of this ware in Lincoln, all clearly residual sherds from secondary Roman deposits (dumping and levelling) and from post-Roman contexts were excluded from analysis. The results show that DWSH was present in Lincoln by the mid 3rd century, with a slight peak in the late 3rd century and a second, more marked rise in the mid to late 4th century (Fig. 65). Examination of the distribution of forms (Fig. 66) suggests that this later peak is not restricted to the Late Shell-tempered lid-seated jars but includes some classic Dales ware jars. Loughlin (*op. cit.* 93) also provides evidence for the latter being present post AD 350 at the fort at Doncaster and in Baxter Gate, York, and suggests that in south Yorkshire and north Lincolnshire Dales ware held ground in markets whose tastes were moving towards the use of double lid-seated jars.

Fabric and technology

NRFC: DAL SH

LRF302–7

In order to bring some definition to the fabric range of DWSH, individual forms, together with an example of Dales ware from York, were thin-sectioned. Jars with the typical Dales ware rims (JDW) were also produced in other fabrics, and one such grey ware vessel from the Knaith Kilns was thin-sectioned (LRF304) in order to determine whether the quartz and/or other inclusions are similar to those in the mainstream shell-tempered Dales ware.

LRF302 (Pl. 2.40): York Dales ware. A hard fabric

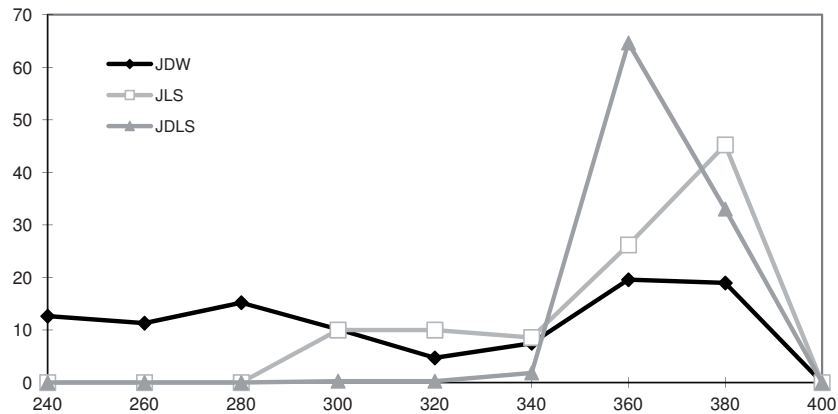


Fig. 66. Dales and Related Late Shell-tempered Wares, plot of date of main jar types by sherd percentage: classic Dales Ware (JDW), lid-seated (JLS) and double lid-seated (JDLS).

with a sandy texture and an irregular fracture, it is grey in colour with brown margins and darker grey surfaces. The background matrix is silty with moderate amounts of large fragments of oyster shell (>3.5mm) and abundant small fragments (0.1–0.5mm), together with rare clear and opaque quartz (SR 0.2–0.3mm) and very rare red iron-rich particles (R 0.1–0.2mm). The thin-section (L1607, kindly provided by J. Monaghan) reveals abundant thin-walled non-ferroan bivalve shell (>0.8mm); sparse nacreous non-ferroan bivalve shell (>2.0mm); sparse echinoid shell: non-ferroan calcite with sparry ferrous calcite replacement (>0.5mm); sparse punctate non-ferroan brachiopod shell (>2.0mm); sparse non-ferroan gastropod shell (>0.5mm); sparse non-ferroan echinoid spines (>0.1mm) and sparse rounded (>0.3mm) and moderate angular quartz (>0.05mm), in an anisotropic clay matrix.

Dr. Alan Vince comments that this is an interesting sample, probably a fossiliferous limestone rather than a clay with ferrous calcite matrix and replacement of original fossils. A source in the south-east Midlands, rather than north Lincolnshire, is more likely.

LRF304 (Pl. 2.38): typical Dales ware jar (JDW). A hard fabric with the same colouring and inclusions as LRF302, but lacking the silty matrix, being much higher fired and almost laminar in fracture, and containing more abundant quartz and black instead of red iron-rich inclusions. The thin-section (L1679) shows moderate quartz (R >0.8mm, mainly >0.4mm), abundant nacreous non-ferrous calcite bivalve shell fragments with ferrous calcite matrix (>0.8mm) and sparse non-ferrous thin-walled bivalve shell fragments (>0.6mm), in an anisotropic highly birefringent clay matrix.

LRF303 (Pl. 2.37): double lid-seated jar (JDLS). This fabric is basically the same as LRF304 (above) but the quartz also consists of rare large fragments (R>2.0mm).

The thin-section (L1641) reveals moderate quartz (R >0.8mm, mainly >0.4mm); sparse chert (R >2.0mm); sparse gneiss (R >2.0mm: glacial erratic, well-rounded); moderate nacreous non-ferrous calcite bivalve shell fragments with ferrous calcite matrix (>0.8mm); sparse non-ferrous thin-walled bivalve shell fragments (>0.6mm) and moderate muscovite (>0.1mm), in an anisotropic, highly birefringent clay matrix.

LRF305: triangular-rimmed bowl (BTR). As LRF304, but with much rarer shell inclusions and more sub-rounded quartz (mostly 0.2mm). The thin-section (L1650) shows abundant thin-walled non-ferroan bivalve shell (>0.8mm); sparse nacreous non-ferroan bivalve shell (>2.0mm); sparse non-ferroan echinoid shell (>0.5mm); sparse non-ferroan gastropod shell with ferroan calcite filling (>0.4mm); sparse non-ferroan echinoid spines (>0.1mm) and sparse rounded (>0.3mm) and moderate angular (>0.05mm) quartz, in an anisotropic clay matrix. It resembles the York example LRF302 (see above).

LRF306: flanged bowl (BFL). As LRF305 but containing more shell, though not as abundant as that in LRF303. The thin-section (L1606) reveals abundant quartz (R >1.2mm); sparse chert/flint (A >1.6mm); moderate non-ferroan bivalve shell – mainly nacreous – with ferroan sparry calcite matrix attached (>1.0mm), and sparse muscovite (>0.1mm), in an anisotropic, highly birefringent matrix. The shell is, apparently, not thin-walled, although the majority of the Lincoln examples are, and the shelly limestone shows no sign of weathering – not detrital in sand. It is most likely to have been derived from ?Corallian limestone on the dip slope of the Lincoln Edge.

LRF307 (Pl. 2.39): bead-and-flange bowl (BFB). This fabric has a darker grey core and is similar to LRF306 but with larger quartz (SR 0.2 – 0.5mm, mostly 0.4mm). The thin-section (L1619) shows abundant quartz (R >0.8mm, mainly >0.4mm); sparse

chert (R >0.4mm); moderate nacreous non-ferrous calcite bivalve shell fragments with ferrous calcite matrix (>0.8mm); moderate non-ferrous thin-walled bivalve shell fragments (>0.6mm); sparse echinoid spines and ferrous calcite with non-ferrous filling (>0.4mm), in an anisotropic, highly birefringent clay matrix with few inclusions.

The initial results of this analysis show that two very different fabrics have been grouped together, based on the presence of both thin- and thick-walled shell. Thin-walled shell is characteristic of benthic molluscs living below the tidal zone, whereas those with thick-walled shells live in the tidal zone. The majority of the Lincoln samples, including that from a vessel with the typical Dales ware rim (LRF304), all contain thin-walled bivalve shell. However, a more concentrated programme of thin-section analysis with a much larger sample size is required in order to determine any conclusive variations within the Lincoln DWSH assemblage.

The thin-section of the grey ware vessel from Knaith Kilns 1968, kiln 2 stokehole (L1683) shows abundant quartz (SA and R >0.4mm), sparse chert/flint (A >0.4mm), sparse sandstone (R >1.4mm) and abundant quartz (A >0.1mm), in an isotropic clay matrix. The inclusions are clearly quite different to those of the mainstream DWSH fabrics.

Only the classic Dales ware jars (JDW), dishes with the identical rim form (DDW) and possibly the plain-rimmed dishes (DPR) are handmade and wheel-finished. The remaining vessel types, in particular the single and double lid-seated jars and bead-and-flange bowls, all appear to have been entirely wheel-made. Many vessels show evidence of external sooting, particularly under the rims. Decoration consisting of burnished wavy lines and notching is very rare and confined to lids.

Forms

There is a wide range of forms within this fabric group, including some that are not usually found in Dales ware; only the most common are discussed here.

Jars

The principal form in Lincoln assemblages is the classic Dales Ware jar (JDW), followed by double lid-seated (JDLS) and lid-seated jars (JLS). Other jar types show a variety of rim forms – curved, everted, rounded, square or undercut – and a range of sizes; there are also handled vessels and a single example of a cooking pot.

The dating profile (Fig. 66) shows that classic Dales ware jars (JDW) first appeared during the mid 3rd century, peaking later in that century; a second peak, in the mid to late 4th century, may be exaggerated by a degree of residuality, despite the deliberate exclusion from analysis of all highly residual examples (from

secondary and post-Roman contexts). Lid-seated jars (JLS) appeared for the first time in the later 3rd century and were most common in the mid to late 4th century. Double lid-seated jars (JDLS) only occurred in any quantity in the mid to late 4th century.

All the jars in other fabrics but with the typical Dales ware rim form (Dales-type ware: see Loughlin *op. cit.* 94–5) were also examined in an attempt to determine whether the DWSH jars preceded the non-shelled examples, although the disparity in size of the three groups should be borne in mind. Grey ware examples (305 sherds) appear to have been contemporary with the DWSH jars, with an almost identical dating profile (*cf.* Fig. 66, JDW). Oxidised examples (30 sherds), some of which may be over-fired DWSH with the shell leached out, only occurred in any quantity from *c.* AD 260, later than the shell-tempered jars, and were most common in the later 3rd century. The few examples (12 sherds) in the Late Coarse 'Pebbly' fabric (see 6.2, LCOA) were all confined to the later 4th century.

DALES WARE JARS (FIG. 67, 649–51)

The classic flat-topped 'proto-Dales-type' jar (Gillam 1968, fig. 23, 70) does not occur in Lincoln in either shell-tempered or grey fabrics. The closest variant within the illustrated vessels is 650, which has a much more rounded edge to the rim. That of 649 is closest to the classic Dales ware rim, while the rim of 651 has a pronounced rounded edge and only a slight lid seating.

LID-SEATED AND DOUBLE LID-SEATED JARS (FIG. 67, 652–9)

No. 652 is typical of the lid-seated jars in related Late Shell-tempered ware, and again has a more rounded edge to the rim. There is a wider variety amongst the double lid-seated jars. No. 653 has a square edge to the rim and only a slight double lid seating. Others (654–8) range from an elongated, everted-rimmed vessel with pronounced double lid seating (as 654) to types with elaborate, almost bifurcated rims (as 658). No. 659 is a variant with a pronounced thickened rim.

Bowls (Fig. 67, 661–71 and Fig. 68, 672–5)

Triangular- (as 665–7) and flange-rimmed bowls are the most common types; bead-and-flange bowls, with beads ranging from low to high (as 672) form the third largest group. The only other forms that occur in any quantity are those with plain (661–3), D-shaped, expanded (664) or inturned bead-and-flange rims (673: transitional form; 674–5). Vessels with grooved, everted (669–700) or curved rims (as 671) are rare, and there is only a single wide-mouthed bowl. Although part of the Dales ware repertoire noted by Rigby and Stead (1976, 189, fig.

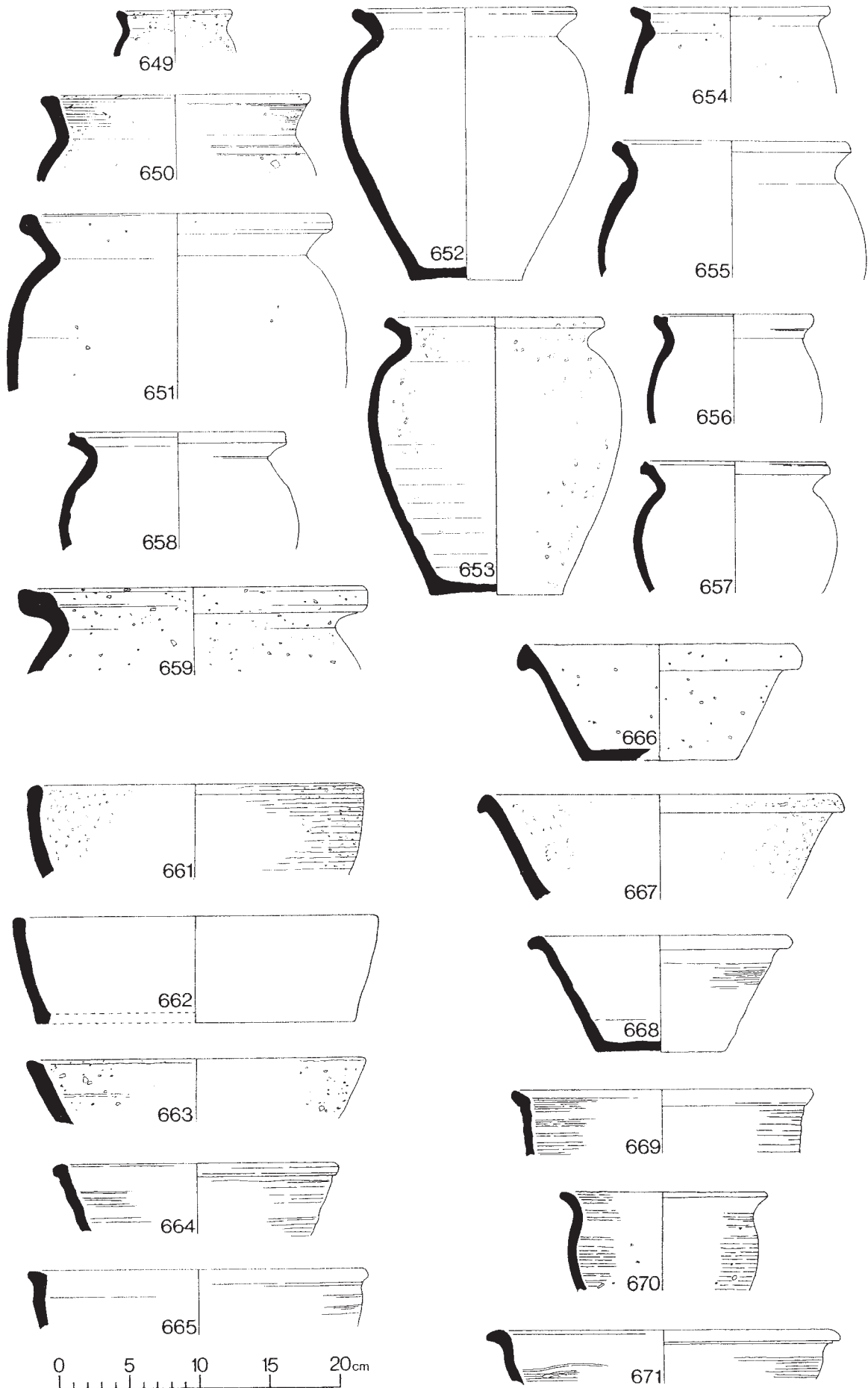


Fig. 67. Dales and Related Late Shell-tempered Wares: jars and bowls 649–71. Scale 1:4.

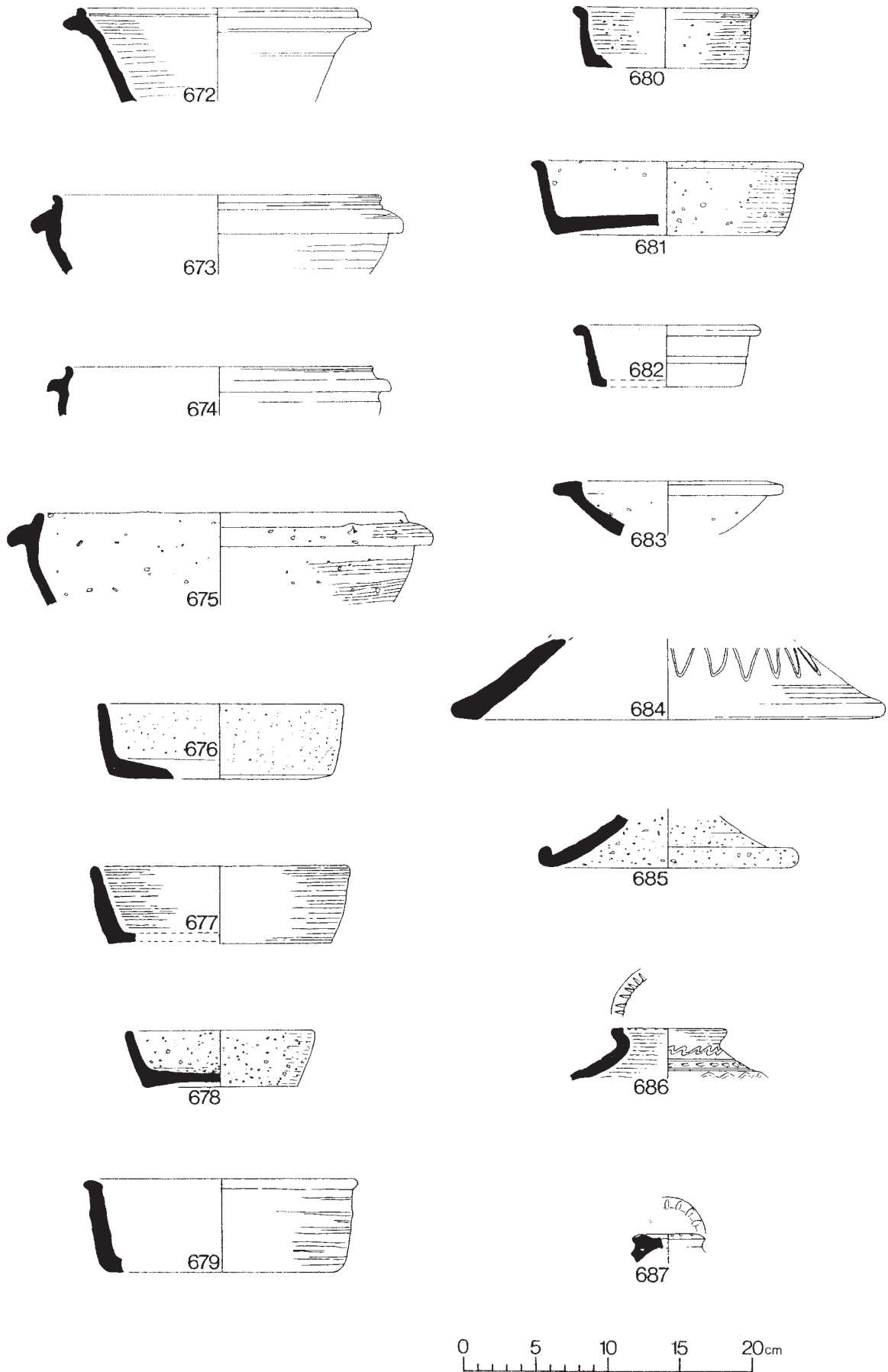


Fig. 68. Dales and Related Late Shell-tempered Wares: bowls, dishes and lids 672–87. Scale 1:4.

43), bowls with rims identical to the classic JDW (BDW) are absent from the Lincoln assemblage. Apart from a small group of D-rimmed bowls, which were confined to the mid 4th century, all the other major bowl types have a slightly later bias, occurring mostly in the later 4th century, contemporary with the dating of related Late Shell-tempered ware.

Dishes and lids (Fig. 68, 676–87)

By far the majority of the dishes are plain-rimmed, their walls ranging from upright (676) to more flaring (677–8), and straight-sided examples (680). Other forms are rare in comparison and include flange-rimmed types with similar profiles to those of the plain-rimmed dishes, but with rims varying from almost triangular (679) to more everted (680–1). All fall within the date range for related Late Shell-tempered ware. One unusual vessel, with a curved body wall and flattened rim (683), could also serve as a lid. Dishes with grooved, triangular, or expanded rims (682) seldom occur. No dishes with the rim form of the classic JDW (DDW) occur among the Lincoln assemblage.

Lids include plain-rimmed examples with burnished, pointed wavy line decoration (684), and those with an upturned rim (685). Two unusual examples (686–7) are elaborately decorated with notching and burnished wavy lines and one of these (687) has an air vent at the top. Lids are relatively rare but seem generally to belong to the mid-late 4th century, perhaps suggesting that they may have been used with both the classic JDW as well as the late double lid-seated jars.

Native Tradition Shell-tempered ware (IASH)

IASH is a fabric group, rather than a single, clearly defined fabric; it includes all early shell-tempered sherds, most of which are from native tradition cooking pots of forms in use during the period from the late Iron Age/Roman conquest into the mid 2nd century in Lincolnshire. It is not always possible to define distinctive fabrics, but the first site to produce recognisably different grades of shell-tempered pottery was Holmes Grainwarehouse (Darling and Jones 1988), referred to here as the type-site. This site also provided the only secure evidence to date for late Iron Age occupation in the city (Stocker (ed.) 2003, 26–8).

IASH is a medium shell-tempered fabric, with three variants: IASHC – tempered with coarse shell, IASHF – tempered with fine shell, and IASHD – a later, Romanised harder-fired fabric. However, although the obvious distinctions are clear, there is a degree of overlap between the fabrics. A further complication is that some of the well-fired early shell-tempered fabrics are disconcertingly close to Dales ware in both

appearance and composition (*ibid.* 12), as shown by the results of thin-section analysis (see below).

IASH is comparatively rare in the Lincoln assemblage (1,291 sherds) and mainly confined to sites with evidence of early Roman occupation. The variants were systematically recorded and quantified only for the type-site and are therefore only small groups: IASHC, IASHF and IASHD respectively comprise 325, 250 and 149 sherds, although IASHF has been noted at two other sites, East Bight (EB80) and The Lawn (L86). The dating analysis presented here includes all of these variants but the individual fabrics and forms are discussed separately below. The majority of the forms and their antecedents are discussed in depth elsewhere (Darling 1988).

Dating: LIA/EROM – EMROM

A number of the IASH forms, in particular those in IASHF, are identical to vessels current during the late Iron Age and the Roman conquest. Darling (*ibid.* 32–3) comments that much of the Lincoln material also can be related to the pottery from Camulodunum and, ultimately, to the late La Tène Aylesford/Swarling series, so that a relatively late Iron Age date seems unquestionable. There are broad similarities between the Lincoln and Dragonby assemblages and examples such as the decorated jar 741 will have a similar late Iron Age to early Roman date.

Bearing in mind the comparatively limited evidence for the variants, Figure 69 shows that the coarse- and fine-shelled fabrics (IASHC and IASHF) have almost identical dating profiles, being well represented within the very earliest Roman levels and peaking in the mid 1st century AD, thereafter rapidly declining by the end of the century. Darling (*ibid.* 33) suggests that while all the pottery of Iron Age typology from Holmes Grainwarehouse (the type-site) is likely to have derived from an Iron Age settlement, ‘there is no certainty that the original occupants continued to live on the site after the arrival of the Roman army. It is axiomatic that deposits relating to the construction of the earliest Roman buildings would necessarily contain only Iron Age material, and that Roman pottery would first occur in the occupation and demolition contexts of these buildings.’

In contrast, the more Romanised fabric IASHD did not appear until the mid 1st century AD and was most abundant during the early 2nd; it was negligible by the mid 2nd century. IASH has a much broader date range, possibly reflecting the fact that the sub-groups were not always separately recorded. A few sherds occurred within late Iron Age deposits, but it was most common in mid 1st century contexts. Despite a noticeable decline by the end of the 1st century, IASH appeared relatively consistently until the mid 2nd century. The end date for this ware is

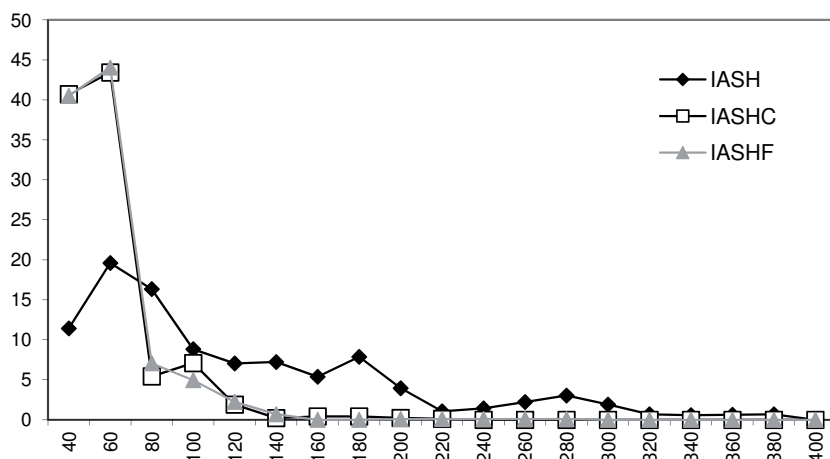


Fig. 69. Native tradition Shell-tempered Ware (IASH) and variants C (IASHC) and F (IASHF): plotted by sherd percentage.

uncertain as there is certain evidence for re-working and levelling at the type-site: numerous cross-joins between sherds of IASH from early deposits and those from much later levels demonstrate that the stratigraphic sequence had been heavily disturbed. However, taking the probability of residuality into consideration, it seems likely that IASH was not being produced beyond the mid 2nd century.

Fabric and technology

LRF328 (Pl. 2.31)

This is a hard fabric with a harsh, slightly soapy feel. The colour varies, but is generally grey with brown internal margins and surfaces, and dark grey external margins and surfaces. The irregular fracture shows moderate amounts of shell (>1mm) and clay pellets/?grog, varying in colour from red through to shades of grey (SR >0.8mm). Quartz is rare and multicoloured (SR, mostly 0.4–0.6mm). The thin-section (L1639) shows moderate quartz (R >0.8mm, mainly >0.4mm), abundant nacreous non-ferrous calcite bivalve shell fragments with ferrous calcite matrix (>0.8mm), and sparse non-ferrous thin-walled bivalve shell fragments (>0.6mm) in an anisotropic, highly birefringent clay matrix.

All of the thin-sectioned samples of IASH and its variants contained thin-walled shell characteristic of benthic molluscs living below the tidal zone. This was also a characteristic of the majority of the DWSH samples chosen for thin-section analysis (see p. 85).

Both handmade and wheel-thrown vessels were made in IASH, IASHC and IASHF only, but evidence for wheel-throwing is not always clearly recognizable. Sooting is apparent on many of the vessels from these fabric groups. Darling (*op. cit.* 12) notes that vessels with external burnishing in IASH were rare, and confined to the earliest period at the type-site; the

individual facets of the burnishing are usually clear but this treatment has not been seen to date on shell-tempered wares from legionary contexts. Apart from some grooving and the use of cordons, other types of decoration are absent.

Forms

Jars are by far the most common forms, and within this group native tradition cooking pots are dominant.

Native tradition cooking pots (Fig. 70, 689–92 and 700)

Most of these have thick, angular, almost beaded rims that are heavily undercut internally, and low sloping shoulders (689, 691 and 692, which is highly burnished on the exterior and over the rim). No 690, which has the most common rim-type, and 700 are large versions. Darling (*op. cit.* 19) notes that this is the one vessel form which continued in use from the Iron Age into the Roman period, appearing commonly in legionary deposits, and that it was well-represented in the late phases at Dragonby as well as in early Roman contexts at Old Winteringham.

Jars and jars/bowls (Fig. 70, 693–5)

Other jars mainly comprise everted-rimmed vessels (693–4), some with grooved decoration. Curve-rimmed jars are less frequent, while other forms such as bead- and rounded-rimmed types and lug-handled jars are rare.

Large and storage jars (Fig. 70, 696–7)

Large jars such as 696, with an everted rim and a series of grooves on the shoulder and body wall, are slightly more common than storage jars. No. 697 is a large storage jar with an everted rim and a double lid seating on the interior.

Beakers (Fig. 70, 698–9)

Beakers and small jars/beakers are rare and restricted to either bead- or everted-rimmed types (698 and 699 respectively). No. 698 is almost certainly handmade and is burnished externally whilst 699 is handmade and finished on a wheel.

Bowls (Fig. 70, 701–6)

Bowls are sparse but include both bead-rimmed types (702–3), which are more open forms of the native cooking pot, and those with everted rims (704). The rim of 701 is undercut internally and there are two squared-off cordons on the body wall. An unusual vessel (705), which is burnished externally and over the simple rim, may have had a carinated or rounded profile (*cf.* Camulodunum form 229C). 706, with a simple rim and wide flaring mouth, could serve as either a bowl or a lid.

Dishes and lids (Fig. 70, 707)

Both dishes and lids are extremely rare, each being represented by only a single sherd. No. 707 is a plain-rimmed dish with a slight indentation on the interior, just below the rim, and a flat base.

Native Tradition Coarse Shell-tempered ware (IASHC)

Dating: LIA/EROM

For discussion, see IASH.

Fabric and technology

LRF329 (Pl. 2.32)

A hard, harsh-textured fabric, red-brown in colour with brown interior and grey exterior surfaces, and a hackly fracture. This fabric contains more abundant and generally larger (0.2–1.0mm) shell fragments than IASH LRF328, very rare clay pellets/?grog (SR >1.0mm), and moderate amounts of clear and opaque quartz (SR >0.2, mostly 0.4–0.6mm and very occasionally >0.9mm). The thin-section (L1682) reveals moderate quartz (R >0.8mm, mainly >0.4mm), abundant nacreous non-ferrous calcite bivalve shell fragments with ferrous calcite matrix (>0.8mm) and sparse non-ferrous thin-walled bivalve shell fragments (>0.6mm), in an anisotropic, highly birefringent clay matrix.

See also IASH.

Forms

The forms in IASHC, in common with IASHD, are very limited in comparison with those of IASH and IASHF.

Jars (Fig. 71, 708–18)

Large storage jars are the principal forms represented in IASHC; some are large versions of native tradition

cooking pots (713–14) and appear to have been handmade and wheel-finished. Nos 715–18 are larger, mainly necked vessels with thick curved rims, which are not certainly wheel-thrown. 718 has at least one hole bored through the base, apparently pre-firing, perhaps for drainage or for straining. Other jar forms are uncommon and consist of a single bead-rimmed cooking pot (708), two rounded-rimmed vessels (as 709), and a variety of lid-seated jars (710: wheel-made; 711–12: probably handmade, and burnished).

Bowls (Fig. 71, 719–20)

There are only two bowls (719–720); both are handmade and of the same type, with a beaded rim which has been squared off, and with a slack profile, similar to late Iron Age/early Roman Dragonby Type Groups 19/20 (May 1996, fig. 19.5).

Native Tradition Fine Shell-tempered ware (IASHF)

Dating: LIA/EROM

See IASH for discussion.

Fabric and technology

LRF330 (Pl. 2.33)

This is a hard, dark grey fabric with a slightly coarse feel, and grey-brown margins and surfaces. The irregular fracture reveals a silty matrix with rare to moderate amounts of fine shell fragments (0.1–0.9mm) and abundant grey, clear and opaque quartz (SR 0.1–0.5mm, mostly 0.2–0.4mm). The thin-section (L1647) shows abundant rounded quartz (>0.2mm); sparse sandstone (R >1.0mm; grains *c.* 0.1mm); sparse nacreous non-ferrous calcite bivalve shell fragments with ferrous calcite matrix (>0.8mm); sparse non-ferrous thin-walled bivalve shell fragments (>0.6mm), and sparse angular quartz (>0.05mm), in an anisotropic clay matrix.

For technology, see IASH. Apart from occasional traces of vertical burnishing, decoration is very rare, consisting mainly of grooves and cordons, but one vessel (741) has incised lines defining burnished curvilinear motifs. Darling (1988, 13) suggests that the vessel form and use of burnishing indicate this fabric to be of Iron Age date.

Forms

Most vessels are finely made and more characteristic of the late La Tène and peri-conquest period. Unlike the vessel forms in other fabrics within the IASH group, jars are rare in IASHF and there are no native tradition cooking pots; bowls comprise the majority. IASHF also produced the highest proportion of beakers within the IASH group, probably because the finer fabric is more suitable for such vessels.

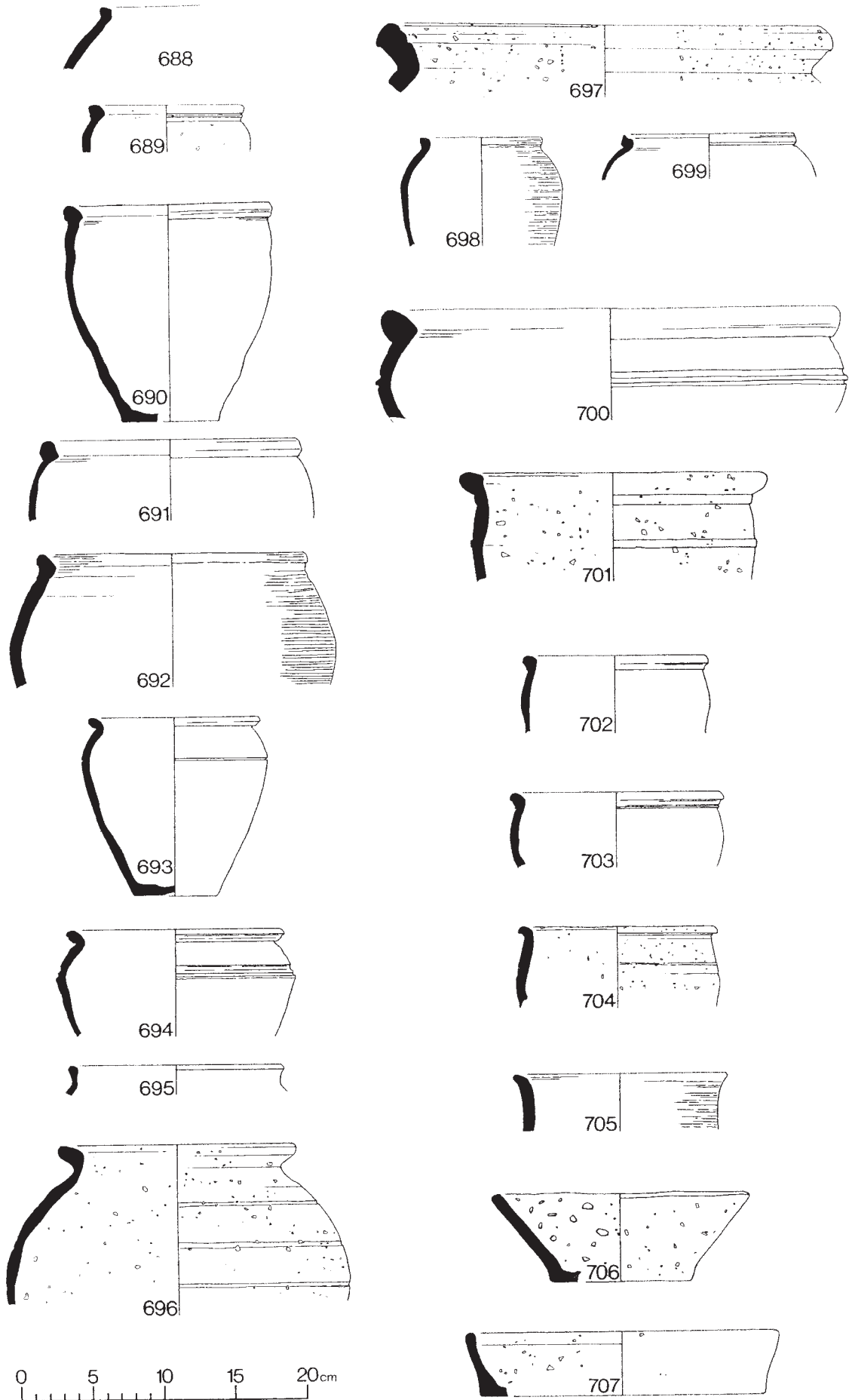


Fig. 70. Native Tradition Shell-tempered Ware 688–707. Scale 1:4.

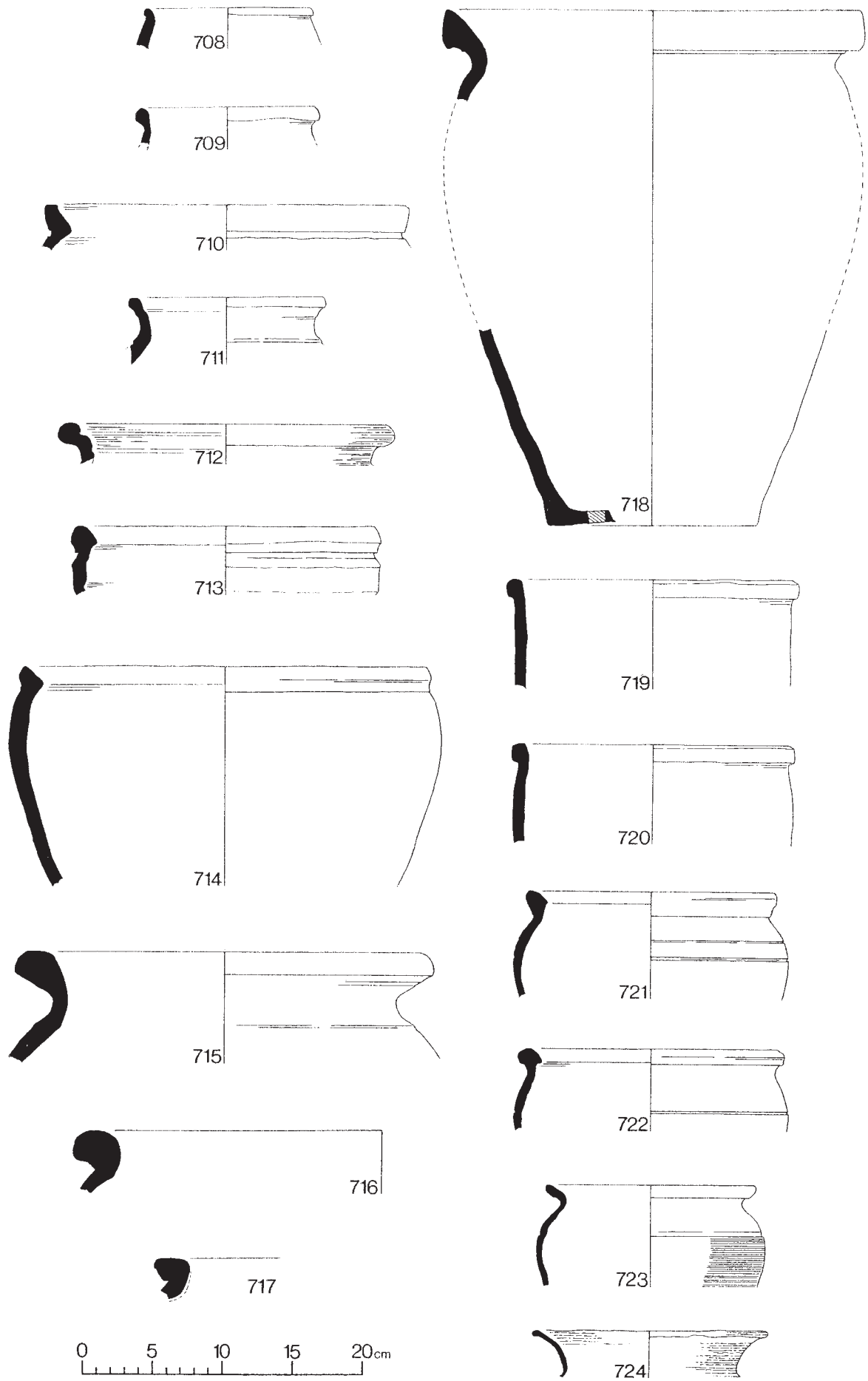


Fig. 71. Native Tradition Shell-tempered Ware, variant C 708–20; variant D 721–4. Scale 1:4.

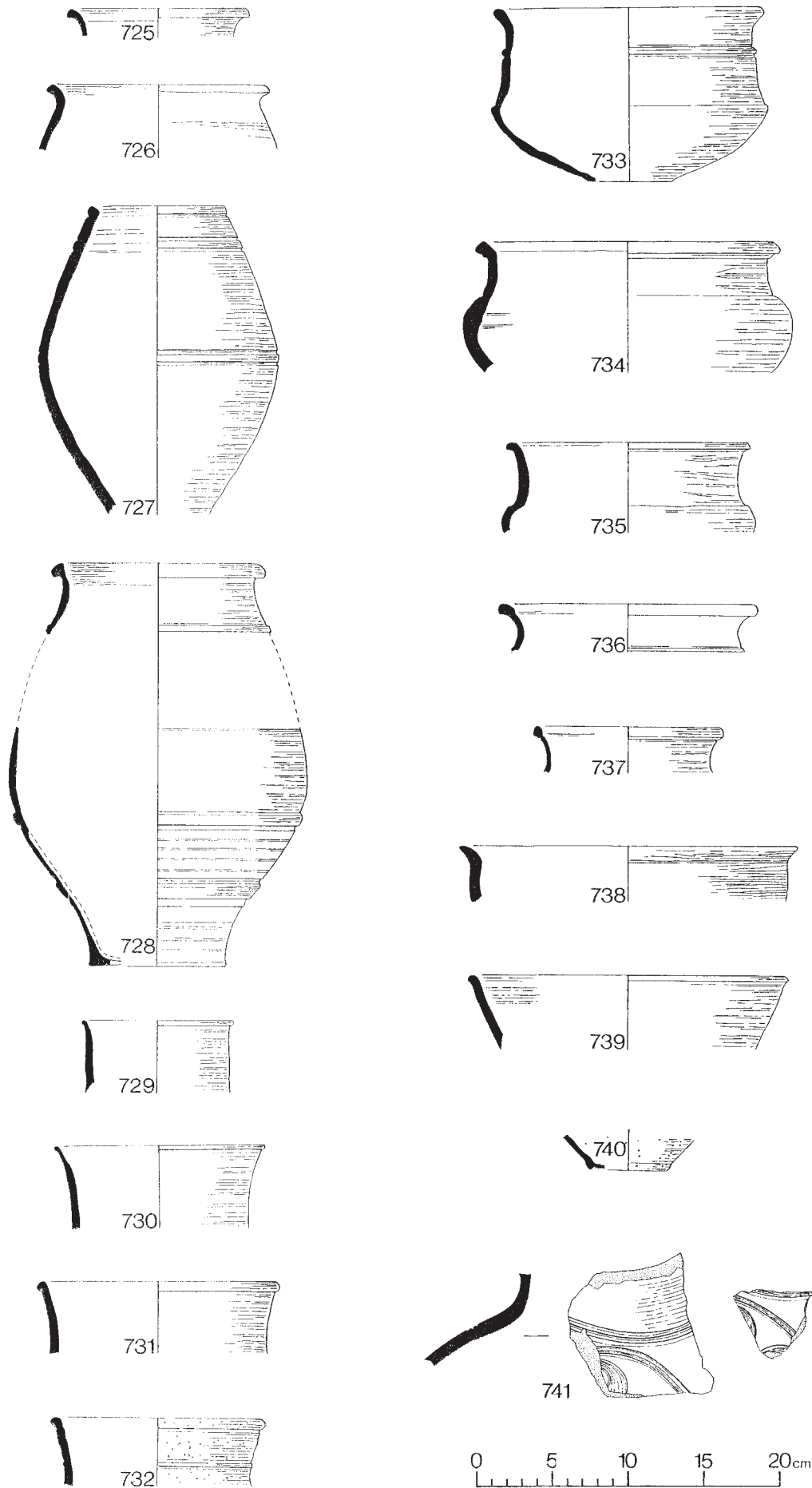


Fig. 72. Native Tradition Shell-tempered Ware, variant F 725–41. Scale 1:4; decoration 741 scale 1:2.

Jars (Fig. 72, 725–6 and 741)

A single vessel (725) is certainly identified as a jar; it is burnished externally and over the curved rim. A probable jar (726) with a similar rim is less certainly IASHF. Two highly decorated body sherds (741) are probably from a globular narrow-necked jar, almost certainly the earliest vessel in the entire assemblage. The decoration consists of incised lines defining burnished curvilinear motifs similar to those used on a vessel from Dragonby (May 1996, fig. 19.54, 647), but defined there by rouletting. Curvilinear scoring also occurs on similarly early vessels from Old Sleaford (Elsdon 1997, fig. 59, 97–8; fig. 75, 350).

Beakers (Fig. 72, 727–30 and 740)

Most common are butt beaker types, and both illustrated examples (727–8) are similar to those from late Iron Age to early Roman contexts at Old Sleaford (*ibid.* fig. 63, 162 and 160, respectively).

The only other beakers represented have flaring, slightly beaded rims (729–30); they are burnished externally, this occasionally extending over the rim. Darling (*ibid.* 14–6) suggests that these rims may be from carinated vessels that are more likely to be cups rather than bowls, or possibly are from carinated pedestal tazze similar to those found at Dragonby (May *op. cit.* fig. 19.36, 24; fig. 19.38, 324–5). A delicate footring base (740) is probably also from a beaker.

Bowls and dishes (Fig. 72, 731–9)

Most of the bowls have simple beaded rims (as 731); one of these is decorated with a groove and cordon (732). Both illustrated examples are likely to be vessels similar to those from Dragonby with a double carination (*ibid.* fig. 19.7, type 10). No. 739 is also probably from a carinated vessel. No. 733 is a fine example of an almost complete carinated bowl. Darling (*op. cit.* 14) notes that this is a common form in the latest Iron Age period at Dragonby but also occurs on early Roman sites as at Old Winteringham, where it was found in a Claudio-Neronian context.

A variety of necked bowls in IASHF include 734 and 735; Darling (*ibid.*) comments that similar forms occur in the latest Iron Age phase at Dragonby, but the simple rounded profile can also be seen in the Old Winteringham assemblage in a Neronian-early Flavian context. Nos 736 and 737 are lid-seated rim sherds from similarly necked, but probably carinated bowls. According to Darling (*ibid.* 18), this type derives from Iron Age vessels, developing from the Old Winteringham form and continuing into the 2nd century, appearing at Winterton, Roxby and Lincoln in Antonine deposits. No. 738 is an example of a simple, necked bowl with an everted rim.

Dishes are extremely rare, consisting of only a single sherd from a vessel similar to Camulodunum form 16 (for a comparable vessel in SHEL, see Fig. 73, 756).

Romanised High-fired Shell-tempered ware (IASHD)

Dating: EMROM

See IASH for discussion.

Fabric and technology

LRF331 (Pl. 2.34)

This is a very hard and high-fired fabric with a harsh feel and a hackly fracture, medium grey in colour with lighter grey margins and darker grey surfaces. Abundant white, clear and opaque quartz (SR mostly 0.2mm, more rarely 0.4–0.5mm, and occasionally >0.9mm) is the main inclusion, together with rare shell and calcite? particles (>2.0mm). The thin-section (L1640) shows abundant quartz (R >0.8mm, mainly >0.4mm), sparse nacreous non-ferrous calcite bivalve shell fragments with ferrous calcite matrix (>0.8mm) and sparse non-ferrous thin-walled bivalve shell fragments (>0.6mm), in an anisotropic, highly birefringent clay matrix. This sample contains much less shell (which looks a bit more weathered) and a lot more quartz sand than the other samples from the IASH group.

This fabric, unlike the others discussed above, is almost invariably wheel-thrown (the single exception – 724 – may have been misidentified, or may be a precursor to the mainstream production) and decoration is limited to grooving and occasional exterior burnishing.

Forms (Fig. 71, 721–4)

Apart from three body sherds from a beaker and a lid, the IASHD assemblage consists entirely of jars. Native tradition cooking pots (721–2) are the most common forms and are similar to those in IASH. Everted-rimmed jars are moderately well represented; one example has a wiped exterior (723). A single curve-rimmed jar (724) is clearly handmade and roughly burnished.

5.2 Romano-British Shell- and Calcite-tempered Wares

Romano-British shell- and calcite-tempered wares form one of the smallest components of the Lincoln assemblage; they are divided into four main ware groups, the largest being unsourced Shell-tempered wares (SHEL). Calcite/Shell-tempered wares (CASH) and South Midlands Shell-tempered ware (SMSh) are uncommon, and Huntcliff-type ware (HUNT) is very rarely found in Lincoln assemblages. SHEL was present from the mid 1st century onwards, although this early element may include some unrecognised variants of IASH (see above). The wares in general became more common by the mid 3rd century, occurring most frequently in the later 4th century.

Calcite/Shell-tempered ware (CASH)

This fabric group (49 sherds) is an amalgamation of unsourced wares with calcite and/or shell tempering.

Dating: MLROM

There are just seven sherds from small, probably mid to late 2nd century assemblages that were all residual in mid to late 3rd century contexts. CASH otherwise occurred from the mid 3rd century, appearing most commonly in late 4th century assemblages.

Fabric and technology

LRF301, 313–4 and 316

In order to define the various fabrics that form part of the CASH group, several sherds were thin-sectioned, including one in a Knapton fabric from Sherburn, south Yorkshire (LRF301). These were also compared with the fabric of the classic calcite-tempered Huntcliff-type jars (HUNT; see below).

LRF301 (Knapton fabric from Sherburn, south Yorkshire). A fairly hard fabric with a slightly silty feel, this has a grey core and red-brown margins and surfaces. The hackly fracture reveals a silty matrix containing moderate amounts of calcite (A >2.0mm), moderate to abundant quartz (SR 0.1–0.2mm), rare clay pellets and black ?organic fragments. The thin-section (L1681) contains abundant non-ferroan calcite (>1.0mm), with ferroan calcite formed as a coating around these fragments and in laminae in the clay matrix, and abundant altered glauconite (>0.3mm), in a highly birefringent clay matrix with few visible inclusions.

LRF313 (jar *cf.* HUNT with acute lattice decoration): this hard fabric has a silty feel with a light red-brown core and grey surfaces, the exterior being decorated with burnished, acute lattice decoration. An irregular fracture shows rare calcite (A >2.5mm) and very rare shell fragments, uncommon limestone (R >0.8mm), and moderate to abundant clear and opaque quartz (SR 0.2–0.5mm) with rare larger quartz (R and SR >0.9mm). The thin-section (L1680) reveals moderate shelly limestone (>1.0mm): non-ferroan bivalve shell fragments in a sparry, ferroan calcite matrix, mostly weathered away from the shell fragments; moderate rounded (>0.5mm) and abundant angular (>0.1mm) quartz and sparse flint (R >1.0mm), in an anisotropic clay matrix.

LRF314 (Pl. 3.42): this is a hard fabric with a harsh feel, and an irregular fracture with a dark grey/black core and lighter grey margins and surfaces. The main inclusion is abundant clear and opaque quartz (SR 0.2–0.3mm), together with rare more rounded, larger quartz (>0.7mm) and rare calcareous inclusions (R 0.2–1.0mm). The thin-section (L1669) shows sparse non-ferroan micrite (R >1.0mm), probably

chalk; sparse chert/silicious sandstone (R >1.0mm), probably Lower Greensand Chert; abundant quartz (R >0.3mm), and a soot-blackened highly laminar clay matrix, probably with few inclusions, in an anisotropic matrix (judging from the oxidized surface of the sherd).

LRF316: (*cf.* HUNT). This hard fabric has a rough feel and a hackly fracture. The exterior is smoothed and decorated with multiple burnished lines, and the interior shows numerous voids where inclusions have leached out. The fabric is grey in colour with slightly darker grey surfaces, and contains moderate amounts of calcite (A 0.2–2.5mm), abundant clear and opaque quartz (SR 0.2–0.4mm) and rare black ?organic inclusions. The thin-section (L1663) contains abundant non-ferroan sparry calcite (>2.0mm), moderate quartz (R >0.3mm), moderate glauconite (R >0.3mm) and moderate opaque material with glauconite inclusions (R >1.0mm), in a highly birefringent clay matrix.

All four CASH thin-sections appear to differ in detail, although both the example from Sherburn (LRF301) and LRF316 contain glauconite. The initial results of thin-section analysis show that the HUNT fabric (see below) is somewhat different to the CASH group in that it contains both rounded clay pellets and angular flint, which are not present in CASH. A single CASH exception (LRF313) contains sparse flint, but this is rounded rather than angular, and there are no clay pellets.

Unlike the majority of calcite-tempered wares with a probable source in the Vale of Pickering (Dr. Alan Vince, *pers. comm.*), which were handmade and present from the Iron Age into the 4th century, the Lincoln examples are predominantly wheel-made.

Forms (Fig. 73, 758–60)

Jars are most common in this group; nine sherds are from a two-handled jar (758) with a thickened everted rim, from a mid to late 3rd century dump. Others include a curve-rimmed example with a slight lip (759), and an unusual vessel with a bead-and-flange rim (760). Bowls are rare, comprising a flanged type with a stubby rim and a wide-mouthed example.

Huntcliff-type ware (HUNT)

This ware group is confined to the classic forms of calcite-tempered jars associated with late 4th century material from Huntcliff, Yorkshire (Hull 1932), and is extremely rare in Lincoln assemblages: only five sherds have been recovered.

Dating: VLROM

HUNT was found only in very late 4th century assemblages, some of which came from post-Roman contexts.

Fabric and technology

NRFRC: HUN CG

LRF308 and 315

LRF308 (Pl. 3.43). This is a hard fabric with a knobbly, slightly soapy feel, and a lightly burnished exterior. It is medium grey in colour with dark grey margins and surfaces, and with a hackly fracture showing abundant calcite consisting of numerous small fragments and rarer larger rocks ($A > 3.0\text{mm}$) set in a silty matrix, with rare quartz ($SA > 0.3\text{mm}$) and uncommon black ?organic inclusions. The thin-section (L1646) contains abundant fragments of non-ferroan calcite ($> 2.0\text{mm}$), sparse flint ($A > 1.0\text{mm}$), sparse quartz ($R > 0.3\text{mm}$) and moderate clay pellets ($R > 2.0\text{mm}$), in a highly birefringent clay matrix with few visible inclusions.

LRF315: typical Huntcliff jar. This fabric is very similar to LRF308 in colour and texture but with rarer calcite and more abundant quartz ($SA > 0.4\text{mm}$), together with rare clay pellets and calcareous particles ($R > 0.5\text{mm}$). The thin-section (L1670) shows abundant fragments of non-ferroan calcite ($> 2.0\text{mm}$) – including one with calcite enclosing a fragment of micrite containing spherical microfossils, *i.e.* chalk – sparse flint ($A > 1.0\text{mm}$) and moderate dark brown to opaque clay pellets ($R > 0.5\text{mm}$), in a highly birefringent clay matrix with few visible inclusions.

Analysis of the thin-sections suggests that both the Huntcliff example and the Lincoln sample derive from the same source.

Classic forms are wheel-made, with hooked rims and internal lid seatings; the latter is absent from some examples. Decoration mainly consists of grooving on the body, and wavy lines or crude lattice have been noted on some York examples (Monaghan 1997, 985).

Forms (Fig. 73, 761–2)

Both the forms illustrated are classic Huntcliff-type jars: 761 with an internal lid seating, and 762 with grooving on the lower body wall and a slight lip on the exterior of the lid-seated rim.

Shell-tempered ware (SHEL)

This group (644 sherds) comprises shell-tempered wares that cannot be conclusively identified as either the early IASH or the later DWSH (see above). There is evidence for the production of shell-tempered wares in south Lincolnshire, in particular in the Bourne area (Bourne Grammar School kiln: LCNCC acc. no. 24.61). Although not certainly Bourne products, some of the SHEL forms – including large storage jars – are similar to those produced there; the dating of the Bourne wares is therefore briefly discussed here, and a fabric description is given below.

Swan (1984, fiche 3.436) suggests a late 3rd–4th (or possibly late 3rd) century date for the Bourne assemblage, similar to the products of Greetham

(*ibid.* fiche 4.576). However, recent examination of the Bourne kiln material by the author suggests a mid to late 2nd century date for the start of production (Precious 2001, 139). There is no secure dating evidence from the kiln site other than typological associations for the wares, but Hartley (in Petch 1962, 103–4, with fig. 2, 1) reports on a mortarium stamp found with the Bourne Grammar School kiln pottery: ‘This stamp, LVGV DV, is from one of at least eight dies or sets of dies used by ALBINVS’. The potter operated at Verulamium and his dies are generally dated to *c.* AD 65–90; however, the exact relationship between this mortarium and the kiln material is uncertain, and it may or may not be contemporary.

Dating: ROM

This group is an amalgamation of fabrics that possibly include unrecognised variants of the local shell-tempered wares (as noted above); the dating profile consequently is spread throughout the Roman period. Increasing in frequency by the mid 3rd century, SHEL is most abundant in groups dated to the later 4th century.

Fabric and technology

No thin-sections were cut, owing to the impracticality of sampling even a selection of the numerous sub-fabrics and variants within this miscellaneous group. However, because of the possibility that at least some of these were produced in south Lincolnshire, and particularly in view of the similarity between a number of the vessels discussed below and those produced at Bourne, a sample from the Bourne kilns was thin-sectioned.

LRFK14 (Pl. 2.35) Bourne Grammar School. The surfaces range in colour from red-brown to yellowish brown, greyish brown and dark grey. The core fabric is in the same colour range, often with a grey core and margins similar to the surface colour. It is hard, with a slightly soapy feel and a hackly fracture. The matrix also has a soapy texture, but sometimes silty, and contains varying (sparse to abundant) amounts of ill-sorted grey and dark grey, but mostly opaque and clear quartz (SA mostly $0.2\text{--}0.4\text{mm}$, less frequently $> 1.0\text{mm}$), sparse to moderate oyster shell, sparse pink-brown clay pellets ($SR > 1.0\text{mm}$) and sparse black iron ore ($R 0.1\text{--}0.5\text{mm}$); rare calcareous inclusions ($R > 0.6\text{mm}$) and rare white mica can be seen in the surfaces. Punctate brachiopods occur rarely.

This fabric is also included within the National Roman Fabric Reference Collection (as BOG SH), although it is listed as Bourne-Greetham rather than as Bourne; Greetham is a separate kiln site.

Forms

Jars are most often found, while bowls are relatively uncommon; dishes occur infrequently and beakers and lids are very rare.

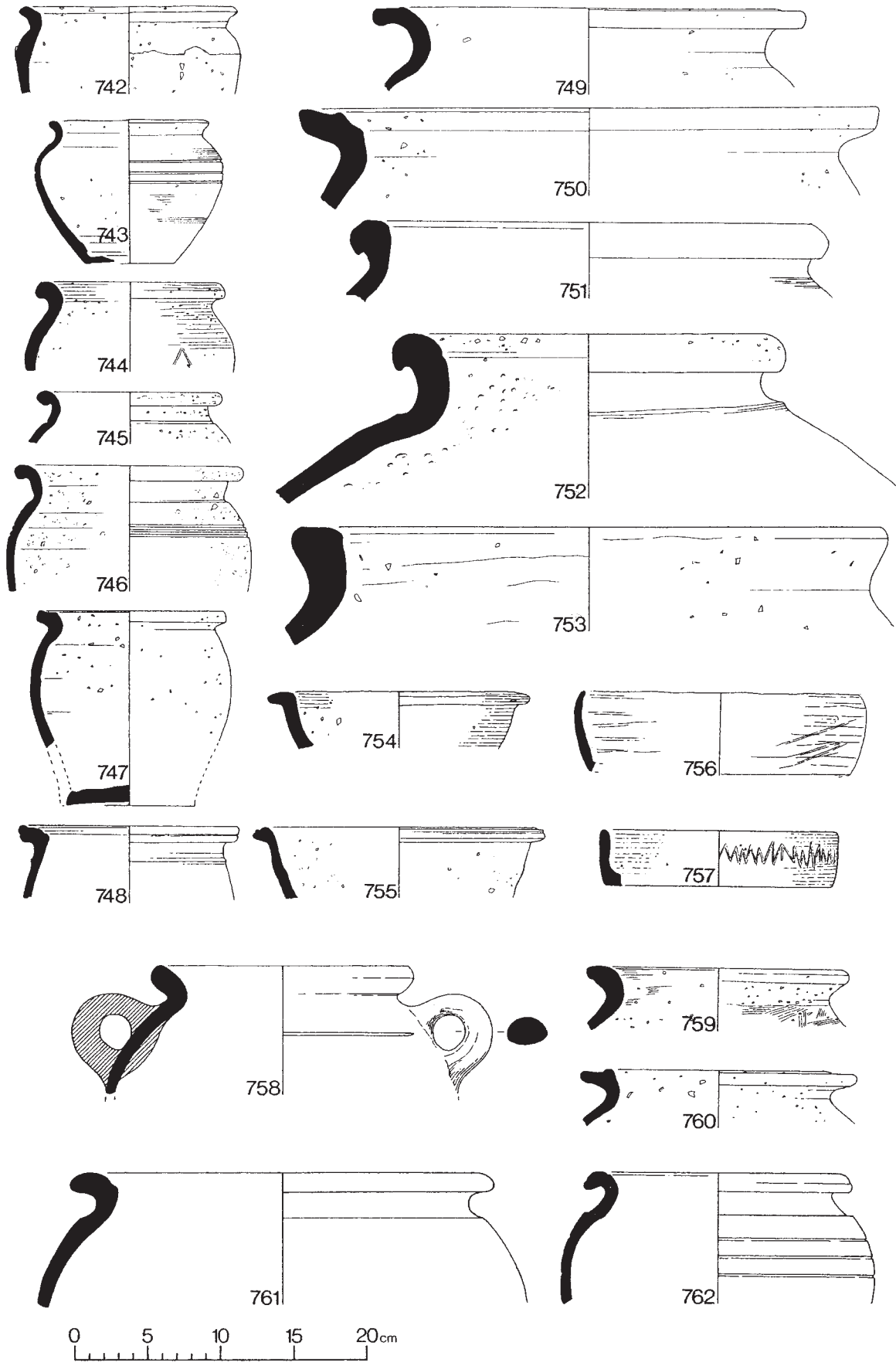


Fig. 73. Romano-British Shell-tempered Ware 742–57; Calcite/Shell-tempered Ware 758–60; Huntcliff-type Ware 761–2. Scale 1:4.

Jars (Fig. 73, 742–53)

Most of the jars have everted rims, such as 742, a wheel-thrown vessel. No. 743 has a more curved, plain rim with a grooved body wall, and is from a context dated to the later 1st-2nd century. A development of this rim form is found on 744, which has external burnish that extends over the rim itself, and a zone of burnished lattice decoration below. Curve-rimmed jars similar to this vessel are rare.

The second most common type is the rounded-rimmed vessel. Two of these have almost rolled rims (745; 746 with grooved decoration on the shoulder), and are very similar to jars among the Bourne Grammar School kiln assemblage. The dating for 745 is uncertain, but 746 is from a context dated to between the later 2nd and the ?4th centuries; the earlier date corresponds well with the revised dating of the Bourne assemblage.

Lid-seated (as 747, with a squared rim, 748 and 749) and double lid-seated jars (750) are the only other type to be represented in any quantity, but these are not common. The latter form a strong component of the DWSH (Late Shell-tempered) repertoire (see above) but the fabric of these examples differs from that of the typical DWSH. Near-identical vessels to 748 appear amongst the IAGR and IAGRB assemblages (Fig. 83, 818 and Fig. 85, 861 respectively); the fabric of the first of these includes a small quantity of shell.

Large and/or storage jars are moderately well represented. No. 751 is very similar to a large vessel with a curved, almost rolled rim from the Bourne kiln assemblage. Another large jar, 752, has an internal lid seating; 753, with an almost upright, plain rim, is unparalleled.

Other jar types are rare; two have the classic Dales ware rim, but are in a shell-tempered fabric that is not certainly Dales ware.

Beakers

This form is very rare in SHEL: just seven sherds are mostly from everted-rimmed beakers or small jars.

Bowls (Fig. 73, 754–5)

Flanged bowls include 754; this vessel can be paralleled among the Bourne material and was associated with pottery dating to the mid-late 2nd century, which accords well with the revised dating of the Bourne kiln. Another possible example (755) has a complex, slightly lid-seated rim. Similar reeded/lid-seated rims are also present within the Bourne kiln material.

Dishes and lids (Fig. 73, 756–7)

The only identifiable dish form is plain-rimmed; 756 appears to be handmade and bears a resemblance to Camulodunum form 16; a very similar plain-rimmed dish is in IASHF (see p. 94). The form is of native tradition but the vessel was found in a post-Roman

context. Dish 757 also seems to be handmade and is burnished, with a scratched decoration of irregular zig-zags. There is only a single rim fragment from a lid.

South Midlands Shell-tempered ware (SMSH)

There is evidence for the production of this ware at Harrold (Bedfordshire), and possibly also at Lakenheath (Suffolk), but there may have been other sources. SMSH is scarce in Lincoln (21 sherds) as the city lies at the northern limit of distribution, which is mainly located in the south Midlands, north of the Thames and below the Wash (Tyers 1996, 192–3).

Dating: LROM

SMSH is confined to late 4th century deposits, which accords well with the dating evidence from the Harrold kilns: the main period of production occurred in the 4th century (Brown 1994). However, Darling (*pers. comm.*) suggests that the distribution of jars outside the kiln area appears to have started earlier, possibly in the 3rd century. There are two rim types within the jar assemblage, the earliest having a simple out-curved rim and the later with a hooked rim. A vessel of this later type, excavated at Caister-on-Sea, was used to contain a coin hoard deposited c. AD 340 (Darling with Gurney 1993, fig. 150, 462; coin hoard 1, 62). Jars with the later rim form, which is triangular and undercut, increase in quantity in later 4th century layers and possibly continued in use into the early 5th (Tyers 1996, fig. 242, 2).

Fabric and technology

NRFRC: HAR SH

LRF317 (Pl. 2.36)

This is a fairly hard, slightly soapy fabric with an irregular fracture, and a dark grey or black core with brown to grey margins and brown surfaces, occasionally patchy and sometimes sooted. The shell inclusions are frequently lost, either in firing or in poor soil conditions, leaving a vesicular surface. Abundant fine or medium flakes of shell, typically including fragments of punctate brachiopods, form the main inclusion (mostly <1mm and rarely >3mm). Occasional fine black and red iron ores occur, together with white mica and rare coarse flint and limestone particles.

Vessels are wheel-thrown and the principal type of decoration consists of horizontal rilling from the lower neck to the lower body wall.

Forms

The forms are restricted to jars, principally necked vessels with curved triangular rims – the later development being markedly undercut – typical of the Harrold vessels. However, only small rim fragments and occasional rilled body sherds survive.

6 The Reduced Wares

Barbara Precious

Reduced wares form by far the largest proportion of the Lincoln assemblage (Fig. 4), the majority (93.85%) comprising Romano-British wares, mainly sand-tempered (GREY). However, this category inevitably includes a high proportion of local products: owing to the difficulty in distinguishing between individual fabrics, it is not possible to confirm whether they are from local kilns or are likely to have come from elsewhere in the region (see p. 8). Certainly identified local wares are rare in comparison and, in common with the oxidised wares, imported reduced wares are extremely rare.

The dating parameter for reduced wares is dominated by the overwhelming presence of GREY, which broadly dates from the mid to late Roman period but is most commonly found in contexts of later Roman date. A substantial proportion of BB1 also fits within this wide date range. Reduced wares that can be more closely dated are comparatively rare.

6.1 Imported Reduced Wares

Imported reduced wares rarely occur in Lincoln assemblages and are confined to a single ware type.

North Gaulish Grey ware (NGGW)

NGGW is a reduced fabric related to North Gaulish Cream Ware (NGCR – see p. 50) and includes a range of sub-fabrics. Apart from London, Dover and Caister-on-Sea, this ware is seldom found in Britain and Lincoln is one of the few sites in the eastern coastal area where the main distribution of NGGW has been noted (Richardson and Tyers 1984, 140).

There are nine certain sherds from Lincoln – five from a single vessel – and four probable examples.

Dating: MROM

Although NGGW was imported into Britain as early as the Flavian period, it was more common in the 3rd century (*ibid.* 139). Seven of the Lincoln sherds are from contexts containing 3rd century pottery; the remainder occurred in contexts dated to the very late 4th century.

Fabric and technology

NRFRC: NOG RE
LRF269

Most vessels bear typical zones of thin horizontal burnished bands, and forms include beakers as well as other closed forms, bowls and dishes.

Forms (Fig. 76, 763)

Six undiagnostic sherds are from closed vessels, possibly jars or beakers. Five are from a single bowl with an upturned, slightly concave rim (763); it is similar to vessels from Caister-on-Sea (Darling with Gurney 1993, fig. 138, 64–5). Darling (*ibid.* 162) notes that the Caister-on-Sea examples mainly occurred in the rampart spill and refuse layers above, dated to the early to mid/late 3rd century. This date agrees with that for NGGW wares at New Fresh Wharf, London where they were found in the infill of the quay, probably deposited in the early to mid 3rd century (Richardson 1986, 96–8).

6.2 Local Reduced Wares

Geological inclusions in the fabrics of most wares in this category suggest local manufacture, although

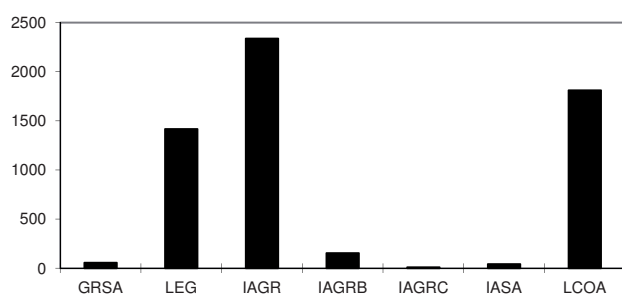


Fig. 74. Local Reduced Wares by sherd count.

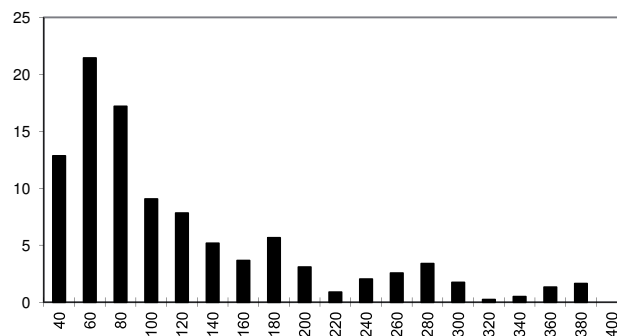


Fig. 75. 'Legionary'-type Light Grey Ware: plotdate by sherd percentage.

there is no direct evidence for their production. A possible exception is Late Coarse Pebbly ware (LCOA), which may have been made at Swanpool, although there may have been other sources (see below). The only known local kilns making reduced wares were those producing coarse grey wares (GREY); however, owing to the difficulty of distinction between local and non-local grey fabrics (see p. 8), they are categorised and discussed below as Romano-British products.

This assemblage is composed of five different ware types, which are divided into finer- and coarser-tempered categories in the discussion below. One of these, Native tradition Grit-tempered ware (IAGR), includes two variants (IAGRB, IAGRC; Fig. 74). Wares of exclusively early Roman date are the least common, and those assigned to the early to mid Roman period did not continue much beyond the mid 2nd century. A single ware type, LCOA, is a late Roman fabric.

FINER WARES

Grey Sandy ware (GRSA)

This fabric shares the same basic characteristics as OXSA (see p. 60); it is one of the least common wares in this category (55 sherds).

Dating: EROM

GRSA is predominantly Neronian in date and probably was not manufactured beyond the end of the 1st century; sherds in later assemblages are certainly residual, the majority coming from post-Roman contexts.

Fabric and technology

LRF267 (Pl. 1.9)

This is a very hard, granular fabric with a light grey core and darker grey margins and surfaces, with an irregular fracture and a slightly rough feel. The high-

fired calcareous matrix contains abundant ill-sorted clear and opaque quartz (SR, mostly 0.1mm but ranging from 0.3–0.5mm and occasionally >0.8mm), and frequent ill-sorted black iron-rich inclusions (R 0.1–1.0mm).

Finished products have a well-made, crisp appearance.

Forms (Fig. 76, 765–7)

Vessel forms are all stylistically early Roman and include a two-handled flagon with a sharp, curved triangular rim. Jars are rare, and the principal forms are beakers, some with everted rims. Cups are uncommon but distinctively early in form, and of Italianate style (765–6). Open forms are scarce and include a finely made, thin-walled reeded-rimmed vessel (767), and a fragment of a plate.

'Legionary'-type Light Grey ware (LEG)

LEG is the third most common fabric within the local reduced ware assemblage (1,416 sherds) and shares the same basic characteristics as CR, PINK and RDSL (see pp. 51, 61 and 20, respectively), but has a light to medium grey exterior surface.

Dating: EROM

This ware first appears in legionary contexts, peaking c. AD 60–80 and declining sharply by the end of the 1st century (Fig. 75). It probably did not continue in production following the departure of the Second *Adiutrix* in c. AD 77/8 and occurs only residually in later deposits.

Fabric and technology

LRF266 (Pl. 1.6)

This is a hard, smooth, fine fabric, light grey in colour with a light to medium grey external surface. It has a smooth, occasionally slightly powdery feel and a finely irregular fracture. The calcareous matrix

contains abundant well-sorted silt-sized quartz (SA >0.1mm), both clear and opaque. Some examples are more coarsely tempered with rare large quartz particles (SR >0.5mm). Other inclusions consist of rare black iron ore that occasionally weeps into the fabric, very rare calcareous particles (R >0.3mm) and some voids, and sparse to moderate white mica (>0.1mm) that is most noticeable in the surface.

The principal forms of decoration on this wheel-made fabric consist of rouletting (often particularly sharp) or rouletted zones and webbed, nodular and, very rarely, linear rustication. Rarer types include: applied scales and stripes; barbotine decoration including blobs, vegetable motifs and vertical stripes; finger-frilling and stabbing. The vessels are, in the main, finely executed and relatively thin-walled.

Forms

As noted above, LEG is very similar in fabric to the early CR and PINK, and is virtually the same as RDSL; this also applies to the general characteristics of the forms. See Darling 1981b for a detailed discussion of the relationship between RDSL (see p. 20) and the military occupation of Lincoln, and of continental influences on the forms. Jars are the most common vessels, closely followed by beakers. There are comparatively few cups, and open forms such as bowls and dishes rarely occur.

Flagons (Fig. 76, 768)

Pouring vessels are mainly represented by pinch-necked flagons or jugs (*e.g.* 768); other types of flagon occur only very rarely.

Jars (Fig. 76, 769–76)

Jars mainly consist of everted- and occasionally lid-seated and curve-rimmed vessels with varying types of rusticated decoration, most commonly thick-webbed and nodular (770–4). The precise function of these highly decorated vessels is uncertain, and the rough texture of the rustication would seem to limit their use: despite being fine in texture, a number of these vessels are sooted on the exterior, suggesting that they were heated over an open fire. The thick decoration may have provided a means to grip the vessel. One example, 771, was used together with a CR (Fig. 45, 412) lid to hold a cremation (Steane *et al.* 2001, fig. 3.19). It is worth noting that vessels with this type of decoration are a feature of the early legionary assemblages of York (Monaghan 1997, 989, with fig. 389), where the Ninth Legion was garrisoned after leaving Lincoln. Furthermore, the early York rusticated fabric (*ibid.* 887 and 1035: fabric R1) is notably micaceous – a characteristic shared with LEG. No. 769 is an early continental type, the applied thorns or ribs appearing on vessels in Italy,

and on vessels – *grätenbecher* – at early forts on the Limes (Gose forms 336–7). This vessel type is also found in GREY (see Fig. 107, 1051).

Other jar forms are uncommon and include undecorated curve-rimmed (775) and lid-seated examples such as 776, which may be a honey pot.

Beakers (Fig. 76, 777–9 and Fig. 77, 780–7)

Everted-rimmed beakers (and small jars/beakers) are most common and include some with more ornate rims (778–9) similar to Lyon beakers (Greene 1979, fig. 8, types 20.3–5). Most of the everted-rimmed beakers are decorated with zones of rouletting (as 780–3); barbotine decoration also occurs (777), although more rarely. Two everted-rimmed beakers in a probable LEG fabric (784–5) appear to have been reused as crucibles. Other types are wide-mouthed in comparison (786–7).

Cups (Fig. 77, 788–94)

Although the cup assemblage is comparatively small, rim sherds survive well and a strong typology has emerged, apparently reflecting two spheres of continental influence. Nos 788–92 are very similar in style to those of the north Italian industries, in particular the examples with barbotine decoration (*ibid.* fig. 33, 3), whereas the rims of 793 and 794 resemble those of Greene's Lyon types 4.1 and 4.2 (*ibid.* fig. 6) although they are apparently undecorated.

Bowls (Fig. 77, 795–8)

Bowls are predominantly reeded-rimmed, with carinated (795) or rounded body walls (796). No. 797 is delineated by grooves at the girth and 798 has a zone of rouletting just below the flange. Both types have continental origins and appear on early military sites such as Wroxeter (Darling 2002, fig. 5.32) and Longthorpe (Dannell 1987, fig. 41, 55a–58b).

Dishes and lids (Fig. 77, 799)

Dishes and lids are barely represented in LEG; in contrast, plates and dishes form a relatively large proportion of the RDSL assemblage (see p. 22) which, as noted above, is a closely related fabric, and it is likely that RDSL supplied the majority of these forms. No. 799 is the only illustrated example of a lid and is concave in profile.

Other forms (Fig. 77, 800–3)

The lamp-holder, or *crusy*, is a small but distinctive component of the LEG assemblage; some sherds have internal sooting or burning. Vessels are either simple shallow, straight-sided forms (800) or handled types (801–3); however, the latter could be fragments of handled cups, rather than lamp-holders.

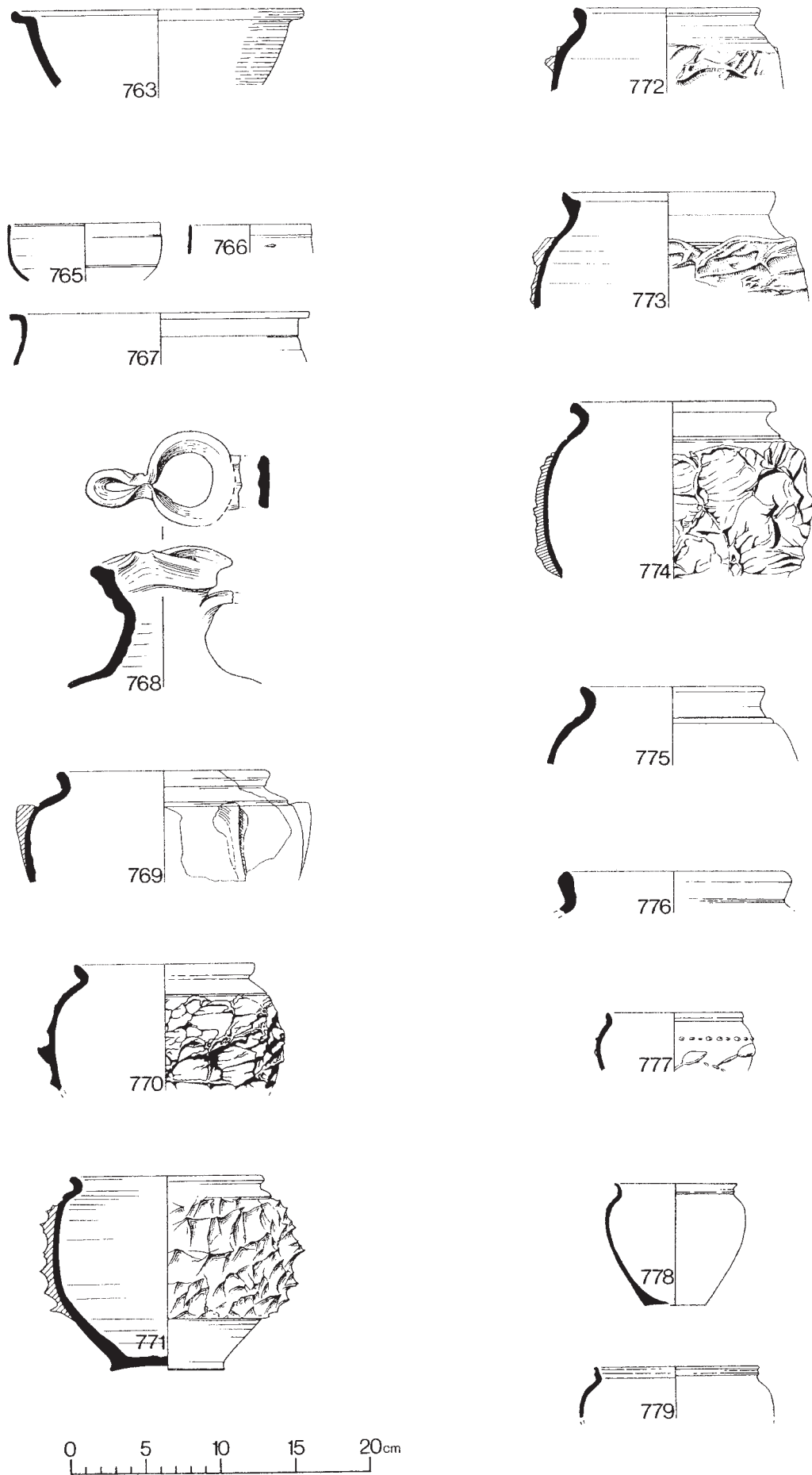


Fig. 76. North Gaulish Grey Ware 763; Grey Sandy Ware 765–7; 'Legionary-type' Light Grey Ware 768–79. Scale 1:4.

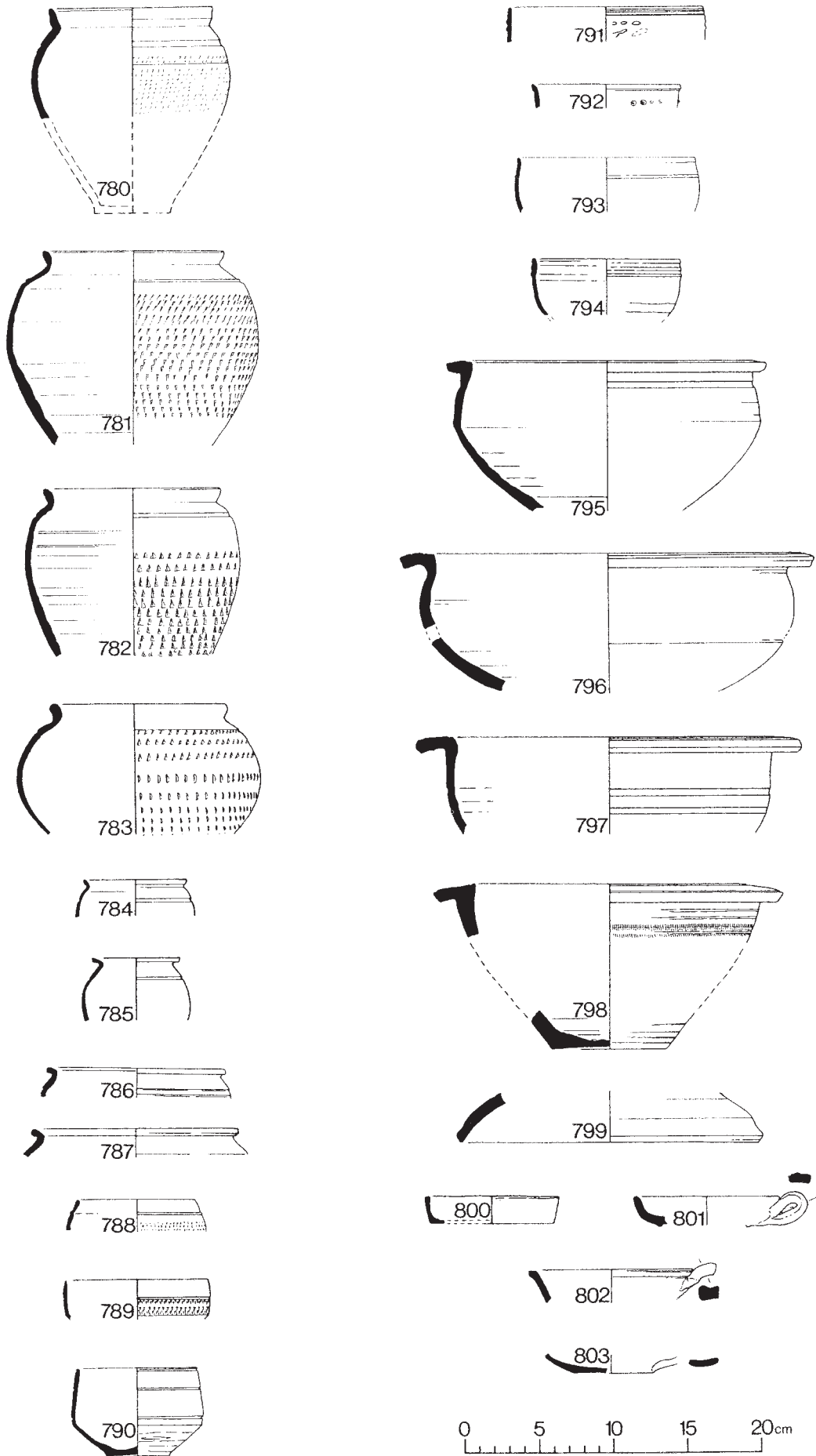


Fig. 77. 'Legionary-type' Light Grey Ware 780-803. Scale 1:4.

COARSER WARES***Native Tradition Grit-tempered ware (IAGR)***

IAGR grit-tempered ware includes a variety of fabrics, some of which are reminiscent of the coarse, pimply fabric that has been described as Trent Valley Ware (Todd 1968). In common with IASH (see p. 88), the antecedents for the IAGR vessels lie within Iron Age tradition cooking-pot forms and Darling (1988) has discussed this aspect in detail. Variant fabrics have been identified and systematically recorded at only two sites, The Park and Holmes Grainwarehouse, and are therefore only small groups. A coarser variant, IAGRB, comprises only 153 sherds while there are just 9 sherds of variant IAGRC, and 6 of these may be from a single vessel. The dating analysis for IAGR (2,337 sherds) and both its variants is presented here, whilst the individual fabrics and forms are discussed separately.

Dating: EMROM

Unlike IASH (p. 88), IAGR occurred only sparsely in the earliest layers. It was most consistently present from the mid to late 1st century, beginning to decline sharply by the early 2nd (Fig. 78), suggesting that the ware was not produced beyond that date, and any further presence would be residual. Although a much smaller group, IAGRB follows a similar pattern.

Fabric and technology

LRF323 (Pl. 2.28)

This is a hard, coarse fabric with a rough feel, except where the surfaces have been burnished, and an irregular fracture. Colour tones can vary but the type-sherd has a dark grey core with light grey margins, and the exterior surface varies from medium to dark grey. Very abundant ill-sorted, clear and opaque quartz (SR mostly 0.2–0.3mm, more rarely >0.4mm and very occasionally >0.8mm) is

the main inclusion. Rare black iron-rich particles (>1.8mm), which tend to weep into the fabric, and occasional clay pellets or grog (SA >0.8mm) are the only other inclusions.

Vessels can be handmade or wheel-thrown and decoration is minimal, consisting of scored lines, stabbed or combed dotted lines and scored wavy lines.

Forms

Jars (Fig. 82, 804–16 and Fig. 83, 817–24)

Jars are the most common vessels, of which native tradition cooking pots form the majority. In common with the IASH assemblage (p. 89), these have their antecedents in handmade Iron Age forms but the type continued well into the 2nd century (Fig. 79), by which time virtually all were wheel-thrown.

A series of jars have rims ranging from everted to simple, internally undercut and lid-seated (804–13). Most have low sloping shoulders delineated by a groove and some are decorated: 804 has random diagonal scratches and 808, a large vessel probably used as a storage jar, has horizontal marks.

A discrete but small group (36 sherds) of jars with lid-seated rims (J105–7; 814–17) include some that are decorated with stabbed circles or scored wavy lines; jars of this type are distinctive products of the Roxby kilns in north Lincolnshire. Incised wavy lines are found on jars of Roxby type A, and the stabbed row occurs on Roxby type B (Rigby and Stead 1976, fig. 65, 1–11). This type, which is also represented within the GREY assemblage, first appeared in the early 2nd century but is most common in contexts dated to the Hadrianic-early Antonine period (Fig. 80).

A groove-rimmed lid-seated jar (818) is not definitely IAGR as the fabric contains small amounts of shell; a similar rim form occurs on a jar in IAGRB (Fig. 85, 861), while an almost identical vessel is included in the SHEL assemblage (Fig. 73, 748). The

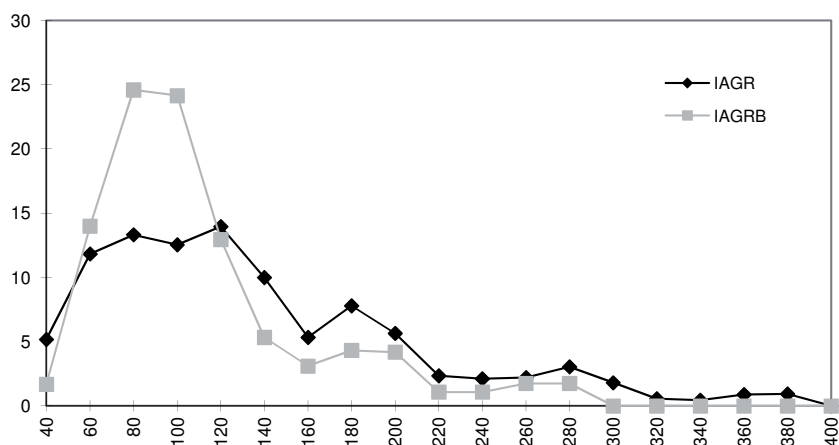


Fig. 78. Native Tradition Grit-tempered Ware: plotdate by sherd percentage.

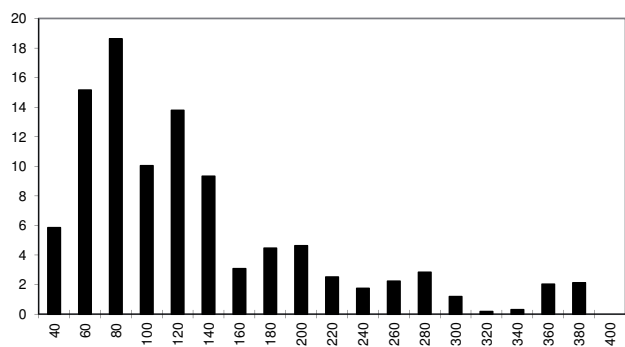


Fig. 79. Native Tradition Grit-tempered Ware: plotdate of cooking pots (CPN) by sherd percentage.

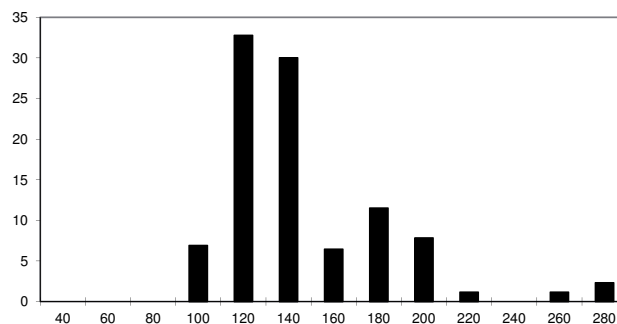


Fig. 80. Native Tradition Grit-tempered Ware: plotdate of lid-seated jars (J105) by sherd percentage.

form is a classic Trent Valley type, and its occurrence in Lincoln is significant as pottery from the Trent Valley is rarely found in the city.

The everted-rimmed jars differ markedly from one another in style: 819 has faint horizontal rilling, 820 has a slight neck and an angular shoulder, while 821 has a more rounded profile, with its shoulder delineated by a groove.

Other types are rare and include a rounded-rimmed vessel (822) and a curious lid-seated jar (823). The fabric of this vessel contains moderate amounts of shell/calcite and is not certainly IAGR; a similar rim type is represented within the CASH assemblage (Fig. 73, 760), and 823 may belong to that group.

Unlike most of the jars within the IAGR assemblage, which are of types that continued well into the Roman period, 824 is more representative of specifically late Iron Age forms: it has a simple, tall rim and a series of cordons and grooves at the girth.

Large/storage jars

(Fig. 83, 825–30 and Fig. 84, 831–3 and 853)

This group is moderately well represented, but such vessels tend to be thicker-walled and robust, hence are more likely to survive. Rims are generally everted and the vessels are slightly necked with low, sloping shoulders and a rounded profile. Most examples have a groove delineating the shoulder (826–9), and 825 is additionally decorated with faint stabbed or combed diagonal lines. Large jars with handles, sometimes lugged, occur in IAGR. No rims survive but 830 and 853 illustrate two examples of handles.

Several very large storage jars from legionary deposits are all highly decorated. No. 831 is a fine example with a thick everted rim and is decorated with a 'maggotty' pattern and vertical furrows; Graham Webster (1949, 72–4, no. 48) notes that this type, which has pronounced native features, was very common at Camulodunum (form 270B),

Verulamium and Margidunum (Oswald 1948, pl. VIII, 2). No. 832 is similar in style and decoration but has a more angular rim and bands of rouletting; 833, with a more pronounced neck, has faint scored horizontal lines on the exterior and irregular scoring on the interior.

Beakers

Small, mainly everted-rimmed jars or beakers are rare and only survive as small, otherwise undiagnostic fragments.

Bowls and dishes (Fig. 84, 834–47)

Open forms are equally scarce and mainly occur within early 2nd century assemblages. Despite the small size of the group (24 sherds), there is a range of bowls. Nos 834–6 and 842 have simple rims undercut internally in a similar fashion to those of the native tradition cooking pots. Others have grooved rims, rounded profiles and flat bases (837), while 838 has a simple profile and upturned, everted rim reminiscent of late Iron Age forms. Flanged bowls (841 and 843–4) are later developments of native tradition forms, with rims ranging from horizontal to upturned with a lid seating; some are decorated with either faint burnished acute lattice or wavy lines. Shallow bowls or dishes are uncommon; 847 is a simple plain-rimmed dish that is unevenly burnished on both the internal and external surfaces.

Lids (Fig. 84, 848–51)

Lids with simple lips and either concave or convex profiles (848–51) are almost as common as bowls and at least some have a similar range in diameter, perhaps indicating that bowls and lids were used together.

Other Forms (Fig. 84, 852)

No. 852 is an unusual tubular-shaped vessel of uncertain form.

Native Tradition Grit-tempered ware, variant B (IAGRB)

Dating: EROM

See IAGR for discussion.

Fabric and technology

LRF322 (Pl. 2.29)

The type-*sherd* has a burnished exterior, giving a slightly rough and mildly soapy feel, a medium grey core with a dark grey exterior margin and surface, and a light brown interior margin and surface. The fabric is very similar to that of IAGR but with more frequent inclusions of the larger quartz fragments. Vessels can be handmade or wheel-turned, and decoration includes roughcasting and stabbing.

Forms (Fig. 85, 854–62)

There are no definite bowl forms in IAGRB. Native-tradition cooking pots are the most common type; 857, 858 and 860 illustrate a variety of rim forms ranging from simple, internally undercut examples with no neck, to more everted types with a slight neck. All three vessels have angular shoulders defined by grooves.

Cooking pots that are not certainly native in tradition include 854, a small handmade example with an everted rim and vertical irregular striations on the body wall below the shoulder. Another (855) has an everted rim, undercut on the interior, and is decorated with nodular rustication and burnished inside the rim and on the shoulder; the fabric is less certainly IAGRB and has sparse shell inclusions. Other forms of decoration consist of stabbed patterns, e.g. 856 with chevron motifs. No. 859 is a plain jar with an everted rim and a sharply angular shoulder, and is very similar to 820 in IAGR (Fig. 83).

No. 861 has an unusual, almost bifurcated rim, similar to those of Trent Valley types (see Fig. 73, 748 and Fig. 83, 818), and 862 is a large vessel with an everted rim and a slight bulge at the neck.

Native Tradition Grit-tempered ware, variant C (IAGRC)

Although previously considered unlikely to be a local product (Darling 1988, 18, no. 31), this variant is included here on the basis of form and fabric.

Dating: EROM

For discussion, see IAGR.

Fabric and technology

Darling (*ibid.*) notes that this fabric is coarse and light grey in colour with light brown oxidised surfaces, with inclusions of sub-rounded quartz, greyish pebbles, some grog and occasional shell. Vessels are wheel-made, or handmade and wheel-finished.

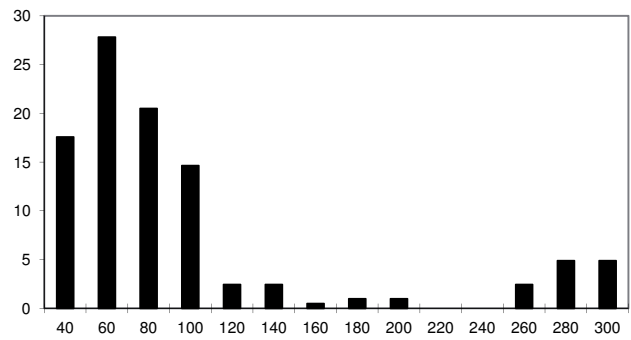


Fig. 81. *Native Tradition Sand-tempered Ware: plotdate by sherd percentage.*

Forms (Fig. 85, 863)

The only vessel suitable for illustration (863) is a large storage jar with a tall, slightly everted rim and low sloping shoulders that are decorated with diagonal lines of pointed seed-like impressions. It was probably handmade, although the rim was possibly wheel-finished. Both the decoration and rim form suggest an Iron Age rather than later date, but an early Roman date cannot be excluded (Darling *ibid.*).

Native Tradition Sand-tempered ware (IASA)

This rare ware type (41 sherds), in common with the other wares that are developments of native tradition styles (IASH and IAGR), is composed of sherds with sufficiently similar inclusions and technology to indicate a relatively discrete group that is very similar to, and probably a finer variant of, IAGR.

Dating: EROM

All IASA is from the Upper City; a few sherds are from St Paul-in-the-Bail – the site of the *principia* – and the remainder are from The Lawn, where there was evidence of early Roman (military) occupation. The plotdate for this small group (Fig. 81) shows that IASA was strongly present by the mid 1st century, but was most common during the period of legionary occupation, declining thereafter.

Fabric and technology

LRF324 (Pl. 2.30)

This is a hard fabric with a slightly rough feel, but with a smoothed exterior; it has a light grey core with dark grey margins, a medium grey external surface and a lighter brownish grey interior. The irregular fracture shows abundant moderately ill-sorted clear and opaque quartz (SA-SR 0.1–0.2mm and infrequent larger particles 0.5–0.9mm), together with rare but large nodules of black iron-rich inclusions (R 0.4–1.0mm).

Vessels can be either handmade or wheel-turned and are often burnished or smoothed on the exterior and over the rim. Decoration is rare but two vessels have narrow bands of roughly leaf-like stabbing on the shoulder.

Forms (Fig. 85, 864–70)

Jars and small jars/beakers are the most common vessels (864–8). The majority are wheel-turned everted-rimmed types, often burnished on the exterior and over the rim; 864 and 865 are decorated with stabbed leaf-like motifs or chevrons. Darling (1988, 25) notes that stabbed chevron decoration occurs on vessels at Old Winteringham in the Claudio-Neronian period and also at Dragonby. No. 866 has the high shoulder which is generally associated with early forms, whereas 867 has the low-sloping shoulder that begins to emerge during the later Flavian period. Vessel 868 appears to be handmade, with a curious curved cordon below the high shoulder. Darling (*ibid.* 48, no. 5) comments that the pronounced shoulder and cordon are features of late La Tène pottery, and appear on Camulodunum form 218.

Open forms are represented by two bowls. No. 869 is a small, necked vessel; it is handmade and burnished on the exterior and over the rim, with traces of vertical burnishing on the lower wall. Darling (*ibid.*) notes that this style is very common at Dragonby, and that the vessel type is one of the most common and longest-lived Belgic forms. A cordoned bowl (870) is incomplete and appears to have been wheel-turned; the fabric contains small amounts of shell. Darling (*ibid.* 47, no. 2) notes that the exterior surface, which is black in colour, has been roughly burnished with individual facets visible, those on the basal area running both horizontally and obliquely. The vessel form can be paralleled with Camulodunum form 211, of late La Tène Aylesford-Swarling tradition, although the type continued into the Roman period (see also OXGR, p. 71 and Fig. 85, 871).

Late Coarse 'Pebbly' ware (LCOA)

LCOA is the second largest assemblage (1,810 sherds) within this group; it is a discrete ware although macroscopically there is a degree of variation within the fabric, which is solely due to differing proportions of inclusions (see Darling 1977a, 17–9 for other examples).

There is a marked similarity between LCOA vessel forms and the Swanpool kiln products, in particular the lid-seated jars (Swanpool type H), as well as some bead-and-flange bowls (types D1–12), inturned bead-and-flange bowls (types D13–23) and expanded-rimmed dishes (types E8–11). Darling

(*ibid.* 31) notes that as there is a wide variation in the fabrics of lid-seated jars from the Swanpool kilns, it would be unwise to distinguish Swanpool and non-Swanpool jars on this basis.

Dating: LROM-VLROM

LCOA is almost exclusively confined to mid-late 4th century assemblages, and is most common in those dating to the last decades of the century. The end date for LCOA is uncertain but could be as late as the very late 4th or early 5th century. More than 50% of the total assemblage came from post-Roman contexts, in particular from Flaxengate, which also produced a small quantity of Anglo-Saxon sherds of broadly 5th to 8th century date, although none can be certainly ascribed to the 5th century (Jane Young, *pers. comm.*).

Fabric and technology

LRF271 (Pl. 3.41)

This is a hard, coarse fabric with varying proportions of inclusions, and a harsh feel. The core is medium red-brown with dark greyish brown to dark grey margins and surfaces. The hackly fracture reveals abundant grey and opaque quartz (SR 0.2–0.3mm; moderate 0.4–0.5mm), distinctive but less frequent larger quartz (R >1.5mm), and rare red iron-rich particles and calcareous inclusions. The thin-section (L1651) shows abundant ill-sorted quartz (R >2.0mm), sparse chert (R >2.0mm), sparse flint (R >2.0mm), abundant muscovite (>0.1mm) and abundant quartz silt (>0.1mm), in an anisotropic clay matrix.

Although thin-section analysis tends to suggest that LCOA is a local product, further analysis may indicate a more precise source, perhaps by the identification of the heavy minerals in the fabric.

The vessels are all wheel-made and, apart from exterior smoothing and light burnishing, are undecorated.

Forms

Flagons

The only example of this form in LCOA is a single sherd, probably from a two-handled flagon.

Jars (Fig. 85, 872–5)

Jars and other closed vessels form the main component of the assemblage. There is a relatively limited range of jar types, mainly lid-seated and double lid-seated vessels (as 873–5) and, more rarely, copies of classic Dales ware jars. There is also a rare, narrow-necked form (872).

Bowls (Fig. 85, 876)

Bowls are far less common. The principal forms are bead-and-flange vessels (876) and those with an inturned bead-and-flange. There is a distinctly early

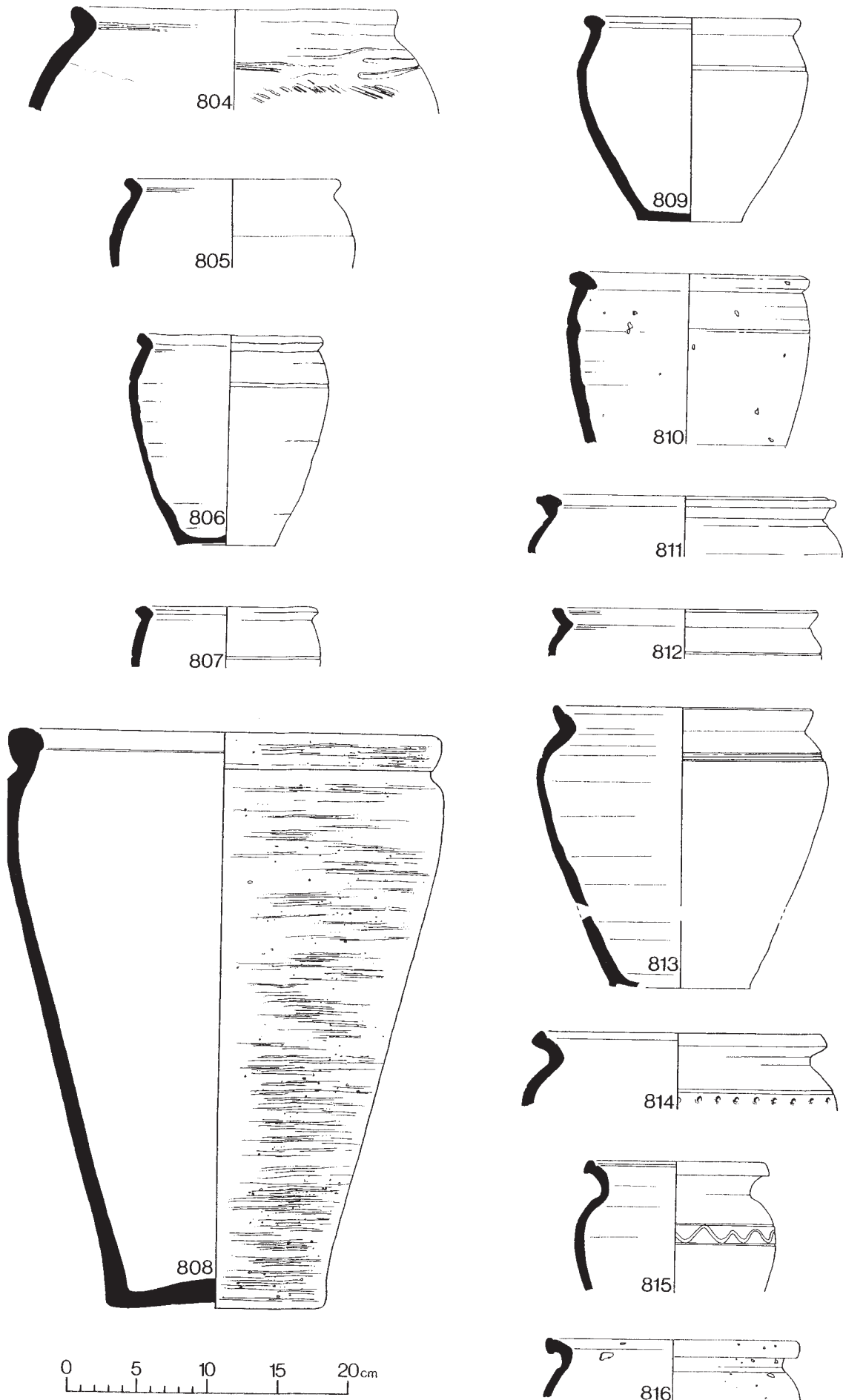


Fig. 82. Native Tradition Grit-tempered Ware: jars 804-16. Scale 1:4.

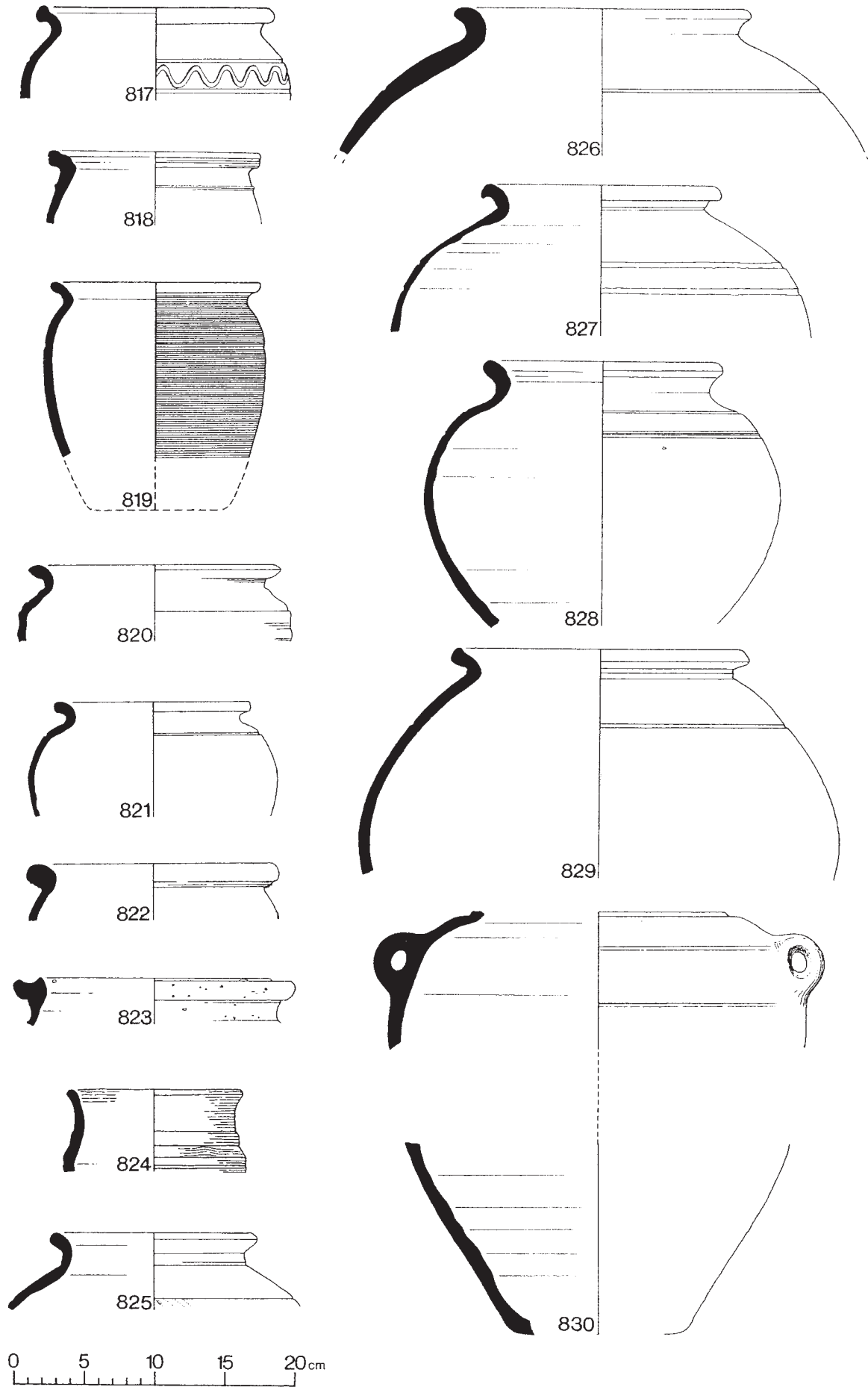


Fig. 83. Native Tradition Grit-tempered Ware: jars 817-30. Scale 1:4.

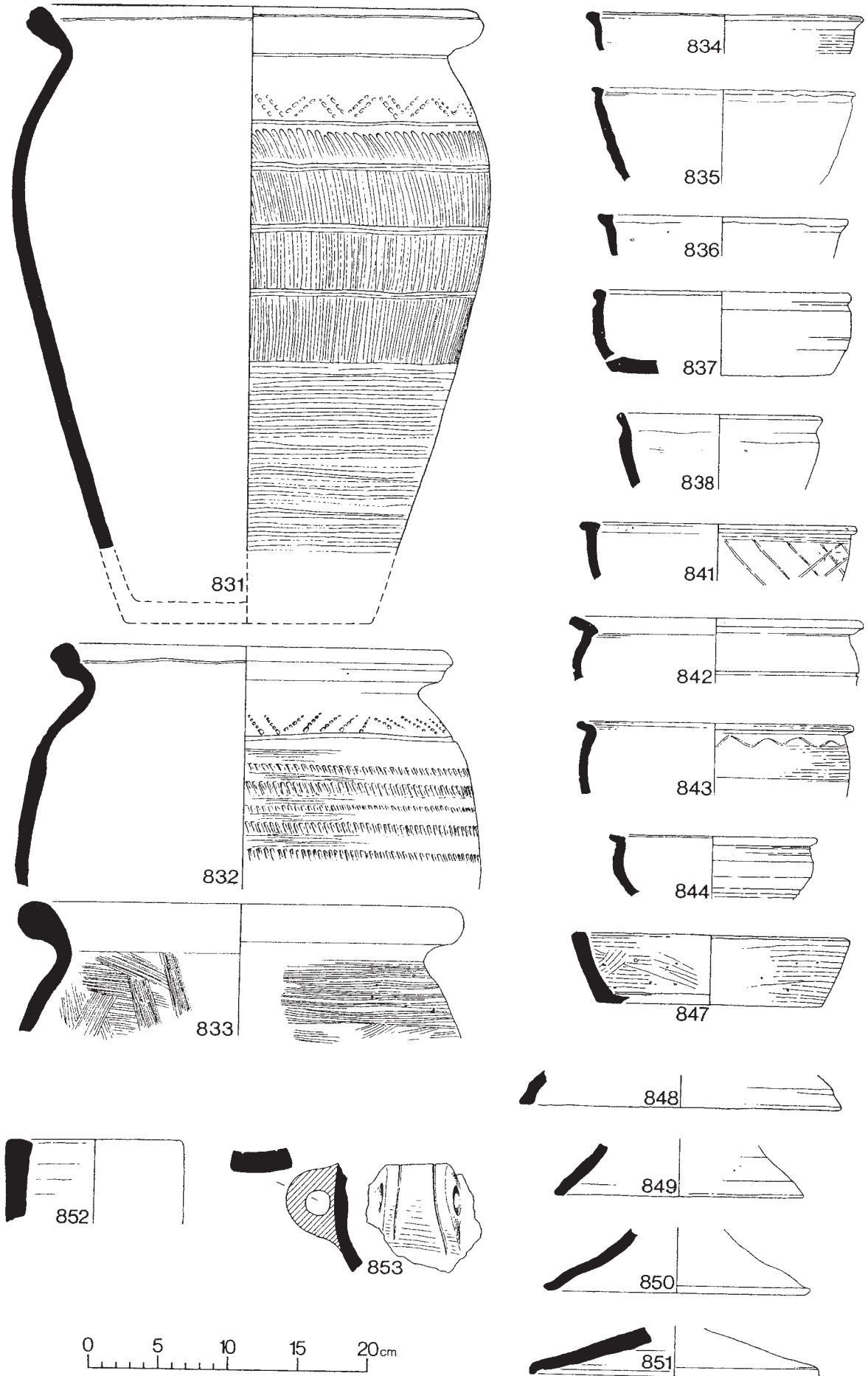


Fig. 84. Native Tradition Grit-tempered Ware: jars, bowls, dishes, lids and an unusual vessel 831-53. Scale 1:4.

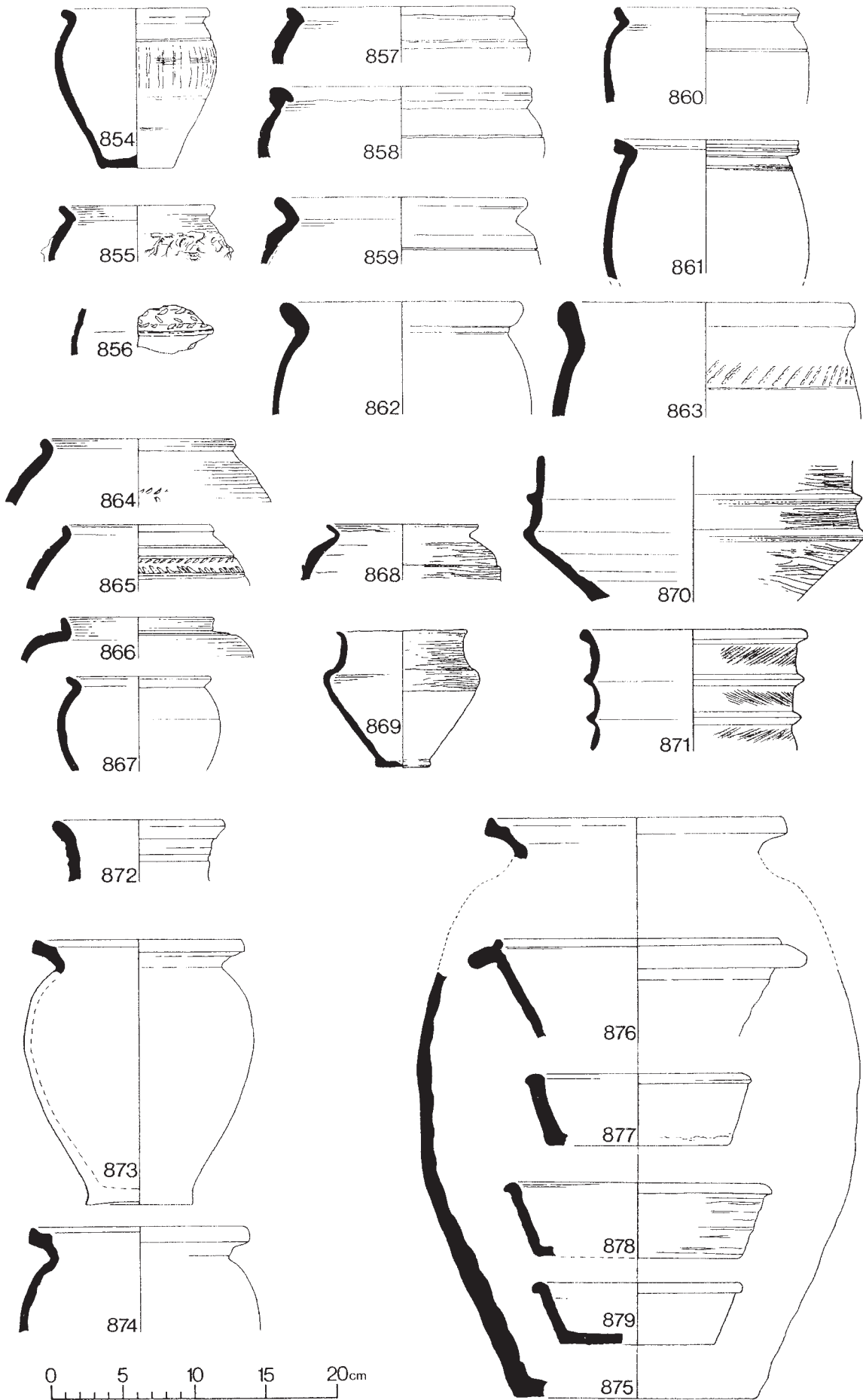


Fig. 85. Native Tradition Grit-tempered Ware, variant B 854–62; variant C 863; Native Tradition Sand-tempered Ware 864–70; Late Coarse ‘Pebbly’ Ware 872–9; Romano-British Oxidised Grog-tempered Ware 871. Scale 1:4.

and later bowl form: the standard bead-and-flange types were present on sites before the inturned variety, but both continued in use into the late 4th century. Other forms include flanged and wide-mouthed examples.

Dishes (Fig. 85, 877–9)

Dishes are less common than bowls; flanged types (879) are most frequent, whilst those with expanded (897–8) or plain rims are equally represented.

Lids

There is a relatively high proportion of lids; these are likely to have been used with either the flanged bowls or the lid-seated jars.

6.3 Romano-British Reduced Wares

With the exception of Black-burnished ware 1 (BB1), Romano-British reduced wares imported into Lincoln from known sources are uncommon, comprising only Black-burnished ware 2 (BB2), Crambeck Grey ware (CRGR) and Nene Valley Grey wares (NVGW/NVGWC). Grog-tempered wares (GROG) are unlikely to have been produced locally and are equally scarce. The bulk of the assemblage is composed of grey wares (GREY). As noted in the introduction to this section, because of the relative homogeneity of the geology of the Lincoln and Trent Valley areas, the subtleties of the various grey ware fabrics are indistinguishable in the hand. There is also a strong similarity between many of the products of known kilns, including those local to Lincoln, and material from unidentified sources. Thus all sandy, grey reduced wares have been included in the 'catch-all' category of GREY, although where there are clear parallels, reference is made to the products of individual kilns.

Black-burnished ware 1 (BB1)

This category (6,346 sherds) covers the wares defined by Farrar (1973) and Williams (1977) as BB1, and produced in Dorset from the late Iron Age onwards, with the main period of export to other areas of Roman Britain between AD 120 and 400. However, identification of the fabric of small body sherds is usually based on the abundance of quartz sand inclusions rather than the presence of other inclusions, such as shale, that are exclusive to the Dorset fabric. Experience in handling both BB1 from Dorset and the equivalent from Rossington Bridge, Doncaster, has shown that it is often difficult to distinguish the two fabrics in the hand; secure identification would require the microscopic examination of each individual sherd, and possibly also heavy mineral

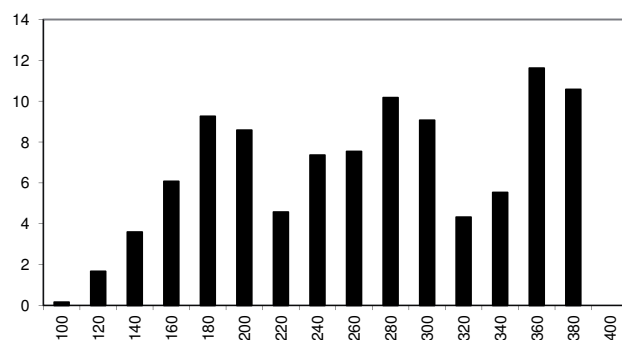


Fig. 86. *Black-burnished Ware 1: plotdate by sherd percentage.*

analysis. It is therefore possible that vessels imitating BB1 in both fabric and technology but made at Rossington Bridge or other, possibly local, kilns have been included here with the Dorset fabric.

Close copies of 2nd century BB1 forms were made in relative abundance at the Lincoln Racecourse site (Corder 1950a). Although they are wheel-made, the jars are burnished internally to the base of the rim, as in the mainstream Dorset repertoire, and sherds from the upper wall therefore do not show wheel-turning marks. However, the fabric does not have the typical 'cod's-roe' appearance of BB1. In addition there are a number of examples of unsourced, probably wheel-made, and remarkably good imitations of 2nd century BB1 forms in a fabric containing coarse quartz that closely resembles the mainstream BB1 in texture, colour and burnishing.

Dating: MLROM

In common with the majority of sites in Roman Britain, BB1 arrived in Lincoln in the early 2nd century. Figure 86 suggests a minimal presence pre c. AD 120, but this is due to its occurrence in groups that are only broadly dated to the 2nd century (AD 100–200), rather than in assemblages specifically pre-dating AD 120, unlike the city of London, where BB1 is found in layers below the Hadrianic fire horizon (Davies *et al.* 1994, 107). The frequency of BB1 increases markedly from the mid 2nd century, peaking in the later 2nd to early 3rd century, and there appears to be another peak towards the latter end of the 4th century.

Fabric and technology

NRFC: DOR BB1 (Dorset); SOW BB1 (South-Western); ROS BB1 (Rossington Bridge) LRF272–5; K19

A range of the fabrics that occur in Lincoln assemblages are given below, together with an example from Blackston (K19), which is likely to be from Rossington Bridge, Doncaster.

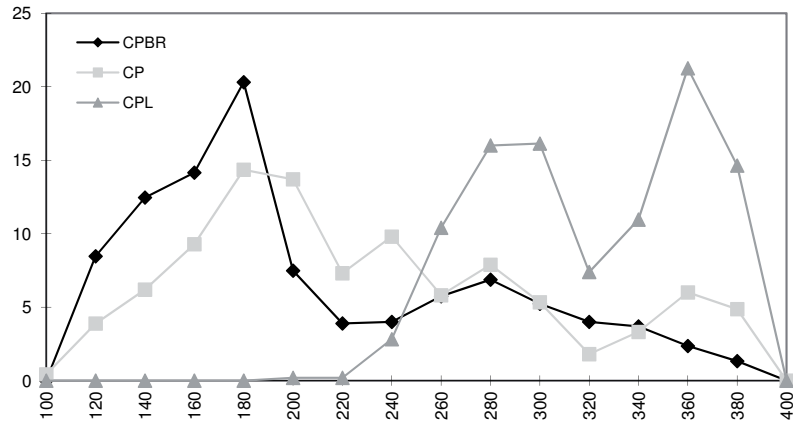


Fig. 87. Black-burnished Ware 1, plotdate of cooking pots by sherd percentage: early type (CP), bead-rimmed (CPBR) and later type (CPL).

LRF272: the fabric is hard, with a smooth burnished exterior and a slightly rough unburnished interior. The quartz inclusions are almost identical to those of K19 (below) but the fabric and surfaces are dark grey/black in colour with no distinguishable margins. There are no other visible inclusions, which is due to the dense black colour of the fabric. Although there are no obvious shale fragments, this example is probably of Dorset origin.

LRF273: this fabric is a finer variant of LRF 272; the quartz is identical except for the size (0.1–0.3mm and very occasionally 0.7mm). There is no obvious shale, but this example has very rare calcareous particles ($R > 0.3\text{mm}$).

LRF274 and LRF275 are identical to K19 (below), but with the addition of rare calcareous inclusions.

K19 (Pl. 3.49) Blackston, Doncaster: the fabric is medium grey in colour with dark grey exterior margin and surface and light brownish grey interior margin and surface. It is hard, with a smooth feel and irregular fracture. The main inclusion is compacted well-sorted translucent quartz (SA 0.3–0.8mm), giving a typical 'cod's roe' appearance. The only other obvious inclusions are rare black, ?iron-rich particles, which tend to weep into the fabric ($R > 0.4\text{mm}$). The manufacture of the wares, the forms and styles of decoration appear identical to those of the Dorset wares.

Vessels are handmade, often unevenly fired, and frequently sooted. A number of the closed vessels are encrusted on the interior with limescale deposits. Open vessels are hand-burnished both externally and internally and the underside of the base is often decorated with a burnished, diabolo design. The most common type of decoration consists of burnished intersecting arcs that are sometimes flattened or pointed at the top, followed by burnished acute latticing.

Closed forms are burnished externally from the

shoulder upwards and over the rim internally, almost to the bottom of the rim. An unburnished zone separates the shoulder from the lower wall, where the exterior is again burnished, this extending under the base. A series of burnished wavy lines or zigzags frequently decorate the exterior immediately under the rim. The unburnished zone is always decorated, in the Lincoln assemblage consisting mainly of acute lattice and, less frequently, obtuse lattice decoration. Fettleing (coarse horizontal striations) is noticeable on the interior of the majority of late BB1 cooking pots, probably caused by brushing or coarse wiping during manufacture (Farrar 1973, 76, pl. IIIB).

Forms

The most common form is the jar, principally the cooking pot; bowls are more abundant than dishes, with a noticeable proportion (21.6%) of the assemblage comprising sherds from similar open forms. Beakers, lids and flagons are rare.

Cooking pots (Fig. 91, 880–5)

Three different vessel types occur in Lincoln (Fig. 87); of these, bead-rimmed examples are the earliest but are relatively rare. As far as can be judged from the small quantity found (66 sherds), they are well represented in early 2nd century groups, peaking in the late Antonine period and declining sharply thereafter. The majority of the body sherds are undecorated; on decorated fragments acute lattice is most common, and two examples have burnished diagonal lines.

Early cooking pot forms (880–5) are by far the most common type; these have fairly upright rims and are decorated with burnished acute lattice. A number have either burnished wavy lines or zigzags on the exterior under the rim, and a few have acute lattice and internal fettleing marks. There are three fragments with intermediate decoration and four

with multiple laticing; 884 is one of two examples with graffiti, scratched post-firing, while 882 was used as a cremation urn. Figure 87 suggests that this type was most common from the late Antonine period into the early and perhaps the mid 3rd century.

Later cooking pots (post AD 225), distinguished by obtuse lattice decoration, seldom occur in the Lincoln assemblage. Very late forms also have markedly cavetto rims that protrude beyond the extent of the body wall; a high proportion show evidence of fettling. These first appeared in the mid 3rd century, being common in later 3rd century groups and peaking in the mid 4th century.

Beakers (Fig. 91, 886–7)

Beakers, most of which have slightly beaded rims and are with or without handles (886–7), were often made in a fabric containing finer quartz sand; decoration is rare and, where used, consists of burnished acute lattice. They first appeared in the Hadrianic period and are moderately common in later Antonine assemblages. Most seem to occur in groups dated to the later 3rd century but the small size of the assemblage precludes any precise dating.

Bowls (Fig. 91, 888–96 and Fig. 92, 897)

Examination of the principal bowl types reveals that individual bowl forms were current during different chronological periods, although the disparity in size of the groups should be borne in mind. Figure 88 shows that the earliest BB1 bowls were most common during the late Antonine period. Flanged bowls (890–94), the largest group (374 sherds), are frequently found in contexts dated to the mid-late Antonine period. Decoration mainly consists of burnished intersecting arcs, and a relatively high proportion have acute lattice. Bowls with a grooved rim (42 sherds) occur most frequently *c.* AD 140–180; they are often decorated with burnished acute lattice and, to a lesser extent, with intersecting arcs. Vessels with a grooved flange, incipient bead-and-flange bowls (G226: 48 sherds), were not common until the mid to late 3rd century and are likely to have been residual by the mid to late 4th century. Apart from a single example with burnished lattice decoration, these vessels are decorated with burnished intersecting arcs.

Bead-and-flange bowls are later forms; those with a low bead (as 896: 77 sherds) are well represented in mid to late 3rd century groups (Fig. 89). Those with a high bead (as 897: 82 sherds) are generally considered to be the latest of the bead-and-flange bowls; appearing strongly in the late 3rd century, they are the most common type in mid to late 4th century deposits. Bowls with moderate beads (118 sherds) form a wide category that probably includes

the end ranges of those with either high or low beads: the dating profile shows a peak *c.* AD 300 and another in the mid to late 4th century. Production of these vessels continued in Dorset until the end of the 4th century so it is possible that they were still being imported into Lincoln during this period. Decoration on all three types is limited to burnished intersecting arcs.

Other bowl types that are rarely found include plain-rimmed forms (888–9) and an unusual vessel with a slightly upturned rim and internal lid seating rather than an incipient bead (895).

Dishes (Fig. 92, 898–914)

The dating of BB1 dishes is complex, but analysis of the principal types clarifies the picture to some extent. Flanged dishes (909) were most common in the later 2nd to early 3rd century, diminishing by the 4th century. Decoration consists almost equally of burnished acute lattice and intersecting arcs. Groove-rimmed types (905–8) appear to have been contemporary with the flanged dishes. The majority are decorated with burnished intersecting arcs; a much smaller proportion have burnished acute lattice.

The most abundant type is the plain-rimmed dish (899–904). These vessels did not become common until the mid to late 3rd century and appear most frequently in mid to late 4th century groups; this is less certainly due to redeposition, as at least some of these vessels have diameters matching those of the later type of bead-and-flange bowls and may have been used as lids. Burnished intersecting arcs account for 85% of the decoration and acute lattice for the remainder, the former superseding the latter; the crossover point seems to have occurred in the mid to late 3rd century.

There are only six sherds of fish-dishes (910–4), virtually all from mid to late 4th century groups. Most are undecorated, but there is a single example (914) with burnished intersecting arcs. Other forms of dish include a single triangular-rimmed type and an unusual vessel, 898, with a grooved lip and acute lattice decoration, which is not certainly BB1.

BB1 dishes were used as parting vessels, *i.e.* for the separation of silver from gold during the refining process (Bayley 2008, 30–3); the form, and perhaps the fabric, appears to have been most suited to this purpose and all but one of the Roman vessels from Lincoln are of BB1. Twelve sherds were recovered from two Lower City sites, Flaxengate (F72) and Saltergate (Trench D); although most came from post-Roman contexts containing large quantities of residual late and very late Roman pottery, the earliest stratified pieces were from deposits that cannot be more closely dated than some time between the very late 4th and the late 9th centuries (Stearne *et*

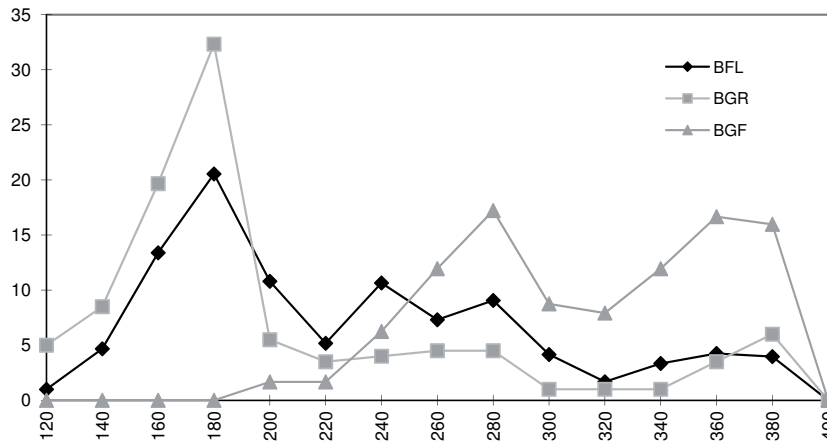


Fig. 88. Black-burnished Ware 1, plotdate of bowl types by sherd percentage: flat-rimmed (BFL), grooved rim (BGR) and grooved flange (BGF).

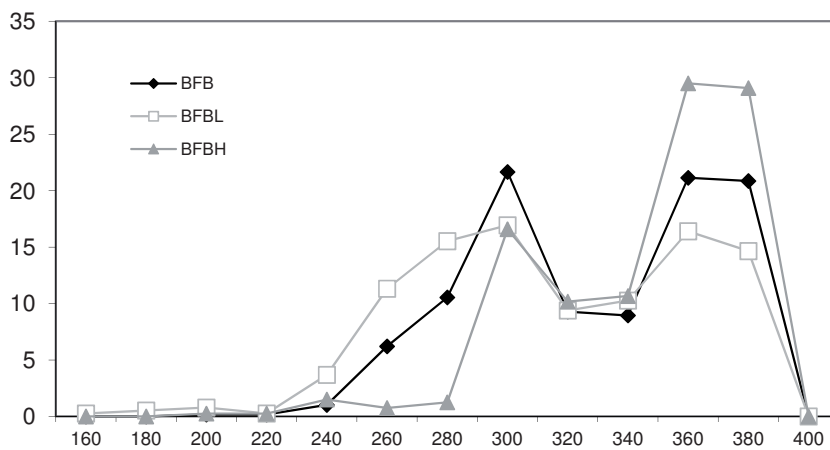


Fig. 89. Black-burnished Ware 1, plotdate of bowl types by sherd percentage: bead-and-flange (BFB), bead-and-flange with low bead (BFBL) and bead-and-flange with high bead (BFBH).

al. forthcoming). Early Roman parting vessels have been found elsewhere, but no certainly late Roman examples (Bayley *op. cit.* 45).

Lids (Fig. 92, 915–17)

Typical BB1 lids (915–17) decorated on the interior with random, burnished zigzag lines only occur in assemblages dated to the 2nd century, the later 2nd in particular. However they are extremely rare and, as noted above, plain-rimmed dishes may have served the same purpose.

Black-burnished ware 2 (BB2)

BB2 was largely produced in south-east Britain from the early 2nd to the mid 3rd century, mainly at Colchester (Williams 1977, 163–220), sites around the Thames Estuary (Farrar 1973, 67–103), and in Kent (Monaghan 1987, 171–2; 186–215). It is rarely found in

Lincoln assemblages (91 sherds). Wheel-made local copies of BB2 types in GREY seem to have been made almost immediately after its first appearance.

Dating: MROM

BB2, present from the Hadrianic period, increased in quantity into the early 3rd century with a pronounced peak in the mid to late 3rd century (Fig. 90). Its occurrence in 4th century groups can be attributed to redeposition.

Fabric and technology

NRFC: COL BB2 (Colchester); MUC BB2 (Mucking); CLI BB2 (Cliffe); COO BB2 (Cooling)

LRF276

The type-herd – a rounded-rimmed bowl (*cf.* G225) of Severan date – is undecorated, but burnished externally and internally giving a glossy, almost silky sheen. The fabric is dark grey, with brownish grey

margins and dark grey surfaces. The finely irregular fracture reveals a silty matrix with sparse clear and opaque quartz (SR 0.3–0.9mm), rare fine calcareous inclusions (R >0.1mm) and rarer black ?iron-rich particles. Occasional fine white mica is also visible. The fabric is very similar to that described by Beth Richardson (1986, 127, 1.193–7), and is probably from a north Kent source.

Decoration on the Lincoln examples is rare, consisting of burnished acute lattice on a cooking pot and on a number of triangular-rimmed bowls/dishes, whereas plain-rimmed vessels are mainly decorated with burnished wavy lines.

Forms

Apart from two fragments of cooking pot and a single beaker sherd, the BB2 assemblage consists of either bowls or dishes (undiagnostic sherds account for almost half of the assemblage).

Bowls (Fig. 92, 918–20)

Bowls with grooved (918) or rounded rims similar to Gillam 225 (919) are equally rare. Triangular-rimmed types are most common; the illustrated example (920) is broken across a letter, probably a P, neatly inscribed post-firing.

Dishes (Fig. 92, 921–2)

Identical rim-types are found within the dish assemblage (e.g. 922: groove-rimmed) but those with plain rims (921) are marginally the most common.

Crambeck Grey ware (CRGR)

Fine-textured grey wares were produced alongside mortaria, parchment and red oxidised wares at the Crambeck kilns in Yorkshire during the 4th century (Wilson 1989).

Dating: LROM

There is a single definite example of CRGR and another probable sherd; both were associated with 4th century pottery.

Fabric and technology

NRFRC: CRA RE

LRF270

The fabric of CRGR is difficult to distinguish from that of Nene Valley Grey ware (NVGW: see below). However, the forms and decoration, in this case scored wavy lines, confirm the identification.

Forms (Fig. 93, 923)

Both sherds are decorated with a single, scored wavy line on the internal surface. No. 923, a bead-and-flange bowl, is paralleled among the kiln material (Wilson *op. cit.* pl. 1, 1 and 2).

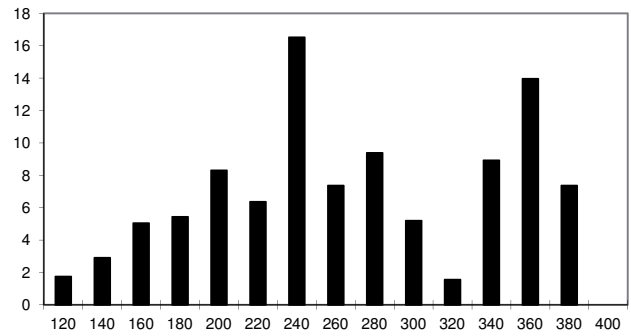


Fig. 90. Black-burnished Ware 2: plotdate by sherd percentage.

Grog-tempered ware (GROG)

GROG is a loose grouping of fabrics with a notable amount of grog tempering (109 sherds); all are from unidentified sources although local or nearby production cannot be excluded. Soft pink, grog-tempered wares were produced in the Buckinghamshire/Northamptonshire border region from the mid-late 2nd to at least the 4th century (Marney 1989, 174), while grog-tempered wares were also manufactured from the late 3rd to the late 4th/early 5th century by an industry centred in the far south-east of Roman Britain (Tyers 1996, 191–2), but neither of these wares is represented in the Lincoln assemblage.

Dating: EMROM?

The precise dating for this fabric group is uncertain. GROG is present in the earliest Roman assemblages and on sherd percentage appears to have been most common during the Hadrianic-early Antonine period, but this is due to the presence of 36 sherds from a single vessel (924). Most of the remainder occurred in groups dated to the mid-late 3rd and mid-late 4th centuries, virtually all found in post-Roman contexts.

Forms

Jars (Fig. 93, 924)

Native tradition cooking pots form the largest group, but are represented only by body sherds. No. 924, a large storage jar, appears to be unevenly wheel-made and the shoulder is delineated by two irregular grooves. The vessel was associated with early-mid 2nd century pottery, but in a 3rd century context.

Bowls (Fig. 93, 925–6)

No. 925 is a large bowl with a bead rim, which is undercut internally and similar in style to the rims of IAGR and IASH native tradition cooking pots, but it was associated with pottery dated to the late 2nd-

mid 3rd century. The fabric is either grog-tempered or has a matrix containing clay pellets. No. 926, a footed bowl, was found with early to mid 2nd century pottery, although this form was generally current by the Flavian period.

Nene Valley Grey ware (NVGW and NVGWC)

Although NVGW was being manufactured by the first quarter of the 2nd century in the Nene Valley, production did not reach its height until the later 2nd. NVGW is noticeably rare on Lincoln sites (49 sherds); most fragments are very similar to the typical fabric (NVGW), but a single sherd has coarser quartz tempering (NVGWC) and may be from a kiln in the Upper rather than the Lower Nene Valley area (Lindsay Rollo, *pers. comm.*).

The typical fabric is very similar to that of CRGR (see above) and also, superficially, to LEG (see p. 100) but without any obvious mica inclusions. Some sherds of burnt and/or abraded NVCC where the slip has been lost can also resemble NVGW; consequently it is possible that small body sherds of these other fabrics have been misidentified as NVGW.

In view of the extremely high proportion of Nene Valley colour-coated wares (NVCC) arriving in Lincoln, the quantity of NVGW seems to be remarkably low in comparison. These two Nene Valley products have a similar date range but served different purposes. NVCC is a distinctive fine ware that first arrived in Lincoln in the Antonine period but was supplied mainly during the 3rd and also the 4th centuries, a period when such wares were not available locally in any quantity. NVGW is also a fine fabric but has a grey self-slip, and may have been used as a lower quality fine ware or perhaps more likely for serving vessels; the absence of any sooting and the fine texture tends to preclude use for cooking. During the *floruit* of NVGW production, local manufacturers provided more than adequate supplies of similar vessels (see GREY below), and this may account for the paucity of NVGW in Lincoln.

The main distribution area for NVGW is in the Fenland region. Recent examination of NVGW from a pipeline excavation stretching from Silk Willoughby to Peterborough showed a gradual but marked decrease in the occurrence of NVGW on sites the further north from Peterborough (Darling and Davies 1993).

Dating: MROM

NVGW does not appear in Lincoln assemblages pre-dating the 3rd century and is more noticeable in groups dating to the latter part of that century. Apart from two sherds of bead-and-flange bowls that are generally dated to the late 3rd-early 4th century, the remainder are likely to be residual.

Fabric and technology

LRF299–300

LRF299 NVGW The fabric is virtually the same as that of NVCC (see p. 31) but with a grey slip, the result of firing under reducing conditions.

LRF300 (NVGWC) is a coarse variant whose basic characteristics are very similar to those of the standard fine-textured fabric, but with moderate amounts of ill-sorted and much coarser quartz inclusions (SR 0.2–0.8mm), which are grey or opaque.

Forms

Jars (Fig. 93, 927–8 and 932)

Three jar types are represented here: 927 is a narrow-necked vessel with a slight cordon at the neck; a similar vessel occurred at Stanground (Dannell *et al.* 1993, fig. 16, 61). Jar 928, with a moulded rim, can also be paralleled within the Stanground assemblage (*ibid.* fig. 21, 155). No. 932 is a curve-rimmed vessel in the coarser variant, NVGWC.

Beakers

The precise form of most beakers could not be identified but there are two rim fragments, one plain and the other everted. Both sherds, one of which is burnt, occurred in contexts dated to the 4th century, and are more likely to be abraded NVCC vessels.

Bowls (Fig. 93, 929 and 931)

A range of bowls includes bead-and-flange vessels, and a flanged bowl with a rounded rim. No. 929 is a plain-rimmed bowl with multiple grooves just below the rim. No exact parallel has been located but a similar vessel again occurs at Stanground (*ibid.* fig. 22, 176). There is also a fine example of a shallow bowl or dish (931) with two rows of juddered rouletting on the internal surface of the base, which is very similar to samian form Dr. 31, a type that frequently appears within the NVGW repertoire (Howe *et al.* 1980, fig. 2, 16).

Dishes and lids (Fig. 93, 930)

The only recognisable dish types consist of a typical plain-rimmed form (*ibid.* fig. 2.19) and a groove-rimmed example, 930 (*ibid.* fig. 2.20). There is a single rim sherd from a lid.

Vesicular ?Shell-tempered ware (VESIC) (Fig. 93, 933)

VESIC is a small group of three vessels (12 sherds) with a pronounced vesicular surface, rather than a discrete ware type; the surface texture may have resulted from firing or post-depositional conditions: the fabrics were originally tempered with shell or, less likely, with vegetable inclusions that subsequently leached out. The source of these vessels is uncertain,

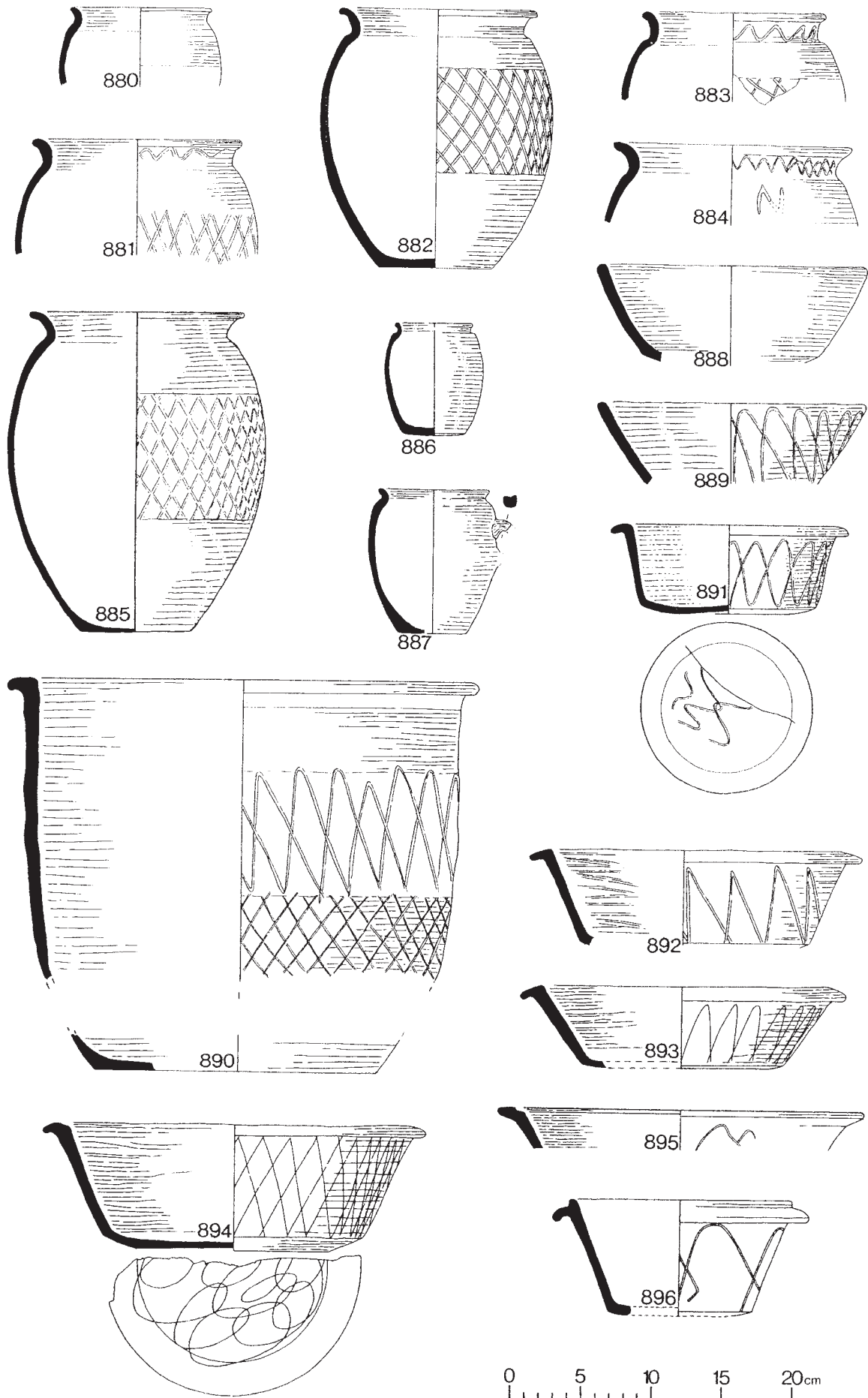


Fig. 91. Black-burnished Ware 1 880-96. Scale 1:4.

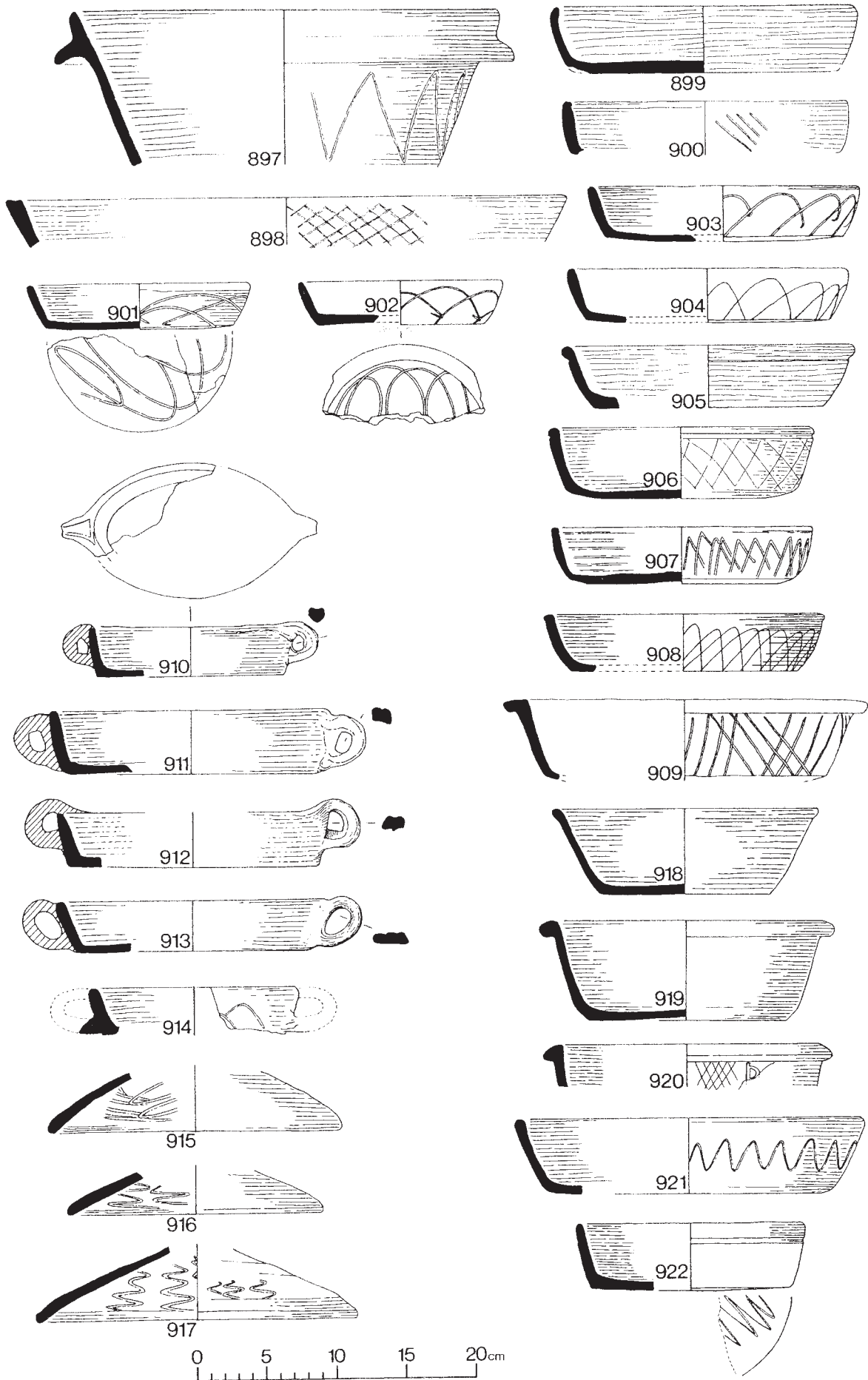


Fig. 92. Black-burnished Ware 1 897-917; Black-burnished Ware 2 918-22. Scale 1:4.

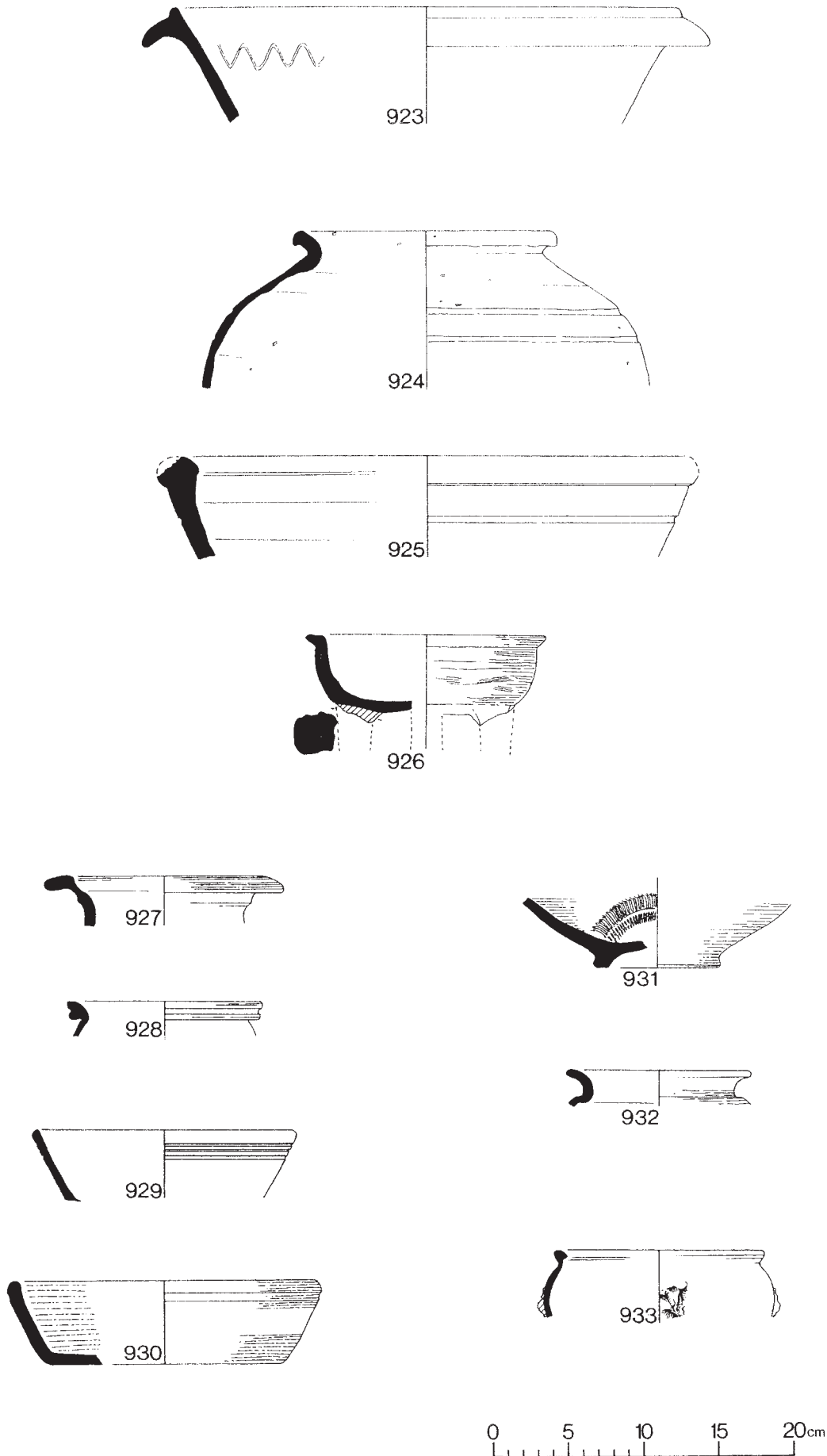


Fig. 93. Crambeck Grey Ware 923; Grog-tempered Ware 924-6; Nene Valley Grey Ware 927-32; Vesicular Ware 933. Scale 1:4.

but the forms suggest a local source, rather than one further afield.

Typologically the forms are of Iron Age tradition; two are from groups dated to the later 1st to early 2nd century, and one (10 sherds) was associated with mid 2nd to 3rd century pottery, although from a post-Roman context. The illustrated example, 933, has a rim that is typical of native tradition cooking pots but is unusual in that the decoration consists of slightly nodular rustication. It is very similar to a vessel in IAGRB (Fig. 85, 855).

Grey Reduced wares (GREY)

In common with most sites in Roman Britain, grey wares (82,665 sherds) dominate the Lincoln assemblage. The majority of these ubiquitous wares undoubtedly were produced locally, but it is impossible to distinguish (both macro- and microscopically) the fabrics of these products from those made at kilns in the Trent Valley area, and further afield, therefore all are considered together here.

Todd (1968) suggests that grey wares were produced in the 3rd and 4th centuries at a number of typologically linked kilns concentrated along the Trent Valley from Torksey to Meering near Newark, with outliers at Swanpool and possibly Ancaster. Recent excavations of kilns at Lea and Newton-on-Trent, dating from the mid to late 2nd century (Field and Palmer-Brown 1991), show that there are also typological similarities within the repertoire of earlier grey wares. However, it is unlikely that these wares were exported as far as Lincoln, as very few Trent Valley types have been found in the city.

Local kiln evidence (Darling 1977a, 32–40) suggests that grey wares were made throughout the Roman period (see pp. 304–12). The earliest known kiln was situated at North Hykeham (F. H. Thompson 1958), some distance from the city (Fig. 243). This workshop produced grey wares, including those with various styles of rusticated decoration, during the Flavian period and probably into the early 2nd century. Recent excavations near to the known kiln site produced evidence to suggest a settlement, which could have been the market for the potters (Colin Palmer-Brown, *pers. comm.*).

Closer to the city were the Racecourse kiln (Corder 1950a), probably in operation from the later 2nd to the early 3rd century, and those at Rookery Lane (Webster 1960) and Swanpool (Webster and Booth 1947). Darling (*op. cit.* 34) agrees with Webster's suggestion that the Rookery Lane kiln site was operating slightly earlier than that at Swanpool, probably within the 3rd century, with the latest production being centred at Swanpool in the 4th century. However, these wares can only be broadly

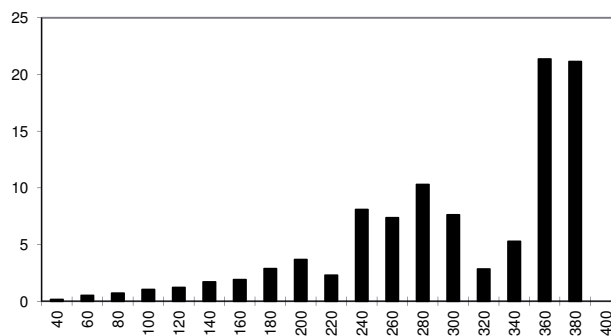


Fig. 94. Grey Ware: plotdate by sherd percentage.

distinguished on the basis of vessel form, not by fabric, therefore were not extracted for separate analysis. Where obvious, the forms produced at the individual kilns are noted in the text.

The marked variety in typology of the grey wares suggests that a number of other kilns were operating in the Lincoln area, but these have either been destroyed or are yet to be located (see p. 312 for more recent discoveries). However, despite the relatively homogeneous nature of the fabrics, the importation of grey wares from further afield cannot be discounted.

Dating: ROM

Figure 94 shows that the chronological pattern of GREY largely reflects the date ranges of the known local kilns. The wares were present from the early Roman period, when the North Hykeham kiln was in operation, beginning to increase by the end of the 2nd century and into the early 3rd – the suggested date range of the Racecourse kiln material. This is followed by a high concentration in groups dated to the mid-late 3rd century – the suggested date for the start of production at the Rookery Lane kilns – with a marked and sustained increase during the late 4th century when the Swanpool kilns were operating. The apparent decline in assemblages dated to the early 4th century is almost certainly due to the lack of reliably dated groups.

Fabric and technology

LRF277–8, 296; K8, 13, 16, 20–2

All fabric descriptions given here are for sherds from the individual kiln sites; they are inevitably variable in colour and finish, and are therefore unlikely to be a true reflection of the marketed products. Those from the local kilns are presented here in chronological order; in addition, samples from the Torksey/Little London and Knaith kilns are included to demonstrate the broad range of GREY fabrics.

K21 (Pl. 3.47) North Hykeham kiln. This moderately

hard but friable fabric has a sandy/silty feel with an irregular fracture. The core varies in colour from red-brown to medium grey, with medium grey surfaces. Abundant ill-sorted, mostly opaque quartz (SR 0.3–0.4mm) is the only obvious inclusion. A detailed description of the wares is given by F. H. Thompson (*op. cit.* 19–25), who notes that many of the sherds are extremely friable with a tendency to lose the darker surface, possibly due to the high proportion of sand in the paste and perhaps because the vessels were under-fired.

K20 (Pl. 3.46) Lincoln Racecourse kiln. A moderately hard fabric with a smooth silty feel, it is variable in colour but mostly with medium grey surfaces. The core spans a range of red-browns through to the grey spectrum, and the finely irregular fracture reveals a distinctively smooth background matrix containing moderate to abundant grey, clear and opaque quartz (SR mostly 0.2–0.3mm, and rarely 0.5–0.6mm). There are a few dark grey, wedge-shaped clay pellets (>1.0mm) which are not apparent in all samples, and very rare black iron-rich and calcareous particles. Corder (*op. cit.* 11–2) gives a detailed account of the colour, condition and quantity of the kiln material, together with a description of the vessel types. The latter are all in the style of BB1 forms from the Hadrianic-Antonine period to, perhaps, the early 3rd century, but they appear to be wheel-thrown rather than handmade.

K22 (Pl. 3.48) Rookery Lane kiln. The colour varies, but the type-herd is dark grey with lighter grey margins and dark grey surfaces. It is hard with a rough feel and the irregular fracture reveals abundant opaque quartz (SR mostly 0.2–0.4mm, occasionally >0.9mm) and rare black iron-rich particles, which often weep into the fabric. Webster (*op. cit.* 214) notes that the ware is rather poor quality and has a soft, friable sandy body.

K16 (Pl. 3.45) Swanpool kilns. The fabric is hard with a slightly rough feel to the smoothed surfaces, and dark grey in colour with slightly lighter grey surfaces. An irregular fracture shows abundant ill-sorted quartz, opaque rather than clear (SR mostly 0.2–0.4mm, occasionally 0.6–1.0mm), rare black iron-rich particles and very rare calcareous inclusions. However, the size of the quartz varies within different vessel types. The vessels were found in the kiln, below the destruction level and in the stokehole; some had been baked many times, precluding an accurate assessment of the true characteristics of the finished products (Webster and Booth *op. cit.* 63). The marketed Swanpool vessels often have a slight sheen and a bluish grey tone to the external surfaces.

K8 (Pl. 3.44) Torksey/Little London kilns. The kiln material is generally hard with a rough, sometimes silty feel and an irregular fracture. The colour varies from light grey with medium grey margins and

surfaces, to dark grey with dark grey/black margins and surfaces. Occasionally the sherds have brown/grey surfaces. The main inclusion is clear and opaque quartz set in a silty matrix (SA-SR >0.2mm, with most fragments 0.4–0.6mm and, less frequently, >0.9mm). Rare particles of black ?iron ore, which tend to weep into the fabric, and very rare calcareous inclusions are also visible. The vessels are all wheel-made and most have smoothed surfaces.

K13 Knaith kilns (Dales-type grey ware jar). It is very hard with a slightly rough feel to the obviously smoothed surfaces, and is very dark grey in colour with self-coloured surfaces. The irregular fracture is packed with abundant, ill-sorted opaque and occasionally clear quartz (SA-SR 0.1–0.2, moderate 0.3–0.5mm and rare >0.8mm; there is one large rounded fragment 1.0mm). Very rare black ?iron ore (R mostly >0.3mm, sometimes very large >2.5mm) is the only other obvious inclusion. The thin-section (L1683) reveals abundant quartz (SA and R >0.4mm), sparse chert/flint (A >0.4mm), sparse sandstone (R >1.4mm) and abundant quartz (A >0.1mm), in an isotropic matrix.

The results of analysis show that the Torksey and Knaith grey wares seem to be slightly coarser than those from the Lincoln kilns but otherwise contain very similar inclusions, while the Knaith Dales-type fabric is clearly different to that of the mainstream shell-tempered Dales ware (see pp. 83–5).

Forms

Bowls and dishes collectively are the most common forms; jars are almost as well represented, while dishes and beakers are moderately common. Other forms are relatively rare.

The dating patterns of flagons and the two jar classes are broadly similar (Fig. 95) and are comparable to that of the overall GREY assemblage (Fig. 94), although jars are marginally more common in groups dated to the later 2nd-early 3rd century and flagons appear to be most abundant in mid 4th century groups.

Cups are rarely found, occurring in both early (1st century) and late (late 3rd and 4th century) forms. The dating of beakers largely reflects the overall GREY profile.

Bowls and dishes have similar dating profiles, again comparable with the overall GREY plotdate, bowl forms being the most common late 4th century type (Fig. 96). In contrast, the lid assemblage does not fit with the norm, showing a marked presence in groups dated to the 2nd century.

Flagons (Fig. 103, 934–51)

The most common pouring vessels are flasks (*e.g.* 950); these occur sporadically in 1st century groups, increasing slightly in the 2nd to 3rd century, and

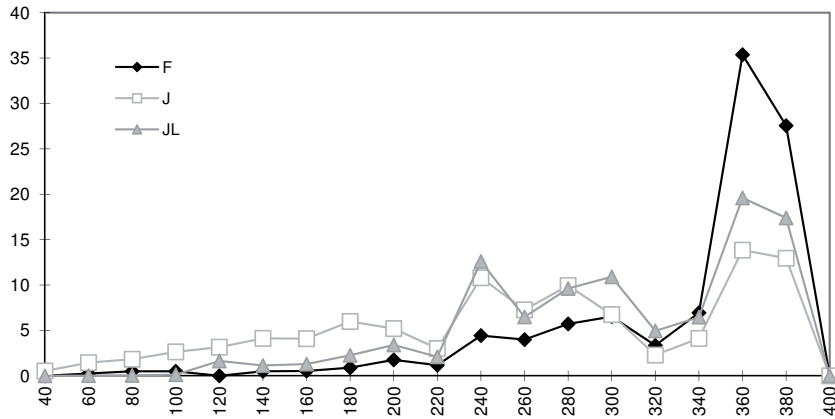


Fig. 95. Grey Ware, plotdate of vessels by sherd percentage: flagons (F), jars (J) and large jars (JL).

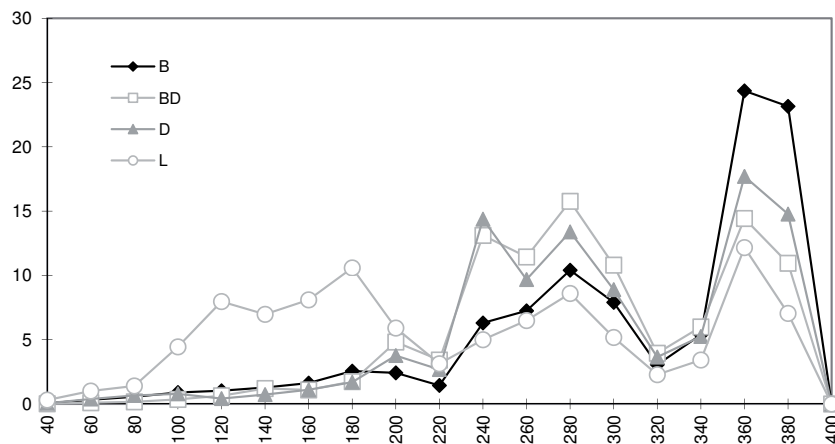


Fig. 96. Grey Ware, plotdate of vessels by sherd percentage: bowls (B), bowls/dishes (BD), dishes (D) and lids (L).

are most abundant in mid to late 4th century assemblages.

Disc-necked flagons (941–3) and jugs (944–7) are almost equally represented. Disc-necked types did not appear until the mid 3rd century, and are most common in mid to late 4th century groups. This corresponds quite well with the dating of the Rookery Lane and Swanpool kilns, where this type is found within the kiln assemblages (Webster 1960, fig. 3, 11; Swanpool type B3). Jugs are not represented within any of the local kiln repertoires. A few appear in mid to late 2nd and 3rd century groups and they are again most abundant in mid to late 4th century assemblages.

Other flagon types are rare and include a small number of Swanpool types B1 and B2. Cup-mouthed types (935–6) are scarce; one of these, 949, is similar to Swanpool type B2. The remaining illustrated vessels are mainly singletons (934, 937–40), and include an unusual face-neck type (948) and a rimless vessel (951) decorated with bands of burnished wavy lines, a decoration commonly found on Swanpool products.

Jars

Fifteen distinctive jar types have been identified, as discussed below. The most common types of decoration used on jars are various methods of rustication; burnished acute lattice, burnished wavy lines, notching and rouletting also occur. The dating of the individual rusticated styles is discussed below (see rusticated jars). Figure 97 shows that traditional zonal rouletting was frequently used in the 1st to mid 2nd and again in the later 3rd to 4th centuries, but it was thick and juddered in the late Roman period. Acute lattice was largely confined to the mid to late 2nd and early to mid 3rd century vessels, clearly imitating black-burnished ware soon after its introduction into Lincoln; however, the obtuse lattice used on later BB1 jars is absent from the Lincoln grey ware equivalents. Burnished wavy lines occasionally appear; these first occur on 2nd century vessels, but were not common until the mid 3rd century and are more often seen on late 4th century vessels, e.g. the Swanpool wide-mouthed bowls. Notched styles are relatively rare and, as far as can be judged from the small sample

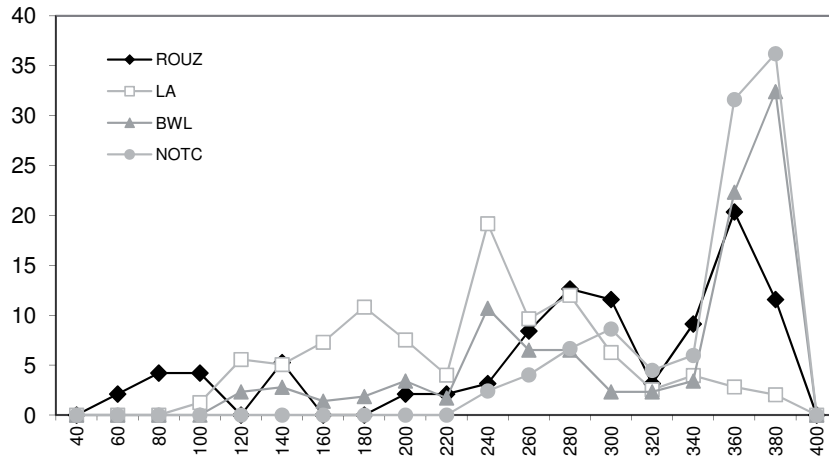


Fig. 97. Grey Ware, plotdate of jar decoration by sherd percentage: rouletted zone (ROUZ), acute lattice (LA), burnished wavy lines (BWL) and notching (NOTC).

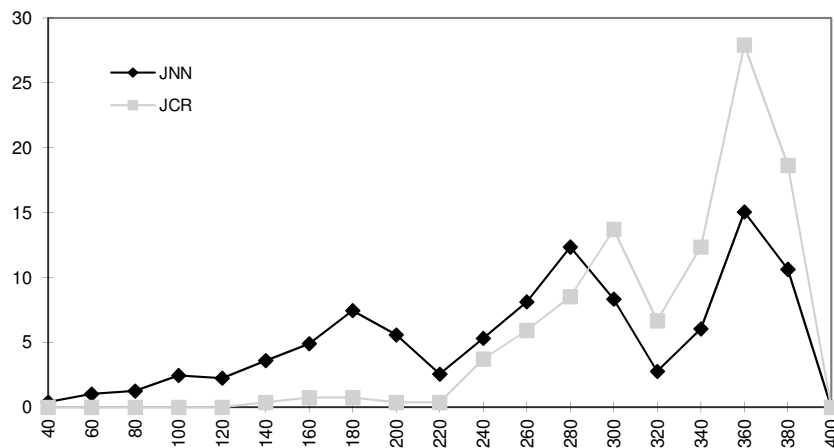


Fig. 98. Grey Ware, plotdate of jar types by sherd percentage: narrow-necked (JNN) and collared rim (JCR).

available (87 sherds), did not appear until the mid 3rd century, being most frequently used in the mid to late 4th century. String marks are frequently visible on the external bases of later Roman jars.

NARROW-NECKED (FIG. 103, 952–60 AND FIG. 104, 961–72) The illustrated vessels (952–71) demonstrate the varied range within this category; in common with flasks, they probably served as pouring vessels. They are present in increasing quantities in the earliest Roman groups, reaching their highest proportion in the mid 4th century (Fig. 98). Only a single example, 961, can be paralleled with a jar from the Rookery Lane kiln (Webster *op. cit.* fig. 3, 17); both jars have an almost identical zone of rouletting on the shoulder. No. 972 has an upright rim, an intermediate form between narrow-necked varieties and everted-rimmed vessels.

EVERTED-RIMMED (FIG. 104, 973–84)

Everted-rimmed jars (973–84) are among the most abundant types. The plotdate (Fig. 99) shows that they occur in 1st and 2nd century groups, the peak in the late Roman period corresponding with the dating of the Swanpool kilns. Nos 972–3 and 976 have the high shoulders that are generally associated with early Roman vessels, and 980–1 have multiple grooves on the body wall giving a corrugated appearance similar to that of early Roman vessels noted at Sleaford (Elsdon 1997, fig. 55, 50–1). Two vessels (977–8) are paralleled at the Swanpool kilns (types C22–31), where they are dated to the late 3rd–4th century.

CURVE-RIMMED

(FIG. 104, 985–7 AND FIG. 105, 988–9 AND 992–4)

Jars with curved rims (985–9; 992–4) are almost as

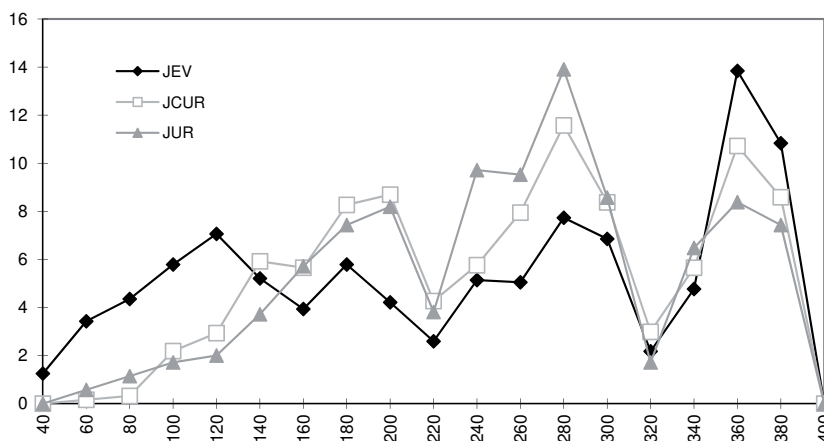


Fig. 99. Grey Ware, plotdate of jar types by sherd percentage: everted rim (JEV), curved rim (JCUR) and undercut rim (JUR).

common as cooking pots (see below) and those with rusticated decoration. Globular jars with curved rims and decorated with cordons or grooves, similar to 985, 986 and 988 (the latter used as a cremation urn), were made at Swanpool (types C6–12). No. 992 also broadly fits into this group but the rim is heavily re-curved; it is a narrow version of the wide-mouthed bowl (see below). Curve-rimmed jars were not common until the mid to late 2nd century, and appear to have reached their highest proportion in late 3rd century groups, becoming marginally less frequent in the mid 4th century (Fig. 99).

CORDONED (FIG. 105, 990)

Cordoned vessels are rare; a distinctive vessel, with notched decoration at the neck and burnished wavy lines on the globular body towards the base (990), resembles beaker type 120 (see below) in both form and date.

UNDERCUT RIM (FIG. 105, 991)

Jar 991 can be paralleled at Rookery Lane (Webster *op. cit.* fig. 3, 19). This category is relatively small; its dating profile broadly matches that of the curve-rimmed jars, but it occurs most frequently in mid to late 3rd century groups (Fig. 99).

FOLDED (FIG. 105, 995)

Another rare but equally distinctive type is the jar with a folded body wall (995); a smaller version of this form appears within the beaker assemblage (see below). The earliest occurrence of this form is in a mid to late 3rd century group, and it is most common in mid 4th century assemblages. Jars with smaller indentations occur in the Lea kiln group (Field and Palmer-Brown 1991, fig. 16, 29–30) and

may be precursors of this clearly later type. A similar but unstratified vessel occurred at Old Winteringham (Rigby and Stead 1976, fig. 78, 83).

NATIVE TRADITION COOKING POTS (FIG. 105, 996)

This vessel type occurs most commonly in IAGR, IASH or IASA, and is rare in GREY (996). It is well represented in mid to late 1st and late 2nd century groups, but the identification and dating of some of these examples is uncertain.

DALES-TYPE (FIG. 105, 997–1000)

GREY Dales-type jars with virtually identical rim types to those of the classic shell-tempered vessels are relatively common (998–1000), and are represented within the Rookery Lane kiln assemblage (Webster *op. cit.* fig. 3, 44–7). No. 997, with a flat-topped rim, is not unlike the 'proto-Dales-type' form but has only a slight lid seating and a shorter neck, whilst 1000 is intermediate to the later double lid-seated type (cf. DWSH). This form first appears in early to mid 3rd century groups, reaching a peak in the later 3rd and again in the mid 4th century (Fig. 100).

LID-SEATED (FIG. 105, 1001–11 AND FIG. 106, 1012–21)

Jars with a variety of internal lid seatings (1001–21) are moderately well represented. Double lid-seated jars dating to the late 4th century are found within the Swanpool repertoire (types H1–19), where they are mainly in LCOA (see Fig. 85, 875). Unusual decorated vessels include 1002 with ?stabbed chevron decoration from an early 2nd century context, and 1006–7, which are from mid to late 1st century contexts; they have the high shoulder typical of early Roman jars and are highly decorated with incised lattice. Jar 1009 is most unusual and reminiscent of

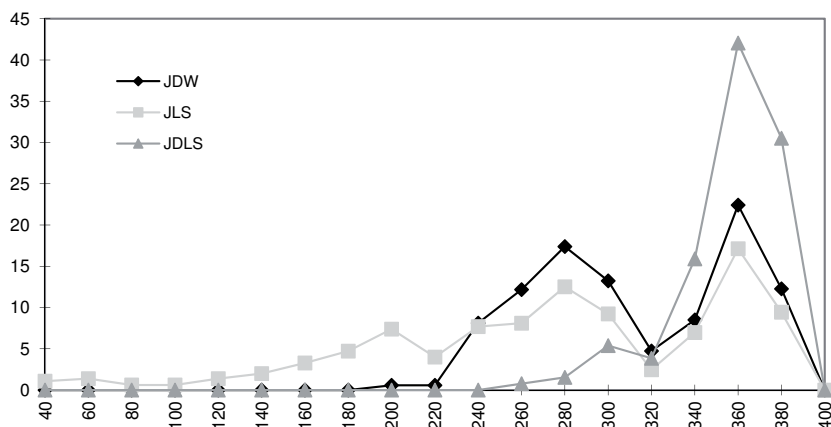


Fig. 100. Grey Ware, plotdate of jar types by sherd percentage: Dales-type Ware (JDW), lid-seated (JLS) and double lid-seated (JDLS).

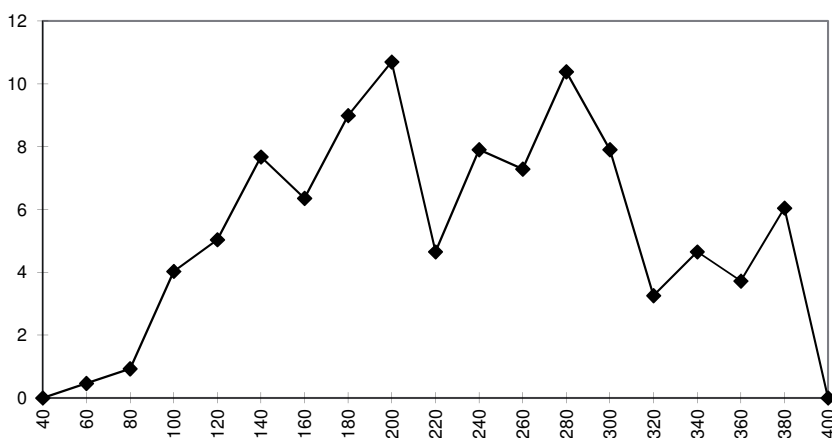


Fig. 101. Grey Ware: plotdate of lid-seated jars J105 by sherd percentage.

Iron Age tradition types, while 1010 is a finer version of a collar-rimmed jar (see below).

Lid-seated jars in general are found in small quantities in mid 1st century groups, but they became increasingly common by the later 2nd and into the 4th century (Fig. 100). Some of these vessels are classified according to rim type: J105 (1004), J106 – both also found in IAGR – and J107 (1005 and 1013). J106 is very rarely found.

Figure 101 suggests that J105 was present in some quantity in Lincoln by the early 2nd century, peaking in the later 2nd (and residual in late 3rd century contexts). The equivalent type was one of the main grey ware products of the Roxby kilns during the Antonine period (Rigby and Stead 1976, 139 and 146–7, form A; fig. 65, 1–6). J107, also present in the Antonine period, seems to have been more common in the mid to late 3rd century, but this may be due to residual material.

COLLAR-RIMMED (FIG. 106, 1022–6)

Collar-rimmed jars (1022–6) are common within the

Swanpool repertoire. Plain-rimmed types (1022–3) were found at both Rookery Lane (Webster op. cit. fig. 3, 15) and Swanpool (type C40) whereas those with notched decoration (as 1024–6) only occurred at Swanpool (types C41–C48). Strongly represented from the mid to late 3rd century, these jars were most common in the mid 4th century (Fig. 98), which accords well with the Rookery Lane/Swanpool kiln dating.

MISCELLANEOUS (FIG. 106, 1027–31)

Nos 1027–31 are all jar rims that do not fall into any of main categories discussed above.

COOKING POTS (FIG. 106, 1032–8 AND FIG. 107, 1039)

Wheel-made cooking pots imitating black-burnished ware (1032–6) are by far the most common type and the majority are decorated with burnished acute lattice. Although Figure 102 suggests that fragments of these vessels were found in later 1st century deposits, this is unusual and may be the result of uncertain identification: the sherds are

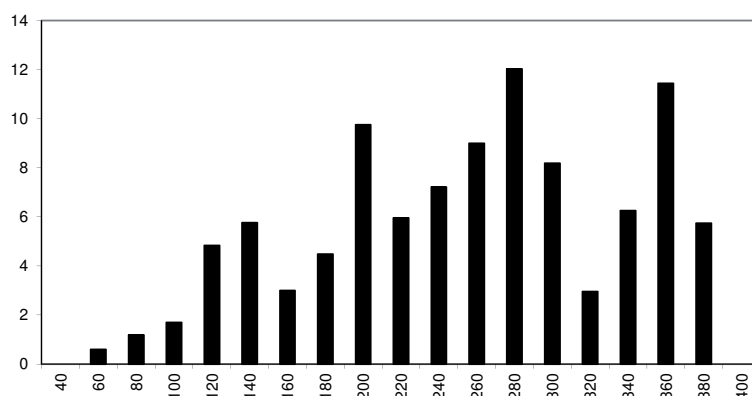


Fig. 102. Grey Ware, plotdate of Black-burnished type jars (CP) by sherd percentage.

all body fragments with lattice decoration, which was occasionally used on early Roman vessels (as 1006–7). The form is more common in early to mid 2nd century assemblages, peaking in the later 3rd to the mid 4th century. It appears to have been made almost simultaneously with the arrival of black-burnished wares, and the scant amount of BB2 in Lincoln (p. 115) suggests that local manufacturers took over the market for these wares. The form is a common product of the Lea kilns (Field and Palmer-Brown *op. cit.* fig. 15) and the local Racecourse kiln (Corder *op. cit.* fig. 3), but does not appear within the Rookery Lane or Swanpool assemblages.

Early bead-rimmed vessels (1032) first appear in early 2nd century groups and are most common in assemblages dated to the later 2nd-early 3rd century. Small versions of this form (1032–3) may have been used as beakers rather than cooking pots. No. 1037, with a cavetto rim, is a good example of a late cooking pot, and features open, multiple lattice decoration. Other vessels with burnished acute lattice include an unusual wide-mouthed jar (1038), and a large, probably storage jar (1039).

WITH RUSTICATED DECORATION (FIG. 107, 1040–50)

Jars with various forms of rusticated decoration (1040–50) are well represented. A rather linear form of this type of decoration was used on jars produced at the North Hykeham kilns (F. H. Thompson *op. cit.* fig. 3, 1–3). The majority of the Lincoln vessels have everted rims; curve-rimmed examples (e.g. 1050) are less common, and 1048 and 1049 are unusual in that they have lid-seated rims.

Styles of rustication vary from webbed (as 1046), to nodular (as 1040–4), linear (as 1045, 1048–50), and undifferentiated types (e.g. 1047). Webbed rustication is relatively rare but appears to have been the earliest form, and was also used on the fine grey

‘legionary’ pottery LEG (p. 101), as was the nodular style, whereas linear types were more common in the early to mid 2nd century.

OTHER DECORATION (FIG. 107, 1051–2)

Jars 1051 and 1052 have more unusual types of decoration. No. 1051 is ornamented with vertical strips of applied clay, similar to that on jars in LEG (see Fig. 76, 769), and came from a group dated to the mid-late 1st century. No. 1052, with pressed out bosses and burnished diagonal lines, was associated with mid 3rd century pottery.

HANDLED (FIG. 108, 1053–62)

Jars (1053–62) with either conventional or lug-shaped handles were relatively unusual until after the later 2nd century, occurring most commonly in mid 4th century groups. No. 1057 is an earlier, 2nd century type, paralleled at sites such as Dragonby (Rigby and Stead 1976, fig. 64, 6), whereas 1054, 1059 and 1060 are more like late flagon types. Nos 1053, 1055–6 and 1061–2 are late 4th century types; 1055 and 1056 can be paralleled within the Swanpool repertoire (types F1 and F2) while 1061 is a vessel from the kiln assemblage.

LARGE/STORAGE (FIG. 108, 1063–6 AND FIG 109, 1067–73)

Large/storage jars (1063–73) occurred infrequently until the early 2nd century. They are abundant in groups dated from the mid to late 3rd and early 4th century, and particularly in those of the mid 4th century. They range from simple bead-rimmed vessels (1063–4) to larger, necked forms, which are frequently decorated with burnished and scored wavy lines. No. 1065 is probably a 2nd century type, while the notching on the rim of 1073 is similar to that on some 4th century Swanpool vessels.

No. 1070 is a very large vessel with a flattened rim,

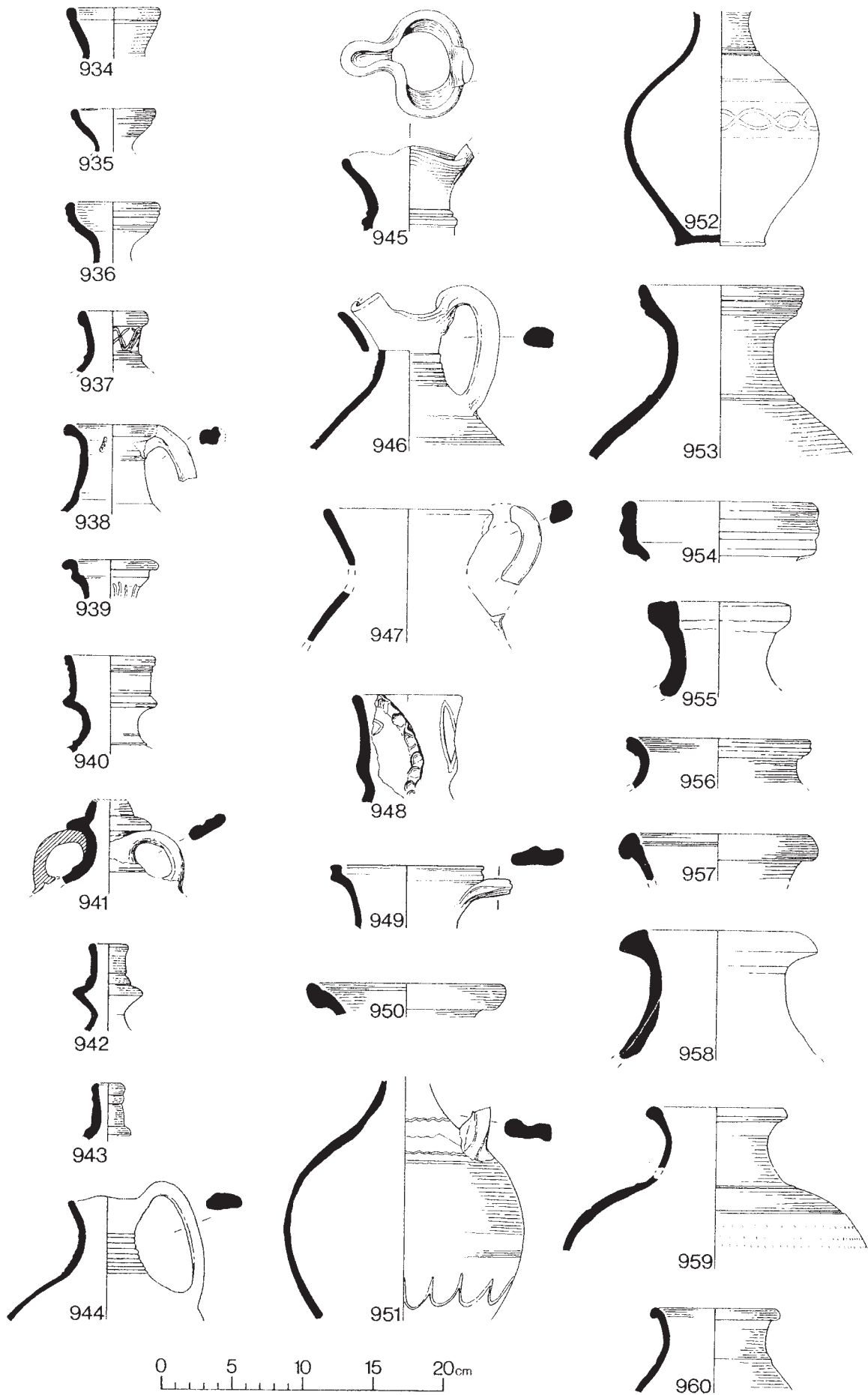


Fig. 103. Grey Ware: flacons, flasks, jugs and jars 934-60. Scale 1:4.

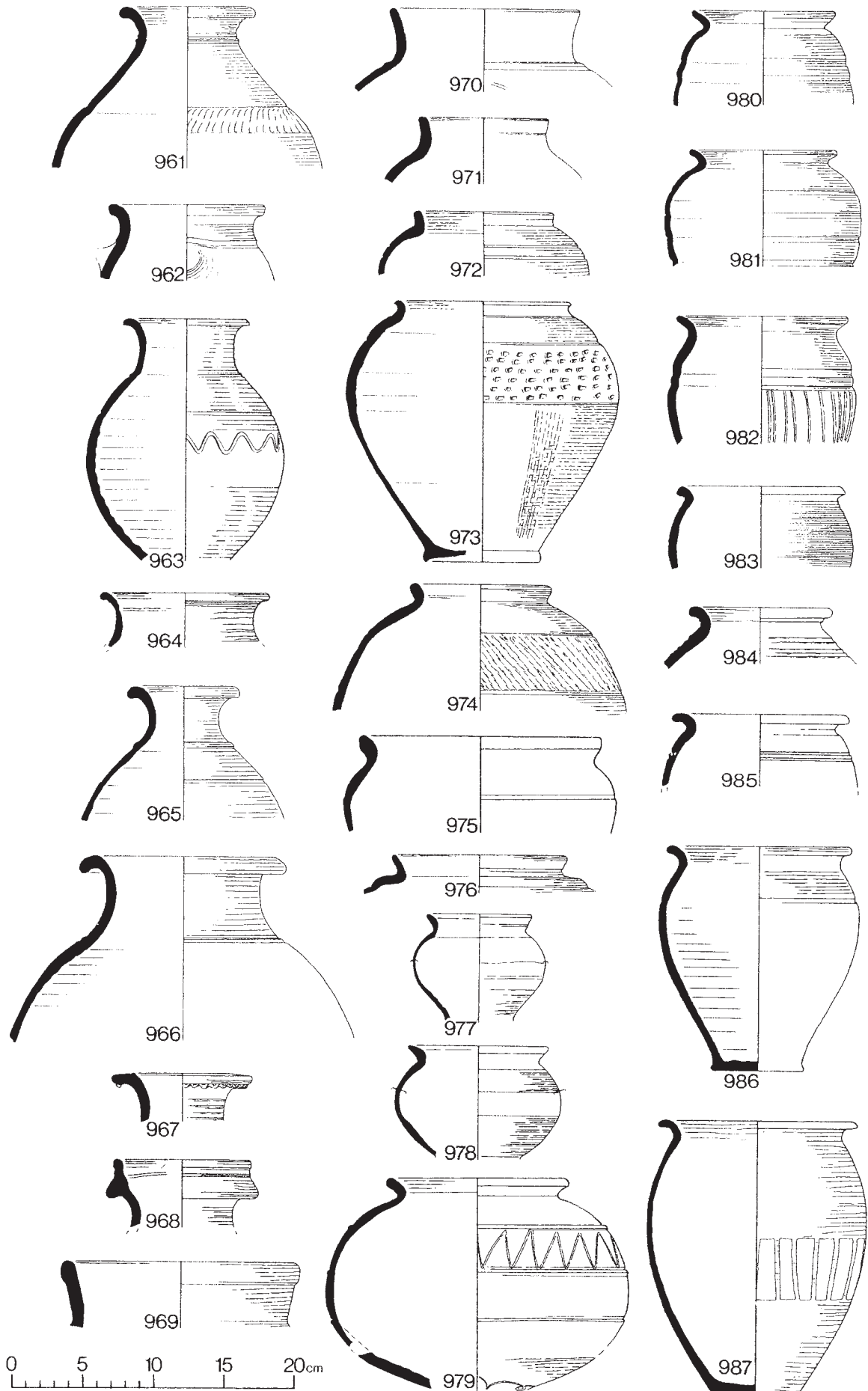


Fig. 104. Grey Ware: jars 961-87. Scale 1:4.

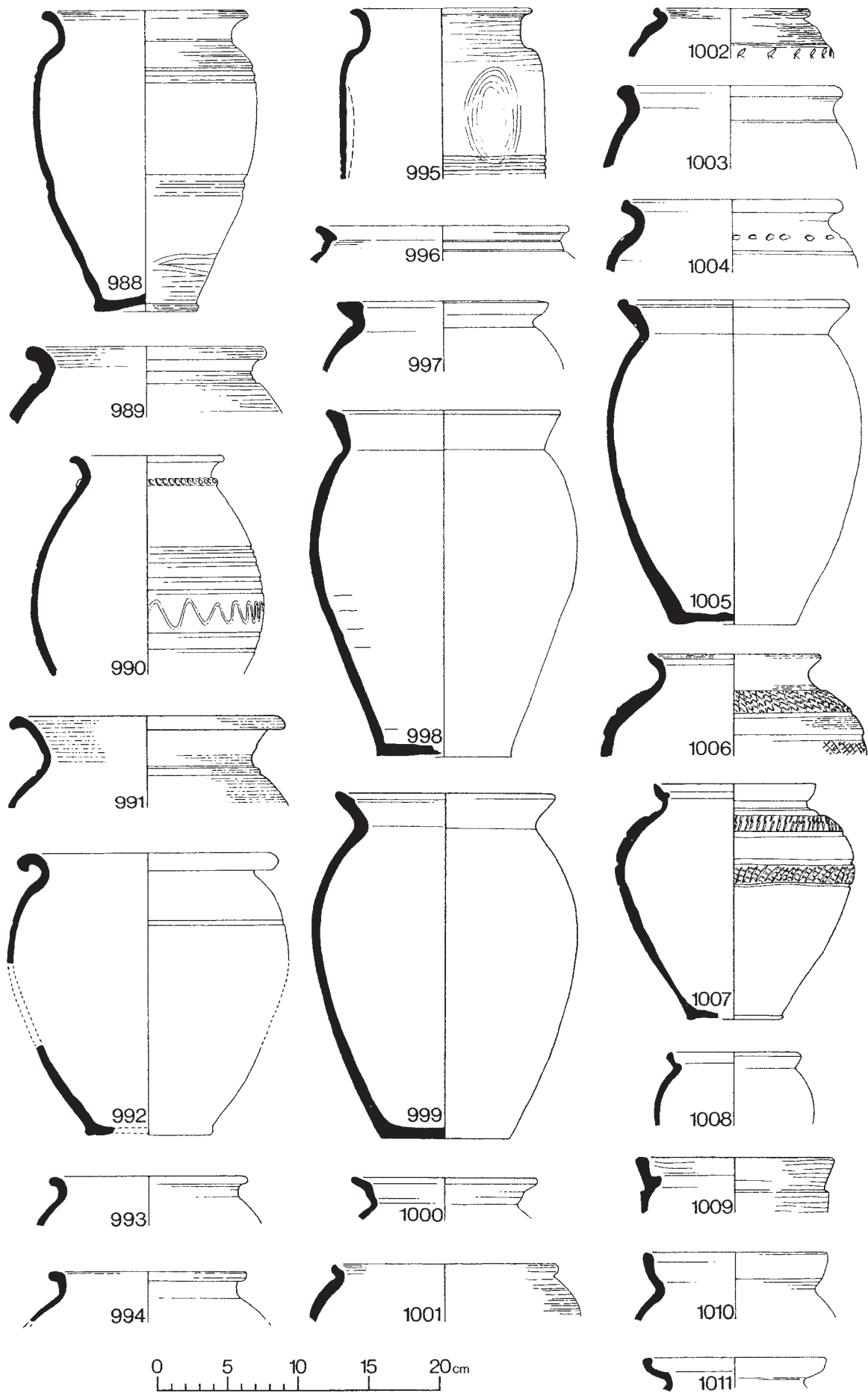


Fig. 105. Grey Ware: jars 988-1011. Scale 1:4.

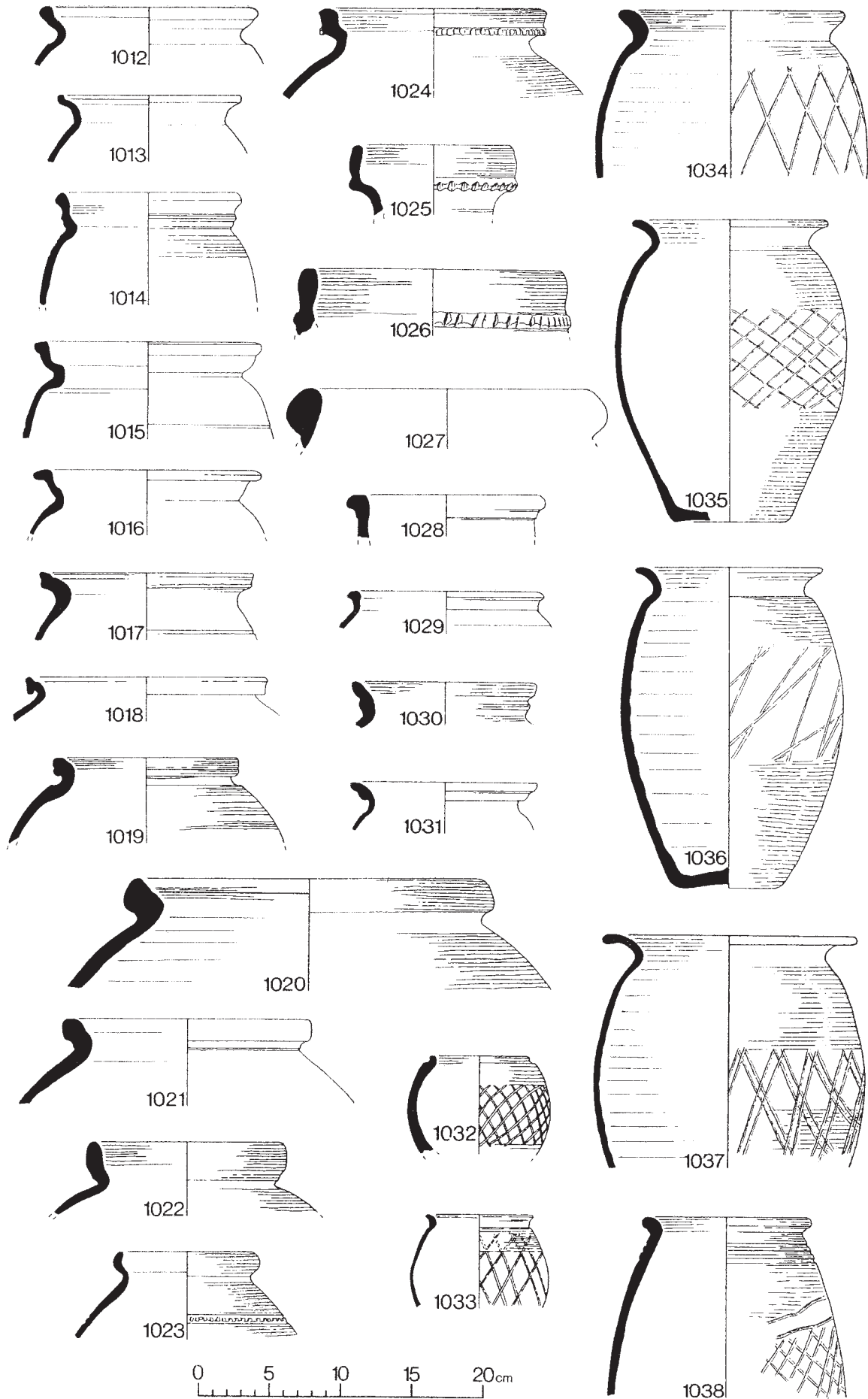


Fig. 106. Grey Ware: jars 1012-38. Scale 1:4

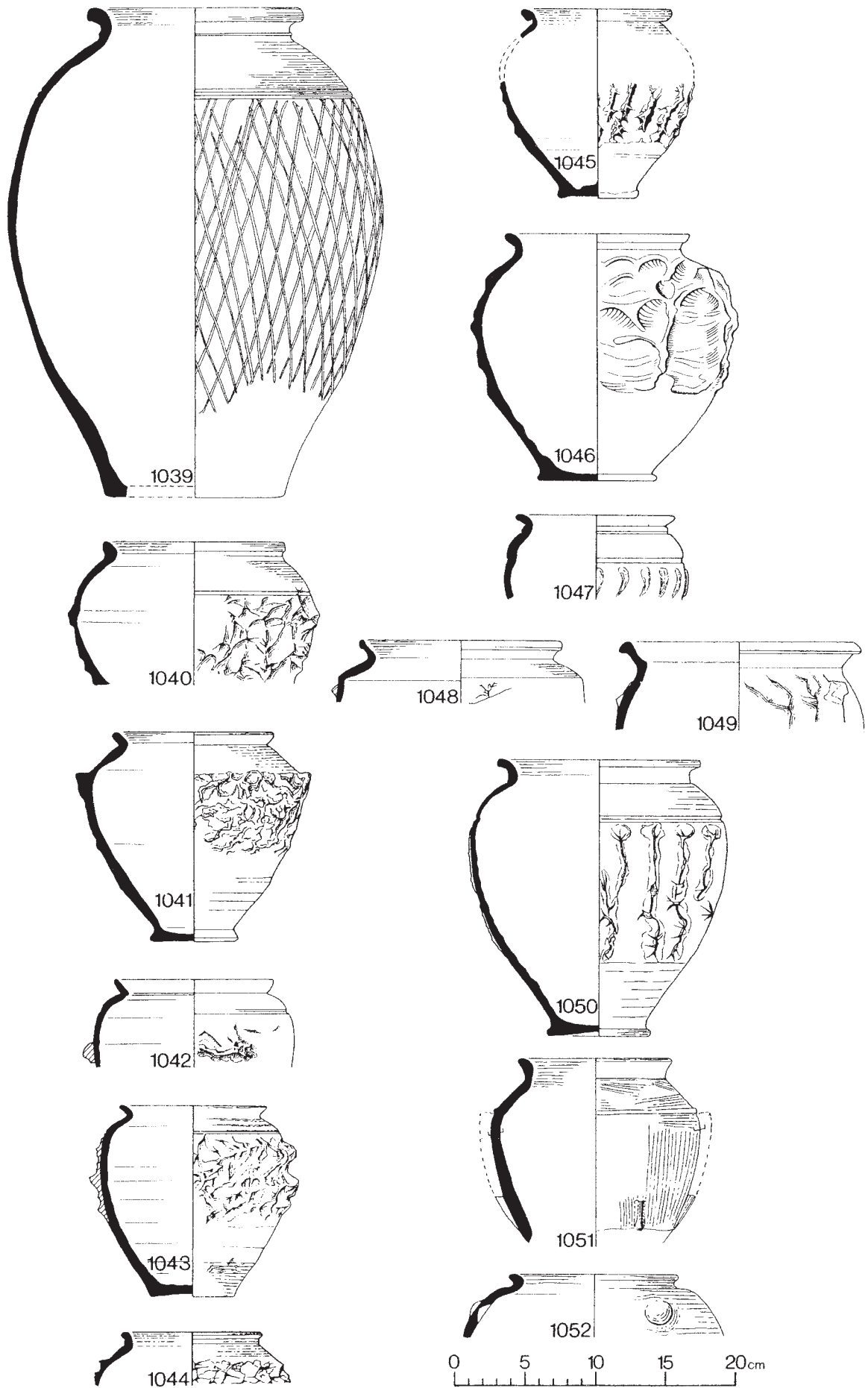


Fig. 107. Grey Ware: jars 1039–52. Scale 1:4.

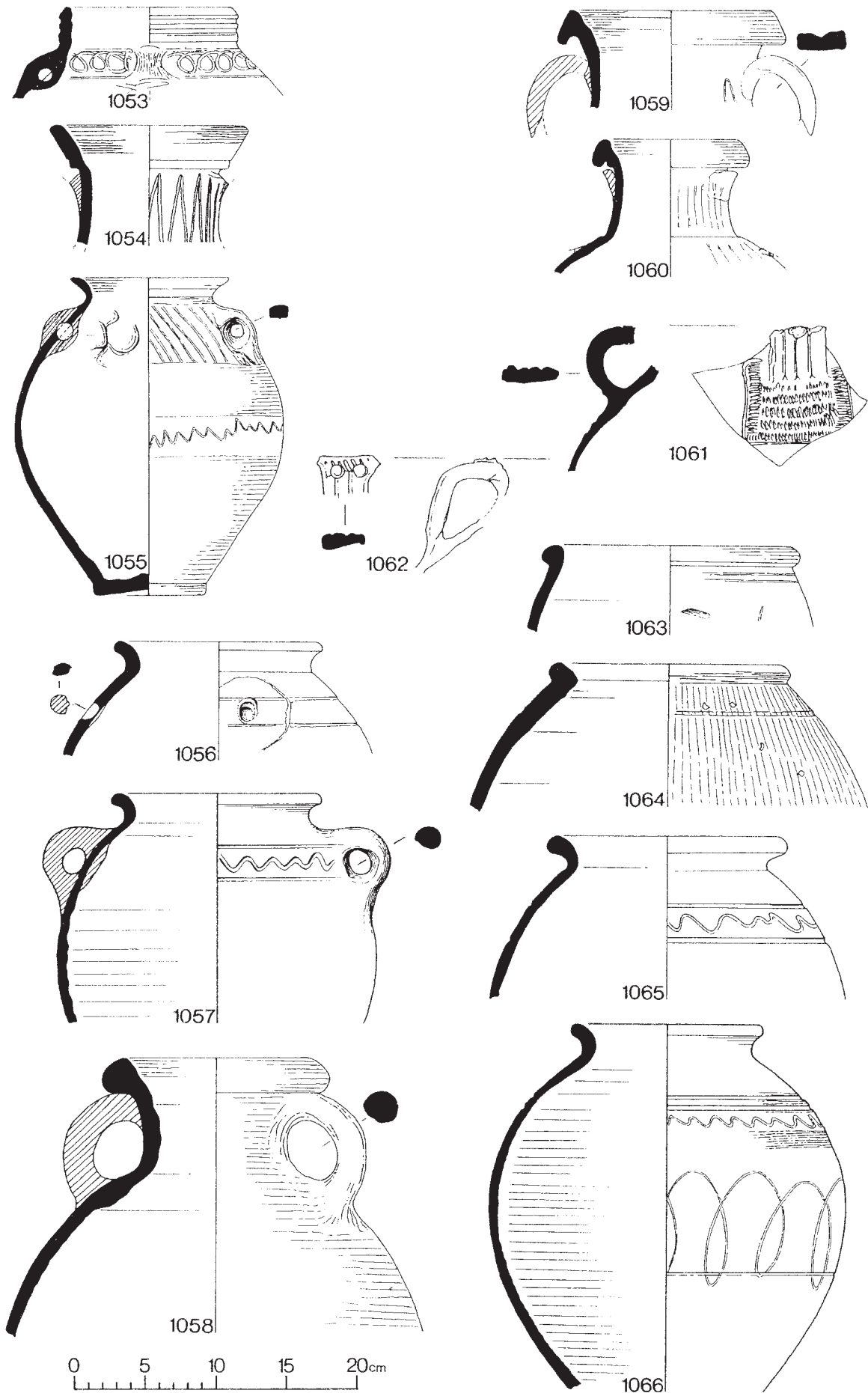


Fig. 108. Grey Ware: jars 1053-66. Scale 1:4.

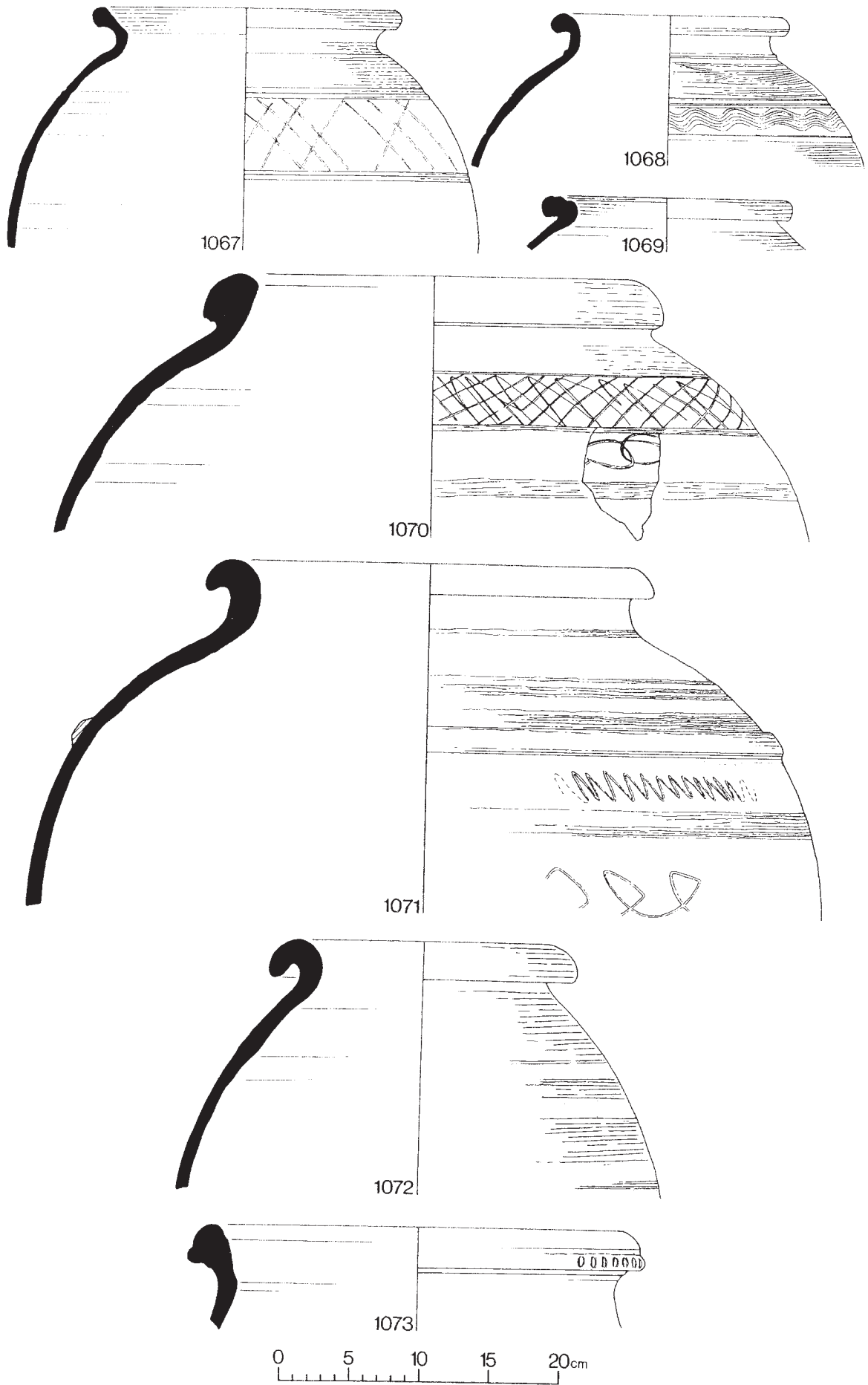


Fig. 109. Grey Ware: jars 1067-73. Scale 1:4.

which is similar to those of the huge storage vessels, *dolia*, which were normally sunk into the ground up to the neck. However, the size of the Lincoln example suggests that it is a *seria* (capacity 184 litres: Green 1986, 106) rather than a *dolia* (c. 360–1,700 litres: *ibid.*) No. 1071 lacks the flattened rim but is from a vessel of similar size and capacity.

Beakers

The dating profile of beakers closely follows that of GREY as a whole (*cf.* Fig. 94), except that they occur less frequently in late 4th century assemblages. There are few homogeneous groups; consequently, the majority are discussed here according to rim style.

BUTT BEAKERS (FIG. 112, 1074–5)

Butt beakers (1074–5) are the earliest type, of late Iron Age to early Roman date, but are extremely rare. No. 1075 is from a 1st century context and 1074, an atypical butt beaker, was associated with early 2nd century pottery.

TYPE BK120 (FIG. 112, 1076–83)

One of the most coherent types, frequently decorated with a notched cordon, has a narrow neck and an everted rim. The form (BK120) is distinctive and is virtually the same as that of the smith-god pots (see below, p. 156). Attached to the rims of three examples (1081–3) are applied clay rings, whose purpose is unclear. Although only a small group (61 sherds), the plotdate (Fig. 110) shows that the bulk of these beakers appear in mid to late 3rd century assemblages.

EVERTED-RIMMED (FIG. 112, 1084–1106)

One of the largest groups consists of beakers and vessels that may be either beakers or small jars, all with rims that range from sharply everted (*e.g.* 1084–

5) to those that are almost curved (1105–6). Vessel 1100 is the only one that can be directly paralleled with any kiln material: Swanpool type C37. Most are undecorated, but 1085 and 1094 have zones of rouletting at the shoulder, and 1084 a random stabbed motif.

In Figure 111, which shows the date range of these vessels, the certainly identified beakers are separated from those that could be either small jars or beakers. The everted rim form generally appears first in Neronian groups, but is more common in 2nd and 3rd century assemblages.

FUNNEL-NECKED AND RELATED TYPES

(FIG. 112, 1107–8 AND FIG. 113, 1109–17)

A range of beakers with tall, almost funnel-shaped necks (1107–11) includes three (1109–11) with grooves at the rim – a type that was most common during the 3rd century. Certainly identified funnel necks are moderately common but survive only as rimless fragments; these occur in mid 3rd century groups but are more frequently found in mid 4th century assemblages.

Nos 1112–17 are tall-necked, curve-rimmed vessels;

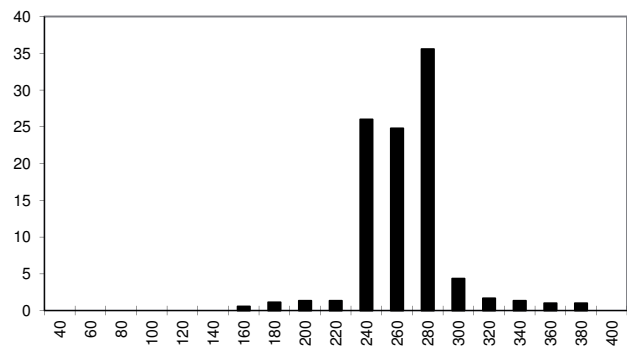


Fig. 110. Grey Ware: plotdate of beaker type 120 (BK120) by sherd percentage.

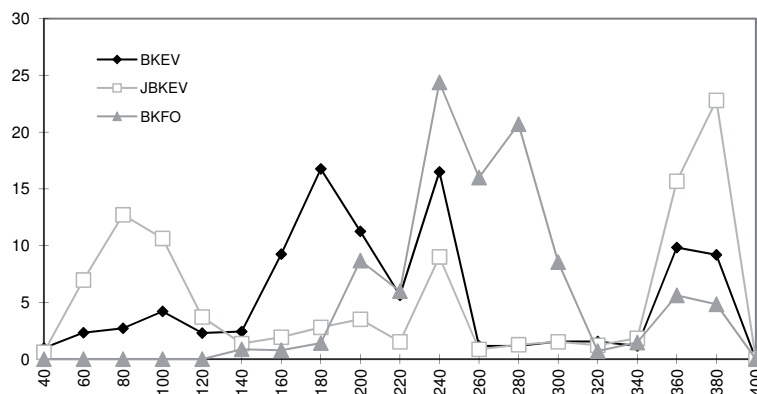


Fig. 111. Grey Ware, plotdate of beaker types by sherd percentage: everted rim (BKEV), folded (BKFO) and everted rim jar/beaker (JBKEV).

decoration, where used, consists of cordons. One beaker (1116) has a notched cordon and is possibly a variant of BK120. Nos 1113–4 can be directly paralleled with Swanpool type C12.

OTHER TYPES (FIG. 113, 1118–30)

Other beaker forms include a distinctive carinated type, 1118, which is similar to Gillam 177, dated to *c.* AD 120–140. This smaller vessel may be distantly related to the bowls with a sharp carination (see type B334, below).

No. 1119, and possibly 1120, is a funnel-necked bead-rimmed beaker. These are rare but appear to be predominantly a mid-late 3rd and mid 4th century type. No. 1121 is an unusual handled beaker with dimpled decoration. It came from a post-Roman context but was associated with a shell-tempered Dales ware jar. Another late form is represented by 1122, a sherd from a pentice-moulded beaker, a type that did not appear until the 3rd century and is more commonly found in mid to late 4th century groups.

Body sherds of folded beakers are extremely common; they are predominantly early to mid 3rd century in date and possibly residual in mid 4th century groups (Fig. 111). Rim forms fall into two distinct groups: curved (1123–7) and funnel-necked (1128–9). Curve-rimmed beakers are mainly an early to mid 3rd century type, whereas funnel-necked forms are generally later, occurring from the mid 3rd century to the 4th.

The final beaker shown here (1130) is unusual for a common GREY in that it is highly decorated, with carefully applied barbotine scales: ornament that is generally found on fine wares, particularly NVCC beakers. It was found in a mid to late 3rd century context.

Cups (Fig 113, 1131–3)

Cups are extremely scarce in GREY and only four vessel types have been identified. The earliest is a sherd possibly from an ?Italianate cup, found in a group dated from the later 1st to the early 2nd century. An almost complete copy of samian form Dr. 33 (1131) came from the levelling prior to construction of a mid 3rd century building (Coppack 1973, 77). No. 1132 is a small open vessel with a groove at the girth, from a late 1st to early 2nd century layer. Lastly, a small carinated cup, 1133, was found in a late 4th century assemblage.

Bowls (Fig. 118, 1134–56)

The dating profile for bowls is almost identical to that of the overall GREY diagram (Fig. 94). Although there is a wide range of forms, the individual types appear, on the whole, to fall into more definitive groups than either the jar or the beaker assemblages.

A range of bowls have rounded body walls and rims with varying degrees of grooving/moulding (1134–7), but these appear to be singletons rather than a distinct group; 1138–9 are necked examples with more pronounced mouldings. Rims similar to that of 1139 are found within the CR and PINK repertoires and, as the fabric of this vessel is fine, light grey and micaceous (F. H. Thompson and Whitwell 1973, 167), it may be LEG rather than GREY. Bowl 1140 is lid-seated with a sharply carinated shoulder and, although it is wheel-made, the rim form and character of the burnishing suggest that it may be related to probable Iron Age types (Darling 1988, 27, no. 112).

Nos 1141–3 are everted-rimmed, necked bowls with rounded body walls; 1142 has applied strip decoration similar to that on the decorated jar 1051 (see above). Necked bowls in general are relatively well represented and appear quite strongly in 1st century groups, are present in the mid to late 3rd century and, possibly residually, are most common in mid to late 4th century assemblages. Nos 1144–53 illustrate a range of necked bowls, some featuring cordons and carinations.

More obviously carinated vessels are rare. Although some (*e.g.* 1154) date from the late 1st to early 2nd century and are found in mid to late 2nd century groups, they mainly occur (1155–6) in mid to late 4th century assemblages.

BOWL B334 AND RELATED? TYPES (FIG. 118, 1157–62)

This is a distinctive group consisting of bowls with a tall neck, curved rim and a sloping, sharply cut carination at the girth, often defined by a slight groove; smaller examples such as 1157 could have been used as beakers. The form may be distantly related to those of native tradition, *e.g.* Camulodunum form 226. Darling (1984, 64, no. 94) notes that it is a common local form; examples also occur on the Humber sites and in Yorkshire, are present at Dragonby, are type E at the Roxby kilns (Rigby and Stead 1976, 140) and occur within the Lea and Newton-on-Trent kiln assemblages (Field and Palmer-Brown 1991, fig. 15, 13–16, and fig. 17, 9 and 14). Recent excavations in Market Rasen have revealed several kilns where B334 is a prominent type in the repertoire from the early to mid 2nd century (Darling forthcoming, b). Although only a small group (62 sherds), these vessels occur most commonly in mid to late 2nd century deposits in Lincoln (Fig. 114), which corresponds well with the dating of the kiln sites. The form is a chronological marker for Hadrianic to Antonine assemblages in Lincolnshire but may have arrived in the late 1st – early 2nd century, frequently occurring in conjunction with other vessels in the GREY repertoire, J105 (see above), B333, B321, and D452 (discussed below).

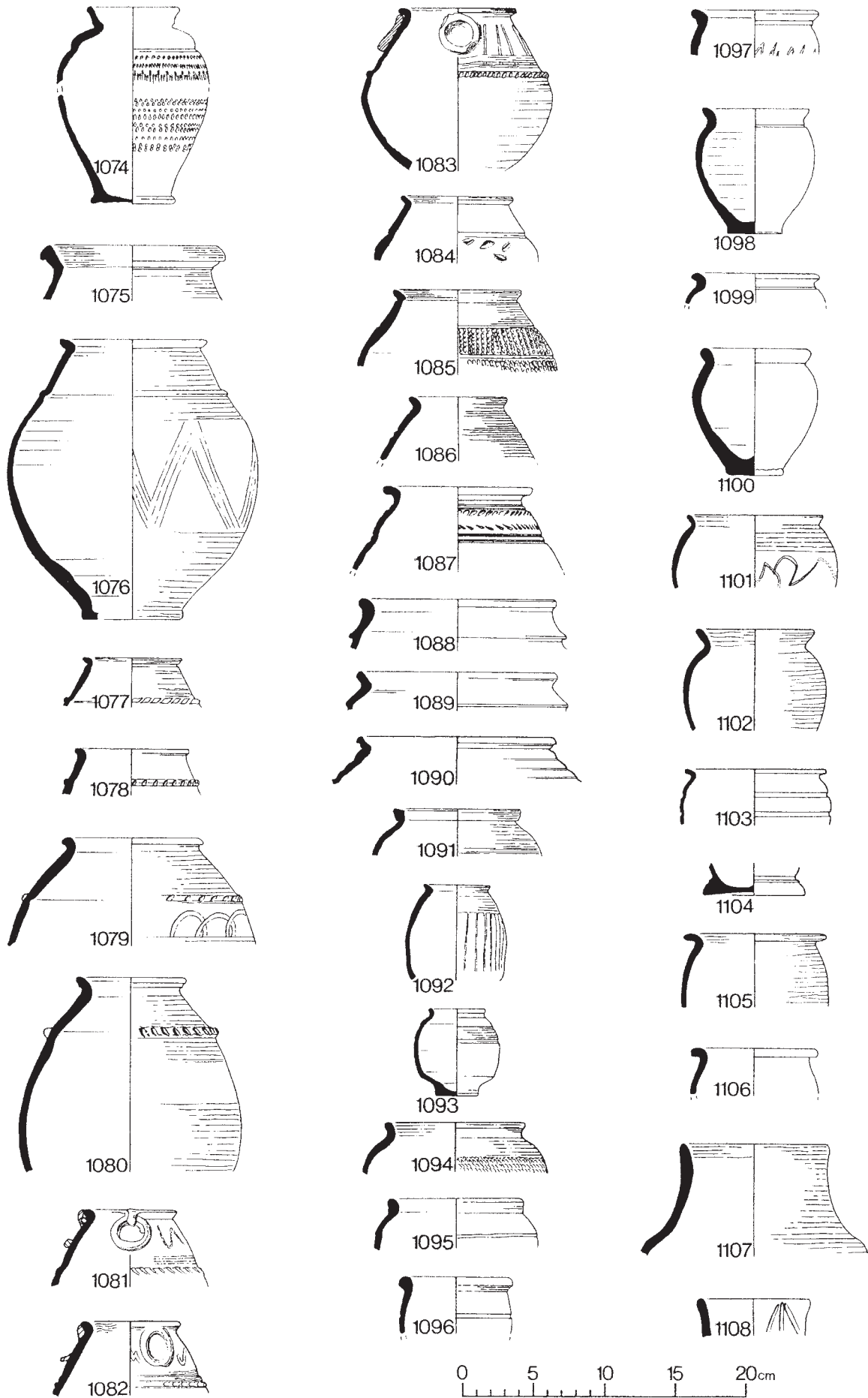


Fig. 112. Grey Ware: beakers 1074–1108. Scale 1:4.

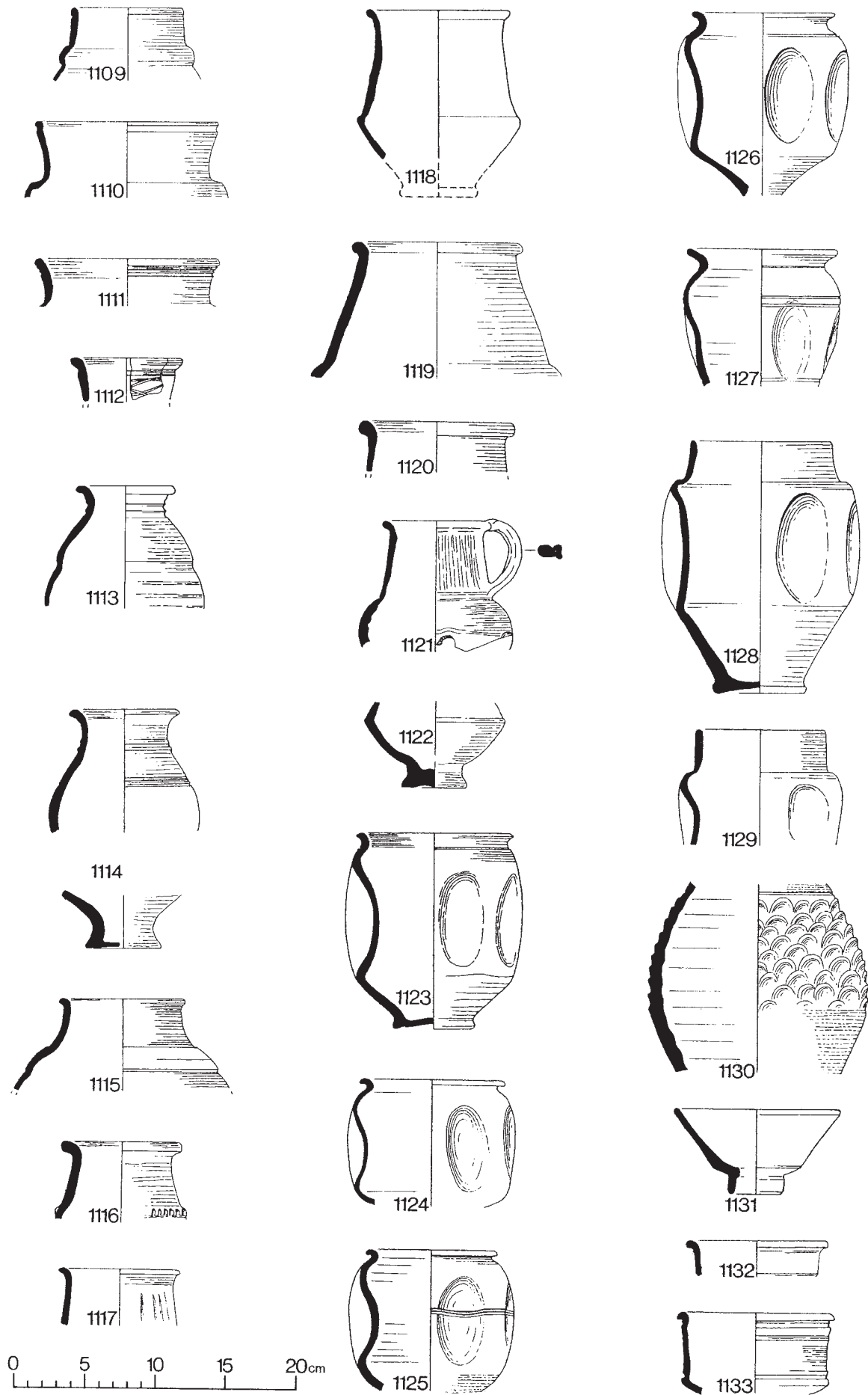


Fig. 113. Grey Ware: beakers and cups 1109-33. Scale 1:4.

No. 1156 is possibly related to this group but the sherd is too small to be certain and the carination is only just visible. No. 1160 lacks the well-defined waist of the typical B334 and is more like the carinated bowls of late Iron Age tradition.

HANDLED (FIG. 119, 1163)

No. 1163 is a handled bowl with a sharp carination at the waist, and is a late type.

FLANGED (FIG. 119, 1164–72 AND 1179–80)

Flanged bowls, in a range of types, are very common and occur in 1st and 2nd century groups but are mainly found in mid to late 3rd century assemblages (Fig 115). Nos 1164–5 are shallow bowls with thickened flanges, whilst 1166–7, with curved flanges, are related to samian form Dr. 36. Carinated vessels such as 1168–70, sometimes defined by a groove at the girth, occur commonly at the Market Rasen kilns (Darling *ibid.*). Variants with a grooved flange (1171–2) are occasionally decorated, as 1171, and some may have hooked or downturned rims (1179–80).

WITH BIFURCATED RIMS: B333 AND RELATED TYPES (FIG. 119, 1173–8)

A development with a bifurcated rim (B333: 1173–4) is a distinctive local type but is relatively rare in Lincoln (80 sherds); it appears to have been most common from the Hadrianic period, rising to a peak in the later 2nd century (Fig. 114). This form, Gillam 301, is also known at Roxby (Rigby and Stead *op. cit.* 144, type S), and at the Market Rasen kilns (Darling forthcoming, b). There is a waster from the kiln debris at Brough (KINCM acc. no. 1994.92), perhaps related to local production of beakers (Darling 2005a, 91).

No. 1173 appears to have an internal base stamp,

but only a fragment of one end survives; this vessel may be related to the stamped dishes or platters D452 (Fig. 129, 1326–9; stamps: Fig. 131, 1384–5) that are discussed below, and to an example in OX (p. 76 and Fig. 64, 648).

One example, 1174, with evidence of spalling, is clearly a waster and likely to have been locally made. No. 1175 is similar but with a carinated body. An unusual variant, made with a series of holes in the base, was intended for use as a colander (1419; see below).

A similar type, but lacking the bifurcation (1176–8), has an upturned flange and internal lid seating; the upper surface of the flange is occasionally decorated with burnished wavy lines.

SEGMENTAL (FIG. 119, 1181–9)

Shallow bowls with a curved, flanged rim and a small internal beading, frequently with a segmental body wall and similar to Marsh type 34 (1978, fig. 6.15) are distinctive, but rare. No. 1181 has a downturned rim with a slight beading and is decorated with burnished lattice.

TYPE B321 (FIG. 119, 1190–5)

A discrete type with inturned bead-and-flange, B321, is a distinctive local form (see Darling 1984, 60, nos 45–6) which is common in north Lincolnshire and has been found at Old Winteringham (Rigby and Stead 1976, fig. 77, 60), across the Humber in south Yorkshire, *e.g.* at Brough (Darling *et al.* 2000), at Dragonby in pit 2567 (May 1996, fig. 20.34, 1459–60), where it is assumed to be waste from a nearby kiln, and the Market Rasen kilns (Darling forthcoming, b). It occurs rarely in Lincoln (39 sherds) but appears mostly in early to mid-late 2nd century groups, which fits well with the dating for the Dragonby pit (May *op. cit.* 579–82).

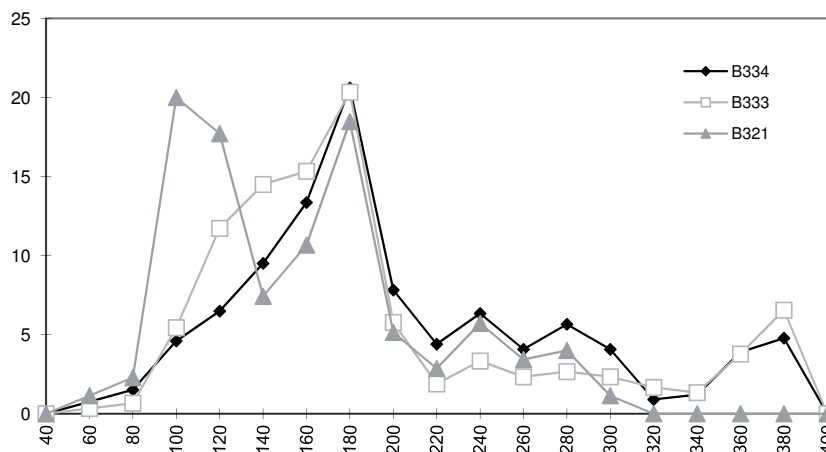


Fig. 114. Grey Ware: plotdate of bowl types B334, B333 and B321 by sherd percentage.

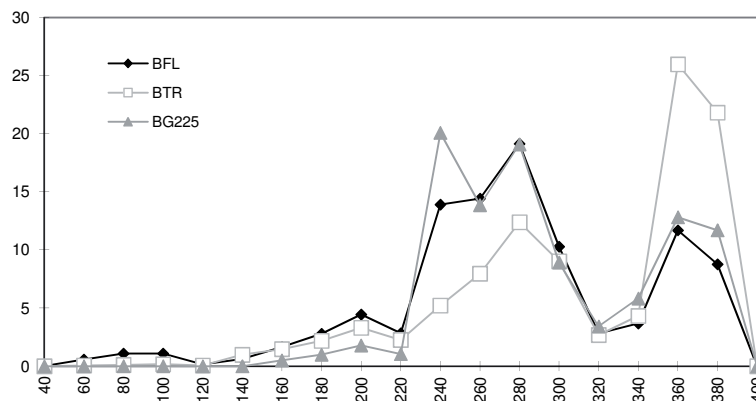


Fig. 115. Grey Ware, plotdate of bowl types by sherd percentage: flat rim (BFL), triangular rim (BTR), and rounded rim (BG225).

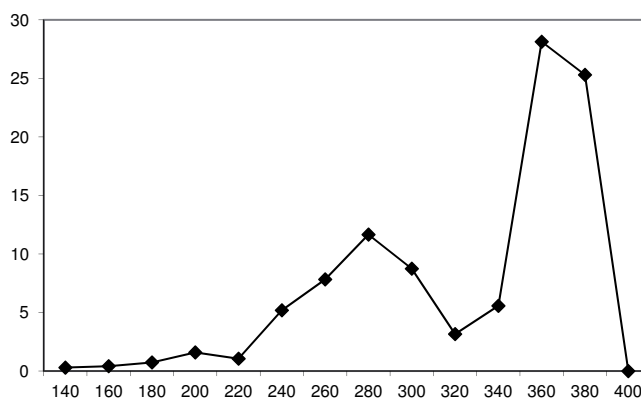


Fig. 116. Grey Ware: plotdate of wide-mouthed bowls by sherd percentage.

HEMISPHERICAL (FIG. 120, 1196–1202, 1203b–1206)

Bowls with relatively hemispherical body walls and plain or beaded rims include a close copy of samian form Dr. 38 (1198). This form occurs at the Swanpool kilns (types D33–36) in the oxidised fabric SPOX (see p. 63), as well as in GREY. Hemispherical bowls are distinctive but uncommon, occurring from the mid to late 3rd century, but are most often found in mid to late 4th century groups.

TYPE B37 (FIG. 120, 1203a)

Bowl 1203a is reminiscent of samian form Dr. 37 and is decorated with compass-scribed vertical lines. The fabric is hard and laminar, and may be related to London-type wares, possibly part of the West Stow group (see Rodwell 1978, 225–8; 251–8).

OTHER FLANGED BOWLS (FIG. 120, 1208–12)

Nos 1208–12 are flanged bowls with, on the whole, deeper body walls. Both 1209, with a bifurcated rim, and 1209a are decorated with burnished wavy lines.

WIDE-MOUTHED

(FIG. 120, 1213–20; FIG. 121, 1221–30 AND FIG. 122, 1231) The wide-mouthed bowl is by far the most common form. The majority of these are burnished over the rim and on the shoulder, and are occasionally decorated with burnished wavy lines. This group includes both neckless and necked forms. An example of a neckless type occurs at the Lea kilns (Field and Palmer-Brown 1991, fig. 16, 49), and the form is common at the Market Rasen kilns, some with internal decoration as 1219 (Darling forthcoming, b) whilst necked vessels are present in the Newton-on-Trent kiln assemblage (Field and Palmer-Brown *op. cit.* fig. 17, 22), at Rookery Lane (Webster 1960, fig. 3, 33–43), and at Swanpool (types D37–40).

The necked form did not become common until the mid 3rd century and is most abundant in mid to late 4th century groups (Fig. 116). Necks become progressively deeper and the bowls generally correspondingly larger. This appears to have been a chronological progression: neckless types are late Antonine in date, whilst short necks are present

in early to mid 3rd century groups. Bowls with moderately sized necks as on vessels from the Rookery Lane kilns are mid to late 3rd century in date, whereas those from the Swanpool kilns, current from the later 3rd to the 4th century, have markedly long necks.

PLAIN OR EXPANDED RIMS (FIG. 122, 1232–40)

Angular and straight-sided bowls are, in the main, wheel-made vessels that are burnished on the exterior and interior, some with burnished lattice or arc decoration, copying the classic black-burnished wares. They include types with plain (1232–3), slightly moulded (1234–6), and expanded rims (1239–40). The first are most common in later 3rd to late 4th century groups, whereas the last are well represented in mid to late 3rd and mid to late 4th century assemblages. No. 1237 is a classic BB2 type.

MISCELLANEOUS TYPES (FIG. 122, 1241–2)

Bowls 1241 and 1242 do not fall within any of the categories discussed above. No. 1242 is similar in form, but not in fabric, to a NGGW type (B. Richardson and Tyers 1984, fig. 1, 6).

BLACK-BURNISHED TRADITION

(FIG. 122, 1243–53 AND FIG. 123, 1254–64)

Typical of BB2 vessels is 1243, with a triangular rim. A similar vessel with traces of burnishing and a scribbled base was found at the Lea kilns (Field and Palmer-Brown *op. cit.* fig. 15, 7). Bowl 1246 is a large variant, but is only burnished over the rim. Triangular-rimmed vessels in general, including both BB and non-BB types, are relatively common. These appeared by the mid to late 2nd century, increasing substantially in mid to late 3rd century groups and rising to a peak in the mid 4th century (Fig. 115). Bowls with a more rounded rim similar to Gillam

225 (BG225: 1244–5) are slightly less common, and are most often found in mid to late 3rd century deposits.

Flanged GREY bowls copying BB1 types (1247–64) were made at the Racecourse kiln (Corder 1950a, fig. 3, Type 3) and decorated with burnished lattice, wavy lines or, most commonly, intersecting arcs. All three types of decoration appear within the Lincoln assemblage. Vessels with burnished intersecting arcs are most common, especially in mid to late 3rd century groups. Burnished wavy line decoration, rare in comparison, occurred from the later 2nd and into the mid-late 3rd century. Acute lattice decoration is the least well represented but seems to have had an earlier bias, appearing from the mid to late 2nd century and most frequently in the mid 3rd century.

BEAD-AND-FLANGE

(FIG. 123, 1265–76 AND FIG. 124, 1277–80)

Bead-and-flange bowls were produced at both Rookery Lane (Webster 1960, fig. 3, 25–7) and Swanpool (types D1–12). The Lincoln assemblage includes a range of these vessels with beads of varying height (1265–6, 1270–80). Nos 1265–8 are bead-and-flange bowls that are not part of the traditional BB repertoire, although 1266 and 1268 are decorated with burnished lattice. Bowl 1269 is an intermediate type that is closer to the inturned bead-and-flange bowl.

Figure 117 shows that bead-and-flange bowls in general occurred from the mid to late 3rd century but were most commonly found in mid to late 4th century groups. However, there are clear dating differences between the individual types. Those with low bead rims seem to be the earliest; they are slightly more common than the other forms in mid to late 3rd century groups, tailing off by the later

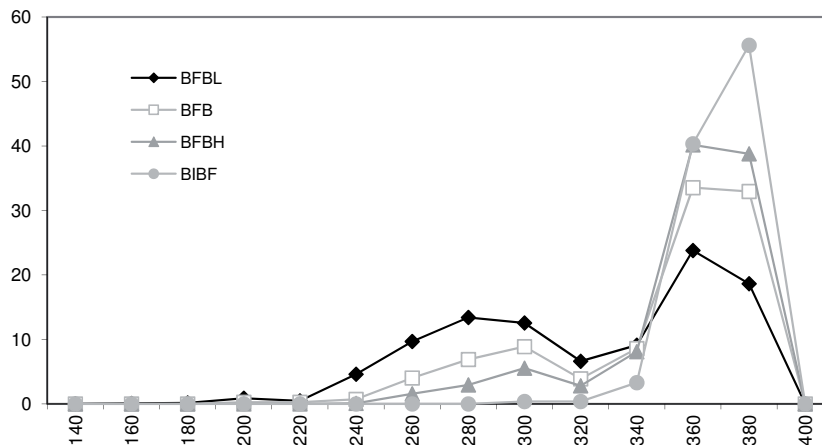


Fig. 117. Grey Ware, plotdate of bowl types by sherd percentage: bead-and-flange (BFB), bead-and-flange with low bead (BFBL), bead-and-flange with high bead (BFBH) and inturned (BIBF).

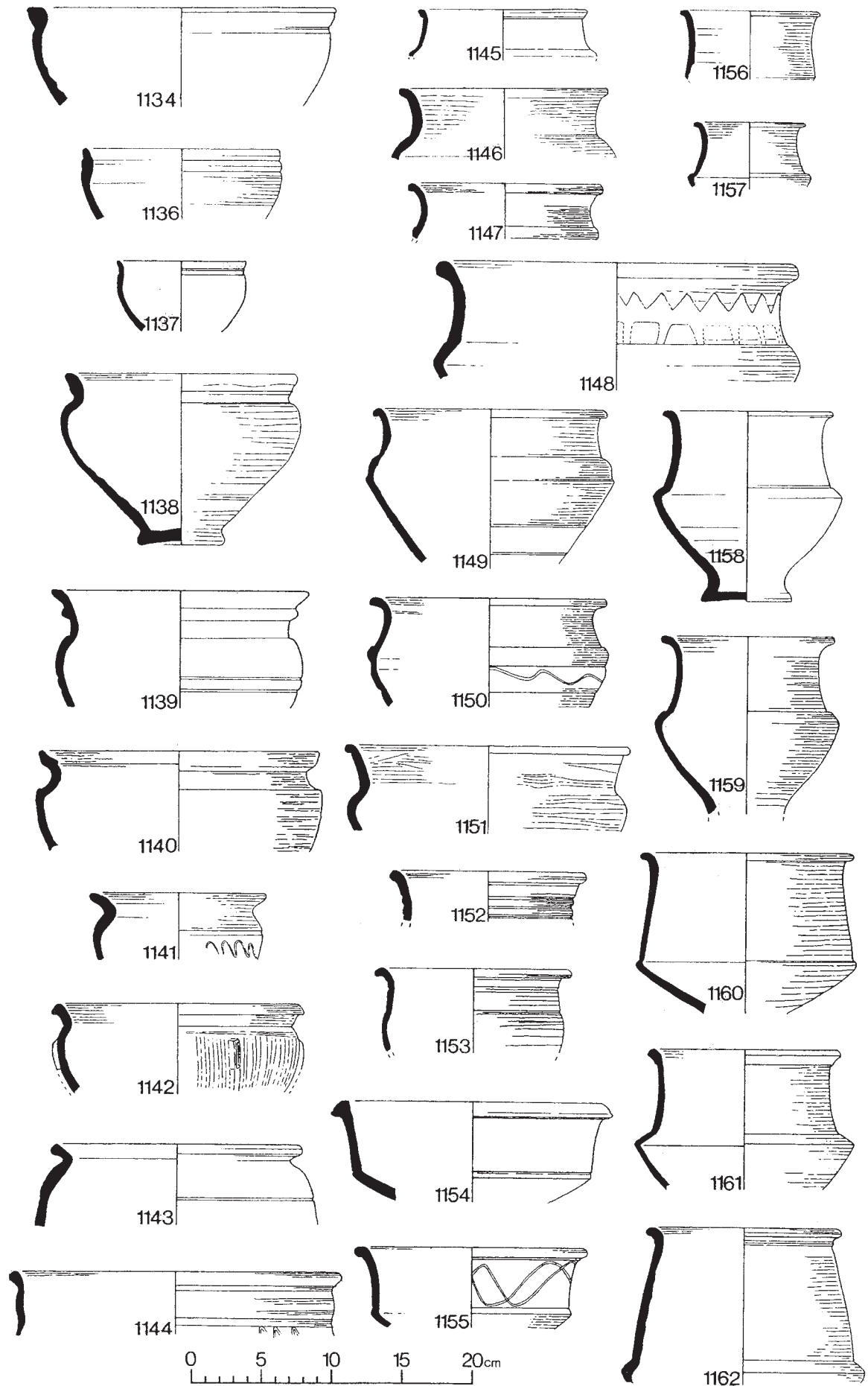


Fig. 118. Grey Ware: bowls 1134-62. Scale 1:4.

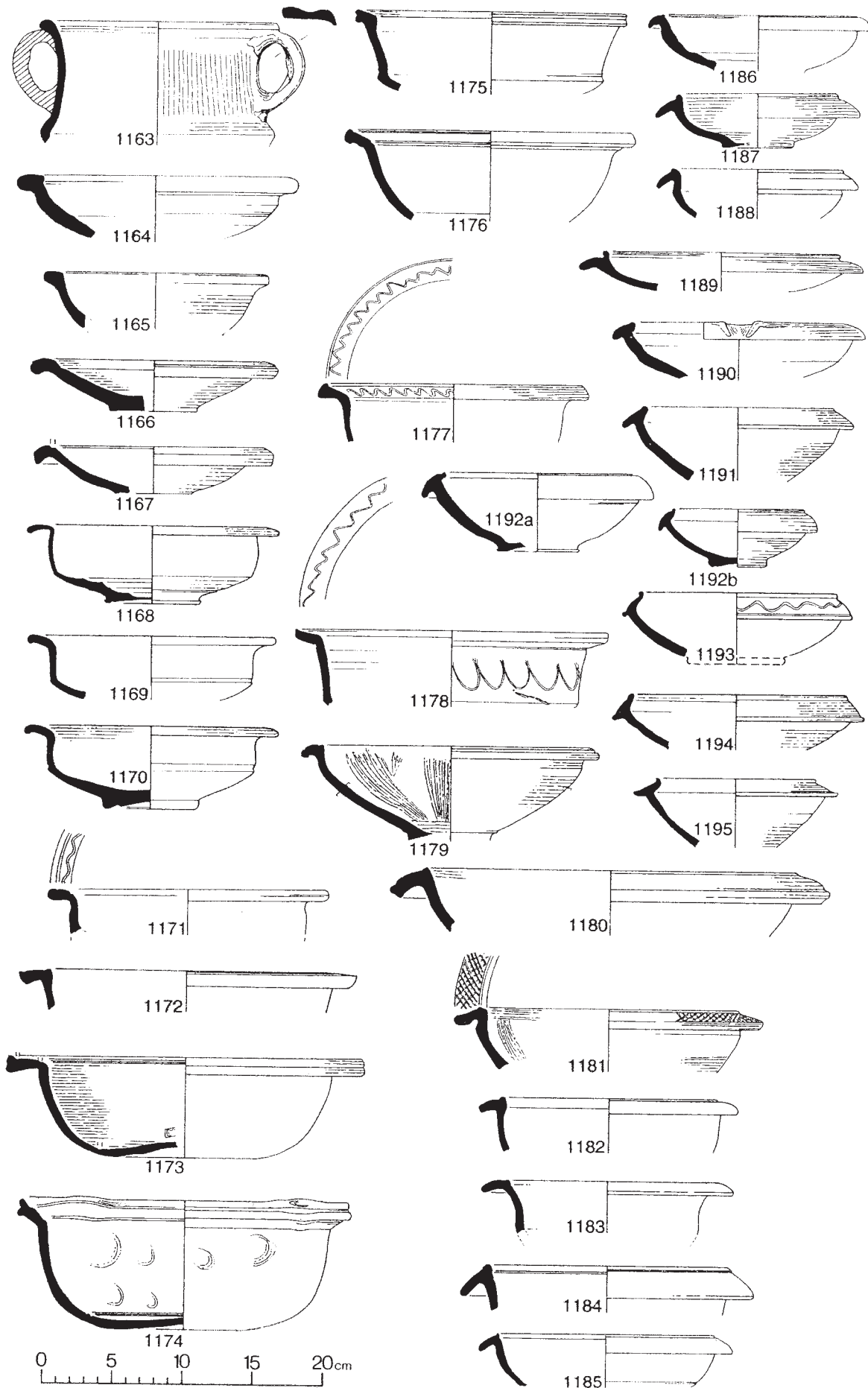


Fig. 119. Grey Ware: bowls 1163-95. Scale 1:4.

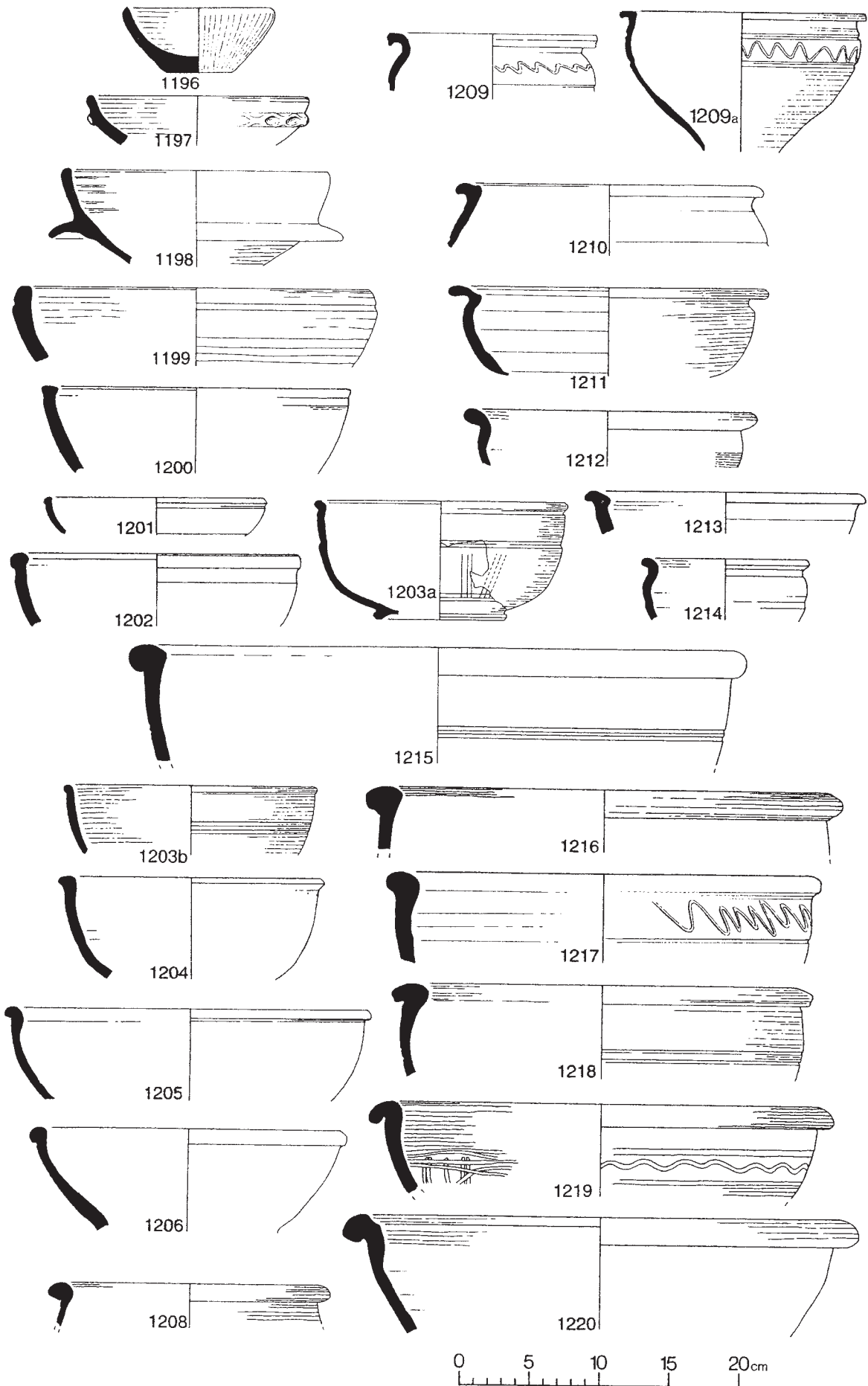


Fig. 120. Grey Ware: bowls 1196–1220. Scale 1:4.

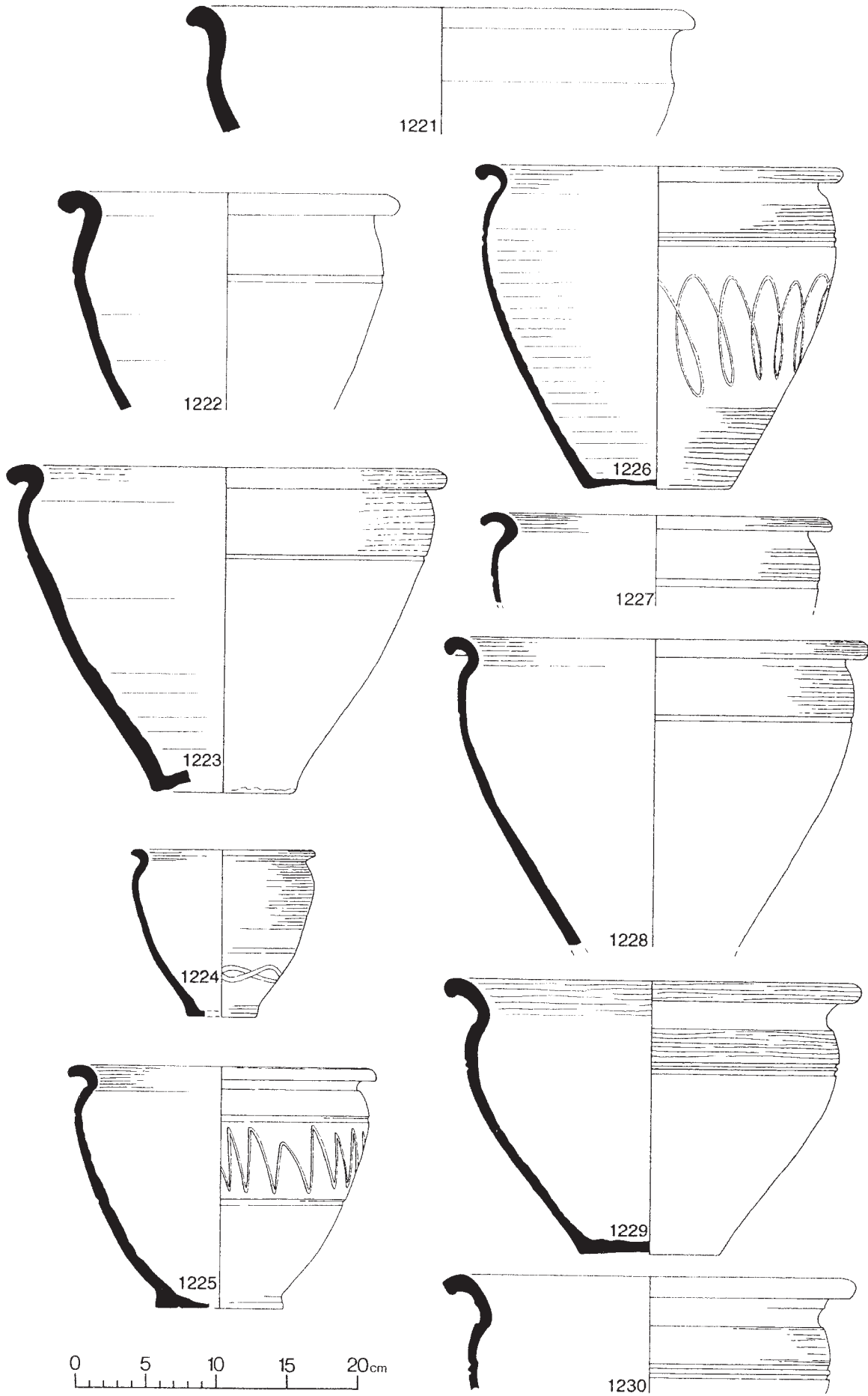


Fig. 121. Grey Ware: bowls 1221–30. Scale 1:4.

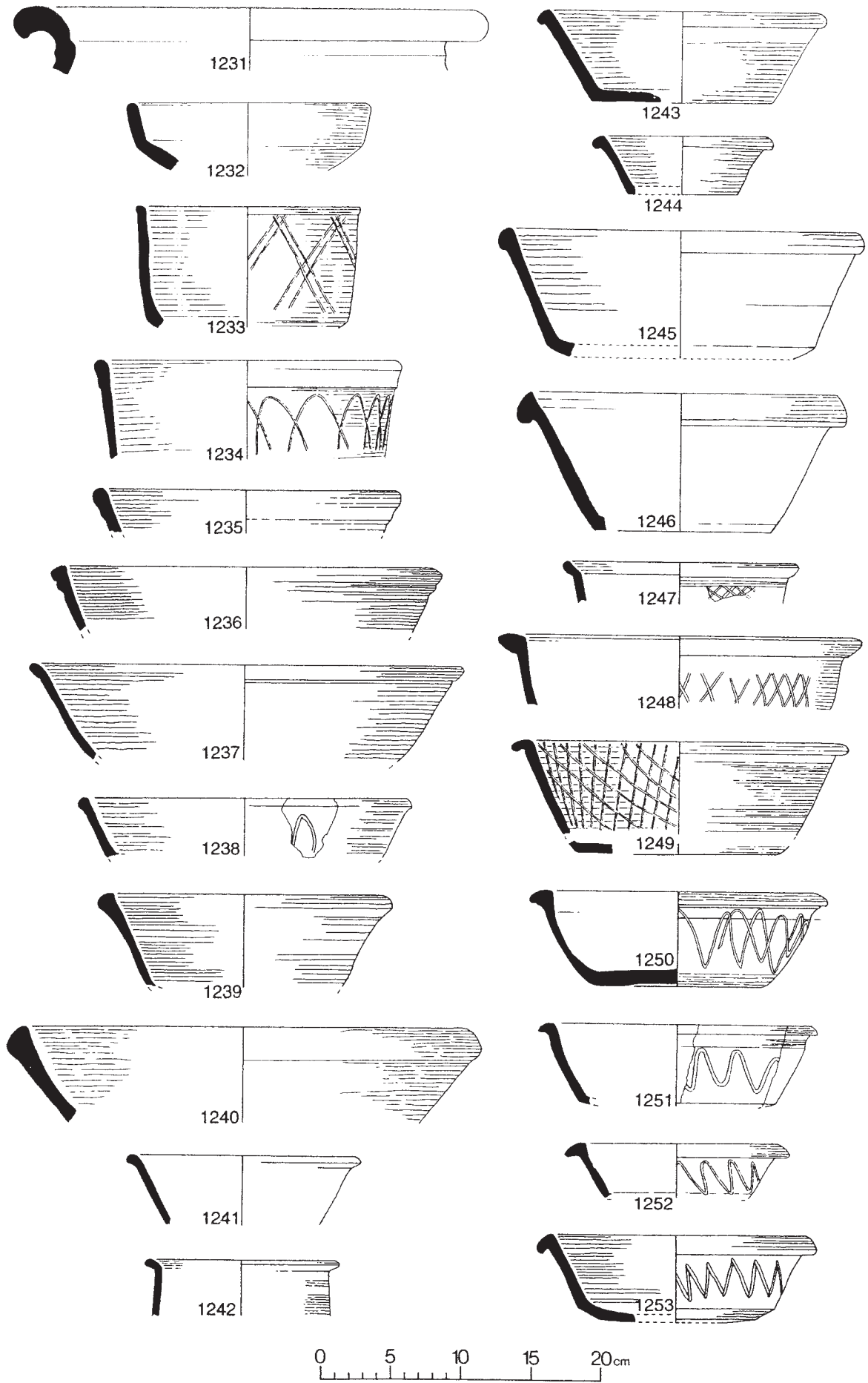


Fig. 122. Grey Ware: bowls 1231-53. Scale 1:4.

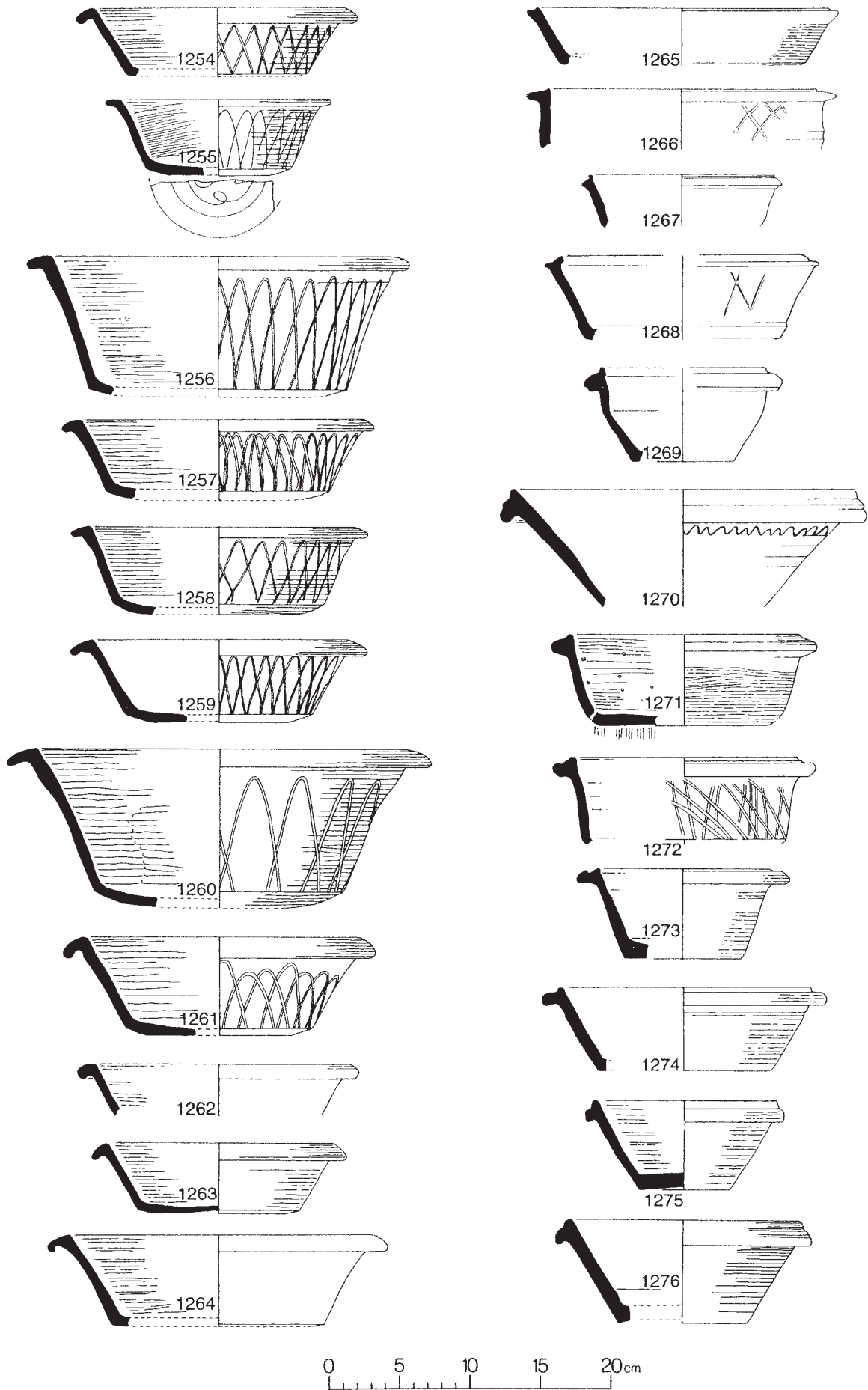


Fig. 123. Grey Ware: bowls 1254-76. Scale 1:4.

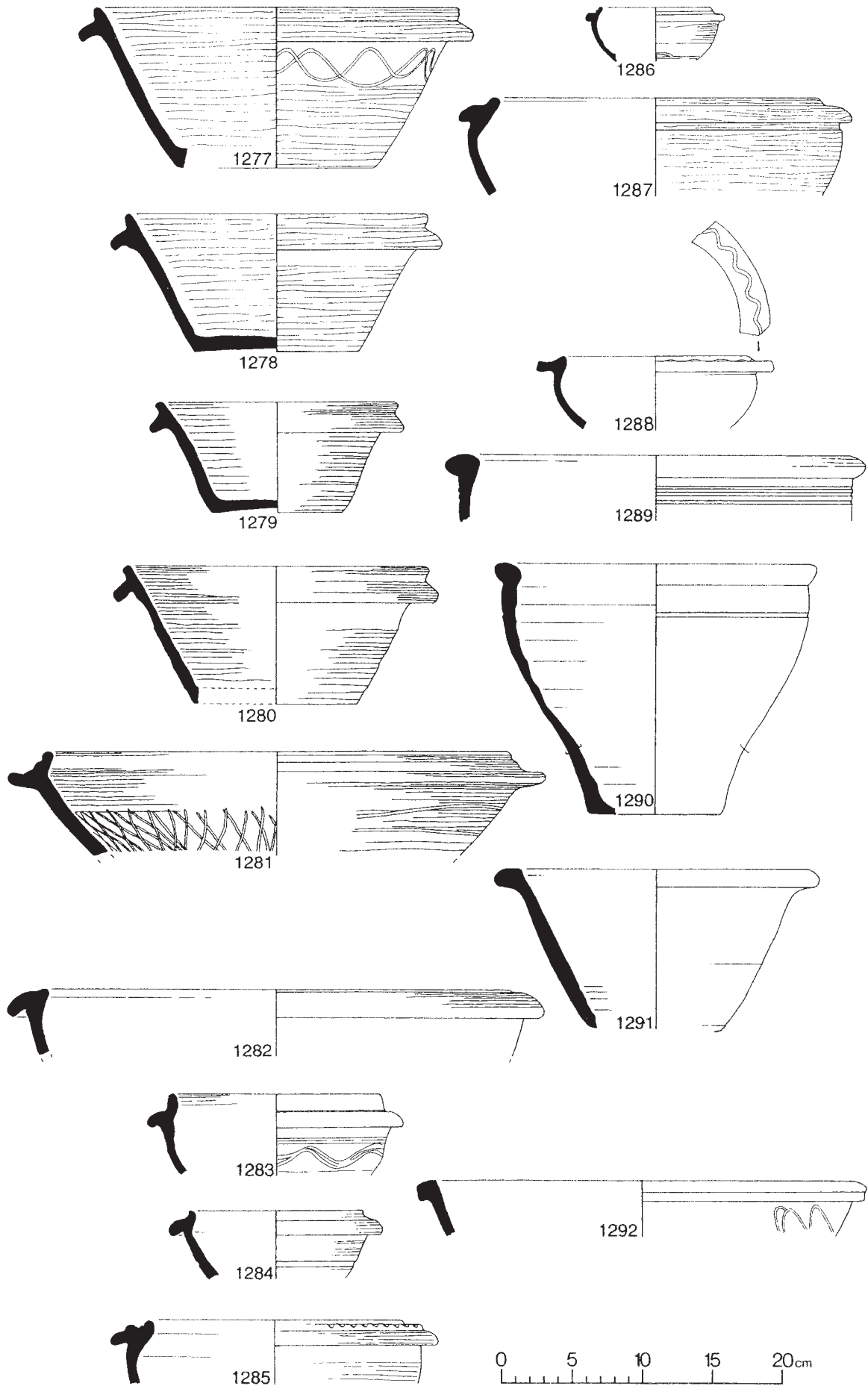


Fig. 124. Grey Ware: bowls 1277-92. Scale 1:4.

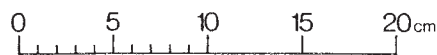
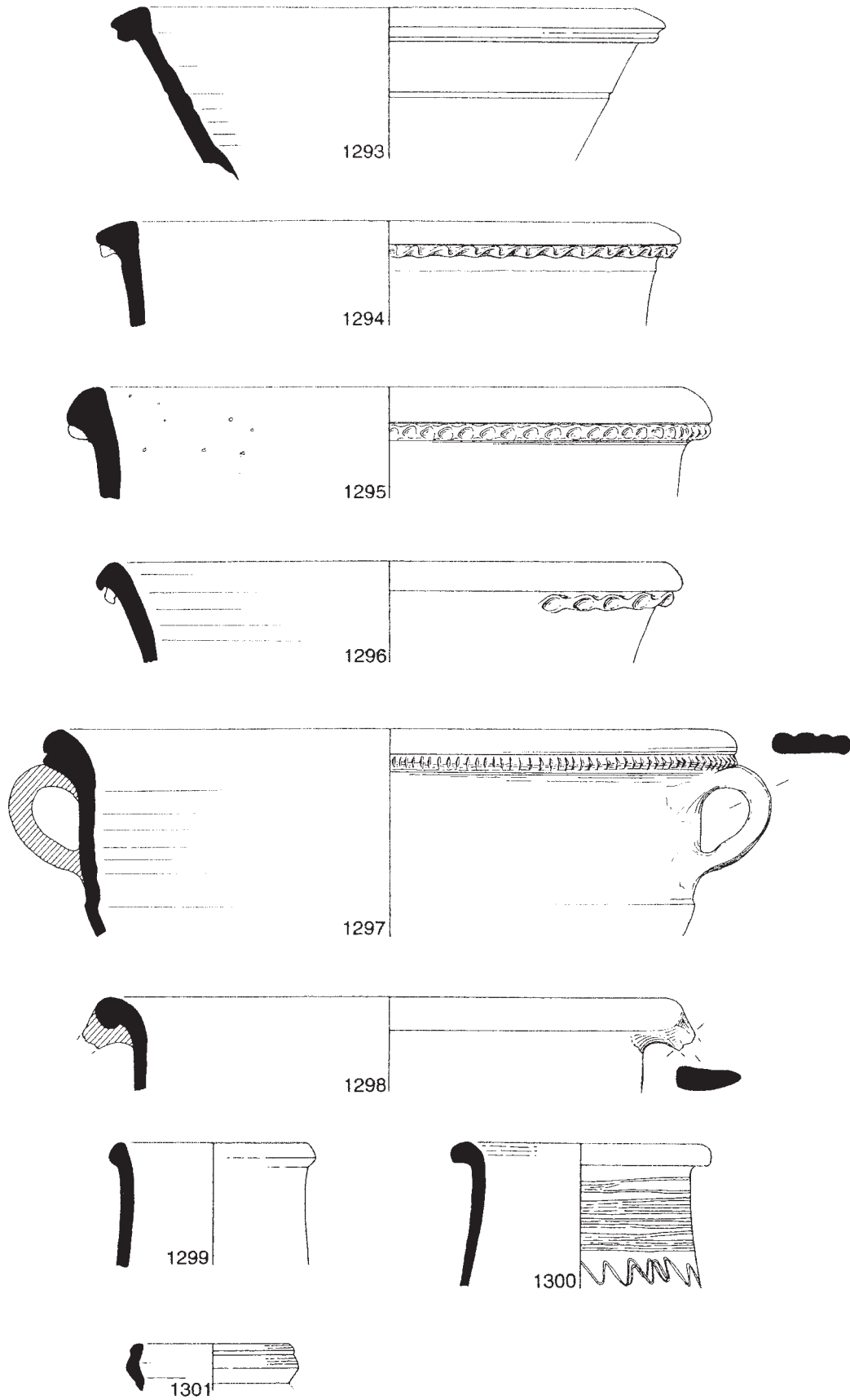


Fig. 125. Grey Ware: bowls 1293–1301. Scale 1:4.

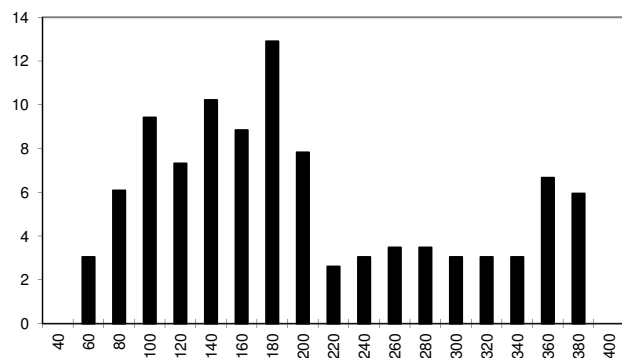


Fig. 126. Grey Ware: plotdate of dish type D452 by sherds percentage.

4th century. The greatest difference is shown by the dating profile of those with inturned rims (see below); these did not appear until at least the mid 4th century and were most abundant in late 4th century groups, with no obvious decrease.

INTURNED BEAD-AND-FLANGE (FIG. 124, 1281–8)

A distinctive group with an inturned bead-and-flange (1283–7) is paralleled at the Swanpool kilns (types D13–23); 1283–7 are typical of the classic Swanpool products, whereas 1281 and 1282 are unusual variants. Bowl 1288, which is decorated with a scored wavy line on the flange and has a pronounced inturned rim, is an earlier type; it was found in a mid to late 2nd century deposit.

LARGE (FIG. 124, 1289–92 AND FIG. 125, 1293–8)

Large bowls (1289–98) occur most commonly in contexts dated to between the mid to late 2nd and late 4th centuries. A distinct group of very large vessels are decorated with finger-frilling beneath the rim (1294–6), and a handled variant has a notched cordon (1297). These decorated bowls are only found with late to very late 4th century pottery, often in post-Roman contexts. Going (1987, fig. 10, 26: 1.1) illustrates a similar vessel, noting that this type is characteristic of Hadham products that, where datable, are 4th century. An almost identical form with a suggested date of *c.* AD 370 comes from the late Roman kiln at Inworth, Essex (*ibid.* fig. 41, 17).

MISCELLANEOUS TYPES (FIG. 125, 1299–1301)

Bowls 1299–1301 do not fall within any of the categories discussed above.

BOWLS WITH 'ROMANO-SAXON' MOTIFS

(FIG. 129, 1303–21)

The last group within the bowl assemblage consists, again, of a very distinctive type: bowls decorated

with 'Romano-Saxon' motifs. These vessels have been the subject of detailed research by Roberts (1982), and are of a style more commonly seen in Hertfordshire and Essex. The majority of the Lincoln bowls are decorated with dimpling, which was made simply by pressing the thumb/finger into the soft clay of the body wall. Two of the vessels (1320–1) are decorated with stamped rosettes. Without exception, all occurred in 4th century assemblages, mostly in groups dated to the final decades. These unusual vessels were undoubtedly made at Swanpool, as an identical form occurs in SPOX (Fig. 53, 502). The fabric of the GREY bowls is a finer variant containing less quartz, but in all other respects shares the same characteristics as the typical SPOX.

Dishes/plates (Fig. 129, 1322–4)

In general, vessels within this category are shallow versions of the bowl types discussed above. Vessels that fall outside the main range of principal groups include 1322–4, three shallow, finely burnished dishes. A few GREY dishes are close copies of Camulodunum form 16. The datable fragments occur in later 1st to early 2nd century deposits, but in common with the dishes or plates of Gallo-Belgic tradition (see below) there is also a strong presence in groups dated to the Antonine period.

PLATES AND DISHES OF GALLO-BELGIC TRADITION:

PGB AND D452 (FIG. 129, 1325–9 AND FIG. 131, 1384–5)

Shallow dishes or plates with inturned rims were derived from late Gallo-Belgic forms. No. 1325, with a strange incurving cut in the basal area that may have been the result of a repair during manufacture, was found with mid to late 2nd century pottery. This type (PGB) is common in the East Midlands, especially at the Roman town and villa site at Great Casterton, Rutland (Corder (ed.) 1961, fig. 14, 1–4), where it is dated to the pre-Flavian and early Flavian periods. A close parallel, with an irregular angular profile, occurred at Chelmsford (Going 1987, fig. 1, A2 4.1) where it is also dated to the pre-Flavian period.

The remaining vessels (1326–9) form a distinct group that includes one with (post-firing) graffiti (1329). Darling (1988, 26–7) notes that this form (D452: Gillam 337) occurred in the Flavian period and earlier as part of a continuing Gallo-Belgic tradition in the area, but that it was still being made in the Antonine period at the Roxby kilns (Rigby and Stead 1976, fig. 67, 40–2; type H). Although only a small group (82 sherds), the dating profile of the Lincoln sherds (Fig. 126) shows a similar pattern: they are present in Flavian groups but are most commonly Antonine. Two (1384–5) have intricate rouletting on the internal base; 1385 is stamped SACE, one of a group of potters who were possibly working in the Doncaster area in

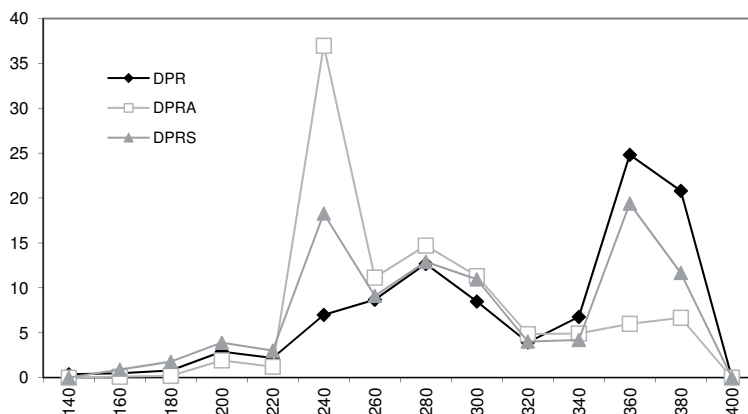


Fig. 127. Grey Ware: plotdate of plain-rimmed dishes (DPR), with angular (DPRA) and straight-walled (DPRS) variants, by sherds percentage.

the Flavian period (Rigby 1998, 192). Although the die is different and the fabric is reduced, it is clearly the work of the same potter as the stamped vessel in OX (Fig. 64, 648; see also Darling 1988, 24, no. 81), and may also be related to the stamped GREY bowl 1173 (see above and Fig. 119).

PLAIN-RIMMED

(FIG. 129, 1332–43 AND FIG. 130, 1344–61)

The most common forms are plain-rimmed dishes copying BB types (1132–44). These vessels are burnished internally and externally and can be either plain or decorated. No. 1337 has a 'cartwheel' design on the internal base, made by burnishing in broad bands. Others have (sometimes irregular) burnished wavy lines or intersecting arcs. This form, with similar styles of decoration, was the most common type produced at the Racecourse kiln (Corder 1950a, 12; fig. 3, no 1).

There are two less common variants, one with a straight-sided body wall (1345–8), and the other with an angular, almost triangular rim (1349–61). Figure 127 shows that all three types appear to be contemporary and are well represented in mid to late 3rd century groups, occurring most abundantly in the mid 4th, although those with angular rims appear to have been less common in the late 4th century.

GROOVE-RIMMED

(FIG. 130, 1362–8 AND FIG. 131, 1369)

A development of the plain-rimmed dish is that with a groove just below the lip (1362–9), but most examples appear to be undecorated. This form was also produced at the Racecourse kiln (*ibid.* 2), but it is one of the least common types. Figure 128 suggests that it first occurred in the later 2nd but was most common in the mid to late 3rd century.

TRIANGULAR- AND ROUNDED-RIMMED

(FIG. 131, 1370–3)

Dishes with triangular rims (1370) are rare. They occur in groups dated to the later 2nd century, but are most common in those of the mid to late 3rd. The rim form appears at the Swanpool kilns but on deeper vessels that are more like bowls rather than dishes, and are undecorated (type E1). There is also an undecorated dish from the Lea kilns (Field and Palmer-Brown *op. cit.* fig. 15, 7). Dishes with more rounded rims similar to Gillam 225 (DG225: 1371–3) are equally rare (31 sherds); they have a similar dating profile to that of the groove-rimmed dishes, but are still present in some quantity in early 4th century groups (Fig. 128).

FLANGED AND BEAD-AND-FLANGE (FIG. 131, 1374–9)

Flange-rimmed dishes (1374–6) are also relatively rare. Bowl equivalents were produced at both the Racecourse kiln (Corder *op. cit.* fig. 3, 3), where they are decorated with burnished intersecting arcs, and the Lea kilns (Field and Palmer-Brown *op. cit.* fig. 15, 8), where they are decorated with burnished acute lattice. The Lincoln examples are either plain, or decorated with acute lattice or burnished wavy lines. The dating profile is similar to that of the groove-rimmed and rounded-rimmed (DG225) forms but appears to have a marginally earlier bias (Fig. 128), although this may be distortion owing to the small size of the group (39 sherds). Dish equivalents of the bead-and-flange bowl (1377–9) are much rarer, but are decidedly later, occurring in the later 3rd to the mid-late 4th century.

MISCELLANEOUS TYPES

(FIG. 129, 1330–1 AND FIG. 131, 1380–3)

The remaining dishes include two with handles

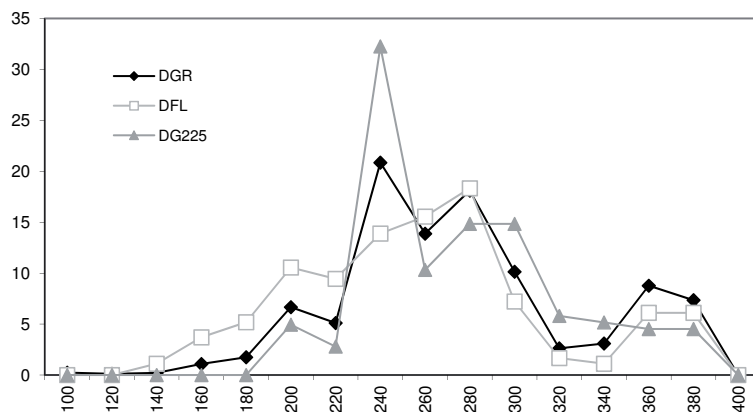


Fig. 128. Grey Ware: plotdate of dish types by sherd percentage: grooved rim (DGR), flanged rim (DFL) and rounded rim (DG225).

(1380–1); 1381 has unusual decoration and three circular impressions on the handle itself, reminiscent of LOND/PART wares. Channel-rimmed dishes 1382 and 1383 occurred in 4th century and mid 3rd to early 4th century groups, respectively.

A curious shallow dish type (1330–1), with a foot that is almost equal in height to the rim, could have served as a lid. The vessel rests on its flange rather than the base, which is rather clumsy in contrast to the rim and flange. The form occurs more commonly in OX (see Fig. 63, 626–7) and is rare in GREY. Four of the five sherds recovered were from contexts dated to the late 4th century.

Lids (Fig. 131, 1386–98)

Lids, with concave (1386–93) or convex (1394–7) profiles, include several with a distinctive bifurcated rim (1391–3 and 1397); these appear most commonly in Antonine groups. This date compares well with that of the Lea kilns, where there is a direct parallel for 1397 (Field and Palmer-Brown *op. cit.* fig. 16, 52). An unusual form with a triangular rim (1398) may be either a lid or a bowl (illustrated here as a bowl); an almost identical fragment was found in the Swanpool kiln assemblage (type G2). The Lincoln vessel was associated with a mid to late 3rd century group.

Rare and unusual forms

FACE POTS (FIG. 132, 1399–1405)

A wide range of other forms was manufactured in GREY, including a number of extraordinary quality and style. One of the most renowned of these vessels is the bearded and ‘horned’ face jar (1399) from the St Mark’s Church site (Darling 1981a; Braithwaite 2007, 282). It was found virtually intact in a deposit associated with the construction of the Saxo-Norman church tower. Typologically, the rim form, narrow

band of laticing and fabric suggest a 3rd century date.

Darling (*op. cit.* 27) describes the fabric as hard-fired grey with common quartz inclusions and a slightly iridescent external surface that appears to have resulted from firing. Set fairly high on the vessel, partially overlapping a narrow band of laticing on the girth, is the mask of a bearded man, his cheeks shaped by pushing out the wall of the vessel. The rest of his features are formed by applied clay: his hair, whiskers, beard and the pupils of his eyes are made of small flattened clay pellets, often overlapping – a hitherto unique technique. His ears, nose (with sculpted nostrils) and ‘horns’ are applied clay strips, and the outlines of the eyes are incised.

Several face pots are noted by Braithwaite (2007, 282) to have horns or vestigial horns. The combination of these goat-like horns, phallic ornament and, unusually, an expression, which appears to be leering, suggests that they are meant to represent Pan-like gods related to fertility; they are strongly Celtic in style.

Braithwaite (*ibid.* fig. 12, 10) illustrates a face/smith jar with an applied bearded face, and smith’s tools and lattice scoring from Chester-le-Street, where there is evidence to support a connection between metalworking/smithing and a smith god cult. This is of some significance for the Lincoln vessel as the majority of the smith pot fragments are from the same site, where there was also evidence of metalworking (see below, smith god pots).

A relatively large number of GREY sherds (87) with facial features have been recovered (*e.g.* 1400–5) although some of the smaller, less diagnostic fragments could be from head pots (see below). These may represent no more than 18–24 separate vessels; apart from the face jar 1399 (18 sherds),

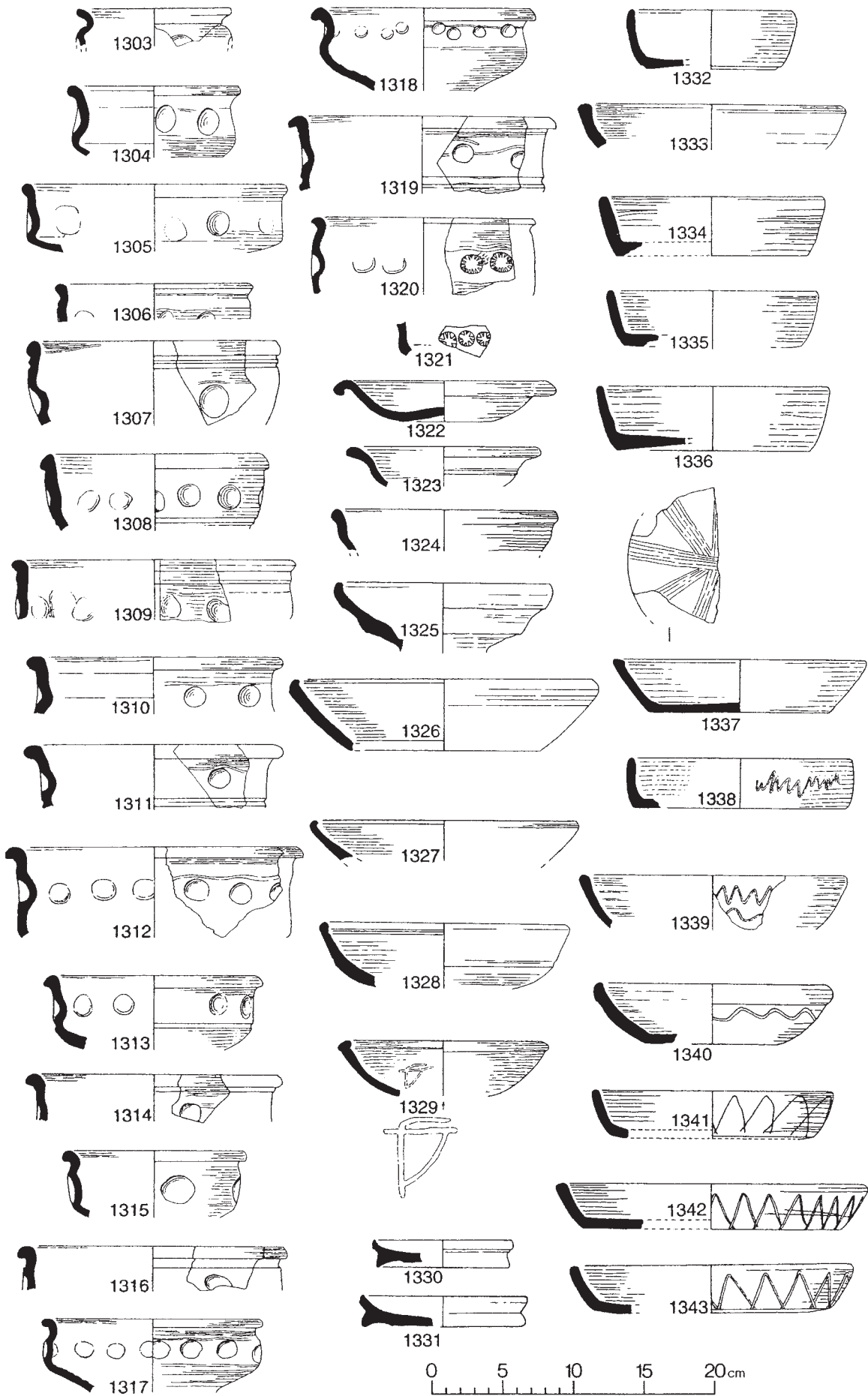


Fig. 129. Grey Ware: bowls, dishes and plates 1303–43. Scale 1:4; graffiti 1329 scale 1:2.

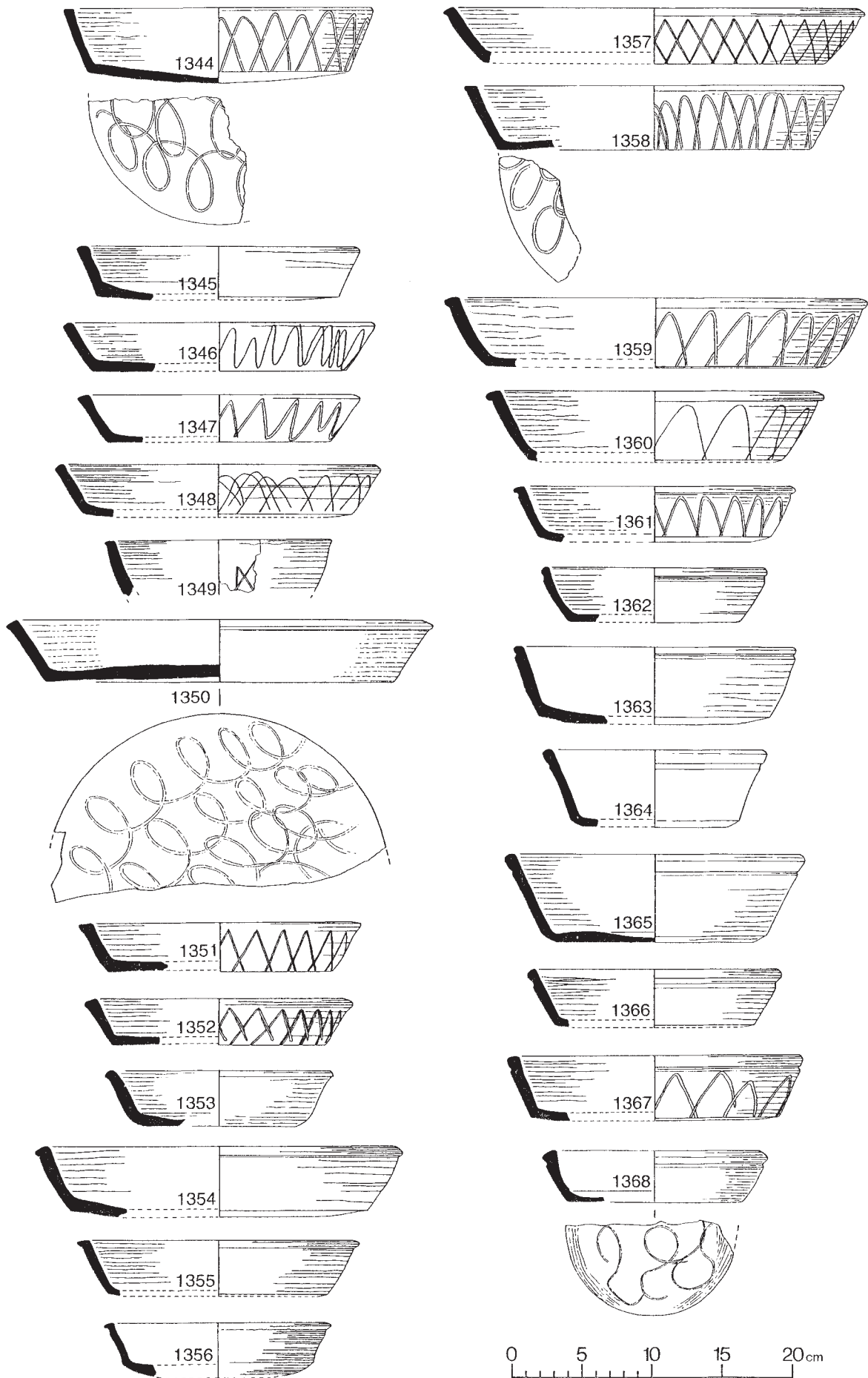


Fig. 130. Grey Ware: dishes 1344-68. Scale 1:4.

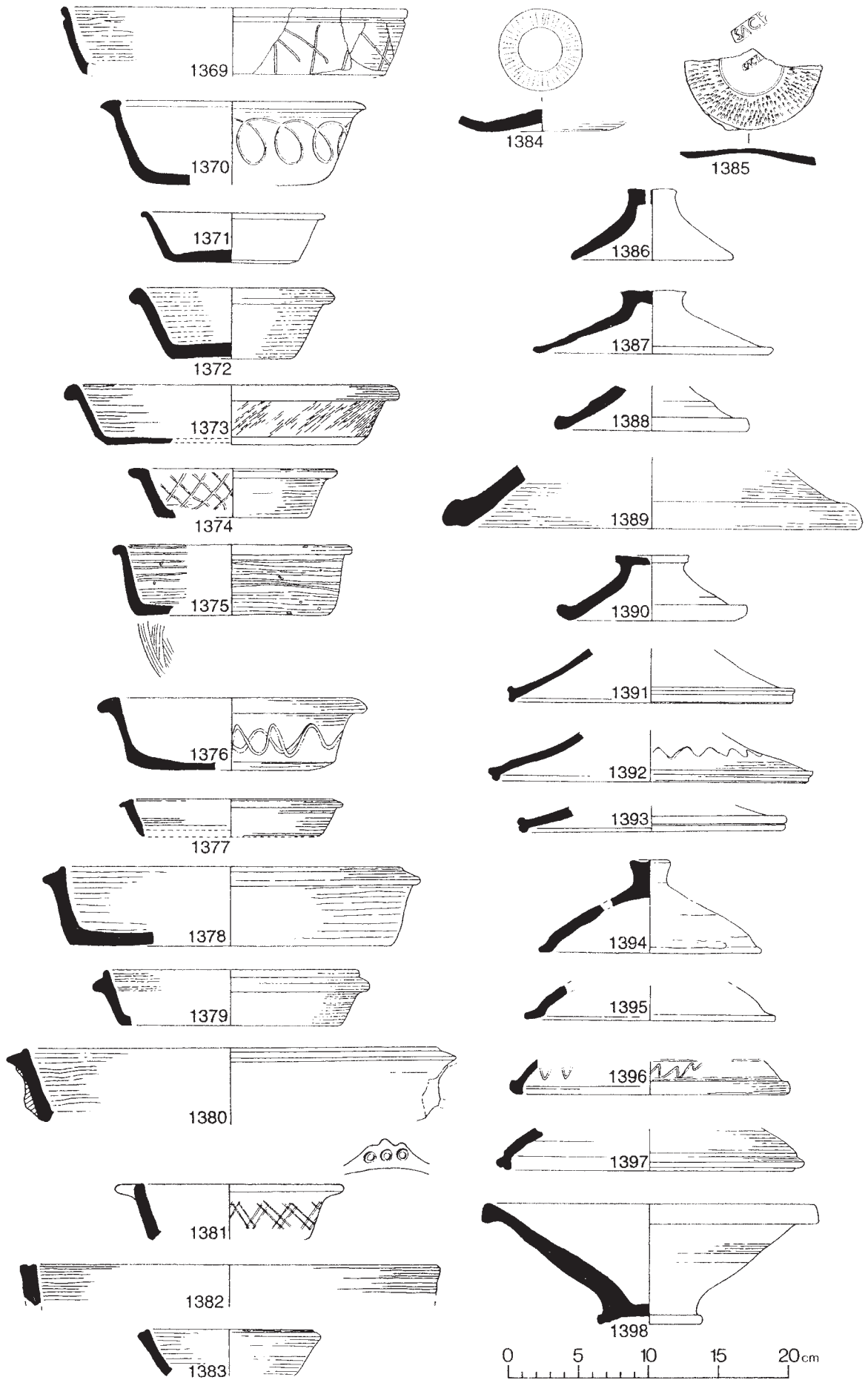


Fig. 131. Grey Ware: dishes and lids 1369-98. Scale 1:4; stamp 1385 scale 1:2.

another large group (37 sherds) from St Mark's Church is almost certainly from a single vessel. The date span ranges from the mid-late 3rd to the mid 4th century.

HEAD POTS (FIG. 132, 1406)

Head pots are rare in comparison; fragments of a maximum of four vessels have been recovered, and virtually all of the 22 sherds are from a single vessel (1406). This remarkably fine-featured vessel is discussed by Braithwaite (1984, fig. 14, 6; a crucial sherd was found later). The fabric is virtually identical to that of the bowls with 'Romano-Saxon' decoration produced at the Swanpool kilns. Apart from the hair, which is a thumbed, applied clay strip, and the iris of the eye, the remaining features have been simply pressed out and outlined by incising. A burnished zone extends from the chin to the base, and burnished wavy lines decorate the back of the head. The elaborate incised motif on the right side appears to represent a *caduceus*, while the stamped circles on the forehead are unparalleled on face or head pots.

There is a remarkable parallel from Margidunum (Oswald 1927, 41, pl. XX), which Oswald suggests is of Constantinian date. The faces are virtually identical but the Margidunum example omits the line of ring stamps on the forehead, and the thumbed applied clay strip, from the ears to across the forehead is heavier. The burnished lines on the right side are wider and cruder, and despite flaking, undoubtedly depict a *caduceus*. Furthermore, because the Margidunum vessel is intact, the rim style can now be identified as a simple curve extending from the top of the head. A more fragmentary example, but with identical thumbed hair and very similar features is illustrated by Elsdon (1997, fig. 72, 323). To these should be added the complete PARC head pot from Lincoln, with a painted inscription 'DO MERCVRIO' indicating dedication to Mercury (Braithwaite 2007, 450; fig. S4, 5), now in the British Museum. For another fragment in PARC, see p. 74 and Fig. 61, 571. The link with Mercury is consistent with his association with Bacchus, who he saved as a baby after it was born from Zeus' thigh, and it is interesting to have this cluster of examples.

No. 1406 was reconstructed from sherds that came from three different post-Roman contexts, one of which contained late 4th century pottery (SPIR) but also residual 3rd century material (MOSL). As the vessel was almost certainly made at the Swanpool kilns, a later 3rd to 4th century date is likely. All the other sherds of GREY head pots were found in groups dated from the mid 3rd to the mid 4th century.

SMITH GOD POTS (FIG. 132, 1407–9, 1411 AND 1413)

A remarkable collection of smith god pots comprising sherds from five separate jars with applied

representations of smiths' tools, hammers, tongs and anvils came from the St Mark's Church site (Steane *et al.* 2001, 276). Another, the most complete example (1407), from St Mark's Station, is in OX rather than GREY, but this may be the result of a firing accident (it is burnt or over-fired to an oxidised red-brown) and therefore is included here. Darling (1990, 21) describes this as an exceptional concentration because they are the only known examples from Lincoln; moreover, such vessels are rarely found in Roman Britain. They are normally associated with a smith god, possibly the Roman Vulcan, the Hittite *Dolichenus*, or a Celtic equivalent.

At least three of the groups in which they occurred are of mid to late 3rd century date, and the others were associated with pottery broadly dating to the 3rd century. The basic form of the vessels is very similar to that of the GREY beakers of type BK120 (see p. 135, and Fig. 112, 1076–83), which mainly occur in groups dated to the mid to late 3rd century. It is perhaps significant that altars dedicated to Vulcan, where datable, also belong to the 3rd century.

Vessels ornamented with smith's tools have been found at Malton and Norton, Yorkshire (Corder 1950b, pl. VIb). The Norton potters also employed decorative notched cordons similar to those on 1407–9 and the BK120 beakers, but the latter form does not appear in the Norton kiln repertoire. The fabrics of the Lincoln vessels are consistent with local clays.

As noted above, the possible connection of the bearded face pot (1399) with these vessels, and their association with metalworking/smithing, is supported by the evidence for associated metalworking from both Lincoln sites. Craftsmen using fire were aware of the dangers of such practices; as Darling (*op. cit.* 22) notes:

'The safe control of furnaces, etc. must have been of paramount importance to such craftsmen, and wise observance of worship would require some sort of shrine. It is probable that the vessels were connected with such worship, occasionally being used also for other votive offerings. There is no evidence for their use as normal cooking vessels, and while they may have been purely decorative items in the shrine, various substances for use in sacrifices could have been stored in them.'

OTHER RITUAL? VESSELS

(FIG. 132, 1410 AND FIG. 133, 1417–8 AND 1431)

Another sherd reflecting religious beliefs (1410), again from St Mark's Church, has part of the *caduceus* from a figure of Mercury, probably originally applied to a very similar jar to those decorated with smith's tools. No. 1417 is a fine example of an applied figure of Mercury, again on a similar type of vessel, but from a different site (Grantham Place); it was

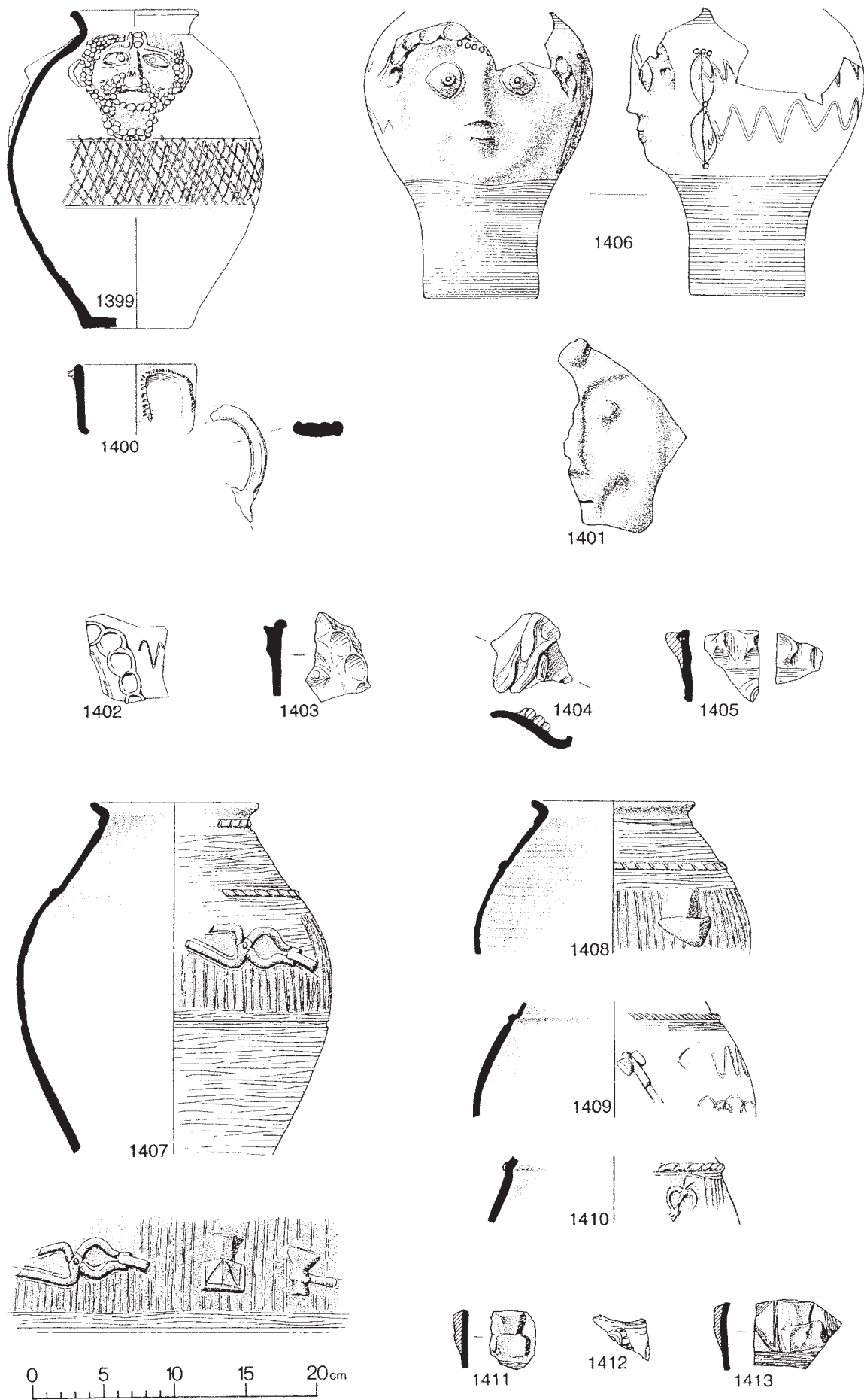


Fig. 132. Grey Ware: unusual forms 1399–1413; 1403 and 1405 are from the same vessel. 1407: Oxidised ware (misfired?). Scale 1:4.

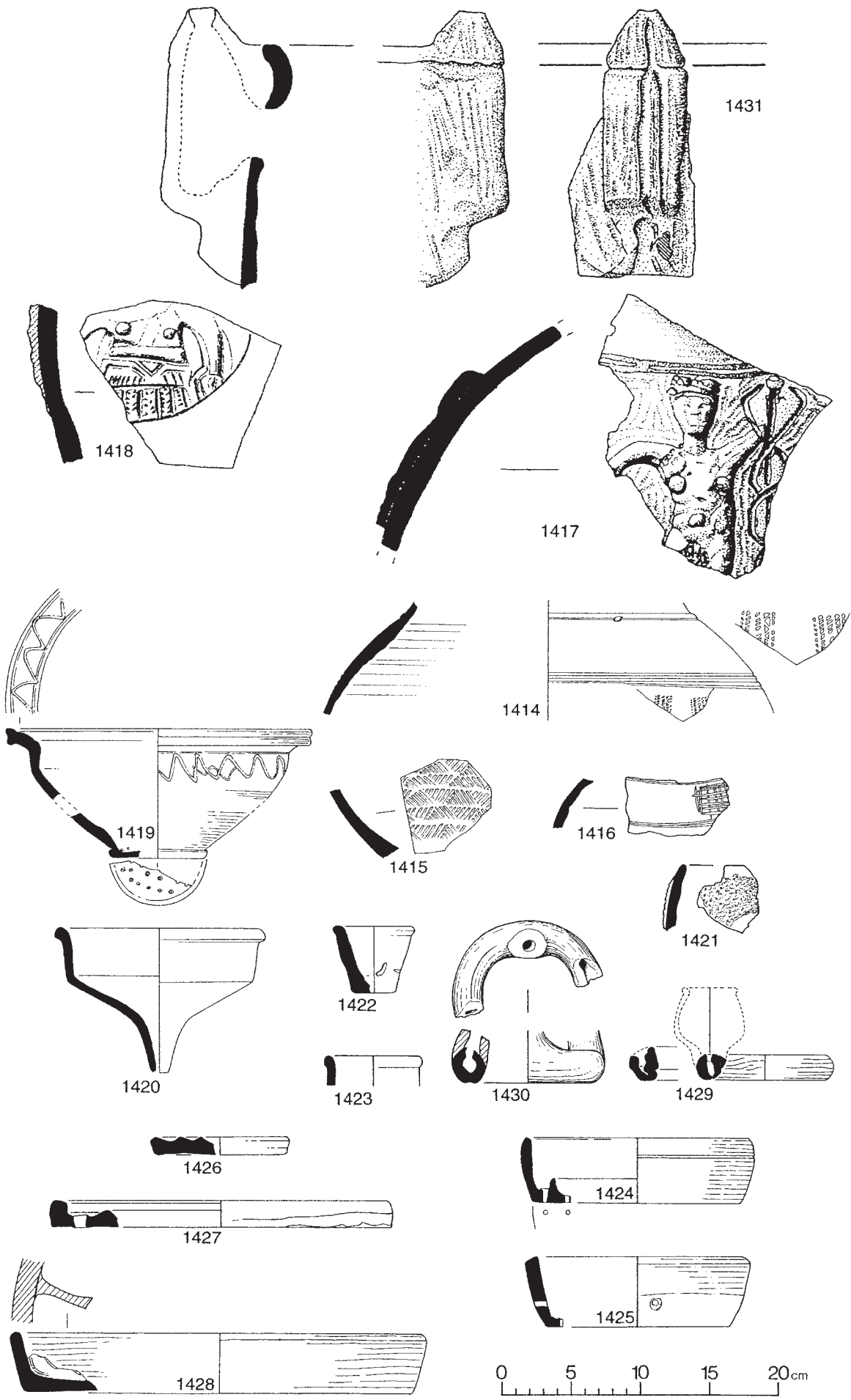


Fig. 133. Grey Ware: unusual forms 1414–31. Scale 1:4; 1417, 1418, 1431 and detail 1414 scale 1:2.

associated with mid to late 4th century pottery. There is also a complete head pot dedicated to Mercury, as noted above.

A second applied figure has an intricately carved garment (1418); this sherd came from Saltergate and was associated with 4th century pottery. Professor J. M. C. Toynbee saw the sherd shortly after excavation and considered it to possibly depict a native form of Mars, based on the military appearance of the 'skirt', which is in the form of two rows of lappets – *pteruges* – below a substantial belt (*cf.* a depiction of Mars on a folded beaker from Great Chesterford: Roach Smith 1857, 81–2; Going 1981, fig. 18.3a).

Darling (*op. cit.*) notes that another symbol frequently used in the Roman world to ensure good luck was the phallus; one example (1431) is from Bishop Grosseteste College. This unusual hollow fragment, from an uncertain context, appears to be a functional spout applied to the side of a jar; the phallus is burnished and has little feet at its base. Whether this was a face jar, with phalli instead of the more usual cups at the side of the head, is unknown. A phallus in TILE was also found at St Mark's Church (Fig. 55, 530).

Miscellaneous decorated sherds (Fig. 132, 1412 and Fig. 133, 1414–16)

A sherd from a closed form in the same fabric as the smith god vessels, also from St Mark's Church, is broken across a circular notched motif (1412). A body sherd from a large, probably narrow-necked jar, in a fabric very similar to that produced at Swanpool, is decorated with a series of stamped motifs below two grooves (1414). The form and stamp, but not the fabric, are similar to two later Parisian-types published by Elsdon (1982, fig. 7, 64; fig. 11, 103). The Lincoln sherd was associated with mid to late 3rd century pottery, which broadly fits Elsdon's dating for the later Parisian wares (*ibid.* 23–4). A small sherd decorated with a complex roller-stamped chevron design (1415) is from a post-Roman context; a similar type of stamp on a folded beaker from Chelmsford (Going 1987, fig. 30, 324) is dated to *c.* AD 190–210.

No. 1416 is a body sherd from a handmade jar in a fine-textured brown fabric, with tiny black inclusions and occasional quartz, from a later 1st to 2nd century context. The shoulder is decorated with an incised lattice motif between two grooves on a burnished

or smoothed surface. Going (*ibid.* 102) illustrates a series of cruder, somewhat similar marks on the shoulders of ledge-rimmed jars, but in ?South Essex shell-tempered fabric, a type discussed by M. U. Jones (1972). These came from a number of groups, including those spanning the period *c.* AD 65–85.

Colanders and Funnels (Fig. 133, 1419–20)

These are both very rare types: seven sherds of colanders mainly occurred in groups dated to the later 4th century, but the illustrated vessel (1419) was associated with mid to late 2nd century pottery. This vessel has a bifurcated rim, as on bowls of type B333 (see above), which are present in Hadrianic to Antonine groups, but were most common in the later 2nd century. A single funnel (1420) came from a disturbed late 4th century context.

Crucibles (Fig. 133, 1421–3)

Eighteen GREY crucible sherds include six from 1st to early 2nd century groups and five from mid to late 4th century assemblages. These were almost certainly used in copper melting, although none was analysed. At least seven of these are similar to beaker forms (*e.g.* 1423), but others (1421–2) do not conform to any of the vessel types discussed above and were almost certainly purpose-made.

Cheese Presses (Fig. 133, 1424–8)

Both bases and lids of cheese presses have been recovered (1424–7) but they are extremely rare (eight sherds). Two sherds were found with pottery dating from the later 2nd to the early 4th century; the remainder were in late 4th century groups. A dish with internal divisions (1428) may be a damaged cheese press but is more likely to be an hors-d'oeuvre dish (as at Colchester: Hull 1963, 134; fig. 74, 3); it was found with pottery dating broadly to the 3rd century.

Crusy, Tazze and Triple Vase (Fig. 133, 1429–30)

The crusy or lamp-holder was also made in GREY, but only two fragments have been found in Lincoln; one is of Antonine date, the other is from a group broadly dating to the 4th century. Tazze are equally rare; two of the three sherds recovered were found with pottery dating to the later 3rd to early 4th century. Triple vases (1429–30) share the same date span.

7 The Mortaria

Barbara Precious with Margaret Darling and Katharine Hartley

Mortaria form the smallest of the ware groups (Fig. 4). Imported mortaria in fabrics other than samian ware are comparatively rare and, although a notable quantity of the Lincoln assemblage was locally produced, vessels manufactured at Romano-British kilns outside the Lincoln area form the highest proportion.

Every attempt was made to fully quantify the mortaria; however, owing to the loss of some sherds (particularly from Silver Street and Saltergate), much of the analysis is based on sherd count. Examination of the stratified dated occurrence of vessels is confined to fully archived groups with associated site phasing. Because large quantities of Roman pottery from post-Roman deposits at Flaxengate (F72) were not fully recorded (although all the specialist wares were extracted), the mortaria from those deposits were excluded from analysis. Although regrettable, this is probably not a significant loss of data since the later deposits on that site frequently contained pottery of mixed dates with a high residual content.

The discussion of the vessels is followed by a report on the stamps (7.4); see Darling 1984, 69–71 for those recovered from the earlier excavations at East Bight (EB66) and Temperance Place.

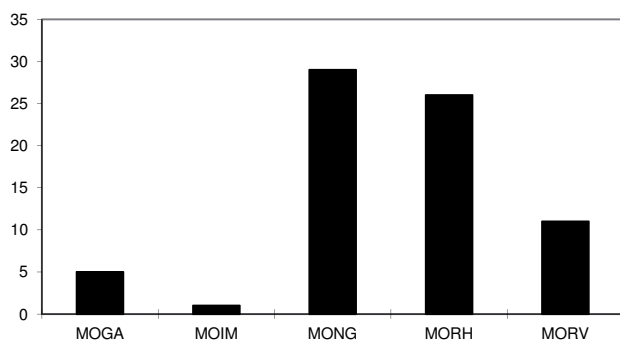


Fig. 134. All imported mortaria by sherd count.

7.1 Imported Mortaria

The imported mortaria are from three main sources: North Gaul (MONG), the Rhone Valley in central Gaul (MORV) and the Rhineland (MORH), those from the latter being almost as common as those from north Gaul (Fig. 134). Five sherds from unidentified sources are probably Gaulish (MOGA); unfortunately these could not be located, and are therefore not discussed in this volume.

Miscellaneous Imported mortaria (MOIM)

A single sherd in an unusual, but clearly imported, fabric (MOIM) is probably but not certainly of North Gaulish origin.

Dating: EROM

A wall-sided mortarium with a swollen bead (1432) falls within K. F. Hartley's Group III (1985, 92–3) and is thought to be post-conquest in date, *c.* AD 45–60/6. It was associated with later 1st to early 2nd century pottery.

Fabric and technology

LRF338

The fabric is pale cream in colour with darker cream surfaces and is moderately hard, but easily scratched, with a powdery feel. The smooth fracture reveals moderate amounts of clear, opaque and occasionally grey quartz (SA 0.1–0.3mm) and rare red and black iron-rich inclusions (R 0.2–0.3 mm, less frequently >0.8mm). A few shiny black angular and elongated particles are also visible. The matrix is calcareous with occasional small white particles. No trituration grits survive.

Form (Fig. 135, 1432)

No. 1432 can be directly paralleled with a vessel from London (Davies *et al.* 1994, 62–3; fig. 53, 297), which is from a probable north French source, Bavay and/or

Noyon (see MONG, below). There is also a Hofheim-type (pulley-rim) flagon in the same fabric within the CR assemblage from Lincoln (Fig. 41, 303).

Recent research by Katharine Hartley and Dr. Robin Symonds has revealed evidence for the production of early wall-sided mortaria and flagons of the pulley-rimmed type, with a slight groove in the centre of the collar, at Bavay (see *Archéologie et Pédagogie, Fouilles et Études, Lycée de Bavay*, 1982: 11, 4; 57–8, *Forme 1a*, and fig. 31, 1–2 for the mortarium; and 59–62, fig. 30, 6–7, for the flagon).

North Gaulish mortaria (MONG)

This category includes all mortaria with fabrics that certainly indicate a North Gaulish, Bavay and/or Noyon source (29 sherds), predominantly of K. F. Hartley's Group II (1977).

Dating: EROM

The generally accepted date for the manufacture of these vessels is within the Flavian period, with the production of some types continuing into the 2nd century. Almost all of the Lincoln examples that fall within the accepted time span are from the Upper City.

Fabric and technology

NRFC: NOG WH 4

LRF1

There is a range of fabrics, which are all relatively fine and calcareous and vary in colour from light to greyish cream. LRF1 is harder and less powdery than MOIM. Moderate, relatively fine quartz (SA 0.1–0.4mm) is the main inclusion, together with less common black and red iron-rich particles, and less frequent clay calcareous inclusions. Rare mica is sometimes more noticeable in the surfaces, and on very rare occasions flint occurs in the fabric. The trituration grits consist of coarser quartz and crushed flint which, on some examples, extends over the rim onto the flange.

Forms (Fig. 135, 1433–7)

The most common rim type (as 1433) is the classic Group II (or Gillam 238) form, which ranges in diameter from 27 to 46cm. No. 1434 is similar to Hartley's Group I, but was associated with later 2nd century pottery; 1435 also belongs to Group I and is stamped by the potter Orgil, c. AD 55–85 (see Darling 1984, 69–70, no. 1 for discussion of the stamp) while 1436, a partial stamp, is dated to the same period (see 7.4, no. 1).

No. 1437, from a mid to late 2nd century context, has a short, squat flange and a slightly squared internal bead, similar to vessels from Wroxeter (Bushe-Fox 1913, types 26–30). Similar forms occur

in early Antonine and 2nd century levels in London (Davies *et al. op. cit.* 67; fig. 55, 311–3).

Rhone Valley Mortaria (MORV)

Recent research by Dr Paul Tyers on these mortaria has identified a probable source in the Rhone Valley, in the Lyon-Vienne region. He notes (1996, 130–1) that the petrology of British examples matches that of mortaria from St Romain-en-Gal, a known pottery production centre in Vienne.

Dating: EROM

The accepted chronology for these vessels is the mid 1st (from c. AD 50) to the early 2nd century. The dating of the Lincoln examples (11 sherds, all from the Upper City) largely agrees with those from the Rhone Valley. In Lincoln, there is a distinct grouping in 1st to early 2nd century assemblages, and another, perhaps residual, in those dated to the mid-late 2nd century. Although mainly occurring from the mid 1st to the early 2nd century, a small quantity of this type came from early Antonine levels in London (Davies *et al. op. cit.* 70–1).

Fabric and technology

LRF3, 4, 154

LRF3 The fabric is generally hard with a fine texture and a smooth or finely irregular fracture, and cream or pinkish cream in colour. It is sparsely tempered with ill-sorted quartz and rock fragments (A, SA 0.5 – 2.5mm) set in a micaceous matrix. Large platelets of gold mica (F >0.3mm) are often seen in the surface and with the trituration grits, which are of coarse quartz sand. The thin-section (L1711) contains abundant granite (R quartz, feldspar, biotite and muscovite >1.0mm), sparse lenticular pores filled with ferroan calcite (>0.4mm), abundant biotite (>0.1mm) and moderate muscovite (>0.1mm) in an isotropic (yellowish, once calcareous?) matrix.

LRF4 (L1693): abundant granite fragments (SA quartz, feldspar and biotite >1.5mm), moderate, lenticular pores filled with (post-depositional) ferroan calcite (>0.5mm), abundant muscovite (>0.05mm) and sparse quartz (A >0.05mm) in an anisotropic matrix.

LRF154 (L1637): moderate quartz/mica schist (R >2.0mm); sparse granite (R biotite and quartz >0.5mm); sparse quartz (SA >0.3mm); moderate ferroan calcite (>0.1mm); moderate non-ferroan (purple) calcite (>0.1mm); moderate muscovite (>0.1mm) and moderate biotite (>0.1mm) in an anisotropic, calcareous matrix with unidentified mineral fragments.

Vessel interiors have distinctive horizontal scoring.

Forms (Fig. 136, 1438–40)

Rims are beaded with a hooked flange and range from 34 to 48cm in diameter, clustering around 36–38 cm. The interiors of 1438–9 and, less certainly, 1440 have distinctive horizontal scoring.

Rhineland Mortaria (MORH)

This category (25 sherds) includes the range of known Rhineland fabrics and their associated trituration grits. The majority of these vessels were probably made in the Soller, Kreis Duren region of the Rhineland, whilst others may be from the Eifel/Rhine area.

Dating: MROM

The dating of these wares is complex and depends largely on the vessel type. MORH in Lincoln is mainly found in mid to late 3rd century groups. A single example from a mid 2nd century deposit is not certainly of Rhineland origin, although its fabric is not unlike that of an early Rhineland product noted at Colchester and London (see Davies *et al. op. cit.* 71, Fabric 2554).

Fabric and technology

NRFRC: RHL WH

LRF21–6

This group includes a range of fabrics, as shown by thin-section analysis; the majority can be paralleled with those discussed by Beth Richardson (1986, 109–12).

LRF21 (L1692): abundant quartz (R >0.8mm) in an anisotropic matrix (1444).

LRF22 (L1604): reddish clay pellets (R >1.0mm), sparse rounded (>1.0mm) and abundant angular quartz (mainly less than 0.05mm but up to 0.1mm), in an anisotropic matrix (1449).

LRF24 (L1659): moderate quartz (R >0.5mm), sparse whitish clay pellets (R >0.5mm) and abundant muscovite (>0.1mm), in an anisotropic matrix (1450).

LRF25 (L1645): sparse white clay pellets (R >1.0mm), moderate, ill-sorted rounded (>1.0mm) and abundant angular quartz (mainly less than 0.05mm but up to 0.1mm), in an anisotropic matrix of slight variegation with a mixture of white and off-white clay (1441).

LRF26 (L1615): sparse white clay pellets (R >1.0mm) and abundant, ill-sorted rounded (>1.0mm) and angular quartz (mainly less than 0.05mm but up to 0.1mm), in an anisotropic matrix (1446).

Forms

These vessels fall into three main types: collar-rimmed (1441–4); those with hook-flanged rims (1446–8 and 1450), and the typical large mortaria (1449 and 1451–3) often stamped VERECVNDVS.

Collar-rimmed (Fig. 136, 1441–4)

Rim diameters range from 26 to 54cm. No. 1441 is closely paralleled by a vessel from New Fresh Wharf, London; Beth Richardson (1986, 110, 1.70) notes that these collared forms were made at Speicher, but also at Urmitz, and probably other Rhineland kilns. The main period of production at Speicher was from the 2nd to the 4th century, and at Urmitz during the 2nd and 3rd centuries. The Lincoln vessel was associated with pottery dating from the 3rd to the mid 4th century but in a post-Roman context.

Both 1442 and 1444 have more pronounced collars, with a beaded rim and flange, and can be broadly compared with a vessel illustrated by Gose (1984, taf. 43, 454), who dates the type to the mid 4th century. One of the Lincoln examples (1444) was associated with 4th century pottery. No. 1443, dated to the mid-late 3rd century by associated pottery, is again paralleled at New Fresh Wharf (Richardson *op. cit.* 112, 1.83).

Hook-rimmed (Fig. 136, 1446–8 and Fig. 137, 1450) Mortaria 1446–8 all appear to be in the same fabric (LRF 26) and have small, thick beads and chunky hooked flanges, with rims ranging in diameter from 40 to 58cm. The flange of 1446 is rounded and upturned, and is unparalleled in either the Gose series or the mortaria from New Fresh Wharf. In contrast, the rim forms of 1147 and a variant, 1148, with a slight groove on the flange, are both paralleled at New Fresh Wharf (Richardson *op. cit.* 1.81), where the latter form is identified as a Rhineland product. The rim form also occurs within the Gose series (*op. cit.* 40; taf. 44, 462), with a suggested date in the second half of the 3rd century. The Lincoln vessels were associated with pottery ranging in date from the mid 2nd to the mid to late 4th century.

The most remarkable vessel in this group is 1450, which is probably from Gallia Belgica (possibly Trier) and dated to c. AD 70–150 (see 7.4, no. 2). It is ornamented with a series of three impressed circles, perhaps stamped by a metal tube or bone, arranged in triangular patterns on the flange, together with a circular fold and impression beside the spout. The rim is similar to those of 1146–8, and the circle at the side of the spout is not unlike that of Gose type 461 (*ibid.* taf. 44), although the latter is dated to the later 2nd to mid 3rd century. The Lincoln vessel has been heavily repaired, as evidenced by at least two rivet holes, and probably continued in use for some time beyond the date of manufacture.

Verecundus types (Fig. 136, 1449 and Fig. 137, 1451–3) Hartley (in Richardson *op. cit.* 111) suggests that the mortaria stamped VERECVNDVS normally appear in contexts dated to c. AD 150–200, whilst unstamped varieties may be later, dating to perhaps c. AD 200–

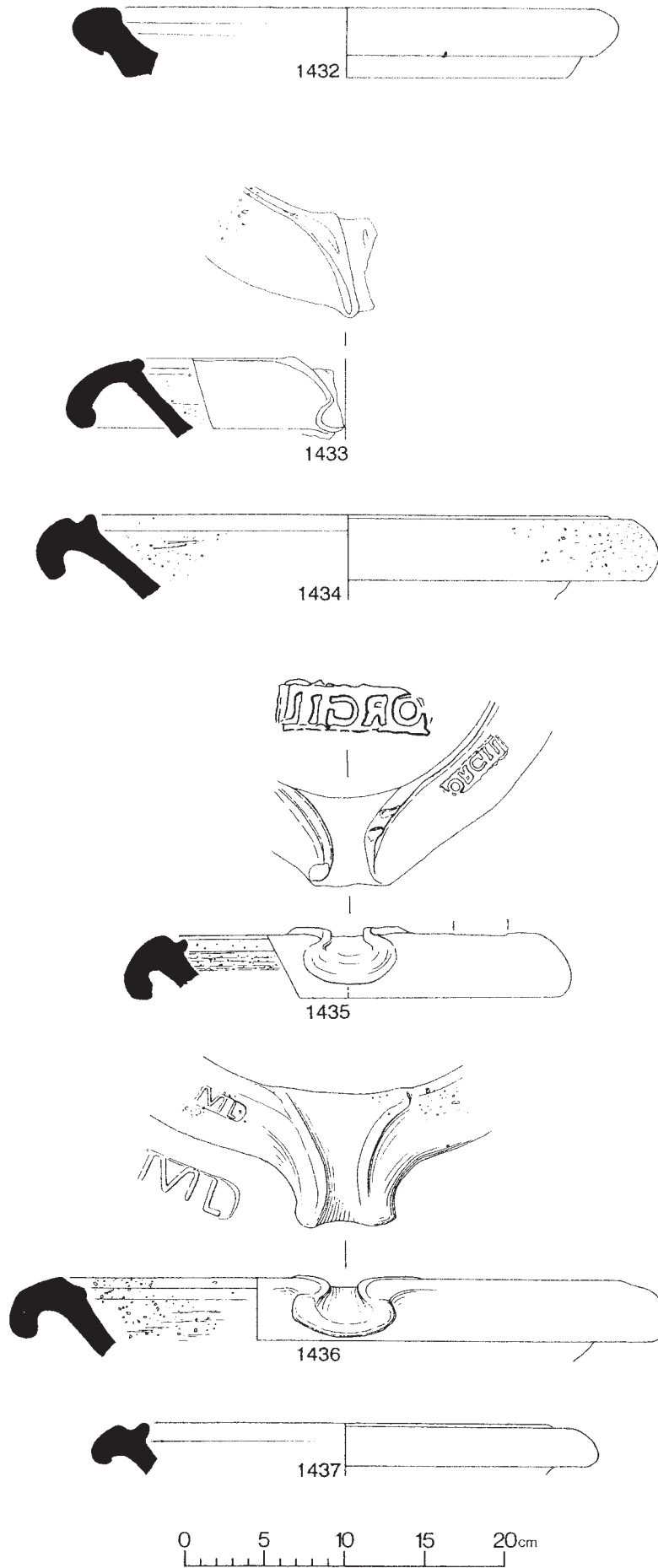


Fig. 135. Mortaria: Unsourced Imported 1432 and North Gaulish 1433-7. Scale 1:4; stamps scale 1:2.

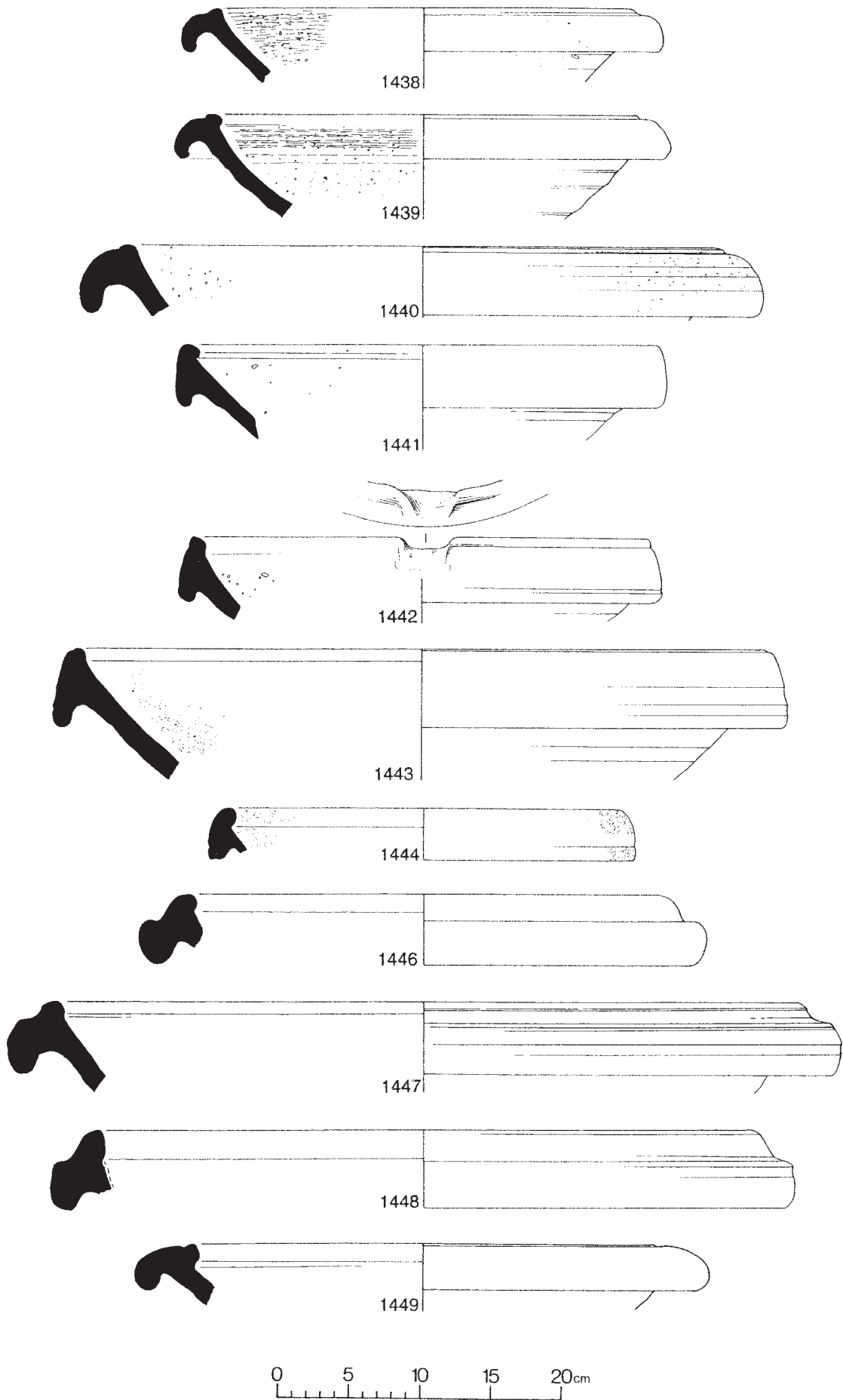


Fig. 136. Imported Mortaria: Rhone Valley 1438-40 and Rhineland 1441-9. Scale 1:4.

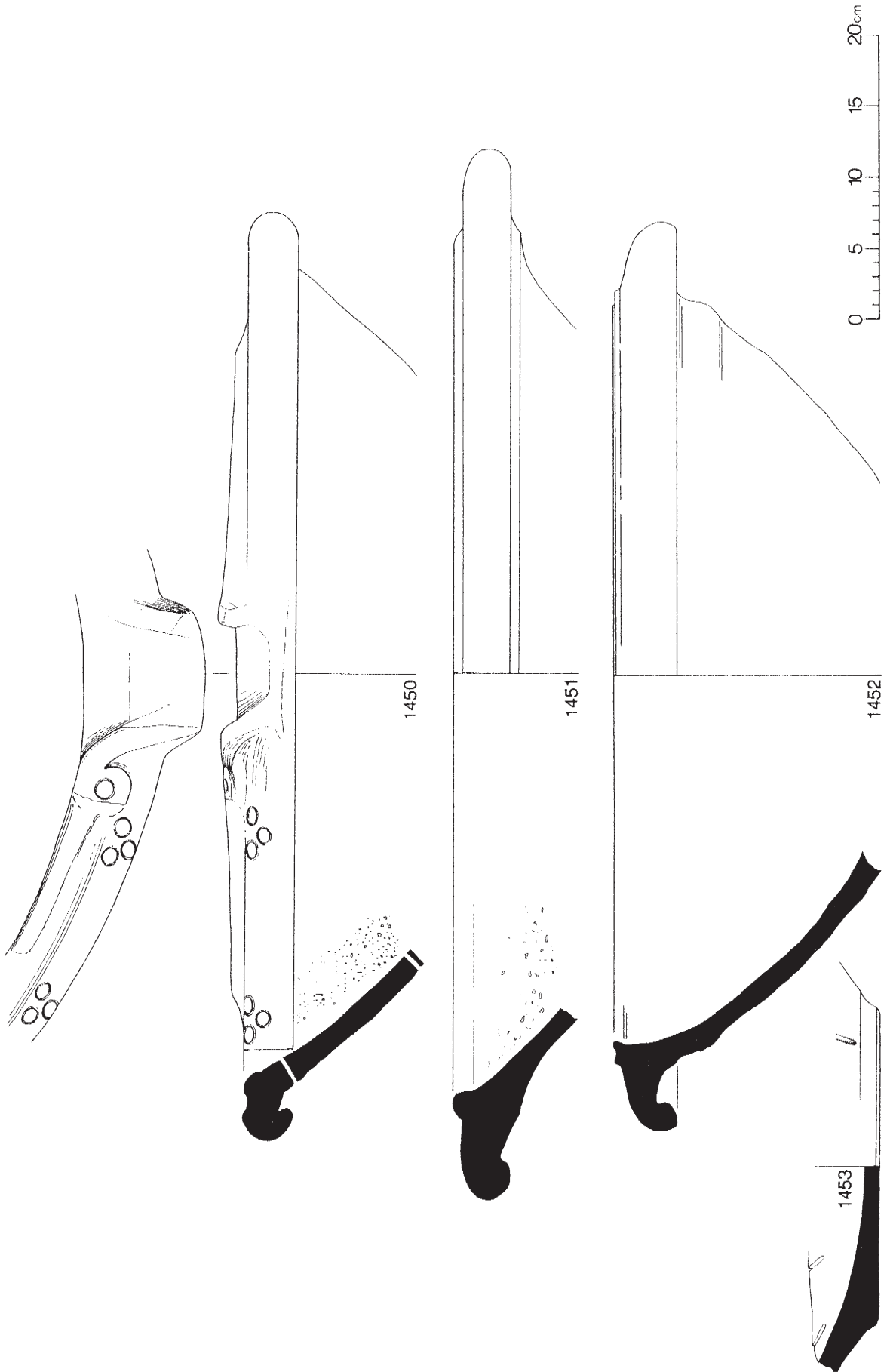


Fig. 137. Imported Rhineland Mortaria 1450-3. Scale 1:4.

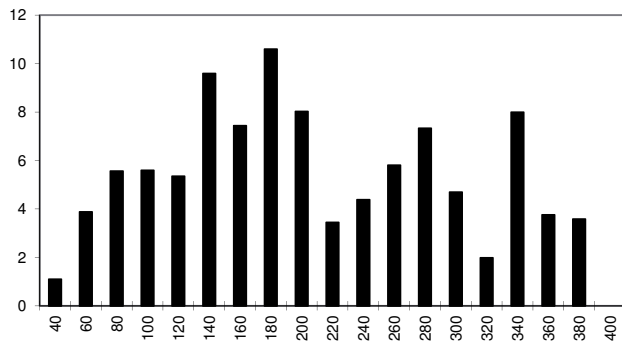


Fig. 138. Local Mortaria: plotdate by sherd percentage.

220. However, the workshops at Soller are thought to have continued production until the mid 3rd century. Most of the Lincoln sherds, all unstamped, are from later 2nd to mid-late 3rd century assemblages. The largest vessels in this group are 74cm in diameter (as 1451); the smallest (1449), at 40cm, can be paralleled with a similarly small mortaria from New Fresh Wharf, London (*ibid.* 1.74).

An unusual example with a bifurcated bead (1452) was found with later 3rd to early 4th century pottery; the very worn interior suggests that it was in use far beyond the date of manufacture (*c.* AD 160–220). A further instance of the value and long period of use of these vessels is exemplified by 1453, a base sherd that has been extensively repaired with several metal rivets.

7.2 Local Mortaria

This category comprises two main groups with distinctively different fabrics: white or pale cream mortaria that are probably from local sources, but also include vessels that may have been made further afield (MOLO), and those with a red-brown fabric (often with a grey core) that in most cases is slipped with a white clay, manufactured at Swanpool (MOSP). MOLO includes a small sub-group of mortaria that are definitely identified as South Carlton products (MOSC), while MOSP includes vessels with a distinctive colour coat, again mostly with a white clay underslip (MOSPC). The Swanpool products are by far the most common and are found in mid to late 4th century groups, whereas MOLO (including MOSC) mainly occurs in assemblages dated from the later 1st to the end of the 2nd century.

Local mortaria (MOLO and MOSC)

MOLO is a grouping of fabrics rather than a single ware; it includes vessels produced at the local South

Carlton and Technical College kilns as well as others that are probably local, but conceivably from further afield in Lincolnshire and possibly Northamptonshire. However, the South Carlton and Technical College fabrics are not easily distinguishable either in the hand or microscopically.

No local kilns manufacturing during the 1st century have been found to date, but it is very probable that mortaria were manufactured together with the early CR flagons noted in 1st century deposits (see p. 305). Production at the Technical College kilns probably started in the late 1st century, while that at South Carlton is dated to the Antonine period. Mortaria were also made in the 2nd century at kilns in the Trent Valley, including those at Newton-on-Trent (Field and Palmer-Brown 1991). The fabrics therefore are subdivided here into those that are more positively identified as local (MOLO: 119 sherds), including the known MOSC mortaria (7 certain and 3 probable sherds), and those with similar fabrics that are less certainly, but probably local products (74 sherds: MOLO?).

Stamped mortaria from the Technical College occur at Corbridge and Carlisle, bases behind Hadrian's Wall and Newstead, as do those from South Carlton, these also appearing further north at forts on the Antonine Wall (see pp. 307–10). Only those recovered from excavations within the city are discussed below (see 7.4).

Dating: EMROM?

Figure 138 suggests that MOLO vessels first occurred in Lincoln in the early 1st century; however, this is a 'tail' due to the inclusion of vessels from groups that are only broadly dated to that century. It is not until the later 1st century that there was a notable increase, which coincides with the proposed date for the commencement of manufacture at the Technical College kilns (Taylor 1937, 233), while a peak during the Antonine period reflects production at the South Carlton kilns.

It is unclear when local production of the early MOLO mortaria ceased. Although MOLO appears to be moderately well represented in mid 3rd and mid 4th century groups, this may be due to the inclusion of some early products from Mancetter-Hartshill (MOMH) and the Midlands (MOMD). The fabrics are quite similar, all having a relatively high mica content, and a small number of MOMH/MOMD body sherds lacking their distinctive trituration grits, which include red argillaceous fragments, could have been misidentified as MOLO. It is equally likely that MOLO was residual in these later groups, as is almost certainly the case with 1489, a vessel dated by the potter's stamp to the mid-late 2nd century, but found in a late Roman context.

Fabric and technology

NRFC: SOC WH (South Carlton); LTC WH (Lincoln Technical College)

MOLO: LRF2, 152 (Technical College), 153 (Newton-on-Trent), 159, 161, 165–8

MOSC: LRF151

MOLO

A range of the variant fabrics within this group is presented below.

LRF152 (Pl. 3.51) Technical College kilns: pale cream with a wide range of colouring on the exterior and interior surfaces, as would be expected from kiln material. The type-*sherd* has pale reddish brown surfaces and is hard with a slightly rough feel and an irregular fracture; the main characteristics, including the trituration grits, are virtually identical to those of MOSC LRF151 (below).

LRF153 (Pl. 3.52) Newton-on-Trent kilns: an off-white fabric with pale grey surfaces; hard, with a slightly rough feel and an irregular fracture. The calcareous matrix contains moderate to abundant amounts of ill-sorted opaque quartz (SR 0.1–0.6mm, occasionally >1.0mm), rarer black iron-rich inclusions (R >1.3mm) and occasional limestone fragments. White mica (F >0.25mm), visible in moderate amounts in the fabric, is abundant in the surfaces, and the trituration grits are composed of coarse quartz fragments (R >4.0mm).

LRF2 (Pl. 3.50): rim fragment (1464) from a hook-flanged mortarium identical to Gillam 238, with external gritting. It is a very hard pink fabric with a light grey core, and a smooth exterior. The slightly laminar fracture reveals a calcareous matrix containing moderate amounts of ill-sorted quartz (SR 0.1–0.3mm, occasionally >0.5mm), rare black and red iron-rich inclusions (R >0.6mm), and less common limestone inclusions (R >1.0mm). Sparse fine white mica is visible in the surfaces. Coarse quartz grits (SR 0.4–0.7mm) and occasional flint are ground into the flange leaving scoring marks.

LRF159: a fine, hard fabric, which is pale pinkish white with slightly darker surfaces. The fine, almost conchoidal fracture reveals a calcareous matrix containing moderate to abundant silt-sized quartz and, very rarely, larger sub-rounded quartz fragments (>0.3mm). Moderate amounts of white mica (F >0.1mm) are visible in the matrix and are more abundant in the surfaces, and rare red iron-rich particles (most 0.1–0.3mm) and occasional limestone pellets (R >1.0mm) complete the inclusions. Variants include a more powdery fabric and a high-fired light pinkish yellow fabric with dark cream to light brown surfaces. The trituration grits are sparse but consist of coarser quartz and very occasional flint fragments. Mortaria dated to the 1st century occur in this fabric, which is

not unlike that of the early CR flagon fabric (see LRF234, p. 52).

LRF161: a hard, pale pinkish cream fabric, with a powdery feel and a smooth fracture. It is very similar to LRF159 but with more frequent inclusions of the larger quartz (SR 0.3–0.4mm, occasionally >0.8mm) and much sparser mica. The trituration grits consist of coarse quartz and occasional flint (>2.5mm).

LRF165 MOLO? A high-fired white fabric with an almost conchoidal fracture revealing a fine calcareous matrix with sparse ill-sorted quartz (SR 0.3–0.4mm) and sparse red and occasionally black iron-rich inclusions (R >0.3mm); moderate to abundant white mica (F >0.1mm) is visible in the surfaces. The trituration grits are different to those in the majority of the MOLO group, consisting of sparse quartz and red ?ironstone (>2.0mm).

LRF166 MOLO? A cream fabric with dark pinkish cream margins and surfaces; high-fired with a slightly conchoidal fracture. The fine calcareous matrix contains very rare ill-sorted quartz (SR 0.2–0.3mm), sparse black iron-rich particles and limestone inclusions (R >1.5mm); sparse white mica is visible in the surfaces (F >0.1mm).

LRF167 (Pl. 3.53): this fabric is of mixed composition, the pinkish white base colour being streaked with darker pink to light red-brown clay, and the surfaces are a dark pinkish cream. The fabric is hard, the matrix is almost identical to that of LRF159, and the trituration grits consist of large quartz and ?ironstone fragments (SR >4.0mm).

LRF168 (Pl. 3.54): a hard, pale cream fabric with similarly coloured surfaces and a finely irregular fracture, showing a calcareous matrix with sparse ill-sorted quartz (SR 0.2–0.4mm, occasionally >0.8mm), sparse red iron-rich particles (R >0.2mm) and rare limestone pellets (R >0.8mm). Sparse white mica (F >0.1mm) is visible in the surfaces and the trituration grits consist of moderate amounts of large quartz and occasional flint and ?ironstone fragments (SR >4.5mm).

MOSC

LRF151 South Carlton kiln: ranges from pale, pinkish cream (LRF151B: Pl. 3.56) to an over-fired, light brown colour (LRF151A: Pl. 3.55). It is fairly hard with a smooth feel where the surface has been smoothed, and slightly powdery over the finely irregular fracture. The matrix is calcareous with occasional large particles of limestone (R >2.0mm) and the most common inclusion is moderate amounts of ill-sorted opaque, grey and roseate quartz (SR 0.2–0.5 and 0.6 to >2.00 mm). The type-*sherd* (LRF151B) has a single very large inclusion of ?flint (SA 2.00mm). Moderate amounts of red and orange-red iron-rich inclusions (R 0.1–0.5 to >5.0 mm) tend to weep into the matrix, and moderate amounts of white mica are

clearly visible in the surfaces. The trituration grits are mainly composed of coarse quartz and occasional flint and ?ironstone.

Forms

Hook-rimmed mortaria, with diameters ranging from 22 to 42cm, account for almost all the MOLO assemblage. They fall into three main groups based on the height of the bead: those with a high bead, those with beads that are almost parallel with the flange, and mortaria with a low internal bead.

Hook-rimmed with a high bead

(Fig. 139, 1454–61 and 1465)

Although five of the vessels were found with 1st century pottery, two others with early to mid 2nd century wares and the other two with pottery dating to the early-mid, and mid-late 3rd century respectively, none was well-stratified. Hook-rimmed mortaria with a high bead are generally dated to the 1st-early 2nd century, therefore those from 3rd century groups are probably residual.

No. 1465 is the most distinctive vessel in this group because of the trituration grits, which are unusual in that they are composed entirely of angular and sub-angular ironstone. The fabric itself is almost identical to that of LRF159, while fragments of ?ironstone were used only occasionally amongst the trituration grits on a number of the local mortaria (see LRF 151, 165 and 167, above). The flange of this vessel has a pronounced groove towards the lower edge. It is dated to the pre- to early Flavian period (Katharine Hartley, *pers. comm.*) but is from an uncertain context; two of the four sherds are marked as coming from the East Gate but the other two are marked as Cottesford Place. Both sites were excavated by Dennis Petch and, although in the same area of the city, are relatively far apart (Fig. 2). Although it is possible that sherds of the same vessel were found on different sites, it is equally likely that some of the sherds were mismarked.

Hook-rimmed; bead almost parallel with flange

(Fig. 139, 1462–4 and 1466–9)

None of the mortaria with this type of rim occurred with 1st century pottery, although 1464 has 1st century characteristics. This vessel and two others (1468–9) were found with pottery dating to the early-mid 2nd century, whilst 1462 and 1466 occurred with wares dating to the Antonine period. Nos 1463 and 1467 appear to be residual as they were found with pottery dating to the early-mid 3rd and later 3rd-early 4th century, respectively.

Hook-rimmed with a low internal bead

(Fig. 139, 1470; Fig. 140, 1471–80 and Fig. 141, 1481–3 and 1485)

This group accounts for the majority of the hook-

rimmed mortaria; three have potters' stamps. The earliest of these, 1485, is a flange fragment broken across a stamp dated to *c.* AD 90–130 (see 7.4, no. 25), and was found with pottery dating to the later 2nd century. No. 1481, with two stamps of the South Carlton potter Crico, is dated to the Antonine period (7.4, no. 33; see also Darling 1984, 70, no. 6 for another example of this stamp from Lincoln); 1471, with a poorly impressed stamp, is also of Antonine date (7.4, no. 29).

Five unstamped mortaria from this group were associated with pottery of 2nd century date: 1480 and 1483 with Hadrianic wares, and 1473, 1475, and 1482 with pottery dating to the Antonine period. Nos 1470, 1472, 1474, 1477 and 1479 came from mid to late 3rd century groups, at least two of which contained earlier wares. Both 1476 and 1478, which has an unidentified stamp and is a 2nd century form (7.4, no. 30), were found with pottery broadly dating to the 4th century.

Other forms (Fig. 141, 1486–7 and 1489)

Other mortaria types are rare and the following, although in a fabric similar to the local wares, are not certainly so. No. 1486 is a nearly complete flange-rimmed type in a hard fabric, originally a dirty cream but discoloured by external burning, which has also caused severe flaking of the surfaces. The main inclusions are common ill-sorted angular (some rounded) quartz, sparse ill-sorted black and red iron ore, and some mica plates. There are no trituration grits and the interior is worn. The vessel was associated with samian dating to the Neronian/early Flavian period. Although sharing similar characteristics, Darling (1984, 84) suggests that this fabric does not indicate manufacture in the Lincoln area, and is probably an import: 'The mortarium ... is unparalleled and its fabric unrecognized. The absence of internal gritting suggests an early date, and its form is similar to a locally made example from Wroxeter (Darling 1977b, fig. 6.7, 45), also ungritted.'

A single mortarium with a (thickened) bead-and-flange rim (1487) was found with pottery dating from the later 3rd to the 4th century. The fabric is very similar to that of SPOX (see p. 63) and there is a trace of white slip, but the trituration grits are mainly quartz rather than the typical black slag. Both the date and the fabric suggest that this vessel may be a variant of the MOSP repertoire (see below).

The last vessel in this group is a wall-sided mortarium (1489) in fabric LRF168. It is stamped and dated to *c.* AD 140–180 (7.4, no. 28), but was found with pottery dated to the early-mid 4th century.

Other stamped fragments (Fig. 141, 1490–5)

The stamps on rim sherds that are too fragmentary to identify the precise form of the vessel (1490–2b

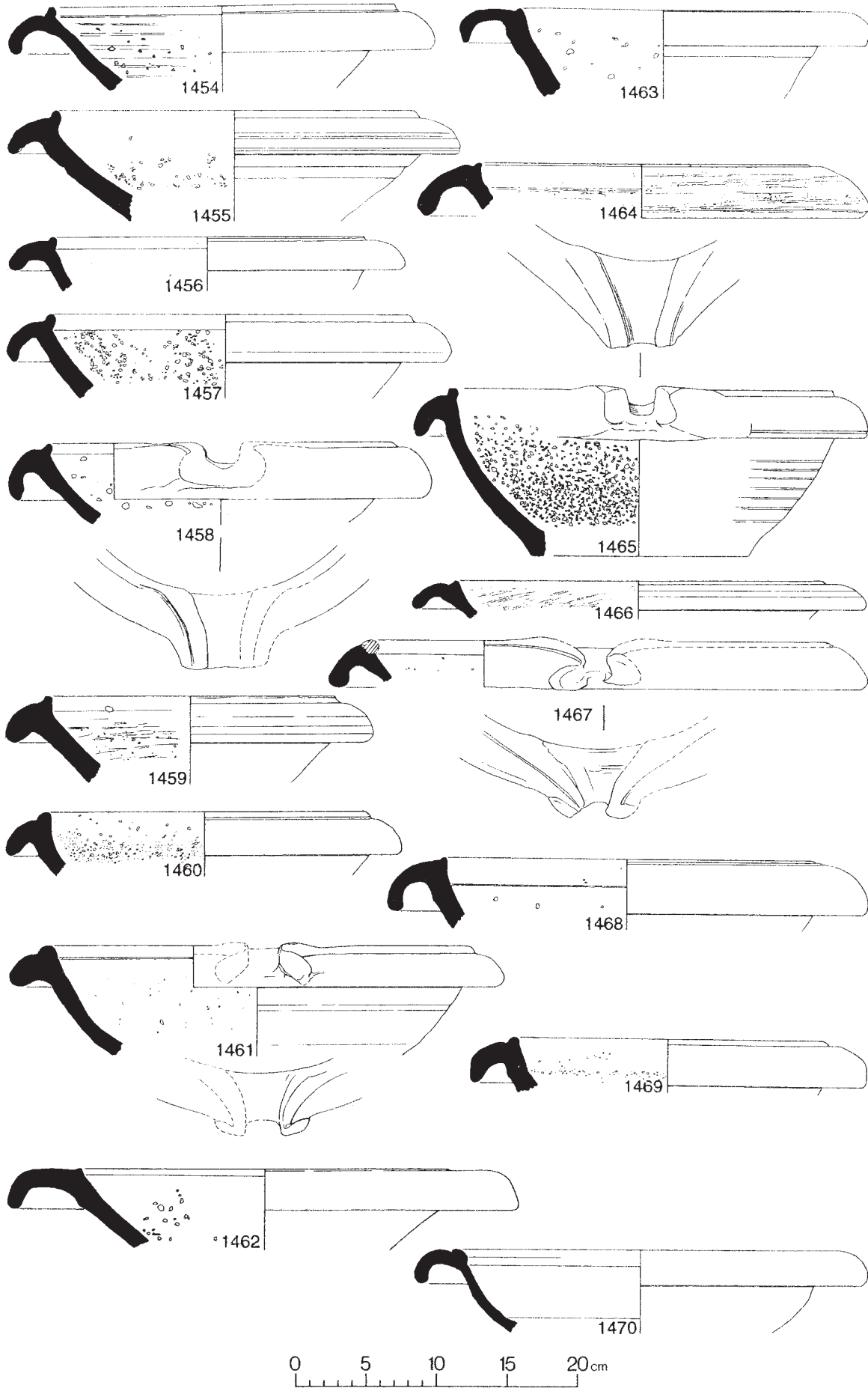


Fig. 139. Local Mortaria 1454–70. Scale 1:4.

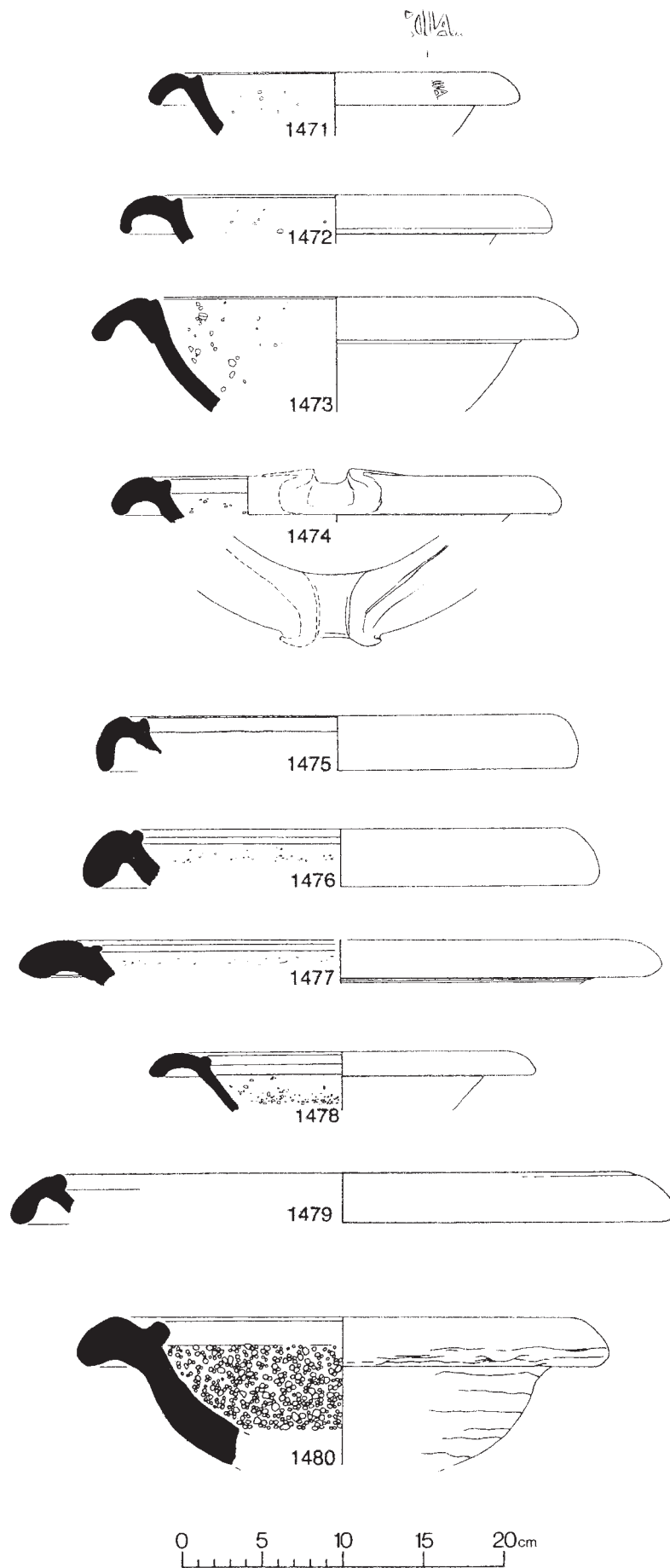


Fig. 140. Local Mortaria 1471–80. Scale 1:4; stamp 1471 scale 1:2.

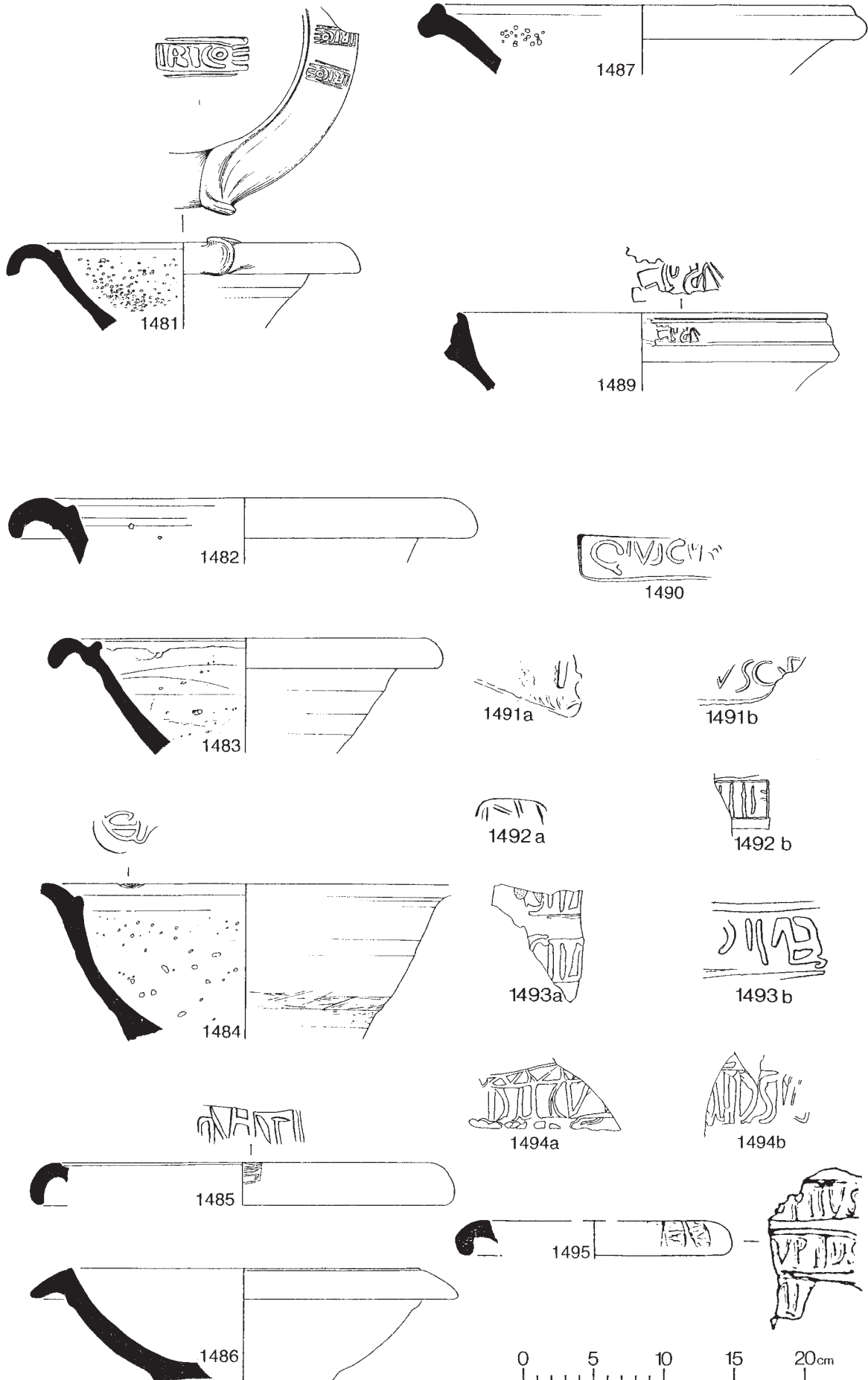


Fig. 141. Mortaria: Local 1482–3, 1485–94b; South Carlton 1481 and 1495; Mancetter-Hartshill 1484. Scale 1:4; stamps scale 1:2

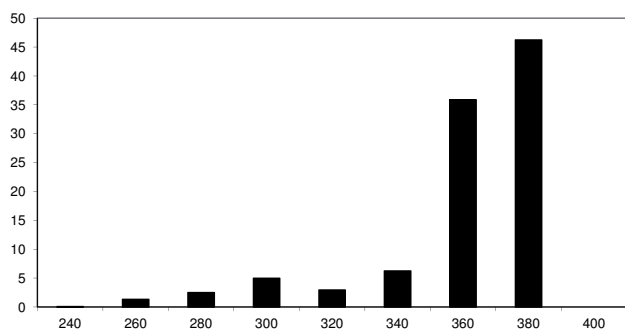


Fig. 142. Swanpool mortaria: plotdate by sherds percentage.

and 1493b) are discussed in section 7.4 (nos 19–20, 22–4 and 27), together with that on a MOSC hook-rimmed mortarium (1495: 7.4, no. 34). Stamps of the local potters Senico, Atepacius and ?Decanius from Temperance Place and East Bight (EB66) are discussed by Darling (1984, 70–1; for Senico, see also 7.4, nos 23–4). Two further stamps of Atepacius and Vitalis, both on hook-rimmed mortaria, were found more recently at the Technical College site (Precious 2003).

Swanpool mortaria (MOSP and MOSPC)

Mortaria were produced at the Swanpool kilns from the later 3rd to the 4th century, in both oxidised (MOSP: 544 certainly identified sherds) and colour-coated fabrics (MOSPC: 26 sherds).

Dating: LROM

MOSP has a strong dating profile (Fig. 142), suggesting that the ware appeared in small quantities by the mid to late 3rd century, but it is considerably more abundant in groups dated to *c.* AD 360–400.

Fabric and technology

NRFRC: SWN WS

MOSP: LRF36–40

MOSPC: LRF34–5

MOSP

The basic characteristics of the fabrics are identical to those of the oxidised Swanpool fabric, SPOX (see p. 63), the main difference being the addition of various types of trituration grits. With the exception of LRF40, all are slipped with a thin, iron-free clay wash. White-slipped mortaria with red fabrics and trituration grits of iron slag were also produced at Doncaster and at the Torksey kilns, and are difficult to distinguish in the hand from MOSP, therefore examples of those fabrics were thin-sectioned for comparison.

LRF36 (Pl. 4.61) MOSP? This fabric differs from the other mortarium fabrics in that the trituration grits consist of large fragments of quartz (SR >4.5mm), similar to those of MOSPC (see LRF34, below). The thin-section (L1618) shows sparse chert (R >1.6mm), moderate rounded (>0.3mm) and abundant sub-angular (>0.2mm) quartz and moderate muscovite (>0.1mm), in an isotropic matrix with a white micaceous silty slip, 0.15mm thick.

LRF37 (Pl. 3.57) is used to distinguish mortaria with painted decoration, but is identical in all other respects to LRF38 (below). There is a range of decorative motifs and the colour varies from light to dark red-brown.

LRF38 (Pl. 3.58) has trituration grits that are usually composed of large black fragments of iron slag (SA >4.5mm), which frequently have a chewed appearance. Analysis of the grits from several types of mortaria, including some MOSP, was undertaken by Moira Laidlow (University of Bradford) to determine whether the iron slags are from smithing or tapping; however, beyond confirming the identification as iron slag, the results were inconclusive. The use of iron slag as a trituration grit is common on later Roman mortaria, but it is uncertain whether there was a direct link between the iron-workers and the potters utilising their waste. Mortaria with iron slag grits were produced in areas such as the Nene Valley and Norfolk, where there is also ample evidence for iron-working activities.

LRF39 (Pl. 3.59) is a finer variant of LRF38 with abundant ill-sorted quartz (R 0.1–0.2mm) and only occasional larger fragments (SR >0.55mm).

LRF40 (Pl. 3.60) is another variant of LRF38, but appears to be unslipped. This may have been deliberate, but could equally be the result of burial conditions.

Doncaster mortarium (L1644): moderate rounded (>0.3mm) and abundant sub-angular (>0.2mm) quartz and sparse flint (A >0.3mm), in an isotropic matrix.

Doncaster mortarium (L1685): sparse fayalite slag (A >1.0mm), moderate rounded (>0.3mm) and abundant sub-angular (>0.2mm) quartz, and abundant muscovite (>0.1mm) in an isotropic matrix.

Torksey mortarium, Little London kiln 1 (L1684): sparse fayalite slag (A >2.0mm), moderate rounded (>0.3mm) and abundant sub-angular (>0.2mm) quartz, and moderate muscovite (>0.1mm) in an isotropic matrix.

A high proportion, but not all, of the MOSP body sherds could be classified according to the individual fabrics. Fabric LRF38 is by far the most common by weight, followed by LRF37 – sherds with painted decoration – and a small, but notable number of vessels that appear to be unslipped – LRF40. The other fabrics are rare and are represented by only one or two vessels.

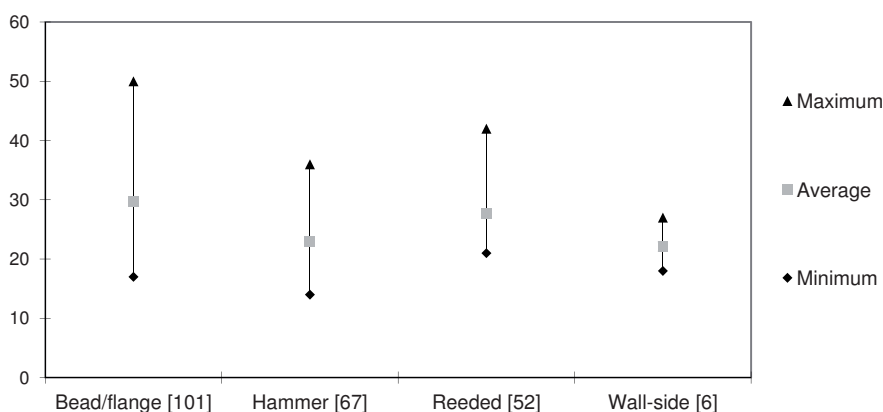


Fig. 143. Swanpool mortaria rim diameters: ranges and averages by type (vertical axis = cm).

MOSPC

The fabric is virtually identical to that of the colour-coated Swanpool ware, SPCC (see p. 23), most vessels having a white underslip, to which was applied a red-brown colour coat. The trituration grits are of two different types: mixed quartz (LRF34), and very fine particles of iron slag (LRF35). The latter is the most common of the two fabrics by weight.

LRF34 (Pl. 4.63; L1700): moderate rounded (>0.3mm) and abundant sub-angular (>0.2mm) quartz and moderate muscovite (>0.1mm), in an isotropic matrix.

LRF35 (Pl. 4.62) is similar to LRF34, but with fine particles of iron slag (0.1–0.2mm) instead of quartz.

The use of quartz grits and fine particles of iron slag is unusual, as coarse iron slag is almost always used on the other Swanpool mortaria (MOSP). This variation in the gritting, together with the application of a colour coat, may indicate that these mortaria served a different purpose. MOSPC, in common with samian and Oxfordshire colour-coated mortaria (MOOXR), are most likely to have been used at the table.

Forms

MOSP

The high survival rate of the relatively heavy rims of these vessels has enabled the identification of a large proportion of the MOSP repertoire. There are three main rim forms: bead-and-flange, hammer-headed, and reeded; each of these groups includes several distinctive types, some of which also occur within the MOSPC repertoire. Those with a bead-and-flange rim are by far the most abundant type, and hammer-headed and reeded-rimmed vessels occur in almost equal quantities. Other forms that are found only occasionally are collar-rimmed, plain flanged (Fig. 144, 1496), triangular-rimmed (Fig. 148, 1575) and wall-sided types.

Rim diameters for the bead-and-flange type average 30cms, the largest being 50cm. Hammer-headed mortaria are generally smaller, ranging from 14 to 36cm and averaging 25cm, whilst the reeded-rimmed group average 28cm in diameter. Wall-sided mortaria have a comparatively restricted range of diameters with an average centring around 22cm (Fig. 143).

Analysis of the dating for the three main forms reveals little more than the overall dating for this ware (see above) and the chronology for individual form types is hampered, to a large extent, by residuality. However, bead-and-flange vessels appear to be marginally the most common type in later 3rd to early 4th century groups, and are slightly less common than the others in mid 4th century assemblages. The dating profiles of both the hammer-headed and reeded-rimmed forms are similar for the earlier period, but all three types occur most frequently in very late 4th century groups.

Bead-and-flange rim

(Fig. 144, 1497–1512; Fig. 145 and Fig. 146, 1523–34) Most lips are simply pulled down from the rim with the thumb or finger. No. 1497, with a small bead, may be a development from the plain flanged type (as 1496). Vessels 1498–1501 all have flat flanges, ranging from horizontal to downward-sloping; those with curved flanges (1502–4) include one ungritted vessel (1504), which may be a flanged bowl with a pouring lip rather than a mortarium. Those with thickened flanges (1505–10) tend to be larger vessels and include several with painted decoration, which varies from haphazard, painted blobs (1507) to more precise scrolls (1509) and intersecting arcs (1510). Those with flaring, downturned flanges (1511) are also occasionally painted (1512).

Nos 1513–22 are the largest mortaria in this category; their flanges are plain (1513–15) or have a single groove at the edge (1516–19) or nearer the

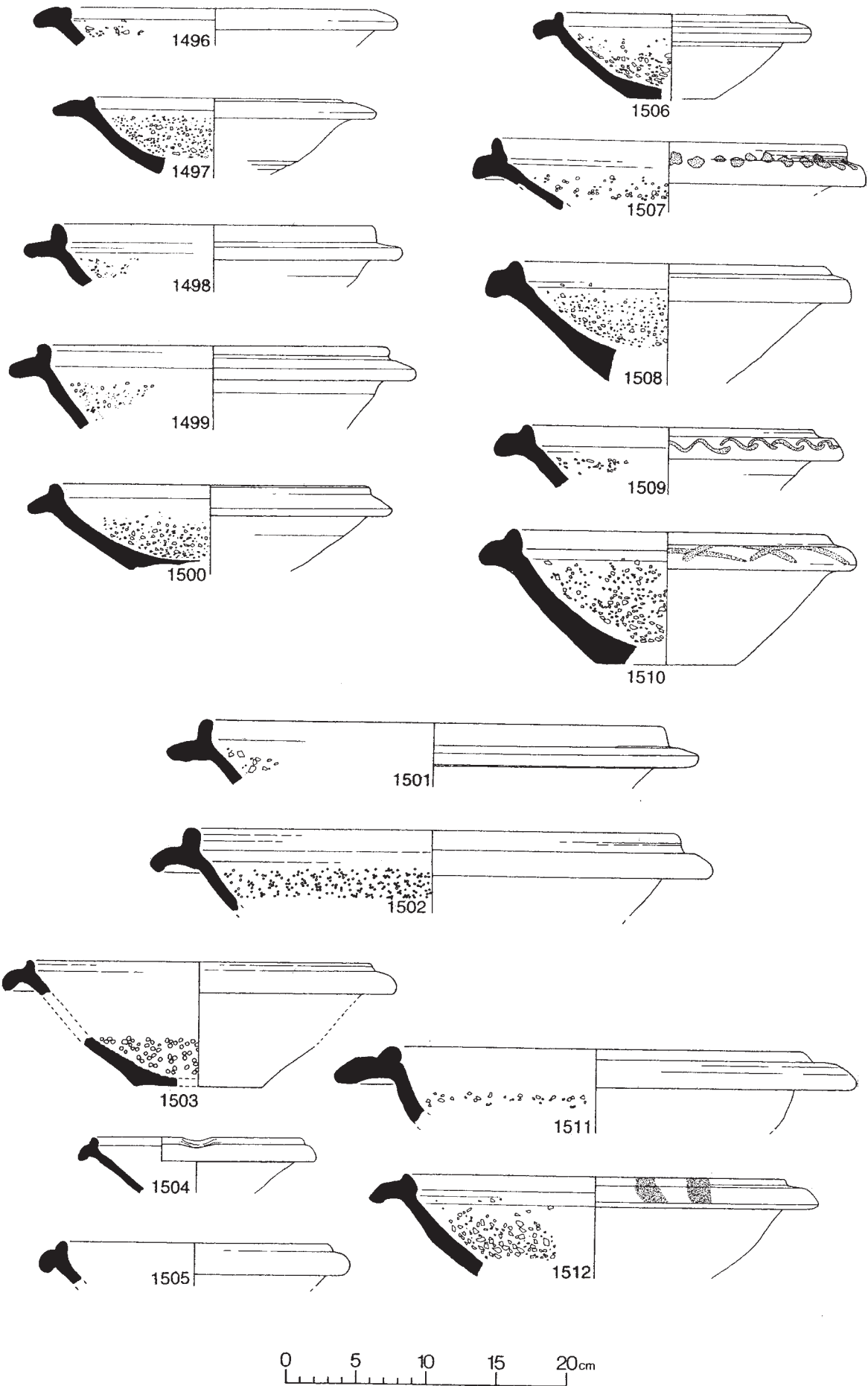


Fig. 144. Swanpool Mortaria 1496–1512. Scale 1:4.

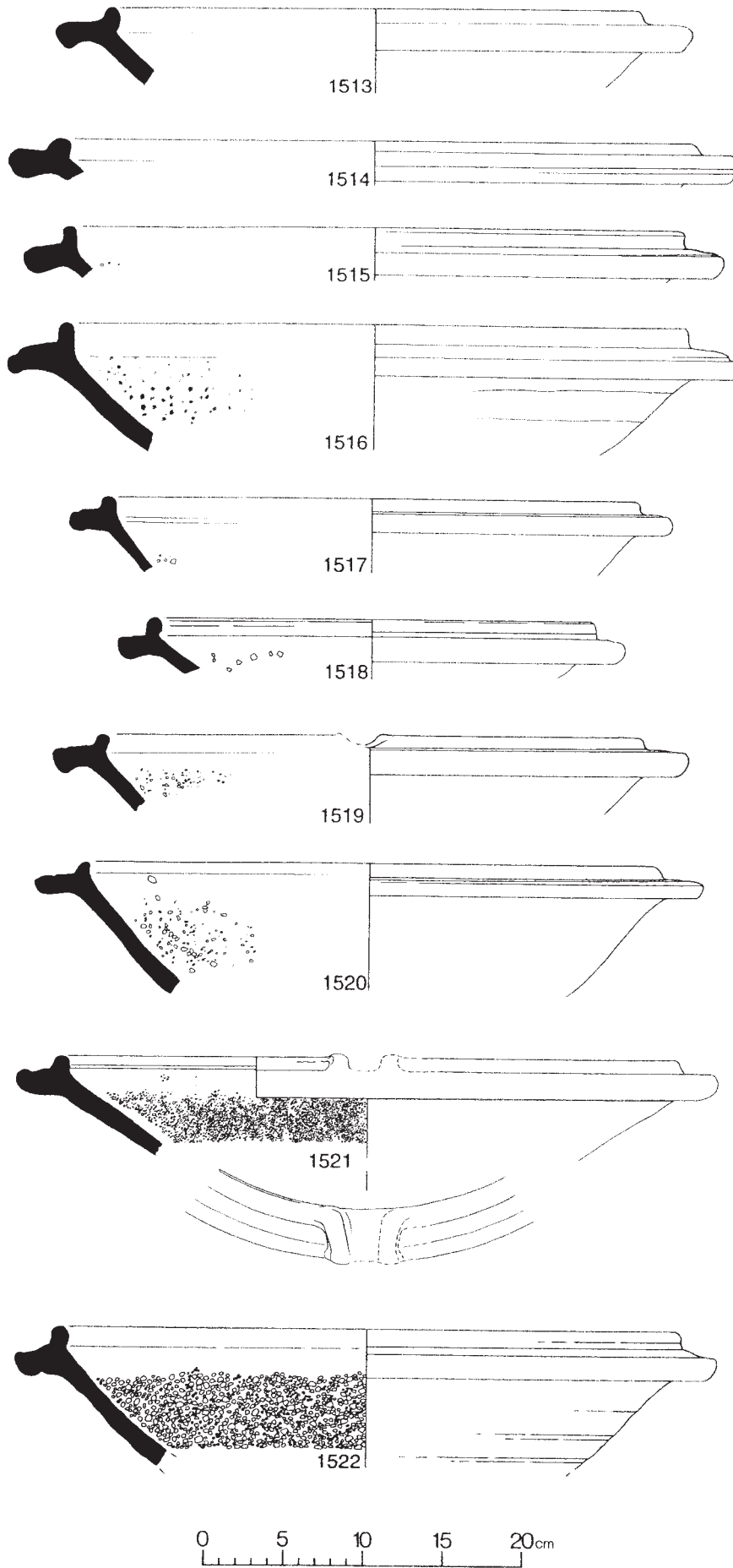


Fig. 145. Swanpool Mortaria 1513–22. Scale 1:4.

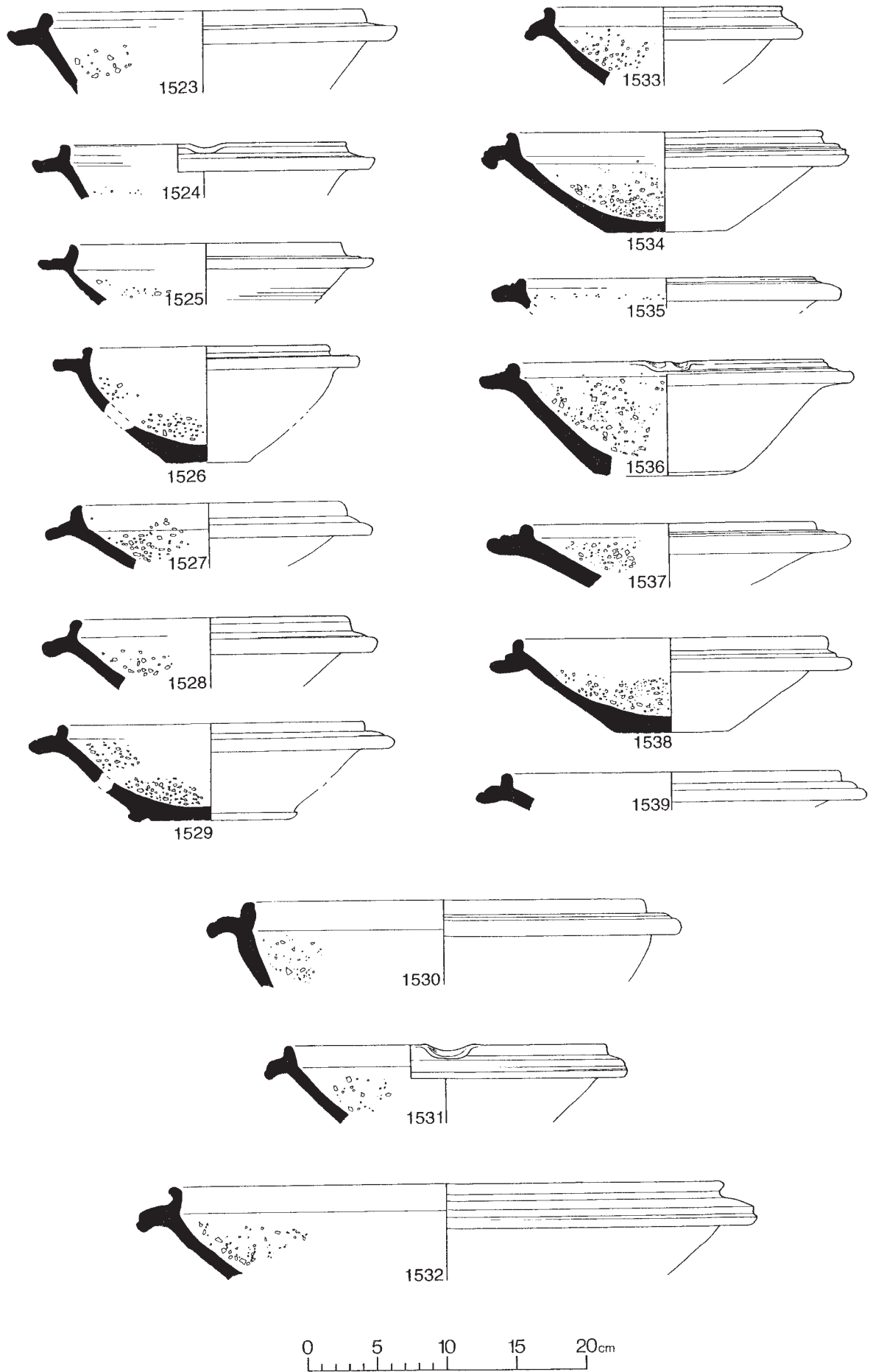


Fig. 146. Swanpool Mortaria 1523-39. Scale 1:4.

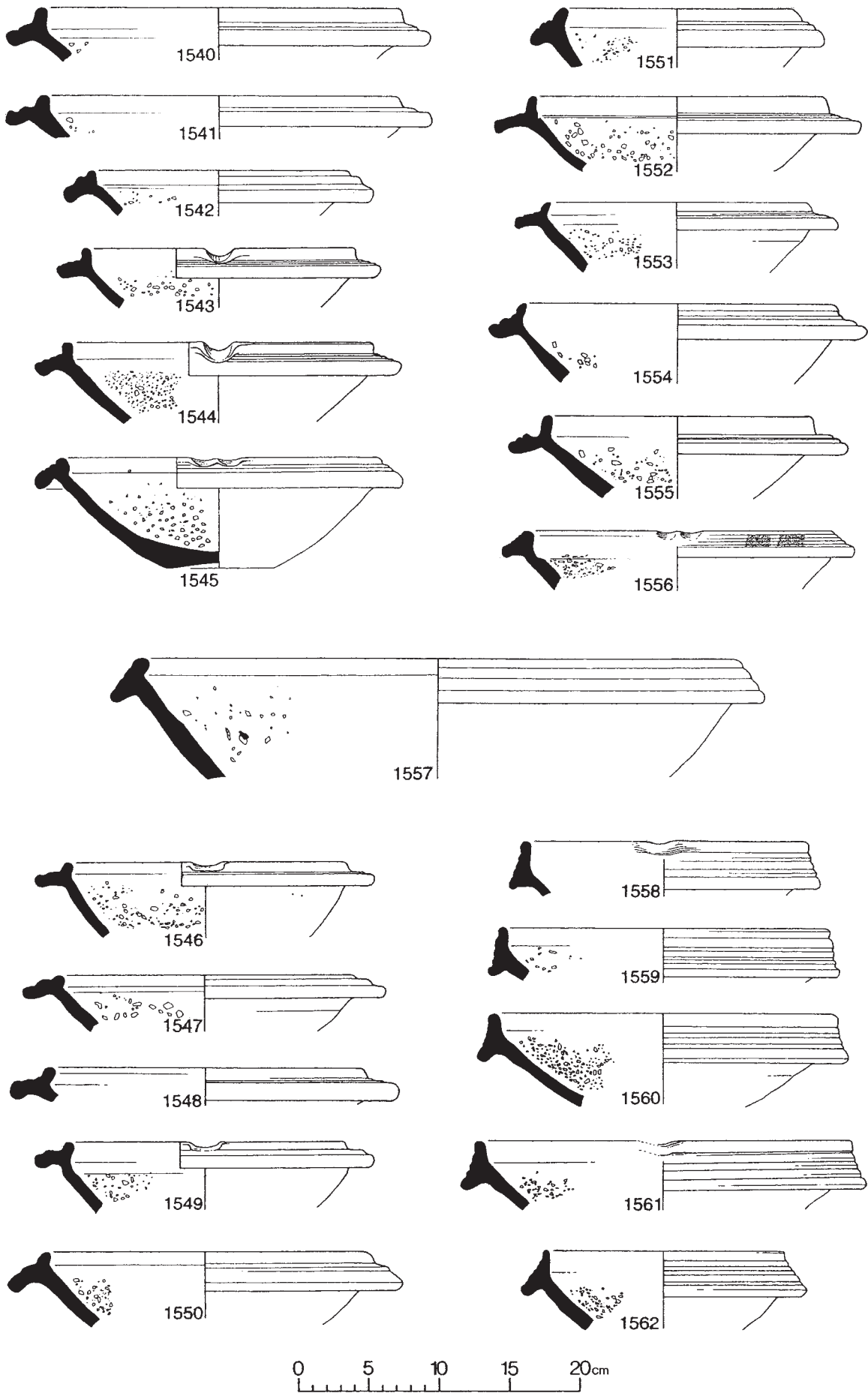


Fig. 147. Swanpool Mortaria 1540-62. Scale 1:4.

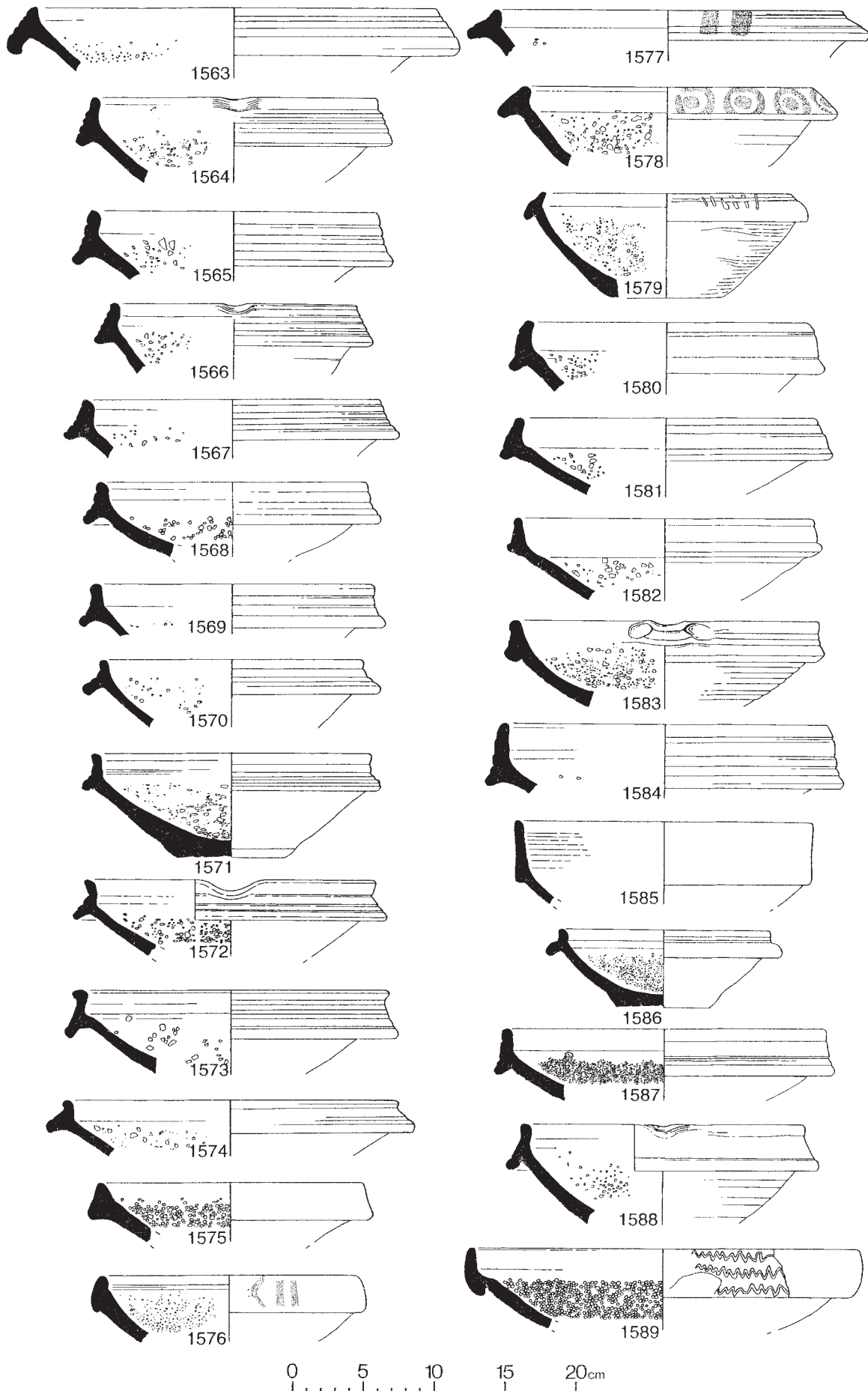


Fig. 148. Swanpool Mortaria 1563–85; Swanpool Colour-coated Mortaria 1586–9. Scale 1:4.

junction with the vessel wall (1520–2). Nos 1523–9 have slight grooves on the top of a generally flat flange, which ranges from horizontal to downturned; 1530–4 are similarly grooved but have curved flanges, their beads varying from relatively upright to out-curved.

Reeded rim (Fig. 146, 1535–9 and Fig. 147, 1540–55) Lips are formed using the same method as on the bead-and-flange vessels, occasionally with a double lip (as 1536 and 1545). None of the mortaria in this group has painted decoration.

Mortaria 1535 and 1536 have a slight reeding close to the bead and may be transitional forms between the bead-and-flange and the fully developed reeded rim. Nos 1537–42 have upright beads and, in the main, three reeded grooves, with flanges that vary from horizontal to down-curved. Vessels as nos 1543 and 1534 have the same bead type but the reeding consists of four grooves; 1545 has a low bead rim and downturned flange, thickened at the edge.

Nos 1546–51 have inturned beads with flanges ranging from horizontal to down-curved. Nos 1552 and 1553 have thin flanges that are squared off at the edge and relatively flattened reeding. Also with inturned rims, 1554–5 have rounded flanges turned up at the edge and uneven multiple reeding.

Hammer-headed

(Fig. 147, 1556–62 and Fig. 148, 1563–74 and 1577) Lips, made by the same method as the other two groups, include both single and double forms and most vessels have distinctively grooved walls.

No. 1556, with a short stubby flange, may be a transitional form between the reeded and hammer-headed types, and is decorated with squared, red painted blobs. One of the largest vessels in this group, 1557, also has a short flaring flange, but its top edge is more pronounced than that of 1556, and is more characteristic of the hammer-headed type.

Mortaria 1558–62 have deeper flanges and upright rims that vary from relatively straight-sided (as 1558) to more curved (as 1562); 1563 also has an upright rim but the edge of the flange curves inwards. Nos 1564 and 1565 have inturned rims, and the latter also has a curved flange. Nos 1566–1573 are similar types, with the flanges again becoming increasingly curved; some are more sharply angled and turn inwards, with outward-curving rims – 1573 being an extreme example.

Nos 1574 and 1577 are atypical hammer-headed/bead-and-flange mortaria; the latter has painted blobs on the flange.

Other types (Fig. 148, 1575–6 and 1578–81)

Nos 1575, 1576, 1578 and 1579 are more unusual; their flanges have no grooves and two of these types

are decorated with a range of red painted motifs (1576; 1578). No. 1579 is exceptional in that it lacks the usual white slip and the white painted decoration thus contrasts with the plain red body.

Nos 1580 and 1581, with short lower edges to the flange, are almost wall-sided vessels that resemble the hammer-headed types 1558, 1564, and 1566.

Wall-sided (Fig. 148, 1582–5)

All four illustrated vessels appear to be unique forms. Their flanges vary in depth from shallow (1582–3) to deep (1584–5). No. 1585 is similar in form to the colour-coated examples from the Oxfordshire kilns (MOOXR: Fig. 173, 1808–10) and is much finer than the majority of the MOSP mortaria, but there is no trace of a colour coat.

MOSPC (Fig. 148, 1586–9)

Vessel diameters range from 16.5 to 28cm. A single example has a reeded rim (as MOSP 1545), while 1586, with fine trituration grits, is one of only two vessels with a bead-and-flange rim; it is from a group dated to at least the mid 3rd century. The most common form is the hammer-headed mortarium and its variants (1587–9), the majority of the stratified sherds coming from late 4th century groups.

No. 1589, with quartz trituration grits, is decorated with scored wavy lines and is from a group broadly dated to the 4th century. It is an atypical hammer-headed/wall-sided form similar to samian form Dr. 45, which generally has a lion- or bat-headed spout, often surrounded by scoring. The scoring on the MOSPC vessel may also have served as keying for a spout.

7.3 Romano-British Mortaria

This category, the largest of the mortaria groups, includes 14 individual ware types. Mortaria from the Mancetter-Hartshill kilns (MOMH) are predominant, forming 46.7% of the total assemblage; the more detailed discussion of the dated Lincoln material below (p. 181) will provide a basis for the unpublished kiln assemblage. These are followed by those from the Nene Valley production centres (MONV, MONVC: together comprising 32.1%). The remaining groups are rare in comparison, although those from the Oxfordshire kilns (MOOX, MOOXR, MOOXW) form a relatively significant proportion (7.8%; Fig. 149). Dating is heavily biased towards the late Roman period, owing to the high amount of Nene Valley and Mancetter-Hartshill mortaria.

Colchester mortaria (MOCO)

White ware mortaria were manufactured at the

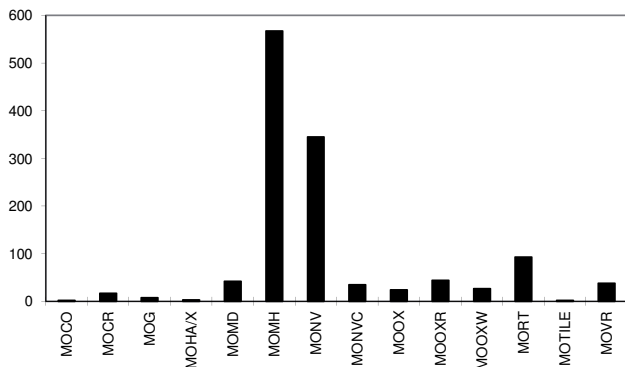


Fig. 149. Romano-British mortaria by sherd count (see Appendix II for fabric codes).

Colchester kilns in small quantities from the mid 1st to the mid 2nd century, mainly for the local area; production increased markedly after *c.* AD 140 to meet expanding markets. A single example is positively identified as a Colchester mortarium; another similar vessel is less certainly a Colchester product.

Dating: MROM

The definite Colchester mortarium was found with early to mid 3rd century pottery within a mid 3rd century context; the other sherd was redeposited in the later 3rd to 4th century rampart at The Park (Darling 1999, 111, no. 579).

Fabric and technology

NRFRC: COL WH

LRF155

The type-sherd is mud-stained and dirty white in colour. The fabric is fine and moderately hard, with a smooth fracture that reveals a very fine calcareous matrix with very few visible inclusions. These consist of rare opaque ill-sorted quartz (SA >0.3mm) and equally sparse red and black iron-rich inclusions (R >0.35mm). Calcareous particles (R >1.0mm) are moderately common and occasional flakes of white mica can be seen in the surface. No trituration grits survive on the worn and heavily scratched interior of the Lincoln example, although vessels are usually gritted with quartz and flint. The thin-section (L1638) reveals sparse quartz (R >0.3mm), sparse greywacke (R >1.0mm) and sparse non-ferroan micrite (R >1.0mm) in a calcareous matrix.

Forms (Fig. 157, 1590–1)

Both the certain Colchester vessel (1590) and the probable example (1591) have deep collars with multiple grooves at top and bottom. Good parallels for both vessels, with a suggested date of *c.* AD 190, were found at Colchester kiln 13A (Hull 1963, fig. 8, 13 and 12, respectively).

Crambeck mortaria (MOCR)

The main period of production for white ware mortaria at the Crambeck kilns is considered to be from *c.* AD 370–395, continuing until the end of the Roman period (K. F. Hartley and Tomber 2006, 43).

Dating: LROM

With the exception of one vessel, associated with pottery that can only be broadly dated to the 4th century, MOCR (17 sherds) occurs in very late 4th century assemblages, which corresponds well with the accepted date range.

Fabric and technology

NRFRC: CRA WH

LRF29–31

LRF29: the fabric is identical to CRPA (see p. 71), with the addition of very fine trituration grits composed of black iron slag (A >0.1mm) that is generally smooth, unlike the frequently 'chewed' appearance of the iron slag noted on MOSP (see LRF38, above).

LRF30 (York example): this is the same as LRF29.

LRF31 (Pl. 4.67) shares the same basic characteristics but the quartz is more abundant and includes rare larger fragments (SA >0.3mm); the trituration grits are also larger (A >0.3mm). There are two examples of this slightly coarser fabric within the Lincoln assemblage (*e.g.* 1593).

Decoration consists of rare examples with notching and, more commonly, red painted motifs.

Forms (Fig. 157, 1592–6)

Vessels range in diameter from 20 to 26cm; the principal form is a wall-sided type (1593–5) with a double-flanged rim, two examples of which are red-painted. No. 1594 has an upright pointed chevron design on the lower flange with an abraded series of 'S' shapes above, and 1595 features a single series of 'S' shapes on the upper flange only. The latter appears to be a common style (see Wilson (ed.) 1989, pl. V, 137–41).

Another wall-sided vessel (1592) has a plain upright flange with a groove at the top, giving a beaded appearance to the rim. It is undecorated, unlike those with the same flange type illustrated by Wilson (*ibid.* pl. V, 130–3).

No. 1596 is also probably wall-sided but the rim is missing; the flange wall has multiple grooves and cordons, the central cordon being decorated with a series of circular notches. It is virtually identical in composition to the standard fabric but the form has no direct parallel amongst the Crambeck kiln assemblage; however, an example shown only in profile by Wilson (*ibid.* pl. V, 127) also appears to be grooved or reeded.

Grey mortaria (MOG)

This grey fabric may be a reduced version of MOSP; however, unlike MOSP, none of the trituration grits is of iron slag. The surviving grits are similar to those in the rare MOSP fabric LRF36 and MOSPC fabric LRF34, which are mainly quartz, although this type of gritting is not evident among the material found at the Swanpool kilns.

One of the major components of the mortaria assemblage at Caister-on-Sea consists of grey mortaria. Darling (in Darling with Gurney 1993, 193) notes that more than one source may have been involved, although the only mortaria deliberately fired under reducing conditions occur in East Anglia, predominantly in Norfolk. Manufacture probably started in the later 3rd century, continuing to the end of the Roman period. The fabric and a number of the forms within the Norfolk repertoire (*ibid.* figs 161–2) also closely resemble the Lincoln vessels.

Dating: LROM

The majority of the eight certain sherds were found with very late 4th century pottery, which corresponds well with the dating of the Caister-on-Sea examples.

Fabric and technology

LRF32–3

LRF32 (Pl. 4.65): this, the most common of the two fabrics, shares all the characteristics of the Swanpool grey wares. It is hard with a medium grey core and a dark grey exterior surface. The irregular fracture reveals abundant ill-sorted clear and opaque quartz (SR 0.2–0.5mm) and rare calcareous and black iron-rich particles (both R >0.4mm). Sparse white mica can be seen in the surfaces (F >0.1mm). The trituration grits consist of rounded quartz, quartzite, flint and ?ironstone pebbles (>5.0mm). The thin-section (L1605) shows abundant quartz (SA >0.3mm), abundant muscovite (>0.1mm), moderate clay pellets (R >0.8mm) and sparse rounded opaques (>0.2mm) in an anisotropic matrix.

LRF33 is a finer variant with a silty background matrix. The thin-section (L1668) contains abundant rounded (>0.3mm) and angular (>0.1mm) quartz, sparse sandstone (>1.0mm), sparse siltstone (>1.0mm), sparse chert/flint (>0.5mm), sparse granite (>0.4mm) and moderate muscovite (>0.1mm) in an anisotropic matrix with sparse, post-depositional non-ferroan calcite.

Several of the Lincoln mortaria are externally burnished, a feature also noted on a number of the vessels from Caister-on-Sea.

Forms (Fig. 157, 1597–1600)

In common with the fabric, the forms in the MOG

repertoire closely resemble those of the MOSP assemblage. Two vessels have a bead and thick flange (as 1597), a type that is virtually the same as MOSP 1505. However, a similar form also occurs at Caister-on-Sea (*ibid.* fig. 162, 780). No. 1598 has a reeded rim with a simple lip, typical of the Swanpool products, but this is also the most common type at Caister-on-Sea (*ibid.* fig. 161, 781–91).

The remaining vessels are not readily paralleled at Caister-on-Sea. No. 1599 closely resembles the Swanpool hammer-headed mortaria with multiple grooves, whilst 1600 appears to be a development of the hammer-headed type; it is more wall-sided, and closely resembles MOSP 1574.

Much Hadham (MOHA) and Oxfordshire mortaria (MOHX)

MOHA is related to the fine ware MHAD (see p. 30), from Much Hadham in Hertfordshire. Although two sherds are definitely identified (by Dr. Chris Going) as MOHA, a third could be from either Much Hadham or Oxfordshire (MOHX); the mortarium fabrics are closely similar (*cf.* Tomber and Dore 1998, 151–2).

Dating: LROM

All three sherds were found in very late 4th century assemblages within post-Roman contexts.

Fabric and technology

NRFRC: HAD OX

MOHA

LRF28

The fabric is hard and brick-red in colour, slipped externally and over the rim to a darker tone. The fine fracture reveals abundant silt-sized grains of quartz (SA <0.1mm) with rare, fine black and red iron-rich particles (R <0.5mm). Sparse white mica flakes are visible in the surfaces (F >0.1mm). The trituration grits consist of moderate sized quartz and flint fragments (A-SA >5.0mm). The thin-section (L1616) shows sparse rounded (>0.5mm) and abundant angular (>0.2mm) quartz, sparse reddish clay pellets (R >1.0mm), sparse altered glauconite (R >0.2mm) and moderate flakes of muscovite (>0.2mm) in an isotropic matrix.

Forms (Fig. 157, 1601)

Both MOHA sherds are from a wall-sided mortarium (1601) that is very similar to Young type 97 (1977, fig. 67, 97.1–5).

Mancetter-Hartshill and Midlands mortaria (MOMH and MOMD)*Margaret Darling*

The Mancetter-Hartshill potters were major suppliers of mortaria to Lincoln from the 2nd century onwards,

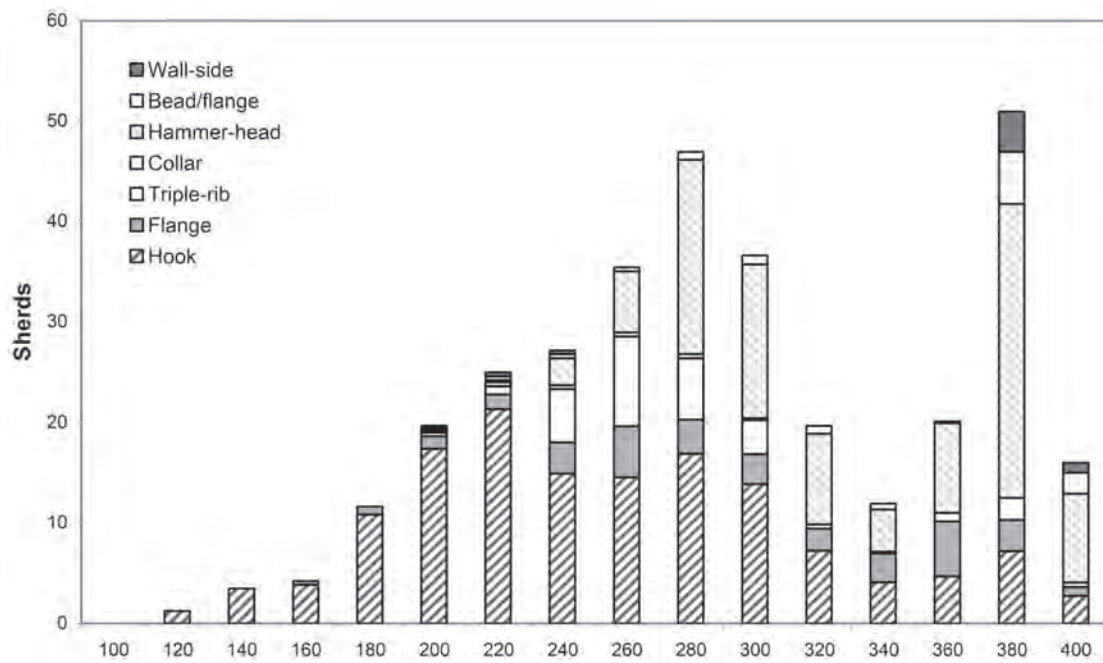


Fig. 150. Mancetter-Hartshill mortaria: plotdate of types by sherd count.

sherd count and weight accounting for 29–31% of all mortaria in the database. A total of 567 sherds are attributed to the Mancetter-Hartshill potteries, and a further 42 sherds are recorded as Midlands products (MOMD), not certainly Mancetter-Hartshill but probably sharing the same tradition and trading pattern. Nearly all of the latter came from sites archived in the 1980s, which it has not been possible to re-examine due to limited resources. Over 73% are body sherds, and apart from a hammer-head and a triple-ribbed type, the remaining nine sherds are from hooked mortaria. In the early period of this industry the fabrics were more variable, making it difficult to distinguish positively between Mancetter-Hartshill products and those from other smaller potteries, some perhaps nearer to Lincoln. The criteria for attributing a sherd to a Midlands rather than a local source has been a subjective judgment, that the fabric and/or form better fitted the Mancetter tradition. Many of these sherds are probably atypical products of the Mancetter-Hartshill industry.

The two groups, from Mancetter-Hartshill and the Midlands, were combined for analysis. Of the 609 sherds, 247 are body sherds and/or cannot be attributed to a specific vessel type; these, and a further 44 sherds from post-Roman, unphased or unstratified contexts were excluded from analysis. All the remainder were examined for the occurrence of sherds according to the pottery date of the parent contexts (using the RCOD program; see p. 8). Although sherds can be related directly to the deposition date of the context, two

sites excavated prior to 1972 and thus excluded from the Post-excavation Project, Cottesford Place and The Park, do not have comparable phasing, and vessels from these sites alone account for over 34% of all the MOMH mortaria, this quantity rivalled only by 16% from St Mark's Church. The chronological incidence has therefore been related to the pottery date of the context rather than its deposition date. Production dates of the dated mortaria are given in Appendix V.

The largest numbers of potter's stamps (19 in all) occur on the Mancetter-Hartshill mortaria; 11 are illustrated here, nos 1484, 1605–6, 1608–9, 1615–16, 1618–19, 1624 and 1633. All are on hook-rimmed types, dating from AD 100 to after 170; three are published in Darling 1984 (70, nos 5, 7 and 8) and the remainder are discussed below (see 7.4, 3–18). No. 1484, a burnt worn mortarium, was initially considered to be a local product but more details from another impression of the stamp have enabled it to be correctly assigned to the early Mancetter-Hartshill industry.

Dating: MLROM

Publication of the evidence from the kiln sites will greatly aid definition of the types of mortaria, while their sequence and the contemporaneous manufacture of different types will give a broad dating, but it is their occurrence in dated deposits which will help refine the chronological sequence (hence the detailed discussion presented here). This is not without difficulties, as mortaria are strong substantial

vessels that are likely to survive disturbances to archaeological deposits (a particular characteristic of urban sites such as Lincoln); moreover, the samples discussed here are comparatively small. There is also the danger of circular argument when a mortarium occurs in an otherwise unremarkable deposit, the date of which derives largely from the mortarium itself. With these strictures in mind, this section examines the evidence from Lincoln.

Figure 150 plots the incidence of the MOMH/MOMD mortaria, with the individual types stacked to produce the dating profile for these vessels in Lincoln. As noted above (p. 7) the dates of groups of pottery are necessarily relatively wide, leading to 'tails' being plotted at the beginning and end, but the charts indicate not only the earliest date feasible, but also the period of maximum occurrence. Figure 150 suggests that trade from the Mancetter-Hartshill potteries started slowly in the early part of the 2nd century, competing with already existing local potters, but was well established by the later 2nd century despite the South Carlton workshops. While the first peak is *c.* AD 200, allowing for a period in use and the broad dating of the vessels, a flourishing trade from about, or a little after, the mid 2nd century is likely. The dip in the early to mid 3rd century (*c.* AD 220–40) may be related to either the difficulty of assigning groups to that period, or their relative paucity on the sites excavated. Mancetter-Hartshill vessels dominated the market for mortaria in Lincoln in the later 3rd century, but there was a significant decline in the 4th century, probably related to competition from the local Swanpool potters. The dip in the charts in the early 4th century also appears to be caused by the dating ranges used, due to the difficulty of securely dating pottery to that period. Later 4th century mortaria are almost entirely hammer-headed but include earlier types, suggesting that many are residual. The evidence for the dating of individual forms is presented below.

Fabric and technology

NRFC: MAH WH

MOMD: LRF170 (Pl. 4.64)

The fabrics of most of the Lincoln MOMH mortaria fit the well-documented fabric descriptions for this ware, therefore no thin-sections were cut. In the earliest period of production a number of fabrics contain more quartz inclusions, but all appear to have the characteristic trituration grits of argillaceous inclusions. There are occasions when it is difficult to distinguish these earlier vessels from mortaria likely to have been made in Lincolnshire (see p. 166).

Forms

(Fig 141, 1484; Fig. 157, 1602–7 and Figs 158–68)

Three hundred and forty-five sherds can be attributed to vessel types, as detailed in Figure 151. The influx of Mancetter-Hartshill mortaria into Lincoln started in the 2nd century with the hook-rimmed type (1602–39), together with the variant having a more flange-like hook (1640–55); the next largest group, the hammer-headed type (1686–1738), appeared in the early to mid 3rd century. Between these two main types, the 3rd century triple-ribbed type (1656–76) occurred, and the latest in the sequence were small quantities of bead-and-flange (1679–85), some almost variants on the hammer-head theme, and wall-sided types (1739–40d). While the hooked type predominates on count and weight, the hammer-headed type is notably higher on the EVEs measure (Fig. 151), probably due to its smaller diameter and stronger rim form. The same bias probably applies to the triple-ribbed, collared (1677–8), bead-and-flange and wall-sided types.

Figure 152, based on a sample of 193 records, shows the range in diameters of the four main types. The average rim diameter for the hooked type is 32cm, and 31cm for the hook-flanged, while all the others lie mainly in the 26–28cm range, except for the wall-sided type at 24cm. The only mortaria over 40cm diameter are three hook rims in the range 50–54cm, and three hook-flanges in the range 40–45cm.

Type	Sherds	%	Weight	%	EVEs	%
Hooked rim	150	43.5	16182	50.4	896	34.8
Hook-flange	36	10.4	2960	9.2	242	9.4
Triple-ribbed	30	8.7	2969	9.2	256	9.9
Collared	2	0.6	280	0.9	27	1.0
Hammer-headed	106	30.7	7918	24.7	930	36.1
Bead-and-flange	14	4.1	1232	3.8	156	6.1
Wall-sided	7	2.0	562	1.8	67	2.6
Untyped sherds	220	-	12004	-	76	-
Totals	565	100.0	44107	100.0	2650	99.9

Fig. 151. Mancetter-Hartshill mortaria: stratified quantities by type.

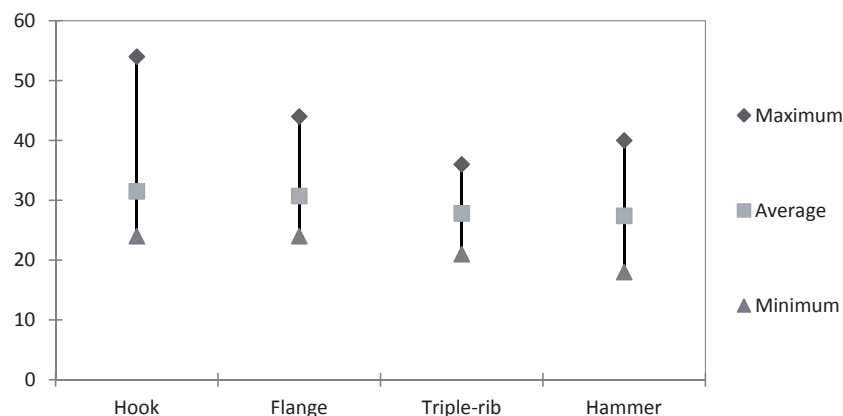


Fig. 152. Mancetter-Hartshill mortaria rim diameters: ranges and averages by type (vertical axis = cm).

Figure 153 shows the incidence of the four main types, each chart showing the EVEs measure as a background against which the measures based on sherd and weight percentages are plotted as columns.

The earliest hooked types are from contexts dating to the early-mid 2nd century, but many were stratified in 3rd century contexts. Painted hook rims are rare, and first occurred in a mid 3rd century deposit. The early hooked types have a low dating profile (Fig. 153a), as would be expected from urban deposits, the sherds being liable to disturbance and redeposition in later deposits over a longer period of time. It is interesting to note that the profiles vary between the measures, sherd count giving an early peak *c.* AD 180–200, while both EVEs and weight peak much later, *c.* AD 260–80. This is borne out by a study of the fragmentation, the sherd weight increasing in the later 3rd century, alongside decreasing fragmentation based on EVEs/sherds. The earlier emphasis shown by the sherd count measure appears to arise from a number of factors. Examination of the sherd weights for hooked mortaria alone shows this early bias to come mainly from the Wigford suburb where quantities of rubbish from the city were dumped for land reclamation, and also from the Upper City where the pottery sequence is not strong for the period from the early 3rd century onwards. Much of the pottery from the large Cottesford Place site fits into a mid to late 3rd century range.

Clear differentiation between simple hooked and hook-flanged types is impossible, but the main period for the latter was in the early to mid 3rd century (Fig. 153b), at precisely the time when the triple-ribbed type mostly occurred. The earliest stratified hook-flanged types come from mid-late 2nd and late 2nd to 3rd century assemblages, both found in post-Roman contexts. Most occur in 3rd century groups, but there is a group from The Park rampart dump, necessarily dated to the 4th century but with a high residual 3rd century content. The proportion of hook-flanged types occurring residually in 4th

century deposits is higher than the simple hooked types, but is more fragmented.

The profile of the triple-ribbed type (Fig. 153c) suggests that this was a 3rd century type, and occurrences much after the mid 3rd century appear, on the evidence of fragmentation, to be as residual vessels. The earliest triple-ribbed mortaria are from early to mid 3rd century contexts; three of five from 4th century deposits have painted decoration (1657, 1675–6).

Alongside these, the first hammer-headed types started to occur, but the peak for these was in the latter part of the 3rd century, and the strong occurrence in later 4th century deposits suggests that they continued well into the 4th century (Fig. 153d). The earliest painted example is from a late 3rd century context, but most are from 4th century deposits.

The latest types identified, the bead-and-flange and wall-sided types, were mostly confined to late 4th century deposits. One wall-sided (1739) and two bead-and-flange vessels (1682–3) are from 3rd century assemblages in waterside or rampart dumps, but the rest are from 4th century contexts.

Spatial distribution

The distribution of MOMH mortaria across the city is shown in Figure 154. Although most sherds were weighed, some were missing (particularly from Saltergate and Silver Street in the Lower City); these, and the vessels from post-Roman deposits at Flaxengate (F72), were excluded from the phased analysis. Their inclusion would have emphasized further the main incidence of Mancetter-Hartshill in the Lower City. The average sherd weights for the Upper and Lower City are virtually identical, but what is perhaps interesting is the lower average sherd weight for the Wigford suburb, perhaps related to the type of mortaria and the differing chronology of the areas, and also to the nature of the deposits, much of the earlier pottery in Wigford being redeposited in later land reclamation dumps.

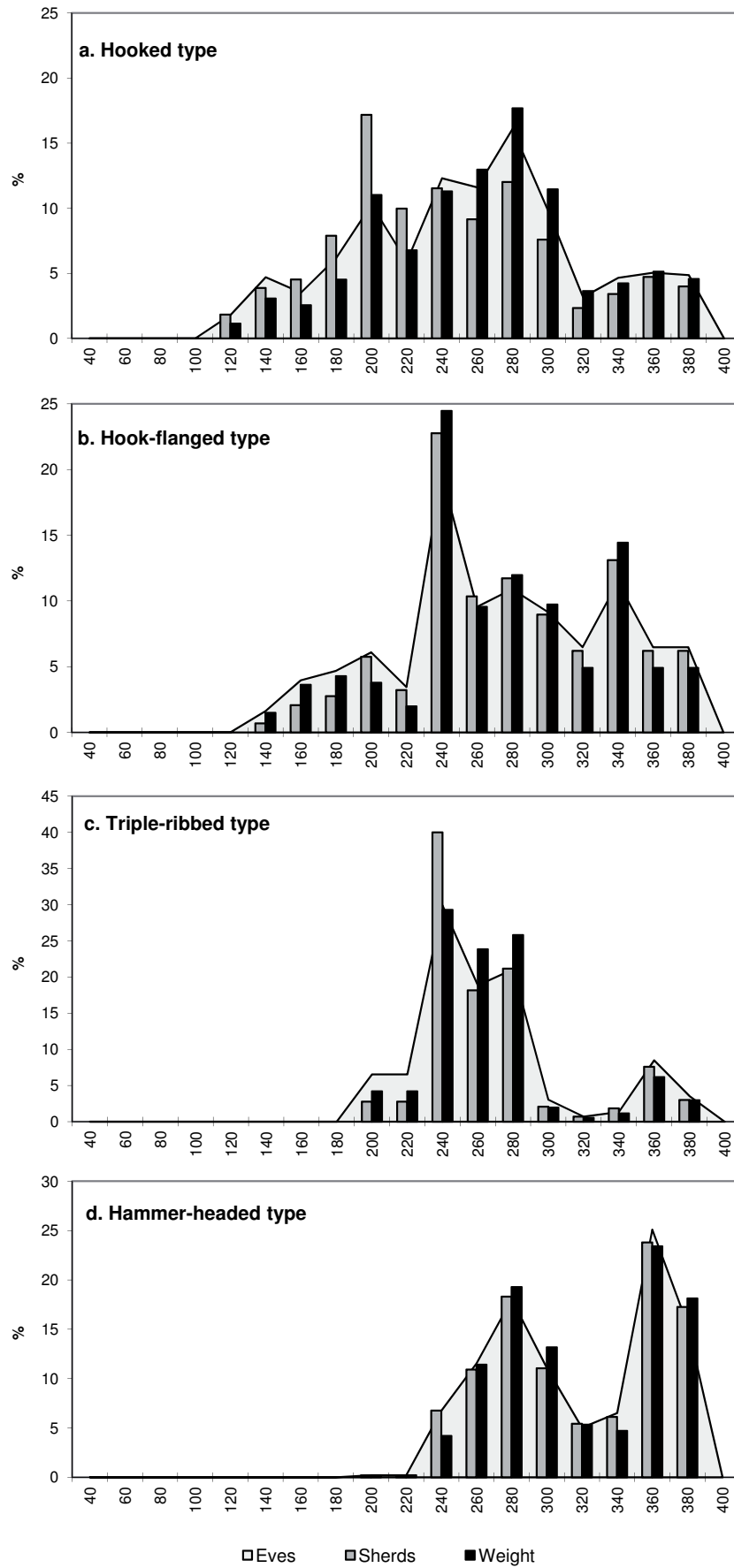


Fig. 153. Mancetter-Hartshill mortaria: plotdates of main types by sherd and weight percentages and EVEs.

It is worth noting that 100 of the 169 sherds from the Upper City are from Cottesford Place, mostly from rubbish dumps in part of the public baths. This quantity may however be balanced by 93 sherds from The Park in the Lower City, and 91 sherds from St Mark's Church in the Wigford suburb, all three areas having single large groups.

The composition of the assemblages from the different areas of the city is shown in Figure 155. This shows clear differences between the three areas, the hook-rimmed types being almost equally common in the Upper City and Wigford, the latter having the highest incidence of the hook-flanged types, but far fewer hammer-headed mortaria. This is almost certainly due to the dominance of the single strongly 3rd century assemblage from St Mark's Church, which accounts for over 60% of all

Mancetter-Hartshill mortaria from that area. The Lower City, on the other hand, has only marginally less hammer-headed than hooked types, showing its strong emphasis continuing through the 3rd and 4th centuries, with quantities of late pottery from the later deposits at Silver Street (Trenches A and BI) and Saltergate (Trenches DI and F). It is, however, notable that the sites with the best very late assemblages, Grantham Place and Hungate, have very few Mancetter-Hartshill mortaria. The paucity of the hook-flanged type in the Upper City is interesting, and is probably related to the relatively small quantity of late 2nd to mid 3rd century deposits excavated. Of the 49 records from deposits of that period, only six relate to the Upper City.

Figure 156 shows the dating profiles of Mancetter-Hartshill mortaria across the city, based on EVEs

Area	Sherds	%	EVEs	%	Kg	%
Upper City	169	29.9	869	32.8	14.101	32.0
Lower City	245	43.4	1169	44.1	20.410	46.3
Wigford	151	26.7	612	23.1	9.596	21.7
Total	565	100.0	2650	100.0	44.107	100.0

Fig. 154. Mancetter-Hartshill mortaria: distribution across the city.

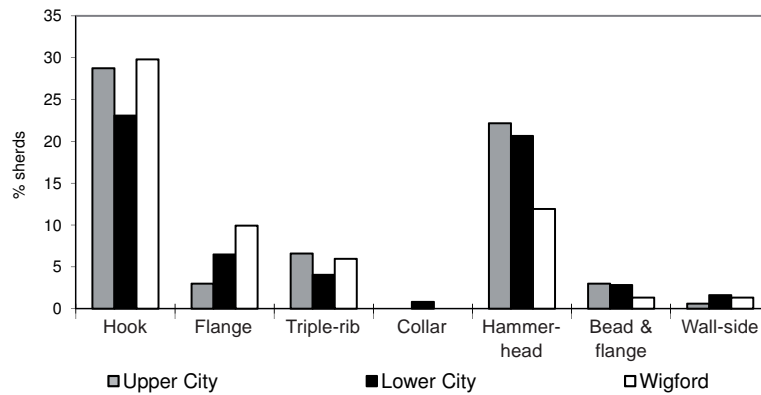


Fig. 155. Mancetter-Hartshill mortaria: distribution of types across the city, by sherd percentages.

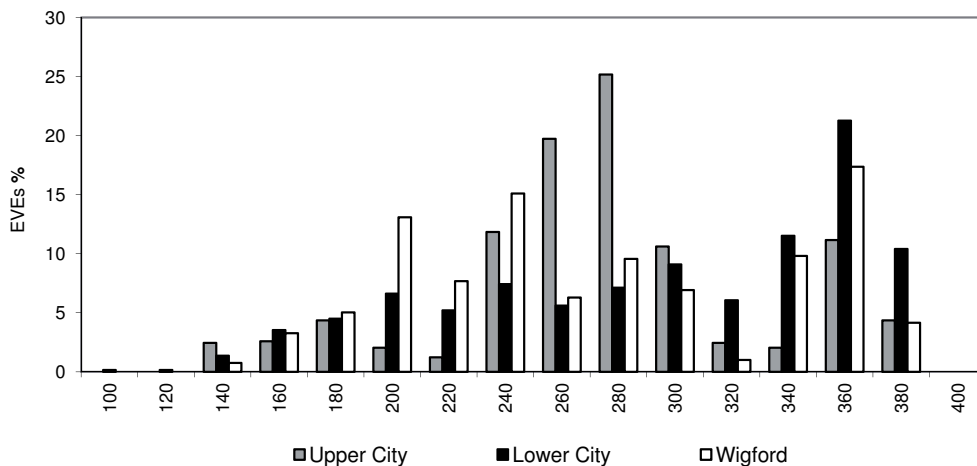


Fig. 156. Mancetter-Hartshill mortaria: plotdate of city areas by EVEs percentages.

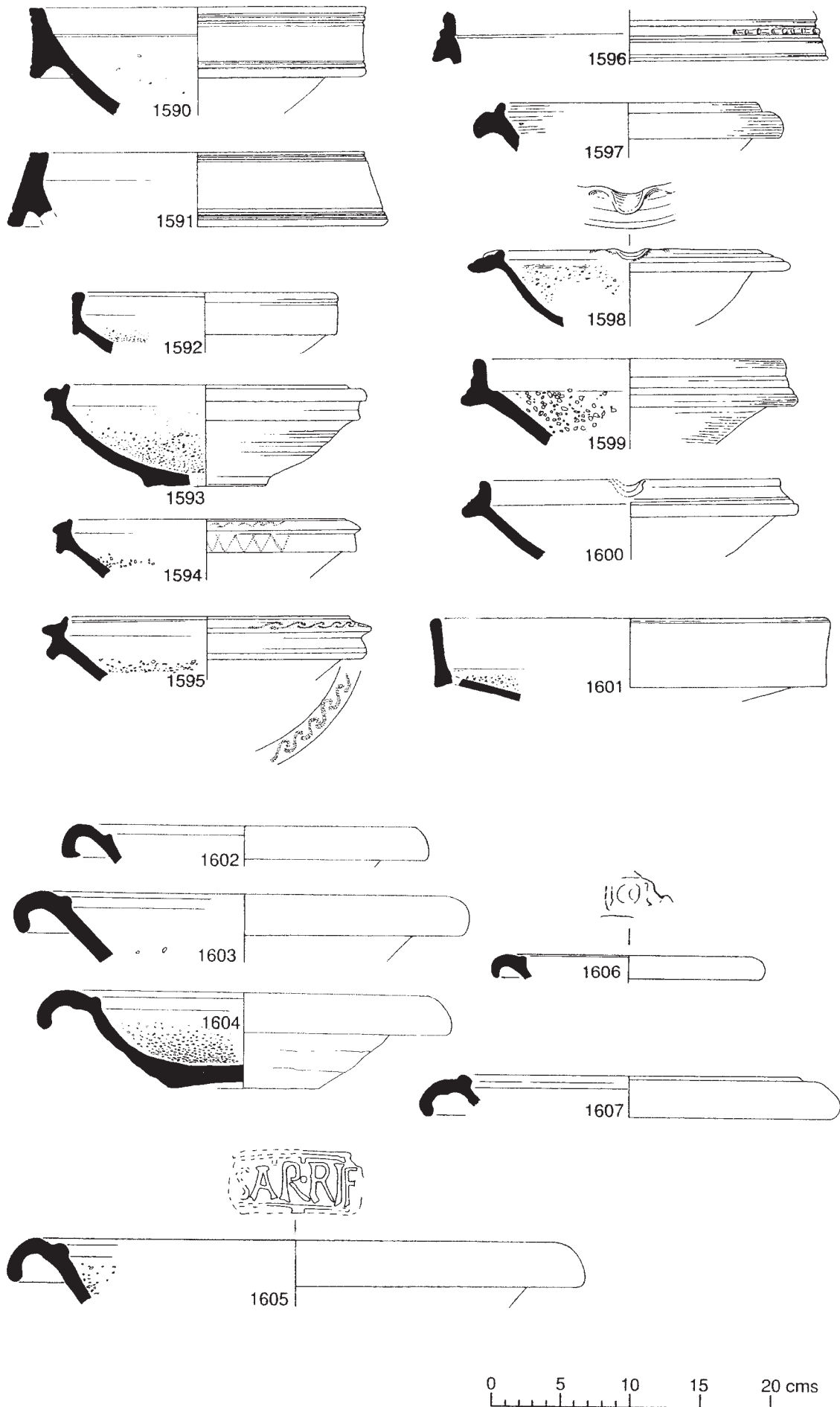


Fig. 157. Mortaria: Colchester 1590-1; Crambeck 1592-6; Grey 1597-1600; Much Hadham 1601; Midlands 1602; Mancetter-Hartshill 1603-7. Scale 1:4; stamps scale 1:2.

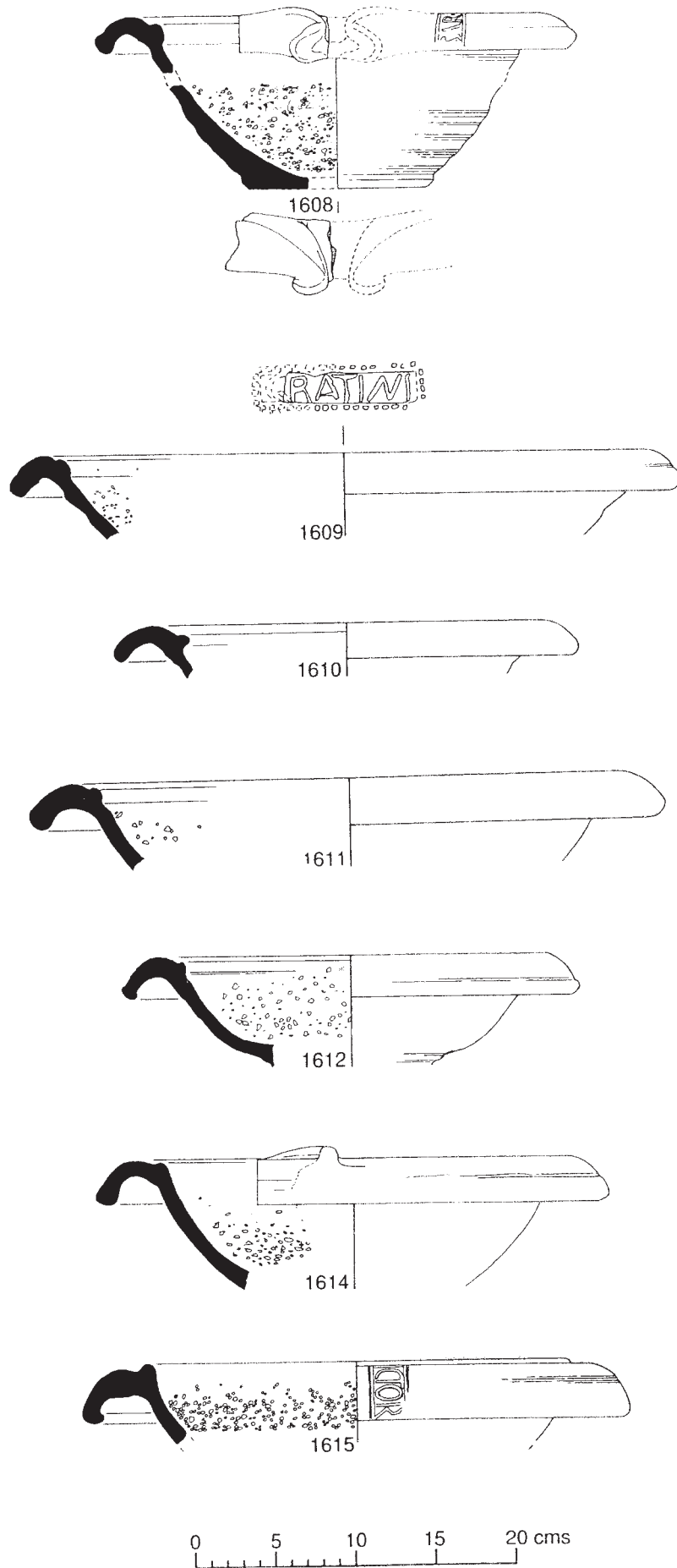


Fig. 158. Mortaria: Mancetter-Hartshill 1608–11 and 1614–15; Midlands 1612. Scale 1:4.

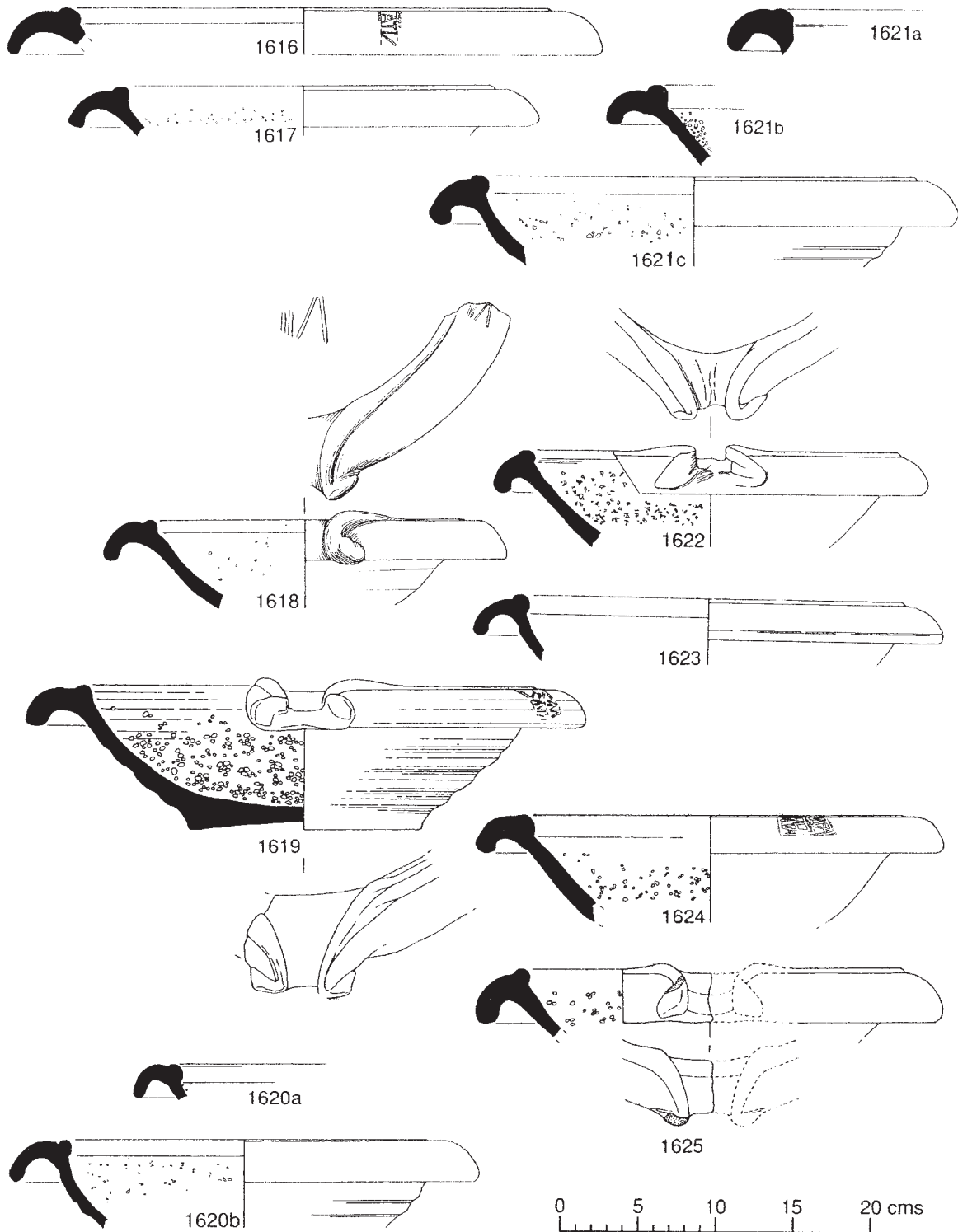


Fig. 159. Mortaria: Mancetter-Hartshill 1616–18, 1620a, 1621 and 1623–5; Midlands 1619, 1620b and 1622. Scale 1:4; stamp scale 1:2.

percentage. This shows the clear 3rd century emphasis of the Wigford assemblage, and also the considerable late deposits from the Lower City, with the Upper City fitting between the two extremes. When the dated content of the areas is

analysed by the number of records rather than sherds, while nearly 60% of the Wigford assemblage was deposited before the end of the 3rd century, 60% of that from the Lower City was deposited mainly in the 4th century. The late emphasis in the

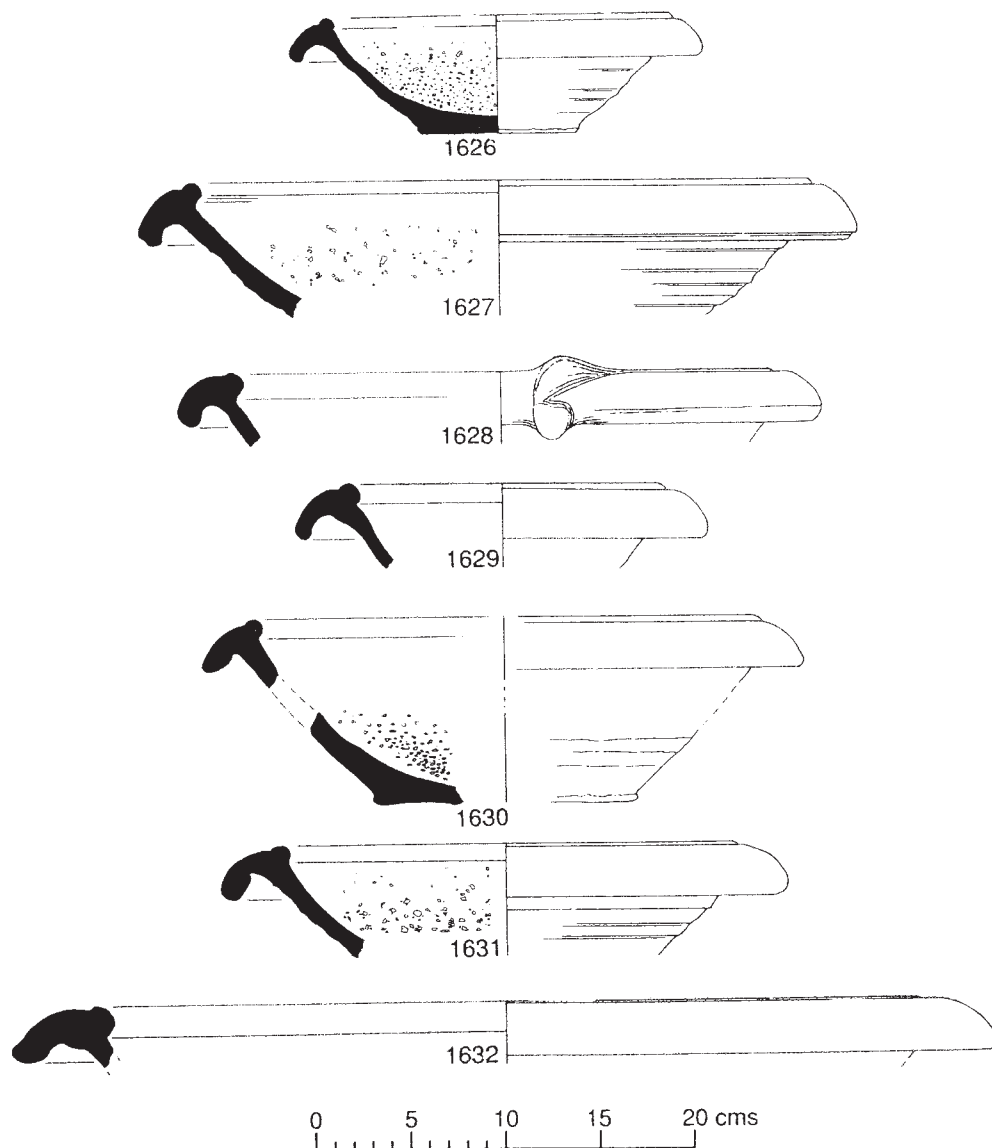


Fig. 160. Mortaria: Mancetter-Hartshill 1626–7, 1629 and 1631–2; Midlands 1628 and 1630. Scale 1:4.

Lower City comes from a number of sites, notably the late dumps on the rampart at The Park, the late deposits at Silver Street and Saltergate (mainly the latter), and the Flaxengate dumps, all with a high residual content. Notably only seven records relate to vessels from the classic late site, Hungate, only two of which are late hammer-headed types. The profiles revealed by analysis using sherd count are closely similar.

Nene Valley mortaria (MONV)

Barbara Precious

Production of white ware mortaria in the Nene Valley began in the early 2nd century, with the main period

of manufacture during the 3rd and 4th centuries. Stamped mortaria were confined to the 2nd century. MONV mortaria (345 sherds) comprise the second largest assemblage.

Dating: LROM

A very small percentage of MONV was associated with pottery pre-dating the mid 3rd century. The stamped vessel, 1785b, dated to *c.* AD 150–170+ (see 7.4, no. 31) and probably the earliest example of MONV from Lincoln, is from a group dated from the later 2nd to the early-mid 3rd century. Small quantities of MONV appeared by the mid 3rd century, increasing thereafter; it is most common in mid to late 4th century groups (Fig. 169).

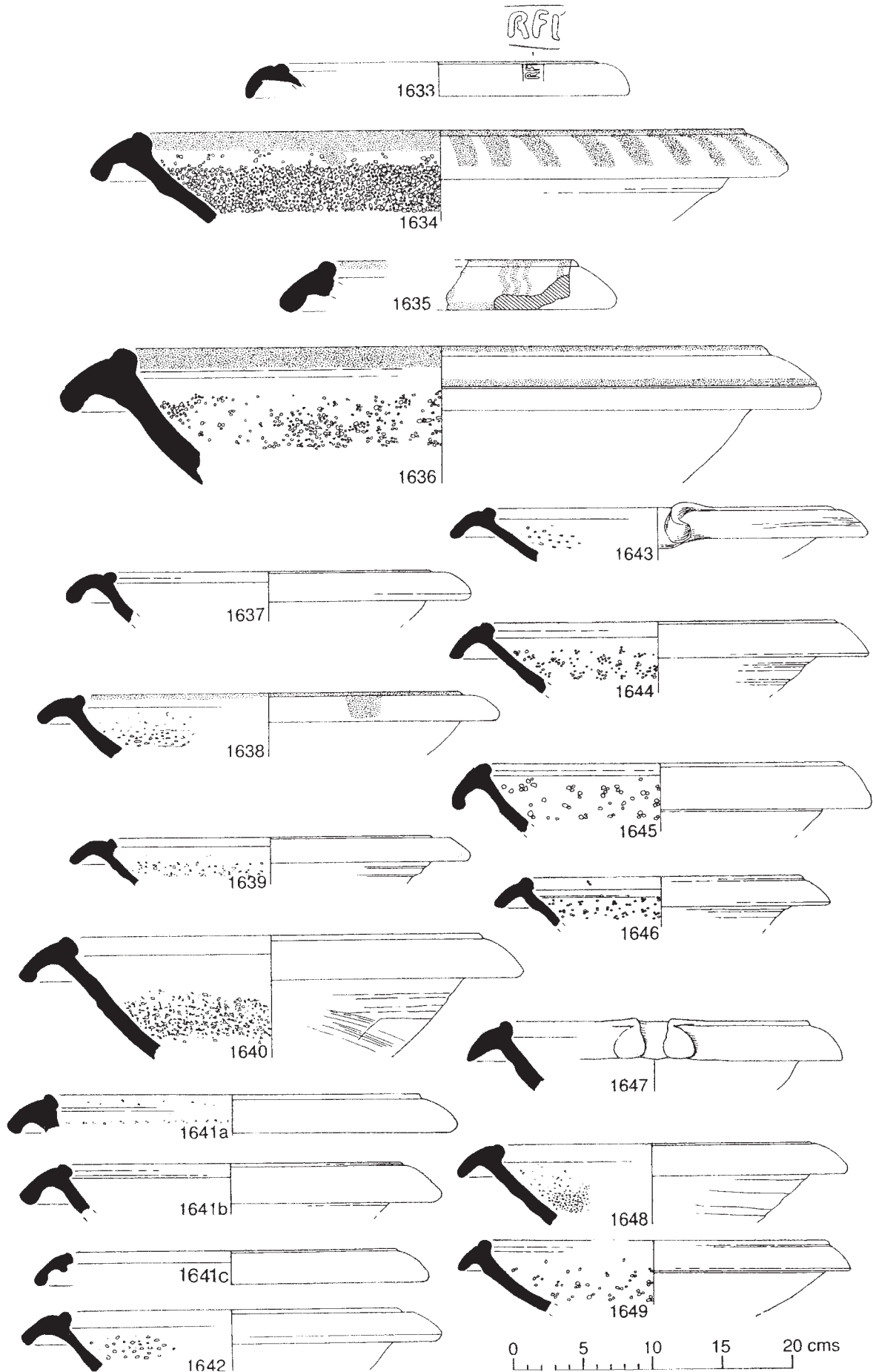


Fig. 161. Mancetter-Hartshill Mortaria 1633-49. Scale 1:4; stamp 1:2.

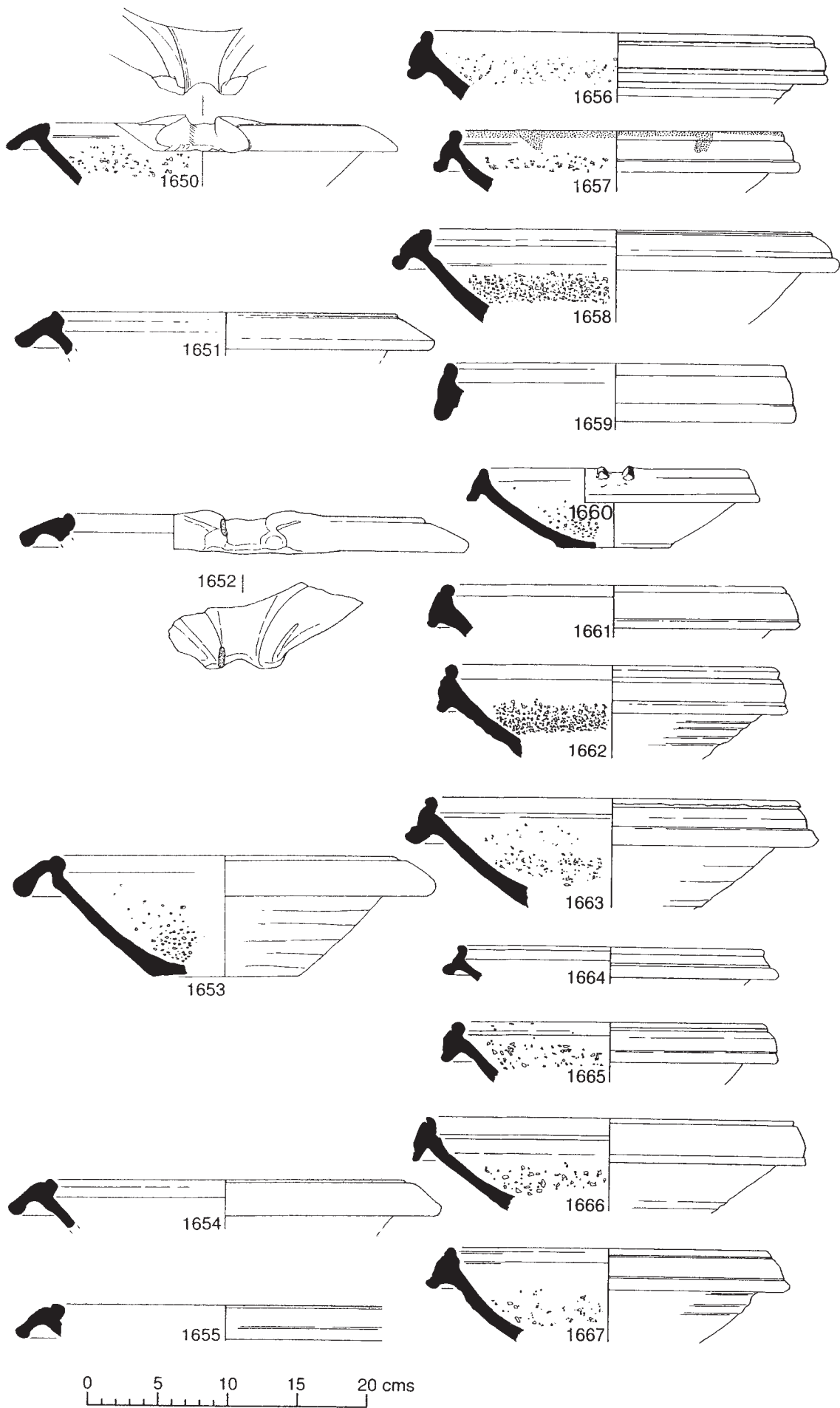


Fig. 162. Mancetter-Hartshill Mortaria 1650-67. Scale 1:4.

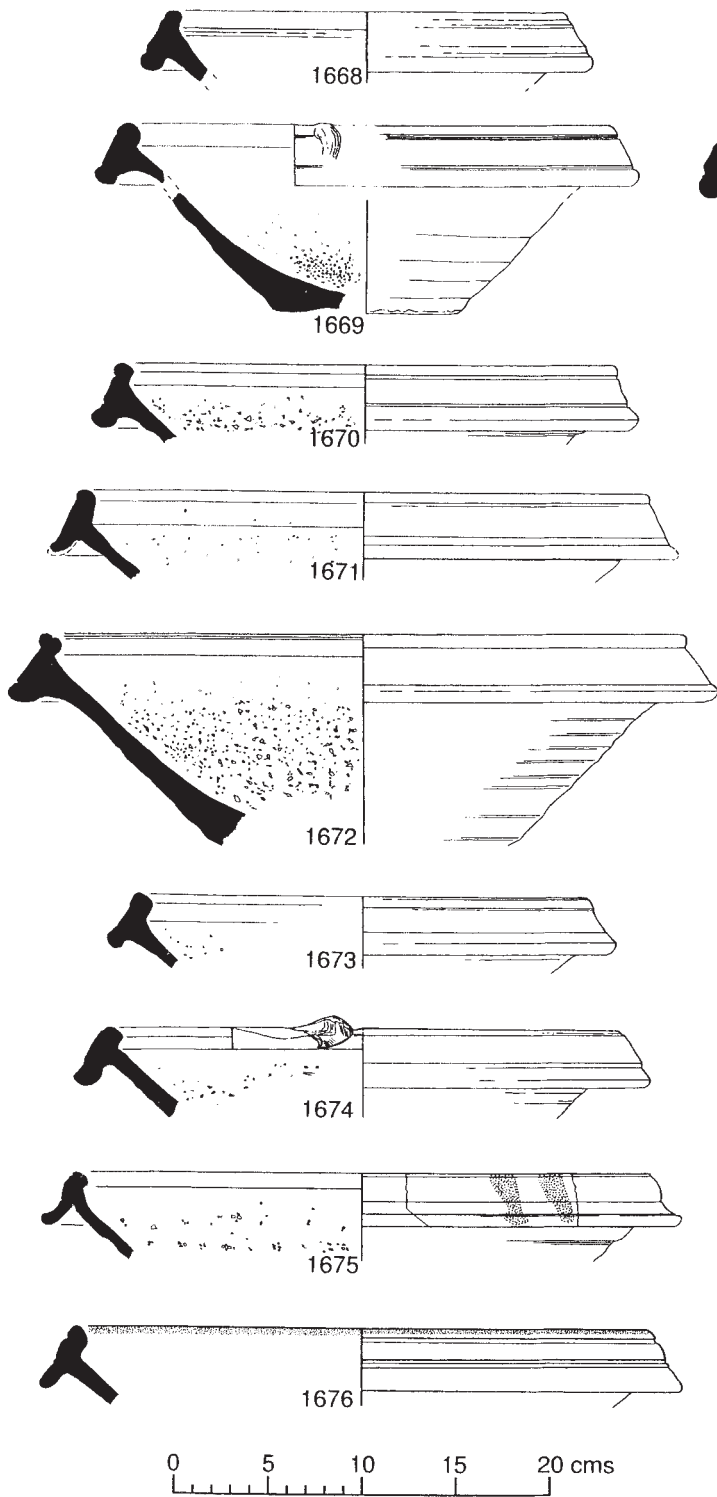


Fig. 163. Mancetter-Hartshill Mortaria 1668-76. Scale 1:4.

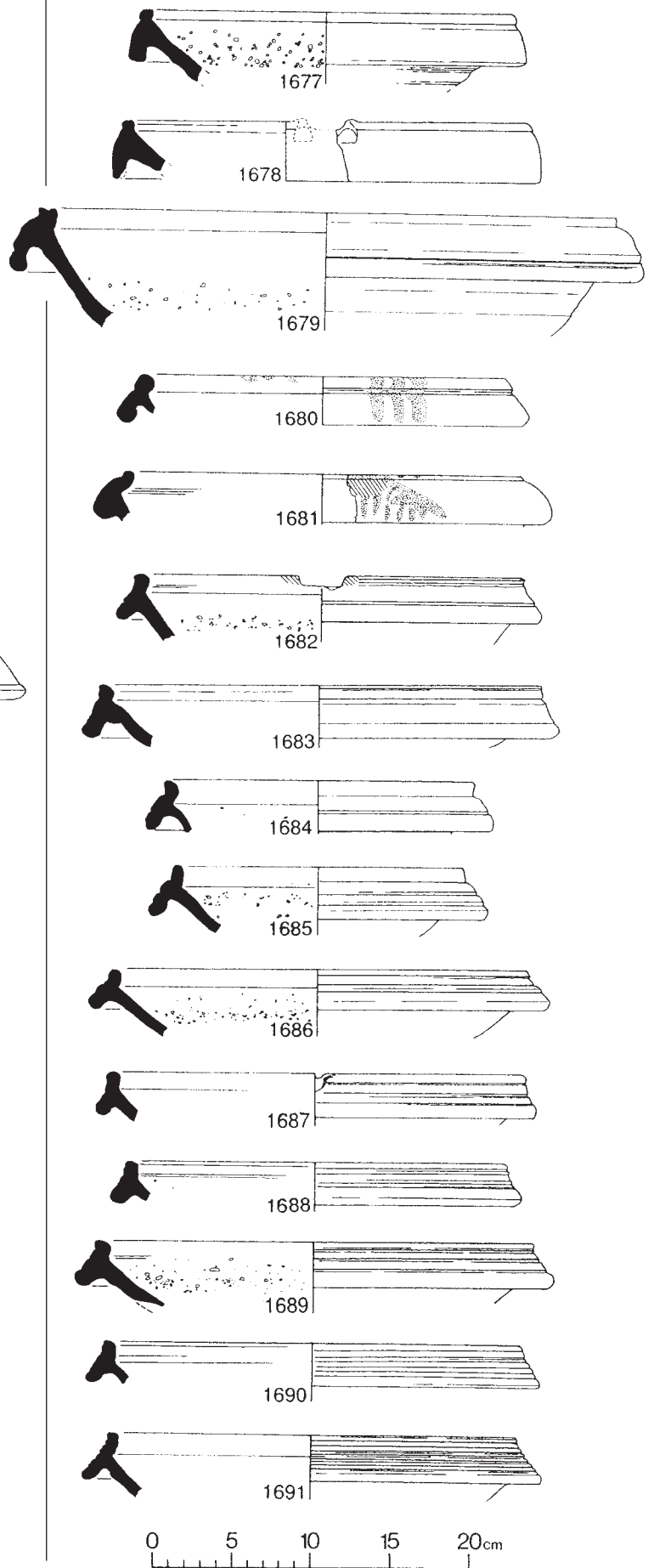


Fig. 164. Mancetter-Hartshill Mortaria 1677-91. Scale 1:4.

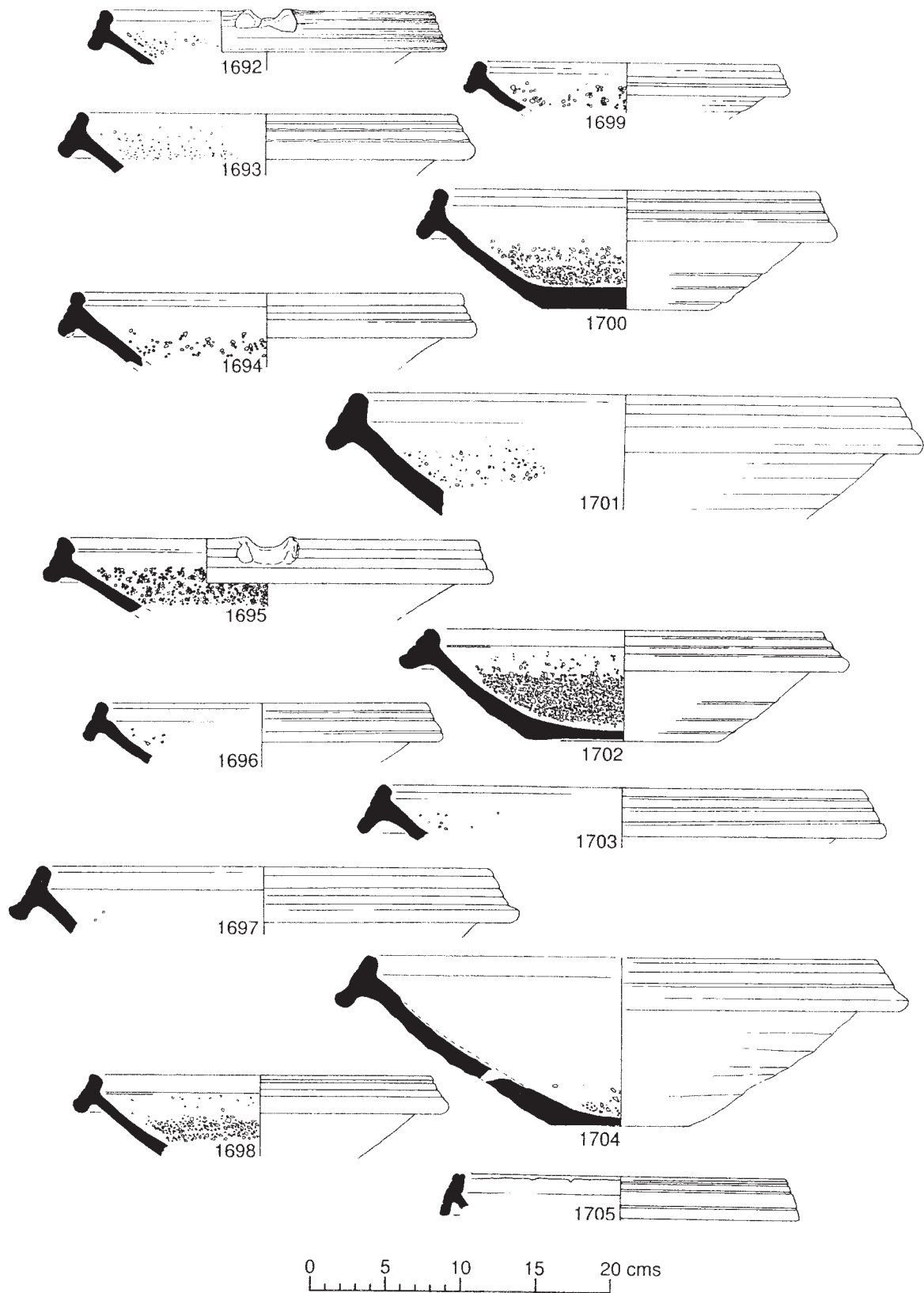


Fig. 165. Mancetter-Hartshill Mortaria 1692-1705. Scale 1:4.

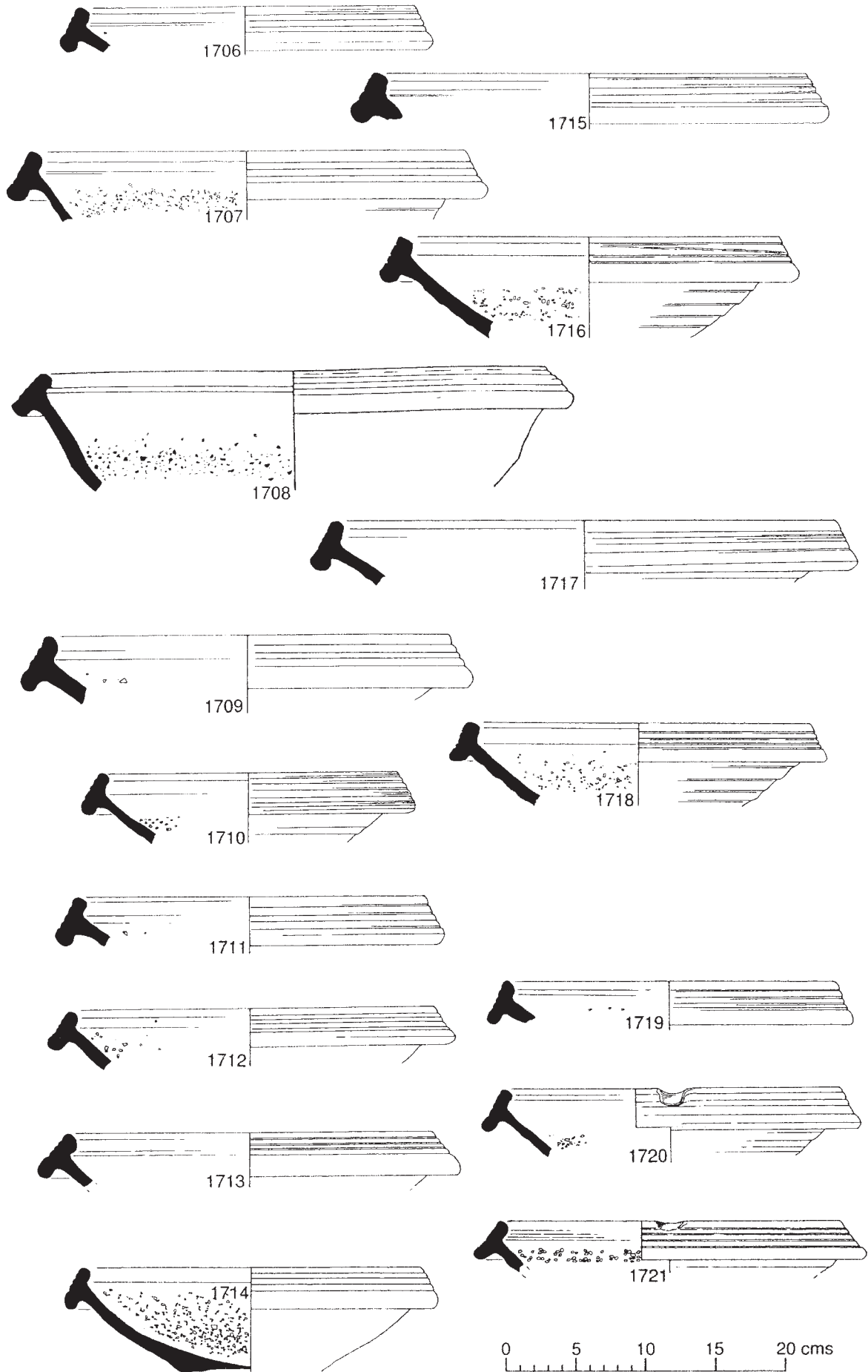


Fig. 166. Mancetter-Hartshill Mortaria 1706-21. Scale 1:4.

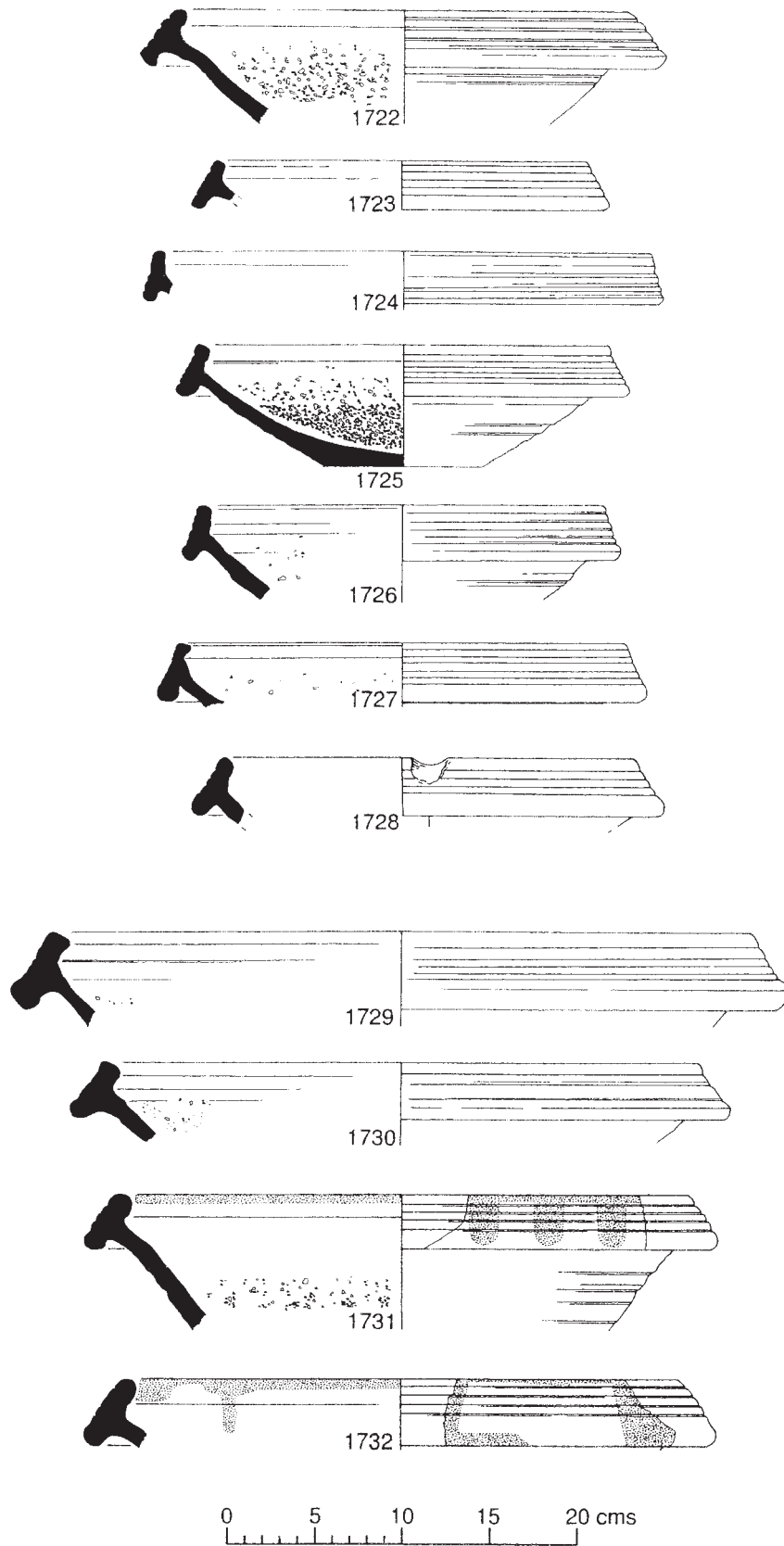


Fig. 167. Mancetter Hartshill Mortaria 1722-32. Scale 1:4.

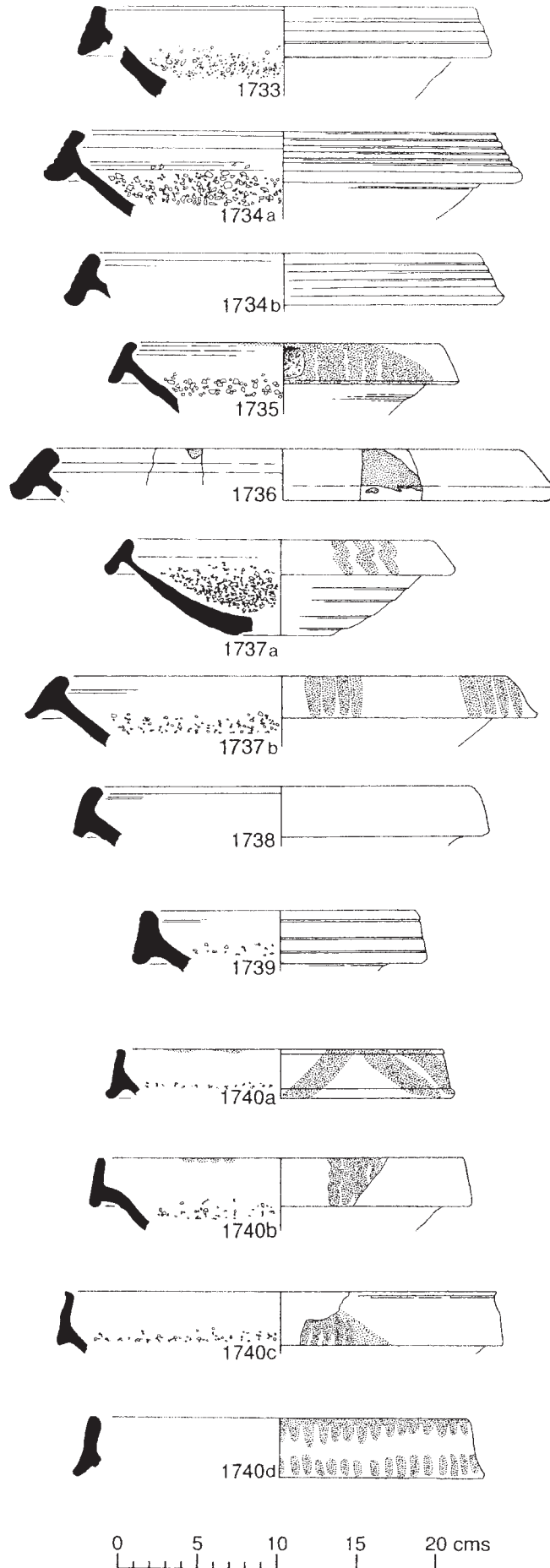


Fig. 168. Mancetter-Hartshill Mortaria 1733-40d. Scale 1:4.

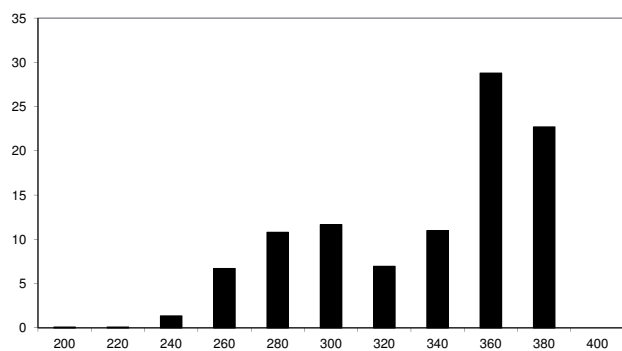


Fig. 169. Nene Valley mortaria: plotdate by sherd percentage.

Fabric and technology

NRFRC: LNV WH

LRF16–20

The range of fabrics found in Lincoln reflects the variation within the well-documented fabric descriptions for this ware. Fabrics LRF16 and 17 are most common. The typical fabric, LRF17, contains small, uniform fragments of well-sorted quartz; LRF16 is a slightly coarser variant with occasional larger quartz. Individual vessel types occur in both fabrics, suggesting some variation in composition of the clay.

LRF18 is a rare but more distinctive variant, often orange-brown in colour, and containing a higher proportion of iron-rich inclusions and less common calcareous particles ($R > 1.0\text{mm}$). LRF19 is also very uncommon; it has a decayed appearance and a slightly soapy feel but is otherwise very similar to LRF17. LRF20 is a very fine variant with a light grey core and pale red margins, and is slipped with a thin pale cream wash. The matrix has a silty texture and although the iron-rich and calcareous inclusions are present, none of the typical fine quartz grains is visible.

Nene Valley mortaria are, on the whole, neatly made with simple thumbled lips; a characteristic feature is the turned-back edge to the flange.

Forms

The mortaria are grouped here according to rim form: bead-and-flange, reeded, hammer-headed, collar-rimmed, and wall-sided. By far the most common form is the reeded-rimmed, followed by the bead-and-flange and hammer-headed types. There are only two wall-sided vessels and a single collar-rimmed variant. All three of the main forms were most common from the later 3rd to the 4th century.

Bead-and-flange

(Fig. 170, 1741–5 and Fig. 172, 1785b)

These vessels are amongst the largest in the MONV

assemblage, with rim diameters ranging from 26 to 49cm, about half of them closer to the higher figure. With the exception of 1744, all beads are inturned. In common with most MONV mortaria, spouts were made by pulling down the rim with the thumb or finger (as 1745), or occasionally by pinching the rim upwards (as 1744). Flanges range from flaring, horizontal examples with a thickened edge (1741), and those with a similar, but slightly hooked, flange (1742), to downturned types (1743–5). The most common type in this category, 1743 (four examples, diameters 32–42cm), has a thick, flaring but squared-off flange. This form occurs in later 3rd to early 4th century assemblages.

Nos 1744 and 1745 have pointed flanges that are almost doubled back to form a slight groove under the flange at the junction with the body wall.

A single stamped mortarium (1785b), from a Lower Nene Valley source, is dated to *c.* AD 150–170+ (see 7.4, no. 31); a similar, but unstamped, rim fragment is attributed to the same potter (see 7.4, no. 32).

Reeded rim (Fig. 170, 1746–58 and Fig. 171)

Vessels range in diameter from 17 to 40cm, with 28cm being the most common size. No. 1746, with reeding only at the upper edge of the flange, appears to be a transitional form between the bead-and-flange and the fully reeded examples.

A group of vessels (1747–50) have inturned beads and thick, flaring flanges with reeding that varies from slight to more pronounced. The fainter reeding on the horizontal flange of 1747 and on the slightly downturned flange of 1748 suggests that these also may be transitional forms; both vessels were associated with pottery broadly dating to the 4th century. Nos 1749 and 1750 are very similar but the flanges have upturned, squared-off edges and pronounced reeding. The four examples of type 1749 (diameters 26–38cm), were all found with mid to late 4th century pottery but in post-Roman deposits. No. 1750 was associated with pottery broadly dated from the later 3rd to the 4th century, but is more likely to date to the early 4th century.

Vessels with thickened, downward sloping and relatively pointed flanges that turn up at the edge, and inturned beads, vary from those with a gradual curve at the lower junction between the flange and the body wall (1751) to those with a shorter and more acute curve (1752–3). The earliest occurrence of two examples of type 1751 (diameters 28 and 32cm) was in a 3rd century assemblage. No. 1752 is a relatively common type; seven examples (diameters 24–34cm) are made in both the finer (LRF17) and slightly coarser fabric (LRF16). One vessel occurred in a mid to late 3rd century group, but the others were found in later 3rd to very late 4th century contexts. There are five examples as 1753 (diameters 26–34cm);

similar vessel types, but with much thinner flanges (1754–6), include two examples as 1754, the earliest of which is from a mid-late 3rd to 4th century context; the other was associated with very late 4th century pottery. Nos 1755 and 1756, individual vessels that differ from each other only in the number of reeds on the flange (three and four, respectively) were both associated with 4th century pottery.

Mortaria 1757–9 are slightly atypical reeded types that are all from late to very late 4th century assemblages. The flange of 1757 has a pointed, upturned edge and deeply cut four-ribbed reeding, and the bead is sharply incurved. Mortaria as 1758, with a very square junction between the vessel wall and the thickened, bulbous downturned flange, have a single reed close to the bead. No. 1759 is very similar in profile to a bead-and-flange type, 1742, but the flange is reeded.

A group of mortaria (1760–70) have bulbous, thickened and turned-back edges to their downturned flanges, which range from straight (1760) to markedly curved (1770); virtually all were found in 4th century assemblages, mostly dating to the final decades. The five examples of type 1760 (diameters 24–40cm) all came from late and very late 4th century groups. The earliest of ten examples of 1763 (diameters 25–36cm), with a markedly downturned flange, was found with mid 3rd to 4th century pottery but the majority are from late 4th century groups. Nos. 1767–70 were all found in later 3rd to 4th century assemblages and may be slightly earlier forms; 1767 has a pinched spout and irregular reeding. Vessels as 1768–9 (diameters 27–40cm) have flaring down-curved flanges and four rows of reeding. No. 1770 has a pronounced down-curving flange.

Nos 1771–80 also have bulbous flange ends that have been folded back. The flanges are angled downwards to varying degrees, those with a marked downward slope (1780) verging on the hammer-headed form. Both 1771 and 1772 are neat vessels with a high bead and an almost horizontal flange; 1771 was found with mid to late 3rd century pottery. There are six examples of type 1775 (diameters 25 to 38cm), three vessels similar to 1776 (diameters 28 to 36cm) and two of type 1778; the earliest examples of each of these were from late 3rd to 4th century assemblages, while the latest (as 1775) was found with late 4th century wares.

Nos 1779 and 80 have more curved and markedly downturned flanges. No. 1779 is the second most common type in the MONV assemblage; diameters range from 28 to 38cm. The earliest occurrence was in a late 3rd to 4th century assemblage and the latest in a very late 4th century group. The four examples of 1780 (diameters 24–28cm) have an identical date range to that of 1779.

Hammer-headed and related types (Fig. 172, 1781–6)

This small group consists of two main types: those with faint grooving on the flange (1781–2), found with pottery dating from the late 3rd to the mid 4th century, and those with grooving applied only to the lower edge of the flange (1783–4), which are from groups dating from the later 3rd to the very late 4th century.

Related types 1785a and 1786 are more unusual. No. 1785a, with the flange delineated by a deep groove, may be a development of the hammer-headed form but resembles collared-rimmed vessels. This came from a context dated to at least the later 3rd century. The fabric of 1786 is not certainly MONV; it resembles hammer-headed types but the flange has beaded edges. It was associated with pottery broadly dated to the mid-late 3rd century.

Wall-sided (Fig. 172, 1787–8)

Only two vessels have the deep flanges and upright rims that are typical of wall-sided mortaria; 1787 has a sloping, grooved flange whereas that of 1788 is more upright. Both were associated with very late 4th century pottery.

Nene Valley Colour-coated mortaria (MONVC)

These fine colour-coated vessels, in common with the samian mortaria (Dr. 45) that they imitated, are most likely to have been used as tablewares, possibly to mix spices for wine.

Dating: LROM

The dating for this colour-coated sub-group within the Nene Valley mortaria repertoire is virtually identical to that of the mainstream mortaria (MONV). However, there are only 35 sherds of MONVC, five of which are from very late Roman contexts; all the rest came from post-Roman deposits.

Fabric and technology

LRF15

The fabric falls within the range described by Tomber and Dore (1998, 117), with a thick dark brown colour coat and very fine black iron slag trituration grits. Decoration consists of coarse scoring or keying, both wavy and linear, around the spouts. White painted linear decoration also occurs.

Forms (Fig. 172, 1789–94)

In contrast to the mainstream Nene Valley mortaria, the MONVC assemblage consists almost entirely of wall-sided vessels; a single reeded-rimmed example similar to MONV 1779 was associated with mid to late 4th century pottery but in a post-Roman deposit.

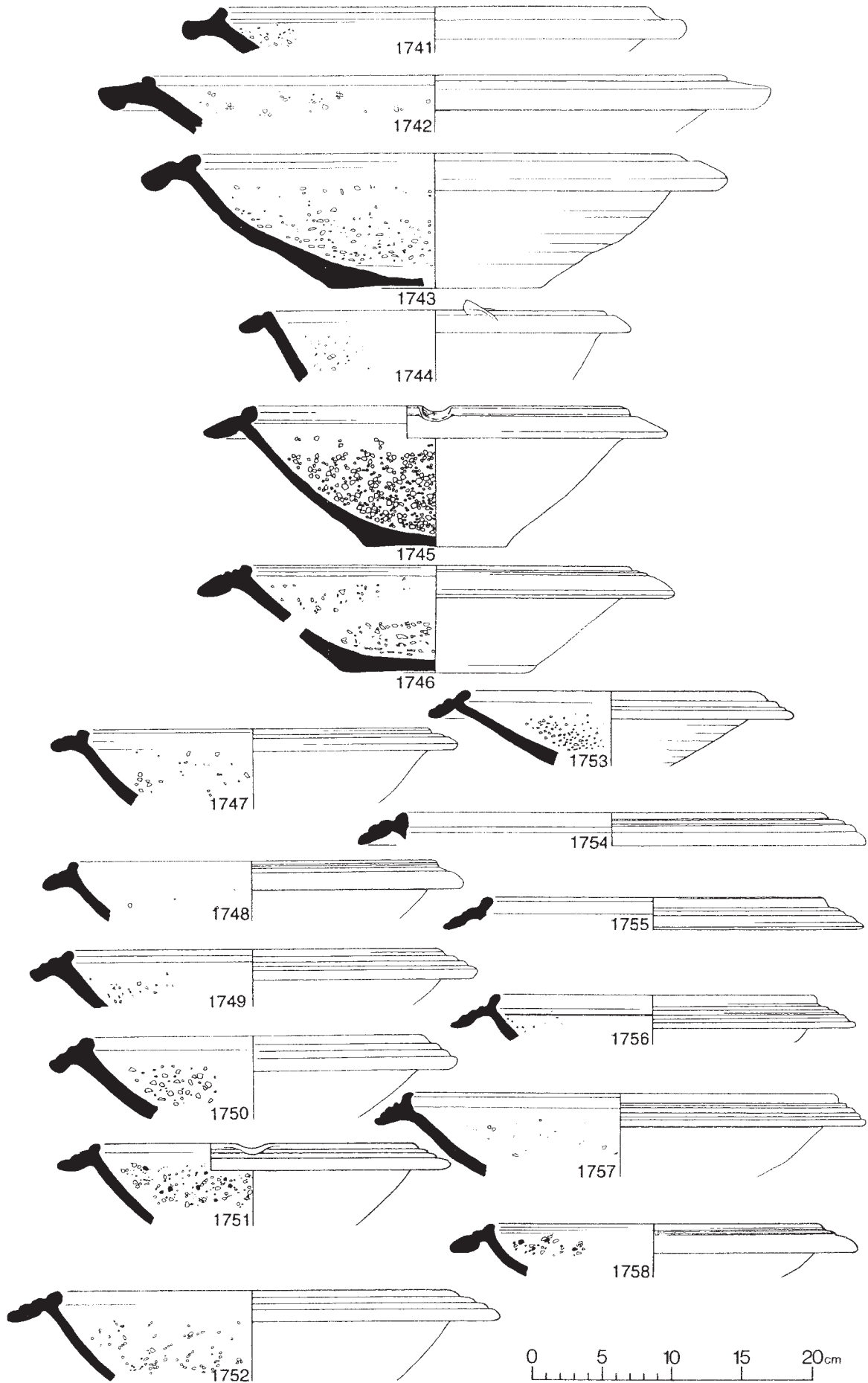


Fig. 170. Nene Valley Mortaria 1741-58. Scale 1:4.

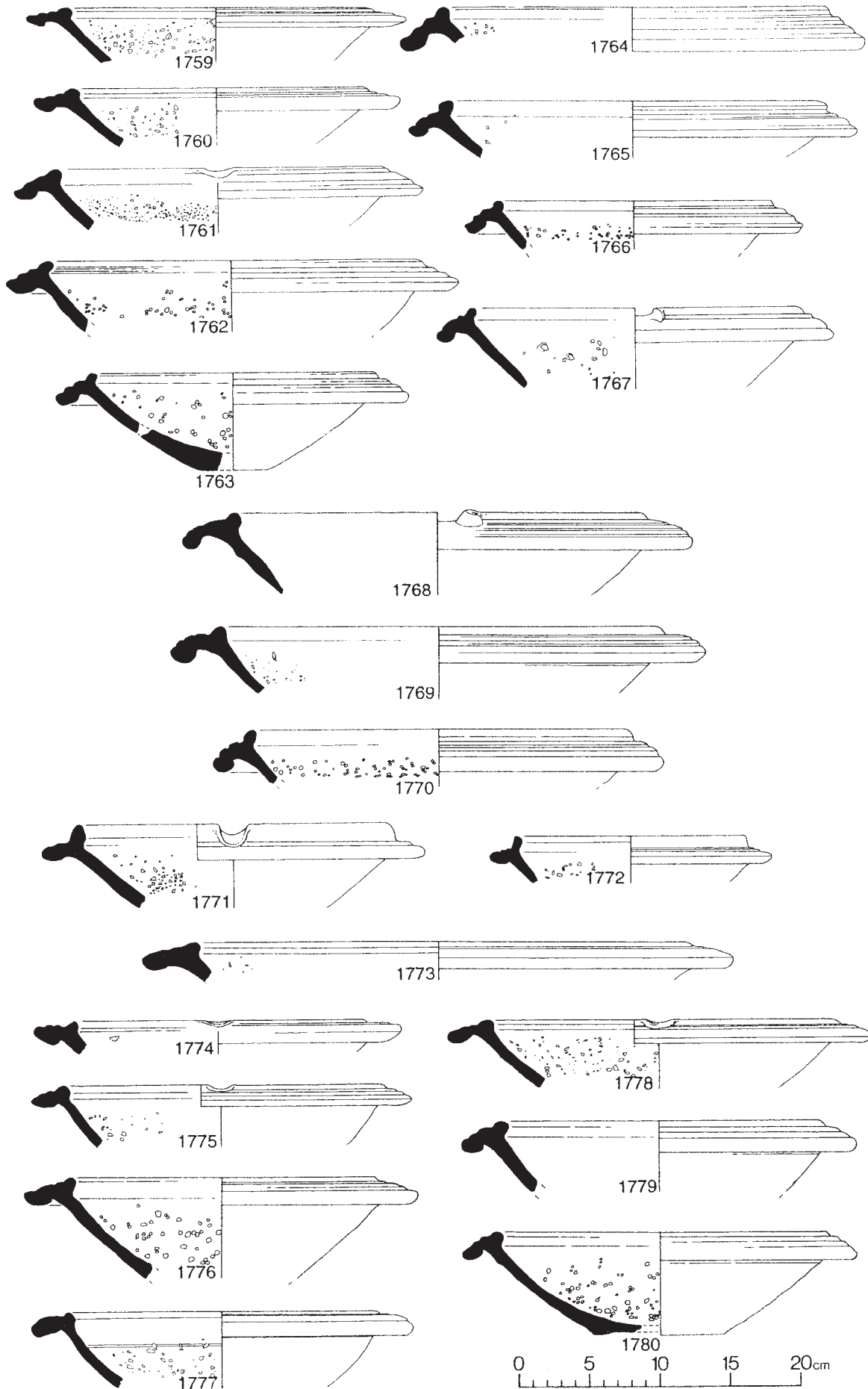


Fig. 171. Nene Valley Mortaria 1759–80. Scale 1:4.

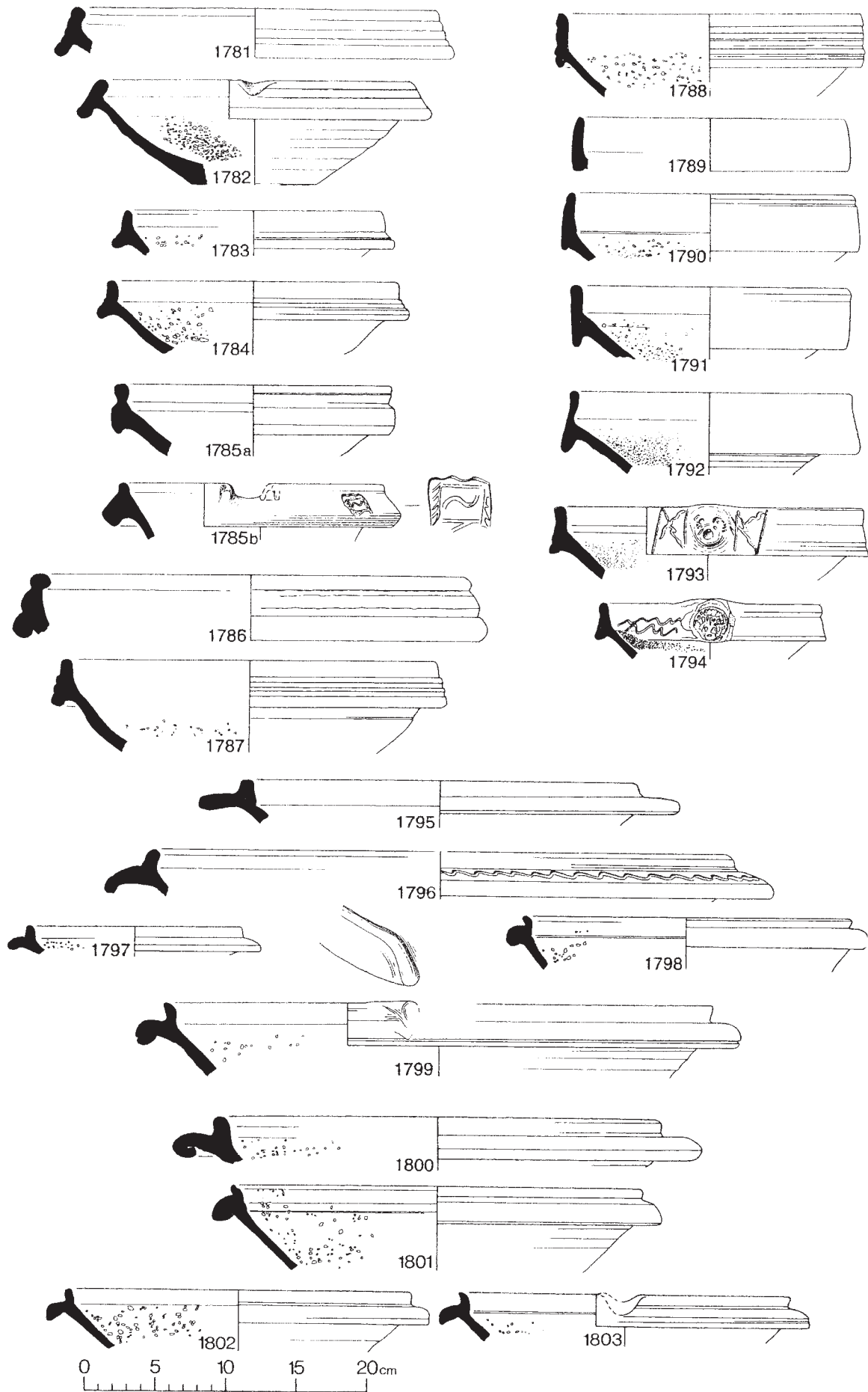


Fig. 172. Mortaria: Nene Valley 1781–8; Nene Valley Colour-coated 1789–94; Oxfordshire 1795–1801; Oxfordshire White-slipped 1802–3. Scale 1:4; stamp 1785b scale 1:2.

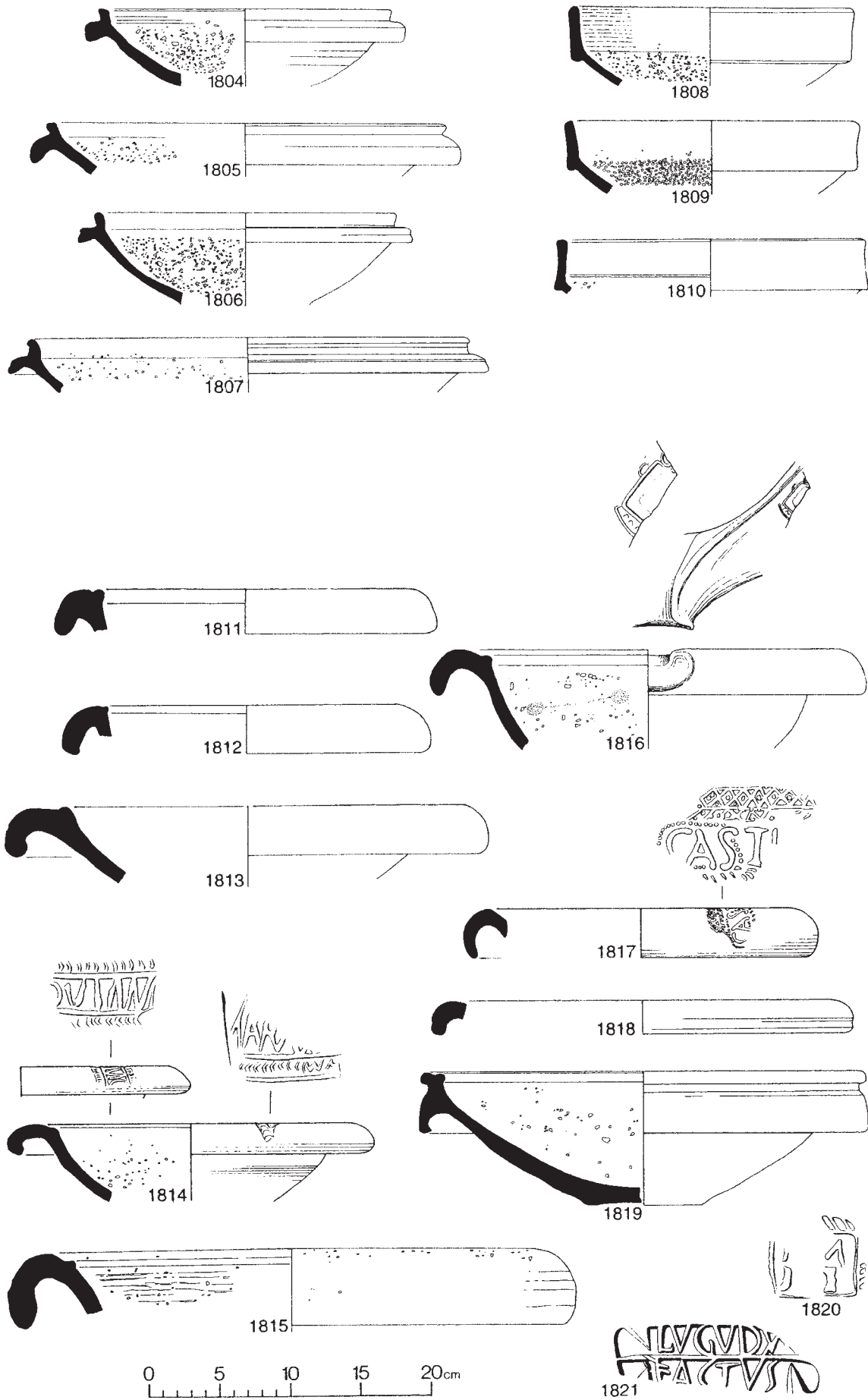


Fig. 173. Mortaria: Oxfordshire White-slipped 1804–5; Oxfordshire Red-slipped 1806–10; Verulamium Region 1811–21. Scale 1:4; stamps scale 1:2.

Rim diameters of the wall-sided mortaria vary from 14 to 22 cm, the majority clustering between 18 and 22 cm. The flanges on apparently undecorated vessels range in profile from incurving and rounded (1789) to vertical, sometimes with a groove at the top (1790–1); a single example has a flaring flange (1792). The stepped bottom edge of the flange also varies from very slight (1789) to pronounced (1792).

This form, like the virtually identical types in Oxfordshire red colour-coated ware (MOOXR: see below), is a close copy of samian form Dr. 45, which normally has a lion-headed spout in the earlier versions and a more bat-like spout in later examples. Two vessels (as 1793) are closer to the latter; the illustrated example is also decorated with white painted crosses between vertical lines, while 1794 has a crude semblance of a lion's mane and incised wavy lines on the interior.

Oxfordshire mortaria (MOOX, MOOXR and MOOXW)

Although the Oxfordshire kilns produced mortaria for local markets from the 1st century, the main period of manufacture was the early-mid 3rd to the 4th century (Young 1977, 237–8). All three of the main mortaria fabrics produced at the Oxfordshire kilns are present in Lincoln assemblages: the cream/white ware fabric (MOOX: 24 sherds), the red fabric with a white slip (MOOXW: 27 sherds), and the red colour-coated ware (MOOXR: 44 sherds).

Dating: LROM

All three wares appeared in Lincoln in the later 3rd century but did not become common until the mid to late 4th century. MOOXR appears to have been the latest of the three fabrics; a single sherd is from a mid to late 3rd century group, where it is considered to be intrusive, and it does not otherwise occur in assemblages pre-dating the mid 4th century. The majority of the Oxfordshire mortaria are associated with late to very late 4th century assemblages.

Fabric and technology

MOOX

NRFRC: OXF WH

LRF10–1, 13–4

LRF10 has the typical fabric and trituration grits of the cream/white ware mortaria described by Young (*op. cit.* 56), and is the most common fabric represented; the variants only occur as single examples.

LRF11 is a slight variant with larger red iron-rich inclusions.

LRF13 shares the same characteristics but is pinker in colour, and is similar to the Harston/Cambridgeshire fabrics (Lindsay Rollo, *pers. comm.* See also LRF12, below). The thin-section (L1687)

contains abundant quartz (R>1.0mm, mainly >0.4mm) with a thin iron-rich coating, sparse chert/flint (R >0.5mm) and sparse altered glauconite (R >0.1mm), in an anisotropic, highly birefringent, inclusionless clay matrix.

LRF14 is a coarser variant with more abundant quartz inclusions.

MOOXW

NRFRC: OXF WH

LRF9, 12

LRF9 is the typical white-slipped red fabric with the characteristic trituration grits of the Oxfordshire mortaria (Young *op. cit.* 117). LRF12 is a pink variant that has lost almost all of the white slip and only occurs as a single example; it is similar to the Harston/Cambridgeshire fabrics (Lindsay Rollo, *pers. comm.*). The thin-section (L1696) shows: sparse rounded (>0.4mm) and abundant angular (>0.1mm) quartz; sparse flint (R>0.4mm); sparse reddish clay (R >1.0mm) containing quartz grains (R >0.3mm); sparse muscovite (>0.1mm); sparse altered glauconite (R >0.1mm) and sparse non-ferroan calcite (R >0.1mm) in an anisotropic clay matrix.

MOOXR

NRFRC: OXF RS

LRF8

This is a typical example of the red colour-coated fabric and trituration grits described by Young (*ibid.* 123).

Forms

MOOX (Fig. 172, 1795–1801)

These mortaria are all bead-and-flange types, with diameters ranging from 16 to 48cm. No. 1795 has a horizontal flange with a slight groove at the lower edge and an upright square bead, and resembles Young type M22.15, which is broadly dated *c.* AD 240–400+.

No. 1796 is a notably large vessel (48cm in diameter) with a slightly inturned bead and a flaring hooked flange decorated with a scored wavy line. This vessel is in the coarser fabric LRF14, perhaps because it required additional tempering to support the greater weight of the clay. This style of decoration is unparalleled among the Oxfordshire material but the form is close to Young type M23, which also has a large diameter in excess of 0.4m (*sic*), and is the only Oxford mortarium that is commonly decorated. Young gives a mid to late 4th century date for this vessel type.

In contrast, 1797 is a small vessel with an upright bead and a slightly hooked flange; it is similar to Young type M20, dated to the mid-late 3rd century. Vessels with thick flanges, which are sometimes grooved, and an out-turned bead (as 1798–9 and

1801) fall within Young's type M22, dated to *c.* AD 240–400+.

The most common form represented has a laid-back bead and a strongly hooked flange (as 1800). The Lincoln vessels were all associated with later 4th century pottery, however Young dates this type, M17, to the mid-late 3rd century, and notes that 4th century examples are likely to be residual.

MOOXW (Fig. 172, 1802–3 and Fig. 173, 1804–5) In common with MOOX (above) all the vessels in this fabric are bead-and-flange types; diameters range from 24 to 30cm, the majority clustering around 24cm. Mortaria such as 1802–4, most with a slight groove on the flange and a faded white slip, fall within Young's type WC7, which copies MOOX type M22. The form is dated to *c.* AD 240–400+ and is the most common type in Lincoln, as elsewhere. All of the Lincoln vessels were associated with late or very late 4th century pottery.

No. 1805 is similar to Young type WC6, which is a copy of MOOX type M23. Although the Lincoln vessel is relatively large, it is smaller than the Oxfordshire vessels. Young (*ibid.* 122) notes that only two examples of this type are known, one of which is decorated with red paint.

MOOXR (Fig. 173, 1806–10)

Unlike the MOOX and MOOXW assemblages, this group includes bead-and-flange and wall-sided vessels, in almost equal quantities. Bead-and-flange types as 1806, the most frequent, and 1807, both with grooved flanges, fall within Young's type C100, dated to *c.* AD 300–400+. All of the Lincoln vessels were associated with late or very late 4th century pottery.

Wall-sided mortaria 1808–10 are all undecorated, unlike some of the Oxfordshire vessels of Young type 97, which are dated to *c.* AD 240–400+.

Verulamium Region mortaria (MOVR)

Gritty-textured white ware mortaria were made at several kiln sites within the Verulamium area from the mid 1st to the end of the 2nd century. Stamps indicate that several potters migrated to other regions (Tyers 1996, 132). Recent excavations of kilns at Northgate House, London, suggest that potters were manufacturing mortaria in the style of the Verulamium potters during the 2nd century, and using clay probably imported from the Verulamium region (K. F. Hartley and Tomber 2006, 96).

Dating: EMROM

MOVR (38 sherds), found mostly on Upper City sites, occurred from the mid 1st century and was most common in the early 2nd; it is virtually absent from early 3rd century groups, and residual thereafter.

Analysis of the deposition date of the stamped, independently dated vessels (see 7.4, nos 35–9) emphasizes, in some cases, the longevity of use and/or the extreme residuality of MOVR in Lincoln (see Forms, below).

Fabric and technology

NRFC: VER WH

LRF5–7

The typical fabric is hard and granular, rough to the touch with a slightly laminar fracture. It is usually white or cream in colour, varying to more orange or buff, and occasionally has a pink or black/dark grey core where the vessel wall is thickest. The principal inclusion is abundant well-sorted quartz, with sparser red iron-rich particles, set in a fine matrix. The Lincoln fabric types reflect the typical colour range: LRF5 is dark cream to buff; LRF6 is white with obvious grits over the flange; and LRF7 falls within the red-brown to orange colour range. The trituration grits of coarse quartz and rarer flint are occasionally visible on the flange, generally on early Roman examples.

Forms (Fig. 173, 1811–21)

With the exception of a single collared example (1819) all the diagnostic sherds within this group are from hook-rimmed types, with beads of varying height; diameters range from 26 to 40cm. Analysis of the stamped and independently dated mortaria from the Verulamium region in the Museum of London collection suggests that, with few exceptions, those with a high bead tend to be 1st or early 2nd century in date, whilst those with a lower internal bead are more likely to date to the early-mid 2nd century (Davies *et al.* 1994, 47). The vessels illustrated here are arranged accordingly.

A notable exception to the general pattern suggested above, and probably the earliest example of MOVR from Lincoln, is 1815 with a sharp, low internal bead and a severely hooked flange. This mortarium, in a pure white fabric, is gritted externally and was found in a mid to late 1st century assemblage within a late 1st/early 2nd century pit. It can be closely paralleled with a vessel from London, which was stamped by the potter L. Arrius Caludus, *c.* AD 55–70 (*ibid.* 47, with fig. 39, 205).

No. 1821, of which only a stamped flange fragment survives, is dated *c.* AD 55–85 (7.4, no. 38). This mortarium was found with pottery probably dating from the later 1st to the early 2nd century. Another early vessel stamped by the potter Devalus is dated to *c.* AD 60–90 (see Darling 1984, 70, no. 2) but was found in a context dated from the later 2nd to probably the early 3rd century.

Vessels with a relatively high bead and a strongly hooked flange (1811–14) include one stamped

mortarium (1814) dated to *c.* AD 100–120 (7.4, no. 36). Only 1811 was found with later 1st to early 2nd century pottery; all the others are from mid 3rd century or later assemblages.

No. 1816, with a low internal bead, has a fragmentary stamp that cannot be readily identified, but the form is consistent with the period *c.* AD 80–120 (7.4, no. 39). This vessel, from a context dated to at least the later 2nd century, has a vitreous deposit on the interior that resembles melted glass. Two other vessels (1817–8) probably originally had low internal beads (now missing). No. 1817 is stamped by the potter Castus, *c.* AD 90–110 (7.4, no. 35); 1818 has a pronounced groove at the base of the flange and occurred with pottery dating to the later 3rd–4th century. No. 1820, a flange fragment with a damaged stamp of Melus, is dated *c.* AD 95–135 (7.4, no. 37).

The only example of a definitely later product of the Verulamium kilns is 1819, with a grooved rim and collared flange. There is a close parallel from Verulamium (Frere 1972, fig. 131, 1053), where it occurred in a sequence dated to *c.* AD 160–175. The Lincoln vessel came from a mid 3rd century dump.

Tile Fabric mortaria (MOTILE)

There are only two sherds of this mortarium type, almost certainly from the same vessel, which is crudely made and quite probably a trial piece. This rare fabric is similar in texture to that of the oxidised TILE vessels (see p. 64), which were probably locally made. The latter, however, are mid to late Roman in date and are not clearly related to this mortarium.

Dating: EROM

Both sherds were found with pottery dating from the later 1st to the early 2nd century.

Fabric and technology

LRF27 (Pl. 4.68)

The fabric is hard with a harsh feel; the clay has been poorly mixed and varies in colour from a light pinkish yellow to light brick-red and pinkish grey at the core. The surfaces are dark pinkish cream in colour. The hackly fracture shows moderate amounts of ill-sorted opaque quartz pebbles (R 0.4–1.0mm), streaks of white calcareous clay containing fine quartz particles, and sparse red ferruginous ?clay pellets (R >1.0mm and rarely >5.0mm), which tend to weep into the fabric. Flakes of white mica (F >0.2mm) that are visible sparsely in the fabric are abundant in the surfaces. There are no surviving trituration grits.

The thin-section (L1627) shows a variegated fabric that contains: 1) low iron, abundant quartz (A >0.1mm) and abundant muscovite (>0.1mm) in an anisotropic matrix; 2) higher iron, moderate rounded (>0.4mm) and abundant angular (>0.1mm) quartz,

sparse chert (R >0.4mm) and moderate muscovite (>0.2mm) in an anisotropic matrix.

Form (Fig. 174, 1822)

The mortarium has an incomplete but clearly hooked rim with a relatively high bead and a flaring flange. The form fits well with a date within the later 1st to early 2nd century. It is a relatively large (36cm in diameter) and somewhat crude vessel.

Other mortaria (MORT)

This category (93 sherds) is composed of unsourced mortaria, but includes some variants that probably were locally made.

Dating: ROM

These vessels inevitably have a wide date span. A very small proportion occurred in 1st and mid to late 2nd century groups. This is the main date range for MOLO (see p. 166), and it is possible that some unrecognised examples have been included here. Slightly higher quantities occurred in mid to late 3rd century groups, but the bulk was found in mid 4th century assemblages.

Fabric and technology

As the illustrated mortaria consist mainly of singletons, the individual fabric descriptions are included within the form section.

Forms

Several rim forms have been identified within this group, the most common type being those with hooked rims. Flange-rimmed and reeded-rimmed forms occur infrequently but in almost equal proportions, while other forms – hammer-headed, collared and wall-sided – are rare.

Hook-rimmed (Fig. 174, 1823–6)

No. 1823 is a notably large mortarium (44cm in diameter) with a series of post-firing incisions on the flange. It was associated with probably late 3rd century pottery, but the rim form suggests a later 1st to mid 2nd century date. The fabric is close to that of MOSC LRF151 (p. 167), from the local South Carlton kilns.

No. 1824 has a high bead and a pronounced groove on the lower edge of the flange, a feature that appears on two other vessels: MOLO 1472 and MOVV 1818. This vessel was found with pottery dating to at least the early-mid 3rd century, but the rim form suggests a date in the later 1st to the early 2nd century. The fabric closely resembles that of MOLO LRF152, the type-sherd from the local Technical College kilns. Both the date and the fabric suggest that it is probably a local product.

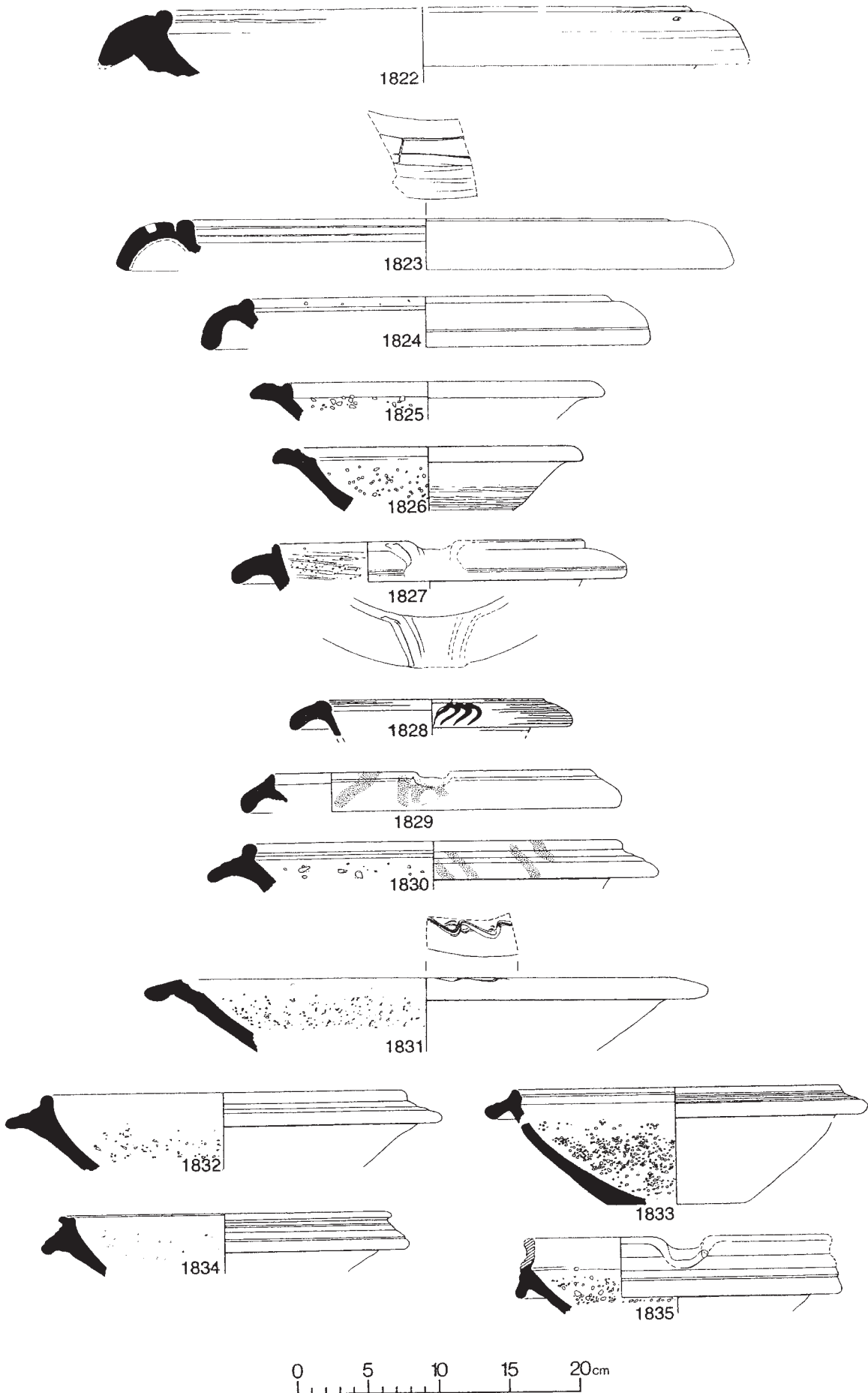


Fig. 174. Mortaria: Tile Fabric 1822 and Unsourced 1823–1835. Scale 1:4.

No. 1825, a relatively small vessel with a short high flange and a slightly low internal bead, is in a coarse pale cream/white fabric with slightly darker surfaces (LRF163) that is reminiscent of the later cream sandy ware (CRSA – see p. 60), which was probably locally made. The hackly fracture reveals a calcareous matrix with abundant, moderately well-sorted quartz (SA 0.3–0.5mm, occasionally >0.8mm) and rare fragments of flint. Black iron-rich inclusions (R >0.1mm) are very rare as are fine plates of white mica, which are only visible in the surfaces (F >0.1mm). The vessel is relatively well made and the trituration grits consist of sparse large fragments of black iron slag (SA >9.0mm).

No. 1826, another small vessel with a curious double internal bead, has a similar flange to 1825. The fabric is red-brown in colour with a grey core, and is very similar to that of SPOX LRF259 (p. 63), but the trituration grits consist of sparse mixed quartz grains.

Flanged rim (Fig. 174, 1827–9 and 1831)

No. 1827 is a neat vessel with a groove on the lower edge of the hooked flange; the application of the quartz grits during manufacture created striations on the interior. The spout is complex rather than simple in style and was produced by pulling the wall forward and squaring it off at the edge. The fabric is very similar to that of MOLO LRF159 (p. 167).

No. 1828 is a small vessel with strokes of dark red-brown painted decoration on the relatively thick, flaring flange. Unfortunately, fabric details are unrecorded and the vessel is missing.

No. 1829 has a short, stubby downturned flange, with a slight groove at the junction with the bead, and a simple spout. The flange has red-brown painted decoration consisting of diagonal lines and a ?circular motif. The fabric (LRF162) is red-brown in colour with a grey core, and is slipped with white clay; the main characteristics are virtually the same as those of MOSP (p. 172), but no trituration grits survive.

No. 1831 is a large vessel, decorated with scored wavy lines along the flange. The fabric is pale pink with pale cream surfaces that are occasionally streaked pink, and is virtually identical to MOOX fabric LRF10 (p. 204). The bead is missing and the interior heavily fractured. It is very similar in both size and decoration to the MOOX mortarium 1796, suggesting that it may well be an Oxfordshire product. However, none of the few surviving trituration grits resemble those of the Oxfordshire mortaria.

Reeded rim (Fig. 174, 1830 and 1832)

There are two examples of type 1830; the illustrated example is decorated with red painted stripes and the trituration grits consist of sparse large fragments

of black iron slag. The fabric, LRF163, is the same as that of 1825.

No. 1832 is very similar in form to 1830 but there is no evidence of painted decoration. The fabric is also very similar but the quartz is multicoloured rather than opaque, and the trituration grits, although of the same material, are much smaller.

Hammer-headed (Fig. 174, 1833–5)

The rim form of 1833 is a development from the reeded type and is an incipient hammer-head, with faint grooves on the flange. The fabric (LRF156), red-brown in colour with a light grey core and a self-coloured wash or slip, is virtually identical to that of SPOX LRF259 (p. 63). The trituration grits consist of well-rounded clear and opaque quartz and quartzite, together with rare red-brown ironstone.

Insufficient grits survive on 1834 for a positive identification, but the fabric (LRF157) is very similar to that of the iron-rich MOOX variant LRF11 (p. 204), and the form, with a grooved lip, closely resembles Young's type M21, dated to the mid-late 3rd century. The Lincoln vessel was found in a mid 3rd century assemblage, which agrees well with the date given for the Oxfordshire vessels. The thin-section (L1698) reveals moderate non-ferroan calcite (probably calcareous clay, each has a non-calcareous rim: R >0.4mm), moderate dark brown iron-rich (R >0.2mm), sparse rounded (>0.5mm) and abundant angular (>0.1mm) quartz, and sparse muscovite (>0.1mm) in an anisotropic, kaolinitic matrix.

A relatively small vessel with a broken almost wall-sided rim, 1835, has a deep, grooved flange and a simple spout. It was found with late 4th century pottery but in a post-Roman layer. The fabric is fine and pale cream/white in colour with a grey core and micaceous surfaces, virtually identical to the MOOX variant fabric LRF11 (p. 204). However the grits, where they survive, are not the uniformly sized, multicoloured grits typical of the Oxfordshire products, but are grey, clear and opaque, with occasional larger fragments.

7.4 Stamped mortaria from Lincoln

Katharine Hartley

This report deals with all hitherto unpublished stamps; for a report on those recovered from earlier excavations at East Bight and Temperance Place, and based on information supplied by Katharine Hartley, see Darling 1984, 70–2. Site and context codes are given at the end of each entry, followed by the relevant figure and catalogue number for those illustrated here, and the original drawing number [D] for all others.

*Imported mortaria**Gaul*

1 The stamp is impressed along the flange to the left side of the spout and the mortarium was probably stamped only once. The letters]IV[are certain with a possible Q before the I, and parts of other letters surviving after the V. Two other stamps, probably both from the same die, have been recorded from Colchester, one of them from North Hill (unpublished). Only further examples can give a complete and reliable reading but the probability is that it is from an unknown die of Q. Valerius Sec(.....), whose work can be attributed to northern France c. AD 55–85. The mortarium is typical of those made by this potter and others of the same period (K. F. Hartley 1998, Group I (iii), for updated details of this 'group' of potters). Diameter 41cm. ON173 +. Fig. 135, 1436.

Gallia Belgica, possibly the Mosel valley.

2 Two pieces from a mortarium in fine-textured, buff-brown fabric with a good amount of ill-sorted quartz temper; abundant trituration, mostly small quartz with some feldspar. Three small circles were impressed to each side of the spout, with some kind of tube, wood, metal or bone. The spout itself was clearly unusual although too little survives for any restoration. Potters' stamps or marks are extremely uncommon on mortaria of Bushe-Fox Types 22–30 (Bushe-Fox 1913, fig. 19, 22–30; K. F. Hartley 1991, Types C30–40). This is almost certainly an import from Gallia Belgica, possibly the Trier region, c. AD 70–150. There is a close parallel in form and fabric from Richborough but without any graffito (unpublished). Other examples with similar graffito probably from the same workshop are recorded from Beadlam Villa, Brantingham villa and Dover. Two joining sherds; that from 153 was burnt before fracture of the wall, but after fracture of the spout. LIN73DI 102, 153. Fig. 137, 1450.

*Mortaria made in Britain**Mancetter-Hartshill potteries*

3 Incomplete rim-section from a burnt and heavily worn mortarium. The distinctive fragmentary stamp is likely to be a retrograde stamp of Candidus 2 though further examples are needed for verification. Candidus 2 worked in the Mancetter-Hartshill potteries in the early second century, c. AD 100–130. It is from the same die as a similarly fragmentary stamp found at Doncaster (High Street). CP56 A9.37. Fig. 141, 1484.

- 4 Fine-textured, cream fabric with sparse orange-brown and quartz inclusions. No trituration grit survives. Burnt. The incomplete stamp,]VRFE, is by Cicur[(Cicuro or Cicurus), whose work can be attributed to the potteries at Mancetter-Hartshill, Warwickshire, probably AD 150–170+. This fabric is not very typical of his work but there is no evidence to associate him with any other pottery. Diameter 28cm. SM76 DBA. Fig. 161, 1633.
- 5 Flange fragment with broken stamp [.]ICVRF from the single known die of Cicurus or Cicuro. Mancetter-Hartshill potteries, AD 150–170+ (see no. 4, above). CP56 A10 [D3497]. Not illustrated.
- 6 The die used gives GRATINI in the genitive; this was the most commonly used of Gratinus's dies. A kiln used by Gratinus has been excavated at Hartshill, Warwickshire. His mortaria had a wide distribution in the Midlands, northern England and in Scotland. His dates may be placed at c. AD 130–155. Other stamps, also from the same die, are nos 7 and 8 below. P70 GT (K. F. Hartley 1999, stamp no. 2, with fig. 45). Fig. 159, 1616.
- 7 Two joining fragments, showing some wear, in similar fabric to no. 14 below, but fired to buff on top of the flange. The incompletely impressed stamp]RATINI, is from the most commonly used die of Gratinus, and is the same as nos 6 and 8. LIN73C 118. Fig. 158, 1609.
- 8 The die used gives GRATINI in the genitive; this was the most commonly used of Gratinus's dies, and is the same as nos 6 and 7 above. HG72 HL. Not illustrated.
- 9 Fine-textured, creamy white fabric with a lot of red-brown (grog) and quartz inclusions, made at the potteries stretching from Mancetter to Hartshill. The incomplete retrograde stamp, reading ICOT[, is from one of at least seven dies used by Icotasgus. At least ninety of his mortaria are known (excluding those from Manduessedum and the kiln-site), six of them from the Antonine occupation of Scotland. He has a typical distribution for a Mancetter potter active in the Antonine period, but many of his mortaria show pre-Antonine characteristics in the rim-form and he used trituration grit which was not in use after the mid second century. A date of AD 130–160 would fit his work well. LIN73A 143. Fig. 157, 1606.
- 10 The stamp, IVNI[.], is from one of the many dies of Iunius. Two mortaria of his have been recorded from Castle Cary and Duntocher in Scotland and over 120 mortaria from sites in England and Wales, excluding Manduessedum, and the kiln-sites at Mancetter and Hartshill

where he worked. His mortaria appear in those Pennine forts like Bainbridge and Brough-on-Noe, which are believed to have been unoccupied AD 120–160. Since he was one of the most prolific of the potters stamping mortaria in the Mancetter-Hartshill potteries, this fact combined with his rarity in Scotland, could mean that his main activity postdates the occupation of Scotland. He was also one of the small number of potters who were introducing new, near hammerhead rim-profiles, which were to become popular after the practice of stamping ceased. The rim-profiles he sometimes used also make it quite possible that he continued producing mortaria after the practice of stamping had ceased. The evidence as a whole points to the period AD 145–175, with an optimum date of AD 150–170+ (see also nos 11 and 12, below). L86 235 [D3109]. Not illustrated.

- 11 Incomplete rim-section. Two broken stamps of Iunius, impressed close together. Mancetter-Hartshill potteries. Optimum date AD 150–170+. H83 1214 [D3196]. Not illustrated.
- 12 Two joining sherds from a well-worn mortarium with fragmentary stamp of Iunius. Mancetter-Hartshill potteries. Optimum date AD 150–170+. SPM83 161. Fig. 159, 1618.
- 13 The rim fragment is stamped twice close together, the stamps only being covered with brown slip. Both stamps, which are incomplete, give the reading MA – and are from the same die as stamps found in association with a kiln of Maurius and Sennius at Mancetter, Warwickshire (Hemsley 1959, fig. 6, no 5; it can be read the same either way up). These are almost certainly the work of Maurus or Maurius, though no complete specimen has yet been found. He worked *c.* AD 150–170+ and the die in question can be regarded as contemporary. P70 GK (K. F. Hartley 1999, stamp no. 3, with fig. 46). Fig. 159, 1624.
- 14 Two joining fragments from a mortarium in hard, fine-textured, creamy white fabric with some tiny red-brown, quartz and dark brown inclusions, and red-brown and brown trituration grit. The potter's stamp has been covered with reddish-brown paint to draw attention to it. The incompletely impressed stamp is from one of several dies used by Sarrius, whose primary workshop was in the Mancetter-Hartshill potteries, but who also opened at least three other workshops in the north of England and in Scotland (at Rossington Bridge and Cantley near Doncaster, Bearsden on the Antonine Wall and at an unknown site, perhaps Catterick), which appear to have run concurrently with his Midland pottery. This is from the Mancetter-Hartshill potteries in Warwickshire.
Sarrius was the most important mortarium
- potter of the 2nd century who is known by name. His mortaria are common on sites in the Midlands, northern England and in Scotland (see Macivor *et al.* 1978–80, 260, no. 217; Breeze forthcoming; K. F. Hartley 2001, for further details of his work). The large number of his stamps from Antonine deposits in Scotland leave no doubt of his primarily Antonine date and the evidence as a whole supports activity *c.* AD 135–165/170 (see also no. 15, below). LIN73C 146. Fig. 157, 1605.
- 15 This stamp, from one of the eight dies of Sarrius, is on a mortarium produced in his Warwickshire workshop. A leaf-stop (not shown on the illustration) occurs between the A and R. P70 PK (K. F. Hartley 1999, stamp no. 4, with fig. 47). Fig. 158, 1608.
- 16 This stamp is from one of at least six dies used by the potter Victor. Other stamps from the same die are recorded from Wall and Leicester, and stamps from his other dies are known from Chester, Hartlepool, Holditch, Leicester (4), Little Chester (2), Hartshill, Mancetter kiln-site (5; three of these are from a kiln probably used by him), Melandra Castle, Ribchester, Rocester (3), and Wall. His rim-profiles together with his complete absence from Scotland point to a date before AD 140, perhaps AD 100–135. The mortaria associated with the die in question may belong to the second half of this period. P70 GK (K. F. Hartley 1999, stamp no. 1, with fig. 44). Fig. 158, 1615.
- 17 Two joining fragments and a third piece, with broken stamp, from the same vessel. Hard, creamy white fabric with pink core and tiny transparent and pinkish quartz and occasional orange-brown and grey inclusions; some quartz trituration survives. The fragmentary stamp is from a die used by Vitalis IV who worked at Hartshill, Warwickshire. Fifty-seven of his mortaria have been recorded from settlement sites in the Midlands and north of England, and one from Newstead in Scotland. His rim-profiles, and the general distribution pattern for his work are typical for a pre-Antonine potter working at the Mancetter-Hartshill potteries, except for the single stamp at Newstead which must belong to the Antonine occupation. The mortaria of Vitalis are also closely similar to those of G. Attius Marinus, whose work can be dated *c.* AD 95–130; it is likely that Vitalis had either worked for or with Marinus at some time. A date of AD 115–145 would best fit the evidence. LIN73C 161A, 167. [D2081] Not illustrated.
- 18 In hard cream fabric with core varying from light grey to drab brown and heavily tempered with grit. There is a yellowish cream slip discoloured

to pale brown in places, and much hard black or very dark brown angular trituration grit. The two stamps impressed close together are difficult to interpret; VKIVN[or AKIAN[retrograde are possible readings. No other examples of this potter's work are known and the letter K, if correctly interpreted, is very rarely recorded in personal names. If the stamp is literate, some such name as Vikiunus or Akianus might be intended; Akiana and Acianus are recorded by Holder (1896, 19). The fabric indicates manufacture in the Midlands, perhaps at the Mancetter-Hartshill potteries; while the slip is unusually dark for these potteries, the grit resembles that mostly used there. The rim-profile would fit a date in the mid 2nd century. P70 SQ (K. F. Hartley 1999, stamp no. 5, with fig. 48). Fig. 159, 1619.

Lincoln area

- 19 Flange fragment with poorly impressed, rather smeared stamp; only the unusual border is relatively clear. The fabric clearly points to a Lincoln origin and it is likely to be a stamp of a Lincoln potter, whose name was probably Biso. Biso is the only known Lincoln potter to use a border exactly like this one. The surviving downstroke could be part of the B; it is worth noting that his stamps are often smeared and somewhat unclear. One of his stamps has been recorded from Newstead but most of his work, including this example, appears to be pre-Antonine. CP56 A10.6. Fig. 141, 1491a.
- 20 A fragmentary stamp of Q. Iustus Crescens. The fabric of most of this potter's mortaria and their distribution indicate production at Lincoln although evidence from Newton-on-Trent shows that he had an earlier workshop there, probably associated only with certain dies (Field and Palmer-Brown 1991, 54). His Lincoln products all date within the period AD 100–140 and their optimum date is AD 100–120 (see Buckland and Magilton 1986, 143, no. 4 for further details). EB80 103. Fig. 141, 1491b.
- 21 The fragmentary stamp probably shows the lower part of the C of a stamp of Q. Iustus Crescens. Lincoln. Optimum date AD 100–120. The slashes across the flange are keying preparatory to adding clay to form the spout. L86 272. Not illustrated.
- 22 The stamp reading Q. IVS[...], is on an unusually thick and clumsy rim. Other stamps from the same die have been recorded from Catterick, Leicester, Old Winteringham, and Templeborough. The cognomen will not be certain until a clearer impression is found; it may be that some form of Crescens is intended but there is another contemporary and obviously related potter called Q. Iustus Cico. Their work is identical and they can be assumed to have worked in the same workshop and to be contemporary, so that production at Lincoln *c.* AD 100–120 can be regarded as certain. Badly discoloured during the firing. F72 BVA. Fig. 141, 1490.
- 23 Incomplete rim-section of mortarium, burnt before fracture. The fabric is likely to have been produced at or not far from South Carlton. The fragmentary stamp cannot be identified with certainty but only Senico has a letter panel which could match it. Certainly within the period AD 110–170. CP56 A9.4. Fig. 141, 1492a.
- 24 Incomplete rim-section, internal diameter 22cm. Very smooth, slightly micaceous, creamy white fabric; self-coloured or with self-coloured slip. Inclusions: sparse, smallish quartz and grey quartz, with yellowish brown particles and streaks of yellowish brown, both probably natural iron-oxide staining. Trituration grit: hard black, perhaps more likely to be slag than the refired pottery commonly used after *c.* AD 150 in the Mancetter potteries. Well-worn and slightly burnt.
- The broken and quite lightly impressed stamp appears to read]ENIC[, with N reversed. It is almost certainly from an unrecorded die of Senico, who worked within the period AD 110–170, probably in the vicinity of Lincoln. Twenty-four millimetres along the flange, there are the faint remains of another stamp or even two, impressed close together, which have been smoothed over by the potter before impressing the visible stamp. Unfortunately they are beyond identification. SM76 DAC. Fig. 141, 1493b.
- 25 Flange fragment in micaceous, softish, off-white fabric with surface fired to brownish orange under the flange; quartz, soft opaque white and red-brown inclusions. The fabric points to production in the Lincolnshire area. The broken, probably illiterate potter's stamp has been recorded from Littleborough, Notts (D. N. Riley *et al.* 1995, 270, fig. 9, no. 4). The profiles would best fit a date within the period *c.* AD 90–130. LIN73C 173. Fig. 141, 1485.
- 26 Incomplete rim-section with fragmentary unidentified stamp. Midlands, probably Lincoln. Probably first half of the 2nd century. WB80 1048. Not illustrated.
- 27 A flange fragment in slightly micaceous, hard, pinkish buff fabric with ill-sorted quartz, small iron-rich, opaque white and perhaps some shell inclusions, with slip fired to brownish grey on top of the flange. The broken potter's stamp is from an unknown die. Probably made in the Lincoln area in the period AD 110–170. LIN73C 165. Fig. 141, 1492b.

- 28 A wall-sided mortarium in micaceous, off-white fabric fired to pink at the inside with buff brown slip fired to grey in parts; a few quartz, red-brown and grey inclusions; the trituration includes red-brown material. A very crudely made potter's stamp has been impressed along the collar, and is probably upside down. It probably ends in RS or BS preceded by A, M or V and is otherwise unknown. The fabric and slip would best fit manufacture in the Lincoln area, and the profile a date of *c.* AD 140–180, but the profile was more commonly produced in the Mancetter-Hartshill potteries. LIN73C 81. Fig. 141, 1489.
- 29 Mortarium burnt before fracture, with broken and poorly impressed stamp. No certain reading can be offered but two other examples are known, from the Antonine I demolition layer at Strageath (Frere and Wilkes 1989, 242, no. 19), and Winterton (Stead 1976, fig. 58, and 122, no. 8, also from an Antonine context). The potter can be attributed to Lincoln and the evidence points to activity in the Antonine period. CP56 A9. Fig. 140, 1471.
- 30 Burnt mortarium in slightly micaceous, creamy white fabric with very few red-brown and quartz inclusions; red-brown trituration grit with occasional quartz and grey material. The fabric is similar to that of no. 25 above, except for having almost no visible tempering. The potter's stamp is too damaged for identification. The fabric is almost certainly from a source in the Lincoln area and the rather unusual profile perhaps indicates a date in the mid 2nd century. LIN73C 89. Fig. 140, 1478.

Nene Valley

- 31 Two joining sherds making up just over half of the rim of a worn mortarium, diameter 21.5cm. Hard, slightly micaceous, greyish cream fabric with some internal acrid green staining, though all the surfaces including the weathered fractures are greyish cream. There is quite a dense slip varying in colour from cream to pale orange-brown. Inclusions: moderate, tiny red-brown. Little trituration grit survives but enough to show that it included orange-brown and black slaggy material. Well-worn and slightly burnt.

A partial stamp has been impressed on each side of the vessel, across the stubby downward pointing flange; the spout has been formed by breaking the bead and turning it out over the flange. Both stamps are from the same die of Similis 2, and give the beginning of the name, with IM ligatured. He probably began using the die represented here in the Mancetter potteries; if so, there is no doubt that he moved to the

lower Nene valley, probably within the period AD 150–170+. The unusual rims of this, and no. 32 below, are well-represented in products of his second workshop. For further details of his work see K. F. Hartley and Healey 1987, 44–5 (photographs upside down). SM76 CRX, CWV(i). Fig. 172, 1785b.

- 32 Rim fragment is in similar fabric and close in shape to no. 31, but from a different vessel. No stamp survives but it can be attributed to Similis 2. Some burning. Source and date as no. 32. SM76 CWV(ii). Not illustrated.

South Carlton

- 33 Burnt and probably reduced mortarium with two stamps of Crico impressed close together. South Carlton. Six mortaria of his from Scottish sites leave no doubt that he was active in the Antonine period but more stratigraphic evidence is needed for precise dating. The fact that he turns up in Scotland while Vorolas, another South Carlton potter, does not, may mean that they are not entirely contemporary. L86 290. Fig. 141, 1481.
- 34 Flange fragment in fine-textured, buff-brown fabric with many ill-sorted, calcareous and iron-rich inclusions, with brown slip. There are three potter's stamps impressed close together, of the potter Cupitus (two stamps read JVPITVS and the third inverted, JTV), whose work is also known from Comb Farm, Farnsfield, Nottinghamshire, and Old Winteringham (Stead 1976, 121, no. 25). His work has the same characteristics as that of Crico and Vorolas who worked at South Carlton (Webster 1944), and one would expect him to work at or near to South Carlton, and to be roughly contemporary, *c.* AD 140–170. LIN73A 61. Fig. 141, 1495.

Verulamium area

- 35 Flange fragment with incompletely impressed stamp from one of the ten dies of Castus. One of his kilns was discovered at Radlett in the late 19th century and a few of his stamps have been recorded from Brockley Hill. He produced a very wide range of rim-profiles which appear to indicate a long activity within the period AD 90–140. The optimum date for this example is AD 90–110. See Frere 1984, 283, nos 65–8 for further details. CP56 F7.7. Fig. 173, 1817.
- 36 Two sherds from opposite sides of the same, well-worn mortarium, each with a retrograde stamp of Matugenus, who is known to have had a workshop at Brockley Hill. This die is the latest one associated with him and all the rim-profiles used in conjunction with it are likely to be early 2nd century. Matugenus worked within the period AD 80–125; this rim could not be

earlier than AD 90 and its optimum date is AD 100–120. Part of the preparation of the rim for the addition of clay to make the spout has survived on one sherd; finger or thumb depression across the flange is typical for mortaria made in the Verulamium region. See Frere 1984, 286 for further details for Matugenus. CP56 A9.5. Fig. 173, 1814.

- 37 Flange fragment. The damaged stamp is retrograde; complete examples read MIILVS/FIICT for Melus fecit. Melus I worked at Brockley Hill, where he was partly contemporary with Matugenus. He used a wide range of rim-profiles which indicate a long production within the period AD 95–135. This example is not obviously early or late in this period. See Frere 1972, fig. 145, no. 28 for a stamp from the same die. CP56 F5–6.3. Fig. 173, 1820.
- 38 Two flange sherds from the same vessel, with LVGV DV/FACTVS impressed diagonally across the flange. This is a counterstamp which was used in conjunction with a stamp reading RIPANVS/TIBER.F. Although the grammar

may be questionable, the meaning is clear enough, 'Ripanus, son of Tiberius made this at Lugudunum'. He can be equated with Q. Rutilius Ripanus and probably with the potter who worked at Brockley Hill and stamped his mortaria RIPANVS/FECIT or /LVGV. His work is closely similar to that of Oastrius whose kiln has been found at Little Munden, Bricket Wood and who can be dated AD 55–75. A date of AD 55–85 fits all the evidence for Ripanus and the dies showing filial affiliation and his full name may well be earlier than the Brockley Hill products where he used only his cognomen. The rarity of his LVGV stamps at Brockley Hill is notable and it is tempting to believe that they refer to an earlier workshop at Bricket Wood, and that all of his other dies which incorporate LVGDV were also in use there. EB80 116 and 107. Fig. 173, 1821.

- 39 Unidentified fragmentary stamp on a worn mortarium made in the Verulamium region. The rim form and spout suggest a date *c.* AD 80–120. EB80 103. Fig. 173, 1816.

8 The Amphorae

Barbara Precious

Since the publication in 1986 of Peacock and Williams' comprehensive guide to Roman amphorae, and of the results of outstanding analyses undertaken by continental specialists such as Dangréaux and Desbat (1988) and Martin-Kilcher (1994), two further studies by Tyers (1996) and by Tomber and Dore (1998) have brought the most recent research on amphorae into the public domain. These major reference works describe in detail the fabric, dating, source, contents and distribution of the most widely recognised amphorae occurring both on the continent and in Roman Britain. However, no matter how far the study of these vessels has advanced, new types and variants of recognised amphorae are continually coming to light: Lincoln is no exception, for although the majority of the amphorae from the city are well-known types, a few are of hitherto unrecognised types and are accordingly described in detail. The identification of many of these rarer vessels is the result of analyses by César Carreras and Dr. David Williams and, where appropriate, selected passages from their report (Carreras and Williams 1993) have been included in the text.

All amphora sherds were counted and weighed, and the rim EVEs noted in the comments field of the archive database, but poor rim survival precluded any valid statistical analysis of the assemblage by EVEs: there are only 143 rim records out of a total of 2,265, more than 50% of these coming from the ubiquitous Dressel 20 (DR20) amphorae. All plotdates were undertaken according to weight. A high percentage of the amphora fabrics initially were only tentatively identified and although some were subsequently confirmed or revised by the results of thin-sectioning, many remain uncertain and these have, in the main, been excluded from the analyses of individual amphora types. The sources and contents of these containers are, more appropriately, discussed within the section on trade (see 10.3, below).

The total amphora assemblage is the second smallest group in comparison with the other major categories of Roman pottery from Lincoln (Fig. 4) but it includes the majority of the commonly recognised amphora-types arriving in Roman Britain, as well as a relatively high proportion of the rarer types. The Baetican olive-oil container, Dressel 20 (DR20), is by far the most common, constituting *c.* 55% of the total sherd count and almost 80% by weight. Wine amphorae from south Gaul (GAU4) form the next most significant group, accounting for over 14% of the sherd total and 5% by weight. Amphorae from North Africa (NAAM), together with containers from the south Spanish coast (C186 and SPAA), are moderately well represented given the overwhelming abundance of DR20. Italian amphorae (ITAMP) and Rhodian types (RHOD) appear to be equally common, but both groups include a large number of sherds from single smashed vessels.

Figure 175 shows a relatively consistent series of peaks and troughs throughout the Roman period, and is similar to Going's proposed economic curves (Going 1992). The peaks occur towards the end of the 1st, 2nd and 3rd centuries and in the mid-late 4th century, whilst the troughs tend to occur during the first quarters of the 2nd, 3rd and 4th centuries. However, this may reflect the methods of dating Roman pottery in general and, for the third and fourth decades of the 3rd century and the early 4th century in particular, the lack of good groups dating to these periods. The highest proportion appears to be concentrated within the mid to late 3rd century, but this perhaps is due to a degree of residuality and to the higher survival rate of the more robust sherds, in particular the DR20, which are more likely to survive disturbances and redeposition.

The individual amphora types are presented below in alphabetical order of code, as are all other ware groups; two groups are subdivided by source and classified accordingly: the Dressel 28, which are

either Baetican (BAE28) or Gallic (GAU28) in origin, and the Dressel 2–4 amphorae. These are divided into Catalan (CAT24), eastern Mediterranean (EMED24) and Italian (IT24) products, with all other unsourced fabrics recorded as KOAN.

Amphora classes as described by Peacock and Williams (1986) are denoted as PW with the relevant class number within the text. The majority of the thin-sections were analysed by Dr Alan Vince; thin-section reports on some of the rarer types were undertaken by Dr. David Williams and are referred to in this section as DFW with the appropriate number; the remainder can be found in the site archive.

British Biv amphorae (ABIV)

This amphora type (PW45) is characterized by a long slender neck, high rounded shoulders and a solid tapering foot. It has one or two short strap-handles below a beaded rim; the one-handled vessel appeared in the later 1st century whilst the two-handled type occurred from the later 4th to the end of the 6th century. Broad, shallow ribbing covers most of the body, mainly below the shoulder. The petrology and distribution indicate a source in western Asia Minor, possibly in the region of Sardis; Tyers (1996, 103) notes that few occur prior to the main period of distribution during the 3rd and 4th centuries in Britain generally, and in western Britain from c. AD 475–550. This generally rare type is represented in Lincoln by five certain and three probable body sherds. Three of the certainly identified sherds are from the same site and probably represent a single vessel.

Dating: LROM

Most of the Lincoln examples are from 4th to late 4th century contexts; one is from a post-Roman deposit at Flaxengate, where there was evidence of occupation into the very late 4th, and possibly the early 5th century.

Fabric and technology

NRFC: ASM AM

LRF 57, 101, 103, 124, 127

Most sherds are highly micaceous, thin-walled and ribbed, in a dark reddish brown fairly soft fabric with occasional red and black specks. One sherd (LRF 124) is a light brown variant and identical to a vessel from Culver Street, Colchester. Dr. Robin Symonds kindly supplied a sherd of this vessel for thin-section analysis.

LRF101 ABIV, Colchester example, blonde (L1643): abundant muscovite and biotite (0.2mm), sparse feldspar (plagioclase A >0.4mm) and sparse ?altered volcanic glass (>0.5mm) in an ?isotropic matrix.

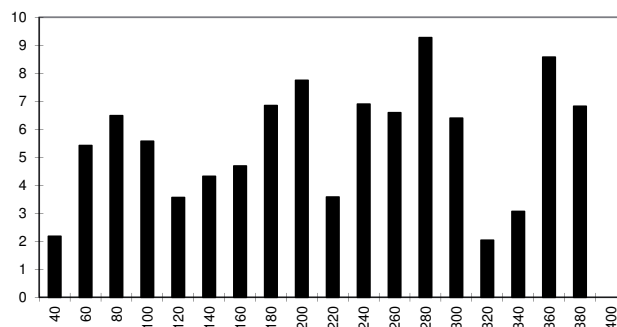


Fig. 175. All amphorae: plotdate by weight percentage.

LRF103 ABIV? (L1676): abundant muscovite (>0.2mm), sparse ?biotite (golden, pleochroic: >0.2mm), sparse quartz (A >0.3mm) and sparse plagioclase feldspar (0.3mm) in an anisotropic matrix.

LRF124 ABIV? (L1673): abundant muscovite and biotite (>0.2mm), sparse plagioclase feldspar (A >0.4mm) and sparse volcanic glass (>0.5mm) in an ?isotropic matrix.

LRF127 (L1654): abundant muscovite (>0.2mm), sparse ?biotite (golden, pleochroic: >0.2mm), moderate quartz (A >0.3mm) and moderate ?feldspar (>0.3mm: possibly sanidine?) in an anisotropic matrix.

Dr. Alan Vince comments that the petrology of the Colchester sherd is similar to that of the darker fabrics, while the petrology of LRF127 and LRF103 looks similar to that of both the Colchester sherd and LRF124 but neither contains volcanic glass and both contain biotite, which is not seen in the others.

Baetican Dressel 28 amphorae (BAE28)

Carreras and Williams (1993) identify a single body sherd with the scar of a three-ribbed handle as possibly from a flat-bottomed DR28 (PW31), noting that the similarity of the fabric to that of other amphorae produced in southern Spain suggests a Baetican origin for this sherd (*cf.* Colls *et al.* 1977, 45; Parker 1992, 330–1; for DR28 amphorae from a Gallic source, see GAU28, below). A very similar handle in a definite Baetican fabric was found in London (Davies *et al.* 1994, fig. 5, 12). Almost all of the London vessels came from 1st century deposits, but the most complete example is dated to the beginning of the 2nd century at the earliest (*ibid.* 13–4).

Dating: EROM

The Lincoln vessel was found with pottery probably dating to the 2nd century, but in a post-Roman context.

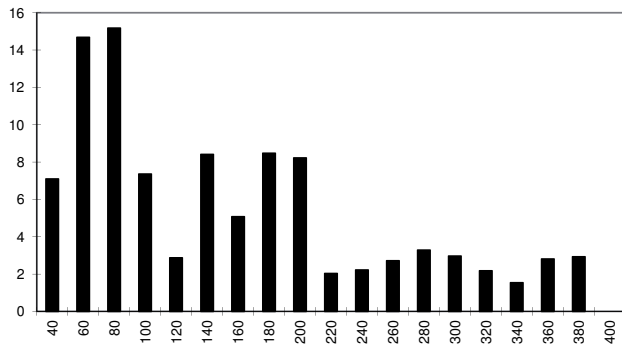


Fig. 176. *Camulodunum C186 amphorae: plotdate by weight percentage.*

Fabric and technology

LRF119

The fabric of the Lincoln vessel is hard, and dark buff in colour with paler surfaces. The fine background matrix contains sparse but large inclusions of clear and white quartz ($A > 0.1\text{mm}$), sparser smaller quartz ($> 0.5\text{mm}$), rare calcareous and black or red inclusions (both $R > 0.5\text{mm}$), and rare gold mica ($> 0.3\text{mm}$) in the surface. The thin-section (L1648) shows abundant granite fragments (altered orthoclase feldspar, quartz: $R > 1.2\text{mm}$), sparse biotite sheaves ($> 0.6\text{mm}$), moderate quartz ($R > 0.8\text{mm}$), abundant muscovite ($> 0.1\text{mm}$), moderate biotite ($> 0.1\text{mm}$), sparse non-ferroan micrite ($R > 0.4\text{mm}$) and ?serpentine ($R > 0.5\text{mm}$) in an anisotropic matrix.

The fabric is visually very similar in appearance to a finer variant of the DR20 amphorae; however, the thin-section shows granite but no metamorphic rocks, which are more commonly associated with Baetican fabrics, and appears more like the fabrics of the southern Spanish amphorae.

Camulodunum 186 amphorae (C186)

These amphorae (PW17 and 18) all have a flared hooked rim, a bulbous body tapering to a long, hollow spike and flattened oval handles folded back beneath the rim. They were mainly manufactured along the southern Iberian coast and were imported into Britain from the 1st to the early 2nd century (Tyers 1996, 98–9). These vessels are generally confined to 1st century contexts in Britain with some, particularly the later variant (PW18), occurring in early 2nd century deposits. The relatively common occurrence of C186 amphorae in Lincoln (76 sherds) is masked by the high incidence of DR20 types.

Dating: EROM

The dating profile of the Lincoln vessels (9,798gm: Fig. 176) shows a peak in the mid to late 1st century

and a marked drop by the early 2nd century, although some still occur in mid to late 2nd century assemblages.

Fabric and technology

NRFRC: CAD AM

LRF 51, 54

These amphorae are in a range of pale-coloured fabrics, with a wide variation in the inclusions. Some were manufactured in the Cadiz area, and these have a conspicuous fabric defined by large rounded fragments of red iron ore. Although some of the Lincoln examples exhibit similar inclusions it was not possible, within the limited time scale, to examine and record all sherds by individual fabric.

Forms (Fig. 180, 1836–8)

The rims of these vessels tend to survive quite well. The earlier rim form (PW17) has a longer neck defined by a cordon; the later form (PW18) has a short neck, set immediately above the handles. There are two examples of the earlier rim form (1836–7), and at least two representatives of the later form (e.g. 1838).

Camulodunum 189 amphorae (C189)

These small conical amphorae (PW12) have two small loop handles below the rim at the shoulder and are distinguished by horizontal rilling covering the exterior. Tyers (1996, 101) suggests a source in the south-east Mediterranean, possibly Egypt; they were imported into Britain from AD 50 to 100. C189 amphorae comprise only a small group (23 sherds) within the Lincoln assemblage, but this may also include small, undiagnostic rilled body sherds of a related form, Kingsholm 117 (*ibid.*).

Dating: EROM

There is a notable presence in early and mid Roman groups, those in the latter being either residual or possibly misidentified mid Roman ribbed amphorae (see MRRA, below), with the remainder occurring residually in late Roman assemblages. The majority are from the Upper City, and none was found in the Wigford area.

Fabric and technology

NRFRC: PW AM 12

LRF 58, 65, 98 (Kingsholm 117), 106, 110

Virtually all of the fabrics from Lincoln compare well with the description of PW12, and the identifications are confirmed by the results of thin-section analyses; a sherd of Kingsholm 117 is included here for comparison.

LRF98 Kingsholm 117 (L1715): abundant quartz (SA $> 0.3\text{mm}$ but mainly A $> 0.2\text{mm}$), abundant

ferroan calcite forams and cryptocrystalline calcite (>0.3mm, but mainly etched away?) and sparse plagioclase feldspar (A >0.3mm) in an anisotropic clay matrix.

LRF110 (L1642): abundant quartz (R >0.3mm), abundant ferroan calcite forams and cryptocrystalline calcite (>0.3mm) in an anisotropic clay matrix with moderate quartz (A >0.1mm).

Forms (Fig. 180, 1839)

The typical rim has a slight lid seating, a feature evident on the London vessels (Davies *et al.* 1994, fig. 20, 48–9); however, the rim of the Lincoln example is more rounded, similar to that on a vessel from Colchester (Symonds and Wade 1999, fig. 3.5, 93).

Catalan Dressel 2–4 amphorae (CAT24)

These very rare Dressel 2–4 amphorae (PW10) have beaded rims and long cylindrical necks, sharp carinated shoulders, a solid stubby base and long bifid handles. The petrology indicates a Catalan source in north-east Spain (for Dressel 2–4 amphorae from other sources, see EMED24, IT24 and KOAN, below). The accepted date range for these vessels in Britain ranges from the 1st to the early 2nd century; there are just five sherds, from five separate vessels, in the Lincoln assemblage.

Dating: EROM

Only one of the Lincoln sherds was associated with 1st to 2nd century pottery but it was found in a post-Roman context.

Fabric and technology

NRFC: CAT AM

LRF45

The fabric is quite harsh in texture, dark red to reddish brown in colour, and virtually identical to that of some Catalan Dressel 1 amphorae (PW6, Fabric 1). Carreras and Williams (1993) note that this type occurs in two distinctive fabrics, both characterized by large granitic inclusions.

Form

The Lincoln sherds include a bifid handle, a distinctive shoulder fragment, and a basal stump, all characteristics of the Dressel 2–4.

Chalk 6 amphorae (CHALK) (Fig. 180, 1840)

NRFC: P&W AM 50

LRF108

This rare amphora (PW50) has a slender spindle-shaped body with oval-sectioned handles, each made from a single rod of clay, and is from an unknown source; it is represented in Lincoln by eight sherds

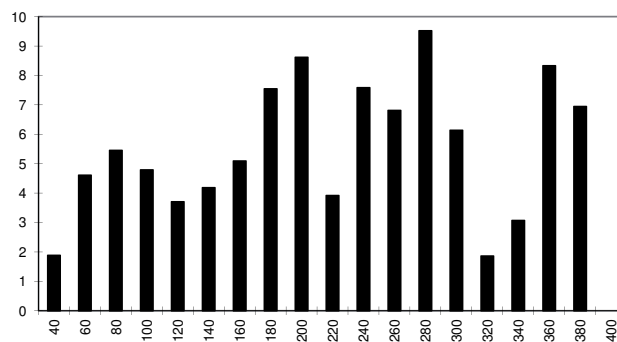


Fig. 177. Dressel 20 amphorae: plotdate by weight percentage.

from a single vessel (1840). The rim is distinctive and thin-section analysis confirms the identification. Although this vessel form occurred in contexts dated to after *c.* AD 360 at the type-site, the 4th century date is not proven. The Lincoln vessel was stratified in a very late 4th century deposit.

Dressel 20 amphorae (DR20)

This large globular amphora (PW25), with two thick handles fastened below the rounded or angular rim and at the shoulder, has a distinctive clay 'plug' sealing the base. It was manufactured at several kiln sites along the Guadalquivir valley in southern Spain (Roman Baetica) and imported into Britain between AD 50 and 250. Dating is based on a combination of (amongst others) the chronology of handle stamps by Callender (1965), typological and fabric analyses by Martin-Kilcher (1987), and evidence from shipwrecks (Parker 1992). Tyers (1996, 87–9) presents a concise chronology of DR20 from the Claudian period up to the mid 3rd century, when it was succeeded by the smaller DR23. The 2,069 sherds of DR20 form the largest group among the Lincoln amphora assemblage; however, it is difficult to recognise the thin-walled DR23 among such a vast assemblage (none has been certainly identified to date), while sherds of the cylindrical 1st century Haltern 70 (see H70, below) are virtually identical to the early DR20 fabric, and some may have been included here in error.

Dating: EMROM

Figure 177 generally reflects Tyers' chronology for DR20, including the peak during the Antonine period, which was originally noted by Williams and Peacock (1983). However, a notable proportion still occurs beyond the final date of manufacture *c.* AD 260. The high quantity of DR20 in mid to late 4th century groups may be due to residuality/redeposition; sherds

frequently occurred in dumps used for levelling/consolidation purposes, and for modifications to the ramparts. It is also possible that these later groups include some unrecognised sherds of DR23.

Fabric and technology

NRFRC: BAT AM 1 Baetican (Early) Amphorae 1;
BAT AM 2 (Late) Amphorae 2
LRF 52, 55

There are two distinctive fabrics in the Lincoln assemblage, reflecting a chronological difference. The earlier, 1st to mid-late 2nd century fabric (EFAB: LRF55) tends to be coarse and sandy, often laminating and varying in colour, but mainly buff with darker margins and yellowish, dirty white surfaces. The later examples, of the mid-late 2nd to mid 3rd century (LFAB: LRF52), are finely textured and generally pink to red-brown in colour with a grey core, frequently with a white saline wash, and are harder fired. Approximately 50% of the Lincoln vessels were recorded as either early or late examples; the majority of those recorded as early occurred on Upper City sites, while the later DR20 fabric was mainly found in Wigford (47%), with only 23% by weight recovered from Upper City sites (see Discussion, 10.1 below).

Forms, stamps and graffiti (Fig. 180, 1841–61)

No. 1841 is an example of a mid to late 1st century type with the typical rounded rim; another (1842) has a faintly impressed stamp that appears to read PONTICI (discussed below). The sharply angled rim of 1843 is typical of 2nd century forms; the handle is impressed with a double line stamp (see below).

As a substantial and capacious form, DR20 was often reused for other purposes (see van der Werff 2003) and 1844, which has been trimmed and smoothed at the shoulder, is a good example of this trait. At St Mark's Station, part of a vessel in an early fabric may have been used to protect an infant burial inserted into the floor of a late 2nd or early 3rd century building (Steane *et al.* 2001, 184). Another example from Lincoln, in a late fabric, was repaired with a rivet.

Twenty-two stamps have been recovered; four of these from The Park are discussed by Darling (1999, 116, with fig. 50) and all except one of the remainder are illustrated here (1842–3 and 1846–60). Where possible, individual stamps are referenced to those catalogued in Callender 1965. César Carreras and Dr. David Williams examined all of the stamps and their comments are included below ('CW' references in the following text are to catalogue numbers in their original (1993) report).

1842: PONTICI, the 'ICI' relatively indistinct. Callender (1365d, with fig. 13, 18) lists occurrences of this stamp at Rome, Vichy, Trion, Autun, Mainz,

Hofheim, and Nuits St Georges and comments that it is probably Italian, almost certainly dating to the first half of the 1st century. However, Carreras and Williams note that Amar and Liou (1989, fig. 4, 272a and b) illustrate other finds from Golfe de Fos in southern France. They note many further examples from Lyons, Alesia, Narbonne, Aix-en-Provence, Geneva, and Augst; a mid 1st century date is suggested (CW18).

1843: a double line stamp reading FIGLIN ACIRGI / MS. MAVRI, which is expanded to FIGLIN[is] ACIRGI[anis] / M.S[empronii or ulpicii?] MAVRI[ani?]. Callender (18, with fig. 3, 12) notes many examples, including Chester, Corbridge, Kenchester, Richborough, Saltney (near Chester), Rome, Feldberg, Frankfurt-am-Main, Saalburg and Arausio. He suggests that the stamp indicates an estate producing its own amphorae – Acirgi may be a place name, as no such personal name is known – possibly situated in Spain, *c.* AD 90–140 (CW21).

1846: a complete, deeply impressed stamp reading ARAXI EM. Callender (123, with fig. 3, 46–7) gives the following expansion: AR() AXI(i), EM() [servus?]) and notes examples of this stamp in Britain at Carlisle and York, on the continent at Zugmantel and in Rome, where two were found on the level portion at the top of the Monte Testaccio, indicating a date towards the end of the 2nd or the beginning of the 3rd century. Carreras and Williams suggest that the name of the workman has been added to the *tria nomina* of the estate owner: AXI(i) may be the genitive of the *nomen* Axius; they suggest a source in Malpica, Spain (CW1).

1847: BROCODV. Callender (205, with fig. 4, 24) comments that ODV was doubtless the abbreviation for Oducia, the town of Villartilla in the *conventus Hispalensis*, noting that the same abbreviation was used in conjunction with POR(tus), a warehouse or customs shed. He suggests that BROCODV() may be the abbreviation for an estate in the vicinity of Oducia, or perhaps a suburb or specific quarter of the town, commenting that Oducia itself must have been one of the chief centres of the amphora trade from Baetica. He notes other examples from Britain at Richborough (Bushe-Fox 1928, 93, no. 11) and Silchester (T. May 1916, 282, no. 49).

Carreras and Williams suggest that the stamp should be read as POROCODV, (or POR(tu) OC() ODV(), as listed by Dressel (1899, 2736) and Callender (205g and 1370(18)). It is dated to the Tiberian period at Colonia, and the Neronian at Cirencester, but AD 70–80 at Augst, and Flavian-Trajanic at Nimega. The suggested source is La Catria, Mochales, Cortijo del Guerra, Haza de Olivio, Spain (CW17).

1848 is poorly stamped and may read FOC; Carreras and Williams suggest COL, which they note as a new stamp, reading C() OL() (CW16).

1849: IIMINIACRETCAL: reading II MINI(ciorum) A() C() R() ET C() A() L. Listed by Dressel (1899, 3030) and Callender (1117); dated from the Monte Testaccio to AD 223. The production centre is given as Arva (CW13).

1850: P MNSIV or P MNLSV, poorly impressed, reading P. MANILI SVPER(stitis) (Callender 1345); the MA, the NIL and SVP may all be ligatured. Callender (fig. 13, 10) illustrates an example of this stamp from Avenches, on which the ligatured NIL resembles a retrograde N. He suggests a date in the first half of the 1st century; this would compare well with the early fabric and context of the Lincoln example, which was associated with a nearly complete Rhodian amphora (see RHOD, below) (CW12).

1851: LIVNIMELISSIP, reading: L() IVNI MELISSI P(). Callender 879(a), with fig. 9, 23 (CW9).

1852: IIIVNIMELISSIETMELISSE, reading: II IVNI MELISSI ET MELISS[a]E. Callender 879(b), with fig. 9, 25 (CW10).

Two versions of the same stamp. With reference to stamps of the two Iuni Melissi (husband and wife or brother and sister), Callender lists numerous finds in Britain and on the continent and comments:

'The name Melissus points to the East for the origin of this family; it also indicates a servile origin for it, and it may be legitimately inferred that the founder of this extremely powerful firm was a freedman. The only occurrence of the cognomen, Melissus, in Spain [apart from the amphora-stamps] is on an inscription from Barcelona, where a C. Publicius Melissus is described as a *sevir* of that city... and it was usual for *severi* to be freedmen. But this family, wherever it was domiciled, must have been one of the wealthiest in Spain; their stamps have a wider distribution and a greater frequency than any other known to the writer.'

He further adds that the stamps of L. Iunius Melissus P() or C() have been found on several sites associated with the stamp F SCIMNIANO, which is dated *c.* AD 160–210 (Callender 1579), and suggests that the *figlinum Scimnianum* may have been a professional pottery, which sold its vessels to the various branches of the Melissi family. An example of this stamp, FSCIMNIAO, was recovered from The Lawn (L86; CW23).

1853: MACGE, a new stamp, reading M() A() C() GE(). (CW1).

1854: SNI, reading S() N() I(). No parallel is known (CW14).

1855: very faint stamp, which should read: NERVAE. Carreras and Williams refer to Callender (1213); the stamp is dated at Leicester to the Flavian period (CW15).

1856: reading PECV? Darling (1984, 73) notes that this is a complete stamp, as indicated by the

rectangular frame, but that no other examples are known.

1857: QCR: reading Q() C() R(). Carreras and Williams refer to Dressel (*op. cit.* 2763a) and Callender (1441), noting that it is dated at Augst to AD 30–70 and to AD 40–90 at Avenches, is Flavian at Southwark, and Neronian-Trajanic at Geneva (CW3).

1858: Q.... reading Q(); not paralleled (CW19).

1859: RSAENIANES: reading R() SAENIANE[n]S(es). Examples are noted in Dressel (*op. cit.* 3518) and Callender (1559a); they are dated at Augst to AD 60–150 and to the Flavian period at St Albans but Domitianic-Hadrianic at Geneva, with a production centre at Heurta del Rio, Spain (CW22).

1860: an unreadable stamp fragment.

Graffiti occur on two vessels; 1845 is a base with the letters PRI scored, pre-firing, into the surface. No. 1861 is a post-firing graffito reading ?V II, although Carreras and Williams suggest IIV: reading I IV(ni) (CW8). It is worth noting that van der Werff (2003, 111, with fig. 2) discusses an example reading M VII [*modius* VII = 61.274 litres].

Eastern Mediterranean Dressel 2–4 amphorae (EMED24)

These Dressel 2–4 amphorae are finer, thinner-walled vessels than those from Spain or Italy (see CAT24, IT24, KOAN), with a distinctive fabric from an eastern Mediterranean source (Tyers 1996, 90), although some undiagnostic body sherds may have been classified as EMED (see below). Dressel 2–4 types are generally dated to the 1st century, probably continuing into the 2nd. This group is relatively small (54 sherds).

Dating: EROM

Although a notable amount of EMED24 occurred in early Roman groups, the majority came from mid and late Roman assemblages, many of these representing material that was redeposited in rampart dumps or in clearance levels within the Upper City, rather than fresh rubbish.

Fabric and technology

LRF43, 61, 94, 134–5

Sherds with a distinctive (sometimes highly) micaceous fabric, pinkish red to light red-brown in colour and frequently with a greenish white wash, were identified by César Carreras as originating in the eastern Mediterranean.

LRF43 (Pl. 4.71): the fabric is quite fine, with very sparse or rare fine quartz inclusions and moderate amounts of limestone. The thin-section (L1634) contains abundant quartz (A >0.3mm), abundant muscovite (>0.3mm), moderate (and heat-altered?) biotite (>0.3mm) and sparse non-ferroan calcite

(>0.4mm), mainly leached out, in an anisotropic clay matrix.

The vessels are of high quality, fine and well-made, with strong wheel-turning marks on the interior and distinct angles on the rims and handles.

Forms (Fig. 181, 1862a-d)

Rims have survived well and there are four examples from Lincoln, one with the distinctive bifid handle (1862d); two (1862a and b) were associated with 1st century pottery.

Miscellaneous Eastern Mediterranean amphorae (EMED)

This group (91 sherds) consists mainly of undiagnostic body sherds in fabrics identified by Carreras and Williams as possible eastern Mediterranean products from Greece, Turkey, Syria, or Palestine. The majority of the Lincoln sherds are thin-walled and non-ribbed, perhaps indicating that some belong to the Koan or pseudo-Koan group.

Dating: ROM

Small proportions of the material occurred in early and mid Roman groups but the majority were in late Roman assemblages.

Fabric and technology

LRF46, 48, 72, 77, 84–5, 126

Most sherds are light red-brown to light brown in colour, occasionally with a saline wash, and some of the fabrics are obviously micaceous. There is a diverse range of textures and inclusions, which, according to the thin-section analyses, do not appear to form a cohesive group.

?Fishbourne 148.3 amphorae (F148)

This rare amphora type occurs at Fishbourne in Period 1 levels of *c.* AD 43–75 (Cunliffe 1971, fig. 100, 148.3) and is from an unidentified source. Dr. David Williams (in Symonds and Wade 1999, 140) gives the following description: 'The rim form of this type is distinctive and unusual and appears as a small bead-rim sitting on top of a larger one. Unfortunately, the complete shape of this particular amphora form is as yet unknown, but a cylindrical body with oval shaped handles seems to be indicated' – as reconstructed at York (Monaghan 1993, fig. 288, 2825). The type is represented in Lincoln by only 8 certain sherds and 34 probable fragments.

The form is not discussed by Peacock and Williams and is frequently consigned to the miscellaneous amphorae groups. Darling (1985a, 76, with fig. 28, 123–6) includes the form among the unidentified types from Kingsholm, the earliest of which were

associated with Flavian samian, and there are several examples from Wroxeter (possibly including more than one type; Darling 2002, 183–4, with fig. 5.39, 264–71), which are relatively securely dated to the 1st century. At least three of the York amphorae were found with a large group of samian dating to AD 65–75 (Monaghan *op. cit.* 685; Dickinson and Hartley 1993, 722).

Dating: EROM

The earliest occurrence of ?F148 was in a mid to late 1st century group; most sherds occurred residually in mid 2nd century or later assemblages, and all were found in the Upper City.

Fabric and technology

NRFRC: FIS AM 148

LRF56, 96, 97 (Wroxeter), 115, 121, 143

There is some variation in the Lincoln fabrics but they are generally fairly hard and red-brown in colour, with abundant sub-rounded ill-sorted quartz and sparse red and black inclusions, together with occasional small white calcite particles. They are also very similar to the fabric of MRRA (see below). A sherd from Wroxeter, certainly identified as F148, was thin-sectioned for comparison and is included here.

LRF97 Wroxeter example (L1707): abundant rounded (>0.6mm) and angular (>0.1mm) quartz and sparse non-ferroan micrite (R >0.4mm), in an isotropic clay matrix.

LRF115 (L1621, Pl. 4.72): abundant quartz (R >0.6mm) and sparse non-ferroan micrite (R >0.4mm), in a highly birefringent clay matrix with sparse ferroan calcite and iron-rich specks.

LRF121 (L1624, Pl. 4.73): abundant quartz (R >0.6mm) and sparse non-ferroan micrite (R >0.4mm), in a highly birefringent clay matrix with sparse ferroan calcite and iron-rich specks.

LRF143 (L1675): abundant quartz (R >0.6mm), sparse non-ferroan micrite (R >0.4mm) with traces of fossil structure, in a highly birefringent clay matrix with sparse ferroan calcite, iron-rich specks, and also ferroan calcite formed in laminae post-deposition.

The results of thin-section analysis suggest that all of these fabrics form part of the same group.

Forms (Fig. 181, 1863–6)

Carreras and Williams (1993) comment: 'It is difficult to be certain if the two rims (1863–4) actually belong to this amphora type or not. The red, sandy fabric is certainly similar to that normally associated with this form, although the expanded bead-rims of the two Lincoln sherds do not exactly match with the original form-type from Period I levels at Fishbourne, which appears to have a small bead-rim sitting on top of a slightly larger one (Cunliffe 1971, fig.

100) or examples seen subsequently by the writers from Leicester, York, Dorchester, Colchester and Wroxeter (nor for that matter with each other). It is just possible, however, that one or both, the Lincoln vessels may be related to F148 in some way. Only the top half of the latter form is so far known, neither is the actual source area or the contents'.

No. 1865a appears to be in the same fabric as 1863 but the rim lacks the typical moulding. It is the only example from Lincoln with a handle and has drips of a brown deposit on the interior, as does the York vessel noted above.

Gauloise amphorae 3, 4 and 6 (GAU3–6)

These Gallic amphorae (PW29 and 27) have bulbous bodies, with handles extending from under the rim and fixed at the shoulder. They are among the twelve Gauloise amphora types originally differentiated by Laubenheimer, and mainly produced at various kiln sites in southern Gaul from the 1st to the 3rd century (Tyers 1996, 94–6). The most common of the Gauloise amphorae in Lincoln, as elsewhere, is the GAU4 (PW27; 534 sherds), but there is a single example of a probable GAU3 (PW29), and one identified as GAU6 (1870).

Dating: EMROM

The probable GAU3 was found in a group of mid to late 3rd century wares, and the GAU6 was associated with mid 2nd century pottery. A scatter of GAU4 sherds occurred in mid to late 1st century groups, increasing during the Antonine period, but they were most commonly found in mid to late 3rd century assemblages, at least some of which were redeposited in later rampart dumps. Those in late 4th century assemblages were almost certainly all residual (Fig. 178).

Fabric and technology

NRFC: GAL AM 1

GAU3?: LRF136; GAU4: LRF 49, 50, 53, 70, 109; GAU6: LRF73

LRF136 GAU3? (L1697): abundant quartz ($A > 0.1\text{mm}$) and moderate muscovite ($> 0.1\text{mm}$) in an ?isotropic matrix.

LRF73 GAU6 (L1617): sparse iron-rich inclusions ($R > 0.3\text{mm}$), sparse iron-stained sandstone ($> 0.7\text{mm}$), abundant quartz ($A > 0.1\text{mm}$) and moderate muscovite ($> 0.1\text{mm}$), in an isotropic? matrix.

In the hand and under the microscope, the fabrics of the probable GAU3 and GAU6 sherds fall within the overall range of the Gauloise amphorae. However, the results of thin-section analysis show a clear difference between the two sherds, the petrology of the GAU3? suggesting a South Gaulish source.

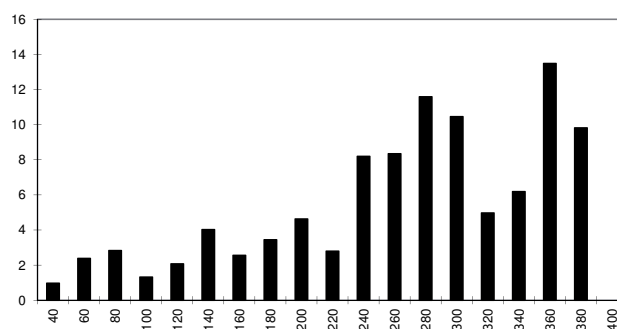


Fig. 178. *Gauloise 4 amphorae: plotdate by weight percentage.*

Forms (Fig. 181, 1867–70)

Few rims survive among this relatively large group of GAU4, probably due to the fine texture of the fabric; they vary from somewhat angular (1868) to the more common rounded form (1869). The GAU6 rim (1870) is also rounded but has a more splayed, open mouth. Carreras and Williams (1993) describe the latter as having an internal cut-away rim, which is a feature of Laubenheimer's (1985) Gauloise 6 or 7 groups. That of the probable GAU3 (1867) compares well with the example illustrated by Peacock and Williams (1986, fig. 70).

Dressel 28 amphorae: Gallic source (GAU28) (Fig. 181, 1871)

LRF128

The distinctive 'pulley-wheel' rim distinguishes this amphora type (PW31) from its more common relative, the GAU4. Peacock and Williams (*op. cit.* 149) note a kiln producing this type at Velaux, Bouches-du-Rhone (Tchernia and Villa 1977), but other sources include Baetica in Spain (see BAE28, above) and Tarraconensis (*ibid.*); it was imported into Britain from the conquest period until the mid 2nd century.

This amphora class is represented in the Lincoln assemblage by only two sherds from the same vessel, whose rim (1871) is of typical form. Although found in a post-Roman context, it was associated with probable 2nd century pottery. The thin-section (LRF128; L1649) contains sparse schist ($> 0.3\text{mm}$), sparse quartz ($SA > 0.3\text{mm}$), moderate ferroan calcite ($> 0.1\text{mm}$), moderate non-ferroan (purple) calcite ($> 0.1\text{mm}$), moderate muscovite ($> 0.1\text{mm}$) and moderate biotite ($> 0.1\text{mm}$), in an anisotropic calcareous matrix with unidentified mineral fragments. The fabric of the type-sherd and the thin-section analysis confirm a French source.

Haltern 70 amphorae (H70) (Fig. 181, 1872)

LRF60

This cylindrical amphora from the Guadalquivir valley in Spain (PW15) appeared only briefly in Britain, from the conquest period until *c.* AD 70 (Tyers 1996, 97). The fabric is indistinguishable in the hand from that of the early DR20 fabric and identification therefore relies on diagnostic body sherds, which are rare in the Lincoln assemblage (15 sherds); it is quite possible that undiagnostic thin-walled body sherds have been misidentified as DR20. The majority were found in early Roman groups, the earliest dating to the mid-late 1st century and the bulk to the later 1st-2nd century. This is a slightly longer date span than the accepted end date of *c.* AD 70 for the production of these containers but allows time for a period of use and subsequent discard. No. 1872 has been identified as H70 but the rim form is not of the usual collared type.

Dressel 2–4 (Koan) amphorae: Italian source (IT24)

These cylindrical amphorae with distinctive bifid handles (PW10) were imported from the pre-conquest period until the middle of the 2nd century (Tyers 1996, 90–1). This group is confined to those identified as specifically Campanian by the presence of 'augite sand' and/or lava in the fabric (for Dressel 2–4 amphorae from other sources, see CAT24, EMED24 and KOAN).

Dating: EROM

This small group (33 sherds) generally conforms to the accepted date range for these vessels in Britain. Although more than 40% occurred within early Roman groups, mainly dated to the mid 1st century, this comprises sherds from only three vessels. Several sherds were associated with 2nd century pottery and the remainder were from groups dated to the 3rd and 4th centuries. The latter could have been redeposited, although they may include some unrecognised sherds of mid Roman Campanian amphorae (see ITAMP, below).

Fabric and technology

NRFRC: CAM AM 1 (Campanian (Black Sand) Amphorae 1); CAM AM 2 (Campanian (Volcanic) Amphorae 2)

LRF68, 92–3, 113

Virtually all of the amphorae included within this group contain inclusions of either black sand or 'augite sand', but the volcanic fabric (CAM AM 2) has not been distinguished from the characteristic Campanian type (CAM AM 1).

LRF92 (L1716): 'augite sand' is the main inclusion.

LRF93 (L1702) contains abundant angular (>0.2mm) and sparse rounded (>0.5mm) quartz and sparse rounded phyllite (>0.5mm).

LRF113 (L1612), a bifid handle, contains lava and 'augite sand'.

Forms (Fig. 181, 1873)

Several fragments of bifid handles and occasional stumps survive, but there are few rims. No. 1873 has some of the characteristic features of these vessels: the slight rounded rim, long neck and sharp shoulder, and typical bifid handle.

Italian amphorae (ITAMP)

This is a miscellaneous group of undiagnostic body sherds, all with fabrics containing augite sand or volcanic glass, probably from a Campanian source. There are only 41 sherds, 31 of which are from a single vessel; this, and all but two of the other sherds, came from Upper City sites. All were associated with mid to late 3rd and 4th century assemblages, where they were most probably residual. Some are likely to be undiagnostic sherds of IT24; however, it is equally possible that the single vessel, at least, may belong to a group of mid Roman Campanian amphorae that has been recognised recently on the continent (Arthur and Williams 1992) and in Britain at South Shields (Bidwell and Speak 1994, 218–9; fig. 8.5, 13–6). These are in a range of fabrics including a 'black-sand' fabric, but their rims are almond-shaped and the handles are oval rather than bifid. Tyers (1996, 91–2) suggests a date from the later 2nd to the 3rd century for these later Italian vessels.

Fabric and technology

LRF59, 83, 95, 111, 336

LRF59 (L1620): augite, quartz, non-ferroan calcite, biotite and feldspar in an anisotropic clay matrix.

LRF83 (L1632): abundant quartz (R >0.4mm), sparse sandstone (greywacke – >1.0mm), sparse muscovite (>0.1mm), moderate volcanic glass (R >0.5mm), moderate basalt (R >0.5mm) and augite? in an isotropic matrix.

LRF111 (L1636) contains 'augite sand' (>0.4mm).

LRF95 (L1665): sparse quartz (R >0.4mm), abundant muscovite (>0.1mm), sparse ferroan calcite (R >0.3mm), moderate volcanic glass (R >0.5mm), moderate basalt (R >0.5mm) and augite? in an isotropic matrix.

LRF336 (L1717; Pl. 4.74) contains 'augite sand'.

Kapitan 2 amphorae (KAP2)

NRFRC: P&W AM 47

LRF140

This cylindrical vessel with a tall neck is also referred to as the 'hollow foot' amphora because of its hollow

tubular base. An Aegean origin is suggested, based on its distribution in that area. It was predominantly late Roman in date, spanning the 3rd and 4th centuries, although a few occurred in the late 2nd century (Tyers 1996, 101–2). Only a single large, deep body sherd survives of this rare amphora class, but the fabric and thin-section agrees well with the fabric description by Peacock and Williams (*op. cit.* 195). It was associated with 3rd to 4th century pottery; this compares well with the accepted chronology.

LRF140 (L1608): sparse (one fragment) granite (>1.0mm), moderate greywacke (>1.0mm), sparse (one fragment?) gneiss? (>1.0mm) and abundant quartz (A >0.1mm).

Miscellaneous Dressel 2–4 amphorae (KOAN) (Fig. 181, 1874)

This group consists of 28 sherds with the diagnostic features common to all Dressel 2–4, *i.e.* bifid handles, a carinated shoulder and heavy base, but in a range of fabrics that all differ from those of the Catalan (CAT24), Eastern Mediterranean (EMED24), and Italian (IT24) amphorae, and all fit within a 1st to 2nd century date range. Most of the Lincoln sherds came from early Roman sites in the Upper City, with the earliest examples occurring in mid to late 1st century groups. The majority were associated with mid 2nd to 3rd century assemblages, most of which were redeposited within the later *colonia* ramparts.

No. 1874 has high-peaked handles below the rather angular, collared rim and this feature might be confused with the Camulodunum form 84 (RHOD) except that the remaining handle, albeit fragmentary, is clearly bifid. This vessel is typologically similar to the group of ‘pseudo Koan’ amphorae (PW11) and was found with pottery probably dating to the mid-late 2nd century. The fabric (LRF118) is hard and smooth to the touch, and dark buff-brown in colour. The smooth fracture shows a fine matrix with moderate inclusions of rounded limestone, varying from silt-size to occasionally 0.5mm; rare rounded red iron ore (mostly 0.1–0.2mm) and sparse fine white mica are visible in the surface. The thin-section (L1626) contains abundant quartz (A <0.2mm), sparse non-ferroan calcite (>0.4mm) mainly leached out, and sparse muscovite (>0.1mm) in an anisotropic clay matrix.

London 555 amphorae (L555)

This is one of the more recently identified types of amphora (PW59) and is increasingly being recognised in Britain, mainly by the frequent presence of external ‘roughcasting’ of coarse sand around the neck and towards the base. Four body sherds among the Lincoln assemblage, probably representing only

three individual vessels, show this characteristic feature. This discovery augments, albeit by only a few fragments, the published distribution of these vessels in Britain (Tyers 1996, 98), appearing in the East Midlands for the first time.

There are at least three sources of the fabric: Baetica, the Lyon region and southern Gaul (*ibid.*). However, the Gaulish fabric is similar to that of the mainstream GAU4 (see above) and some sherds without the typical roughcasting may have been included in the GAU4 group.

Dating: EROM

The four sherds were all found on Upper City sites, within 1st and early to mid 2nd century assemblages, which conforms well with the accepted date range for this class.

Fabric and technology

NRFC: GAL AM 2

LRF42, 133

The fabric, often relatively fine, varies in colour but is frequently creamy buff or pink with a pale wash and a lime-rich, slightly micaceous matrix.

LRF42 (L1652): moderate quartz (SA >0.7mm), sparse schist (SA >0.5mm), sparse granite (orthoclase feldspar and quartz: SA >0.5mm), sparse biotite (>0.4mm), sparse muscovite sheaves (>0.4mm), moderate non-ferroan calcite (R >0.4mm), abundant quartz (A >0.05mm), abundant muscovite (>0.1mm) and abundant biotite (>0.1mm) in an anisotropic matrix.

LRF133 (L1633) is identical to LRF42.

The results of thin-section analysis show that the petrology of the selected sherds from Lincoln compares well with that of the vessels described in NRFC, suggesting a source in southern Gaul.

Late Roman amphorae (LROM)

This group of 24 sherds is a ‘catch-all’ category, defined by Carreras and Williams (1993) as including ‘ribbed bodysherds that probably belong to late Roman amphora types produced in the eastern Mediterranean region (see J. A. Riley 1979; Fulford and Peacock 1984). This group as a whole probably dates from the late 3rd century onwards. Unfortunately, there are few distinctive typological features associated with many of the sherds that would allow them to be tied down to specific forms.’ The distinction between ribbing and rilling is not always clear, and some rilled body sherds may have been included in this group.

Dating: LROM

This amphora type did not generally appear until the mid 3rd century and is most frequently found in late 4th century assemblages.

Fabric and technology

LRF47, 71, 76, 78, 82, 88, 91, 99, 105, 107

The mainly coarse fabrics are mostly reddish brown, often with a dirty white wash, and are frequently ribbed. The majority of the assemblage consists of undiagnostic body sherds and the few surviving handle sherds are not diagnostic of particular types therefore most of these were thin-sectioned, but with inconclusive results. Fabric descriptions are given only for the illustrated vessels, below.

Forms (Fig. 181, 1875–8)

No. 1875 is a small, thin-walled vessel with a very micaceous brown wash on the exterior and interior of the irregular rim, which is not unlike those of the ABIV class (PW45, with fig. 107). It was found in a very late 4th century assemblage but in a post-Roman context. The fabric (LRF 76) has added temper and a brown slip; the thin-section (L1610) shows sparse basalt ($R > 2.0\text{mm}$), sparse quartz ($> 0.5\text{mm}$), sparse non-ferroan limestone ($> 0.5\text{mm}$), abundant muscovite ($> 0.2\text{mm}$) and moderate biotite ($> 0.2\text{mm}$), in an isotropic matrix. Apart from the sparse limestone, this fabric is very similar to that of ABIV.

No. 1876 is a robust vessel in a gritty fabric with a simple rounded rim, and was associated with mid 3rd century pottery. The handles, which are almost round in section, are attached to the base of the rim. Carreras and Williams (*op. cit.*) comment that 'the form is somewhat reminiscent of the late Roman Bii amphora, though the fabric of the Lincoln vessel is different, being less coarse and containing little else but quartz grains and limestone, while lacking the serpentine and augite which characterize ... PW44. Nevertheless, an origin in the eastern Mediterranean appears quite likely.' The fabric (LRF105) in thin-section (L1706) shows quartz ($R > 0.3\text{mm}$) and moderate non-ferroan and ferroan limestone with no clear structure left ($> 0.4\text{mm}$), in an anisotropic, calcareous matrix.

Nos 1877 and 1878 are similar in form, both having a narrow, slightly bulging body, with pronounced wheel-turning marks on the interior although the handles, which spring almost horizontally from the body wall, differ in section. Both vessels were associated with late to very late 4th century pottery but in post-Roman contexts.

The fabric of 1877 (LRF82) falls within the same group as LRRRA LRF117 (see 1879, below); the thin-section (L1628) shows abundant non-ferroan limestone with some microfossils; some sparry calcite, mainly micrite ($> 0.6\text{mm}$), moderate chert or altered volcanic glass? ($> 0.5\text{mm}$), sparse basalt ($R > 0.4\text{mm}$) and sparse ?augite ($> 0.4\text{mm}$), in an isotropic matrix.

The fabric of 1878 (LRF78) in thin-section (L1613)

contains abundant quartz ($R > 0.4\text{mm}$), sparse sandstone (greywacke: $R > 1.0\text{mm}$), sparse muscovite ($> 0.1\text{mm}$) and sparse non-ferroan micrite ($R > 0.5\text{mm}$), in an isotropic matrix.

Later Roman Ribbed amphorae (LRRRA)

In common with the LROM group (above) this class is a combination of diverse amphora sherds, but these are in a variety of mainly red-brown fabrics, almost always ribbed and without a surface wash, which appear to be late Roman in date. LRRRA are never common, and virtually all of the 35 sherds are undiagnostic of form.

Dating: LROM

LRRRA did not appear until the mid to late 3rd century, occurring most commonly in mid 4th century groups. The majority of the latter came from Upper City sites, including some from areas of levelling and make-up where the sherds were certainly redeposited.

Fabric and technology

LRF75, 90, 102

LRF75 (L1714): abundant quartz ($R > 0.4\text{mm}$), sparse non-ferroan limestone ($R > 0.2\text{mm}$) and sparse opaques ($R > 0.2\text{mm}$), in an anisotropic matrix with post-depositional? ferroan calcite in laminae.

LRF90 (L1662): abundant quartz ($R > 0.4\text{mm}$), sparse chert/flint ($> 0.4\text{mm}$) and sparse non-ferroan limestone ($R > 0.2\text{mm}$), in an anisotropic matrix with post-depositional? ferroan calcite in laminae.

LRF102 (L1666): abundant quartz ($R > 0.4\text{mm}$), sparse non-ferroan limestone ($R > 0.2\text{mm}$) and sparse opaques ($R > 0.2\text{mm}$), in an anisotropic matrix with post-depositional? ferroan calcite in laminae.

All three fabrics are similar – although two include small, unidentified crystals – with a moderately high relief, strong cleavage and straw-coloured birefringence, and are from an indeterminate source.

Forms (Fig. 181, 1879)

No. 1879 is a very narrow, solid spike with ribbing on the exterior and a distinct protuberance at the tip that is reminiscent of the Egloff 177 amphorae from the Nile region in Egypt (PW52B), but the fabric of the Lincoln example is different. In thin-section (LRF 117; L1629) it shows abundant non-ferroan limestone with some microfossils, some sparry calcite, mainly micrite ($> 0.6\text{mm}$), abundant reddish glassy inclusions ($> 0.5\text{mm}$), moderate chert – or altered volcanic glass? ($> 0.5\text{mm}$), sparse basalt ($R > 0.4\text{mm}$), sparse augite? ($> 0.4\text{mm}$) and sparse muscovite ($> 0.2\text{mm}$) in an isotropic matrix. This fabric is similar to that of LROM 1877 (see above).

Mid-Roman Ribbed amphorae (MRRA)

These amphorae were originally recognised at two sites in Lincoln: East Bight (EB66) and The Park (Darling 1999, 117–20), these yielding a total of 40 sherds (four of which are only tentatively identified); an additional sherd is from Silver Street, Trench C.

Dating: MROM

Two sherds came from mid-late 2nd century deposits; all the remainder were either redeposited in dumps used to heighten the defences, or were unstratified.

Fabric and technology

LRF147–9

In her detailed discussion of the sherds from The Park, Darling (*ibid.* 117–9) comments: ‘There are textural variations in the fabrics of the relatively thin-walled sherds which suggests that they were made in more than one centre, working in the same tradition. Sherds from other Lincoln sites have been examined, and some thin-sectioning has been undertaken by Dr. Williams (Williams 1984). Although it is possible to distinguish three groups, the division is based mainly on the proportions of the inclusions, and sherds tend to merge between groups. Moreover, the fabric of the handle [1882] differs from that of the attached body and spans two of the groups. The handle type is akin to, despite its small size, the handle on [1880]. This suggests that fine-tuning of the fabric differentiation is otiose.’

1880 (LRF147; DFW12): thick, hard, very sandy fabric, light red (2.5YR 6/6) throughout. Handle and rim sherd from amphora. Petrology: Frequent inclusions of quartz grains, average size 0.20–0.60mm, and some limestone. An origin in an area of sedimentary rocks is suggested.

1881 and 1883 (LRF149; DFW10): moderately thick, hard, sandy fabric, dark buff throughout – two bodysherds and a rim of a ribbed amphora type. Petrology: Frequent quartz grains, average size 0.20–0.60mm, some of which appear to be well-rounded, and a little cryptocrystalline limestone and calcite. The petrology agrees well with the thin sections of certain vessels known to have been made in Palestine: a ribbed amphora from Avenches containing carbonized dates (Callender 1965, fig. 20, no 4), carrot-amphorae from various sites (Camulodunum form 189).

1882 (LRF148; DFW7): moderately thick, hard, sandy fabric, light reddish-brown (2.5YR 6/4) throughout. Four body sherds and a handle from a ribbed amphora type. Petrology: Scatter of quartz grains, average size 0.30–0.60mm, and a little cryptocrystalline limestone. An origin in an area of sedimentary rocks is suggested.

Nos 1881–3 are all from the same vessel; see below.

Forms (Fig. 182, 1880–3)

Darling (*op. cit.* 119–20) notes:

‘The heavy rim of [1880] has a much higher content of quartz sand, and there is no evidence as to the form of the body or whether it was ribbed. Despite the similar fabric, it is obviously a very different vessel from the thin-walled vessel of [1881] with the implication of differing contents. [1880] is similar to the rim of an amphora from Avenches, which contained carbonized dates (Callender 1965, fig. 20, no 4; Peacock and Williams 1986, 216, Class 65); the similarity between the handles is striking. An example is also known from Colchester, from a 4th century context, associated with a footing base (pers. comm. Dr. R. Symonds). The type and attachment of the handle and simple rim-form are similar to the late Bii amphorae (Keay LIII; Peacock and Williams Class 44), which have a known variability of fabric (Tomber and Williams 1986, 44, 47; Keay 1984, 459, fabric 18; Peacock and Williams 1986, 187). This Lincoln vessel appears to be of the same tradition but earlier in date. Its context preceded the last rampart layers in Trench III of mid to late 4th century date.

The other ribbed amphora, [1881–3], is even more problematical since this thin-walled vessel is unparalleled. The use of a different clay for the handle is a common phenomenon, also occurring on flagons (as at Kingsholm; Darling 1985a, 80, fig. 24, no 15). The fabric and wall-thickness recall the footing base found at East Bight (Darling 1984, 74, fig. 18, no 153). Sherds of the same fabric were found in the rampart at East Bight dated to the latter part of the 3rd century (*ibid.* 91, layer 9/2). Although the rubbish in which it was found ... must have been deposited in the 4th century, the bulk of the pottery fits into the 3rd century.

The rim form is virtually identical to the Benghazi MR amphora 1 (Peacock and Williams 1986, 175, Class 40) which has a footing, but is not ribbed. Comparison of the thin-sections by Dr Williams showed them to be of different fabrics. The fabric of the East Bight footing seems marginally different, the inclusions being less well-sorted and scattered, and the possibility of a footing base does not exclude a more normal amphora base...’

Darling concludes that: ‘despite the dissimilarities between the fabrics of the Lincoln vessels and the Benghazi MR and Bii amphorae, the origins of the

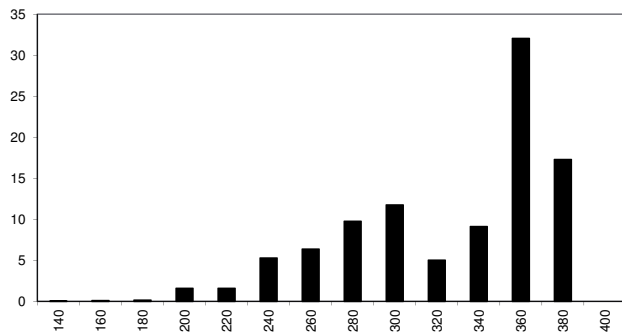


Fig. 179. North African amphorae: plotdate by weight percentage.

Lincoln sherds are likely to lie within much the same area – broadly indicating an eastern Mediterranean source.

North African amphorae (NAAM)

These amphorae (PW33–6) are all cylindrical, with short necks and spikes. The rims are rounded or thickened and the handles are short and sharply bent (Tyers 1996, 104–5). The assemblage comprises the fourth largest group of amphorae (158 sherds: 5,435gm) and encompasses a wide range of types. There is some variation in the fabrics of the Lincoln examples, the majority of which were divided, in consultation with Dr. Paul Reynolds, into seven sub-groups, NA1–7.

Dating: MLROM

NAAM first appeared in a mid to late 2nd century group, but was not found in any appreciable quantity in assemblages pre-dating the mid to late 3rd century. It occurred most commonly in mid to very late 4th century groups, the majority of which were redeposited (Fig. 179).

Fabric and technology

NRFRC: NAF AM 1 (Lime-Rich) Amphorae 1; NAF AM 2 (Lime-Poor) Amphorae 2
 NA1: LRF125, 129, 142; NA2: LRF139; NA3: LRF138;
 NA4: LRF137; NA5: LRF141; NA6: LRF86; NA7:
 LRF87.

NA1 is a 'bright red-brown fabric with creamish external slip, common sub-angular brownish quartz, iron-ore, small white limestone inclusions and reaction rings... This appears to be Keay's fabric 1 (Keay 1984, 447) which he states to be very similar to fabrics 1 and 2 identified by Peacock (in Fulford and Peacock 1984, 16) assigned to northern Tunisia (the 'Carthage-Nabeul' group)' (Darling 1999, 114, no. 600). The quartz of NA1 tends to merge into the calcareous background, and is in the same tradition

as NA2–3, but closer to the latter – from northern Tunisia?

LRF125 (L1625): moderate quartz ($R > 0.6\text{mm}$), sparse chert ($R > 0.2\text{mm}$), moderate muscovite ($> 0.1\text{mm}$) and sparse non-ferroan calcite ($> 0.1\text{mm}$), in an anisotropic matrix. The petrology suggests that either calcite was rare or that it has leached in this section.

LRF129 (L1674) spike similar to Keay 25 variant 2: sparse rounded ($> 0.6\text{mm}$) and abundant angular quartz ($> 0.2\text{mm}$) and abundant non-ferroan calcite ($> 0.1\text{mm}$), in an anisotropic matrix.

LRF142 (L1609): abundant quartz ($SA > 0.2\text{mm}$) and moderate rounded non-ferroan micrite containing sparse angular quartz grains ($c. 0.05\text{mm}$), in an anisotropic matrix.

NA2 LRF139 (L1656): sparse rounded ($> 0.4\text{mm}$) and abundant angular quartz ($> 0.2\text{mm}$), abundant non-ferroan micrite with microfossils ($> 0.4\text{mm}$), moderate clay pellets showing laminae ($> 2.0\text{mm}$), sparse microfossils with ferroan calcite filling of tests ($> 0.1\text{mm}$) and moderate muscovite ($> 0.1\text{mm}$), in an anisotropic matrix. The quartz is very similar to NA1 but does not merge into the background, which appears less calcareous, and there are occasional large inclusions, which appear to be clay pellets. It is of a similar tradition to NA1 and NA3 – northern Tunisia?

NA3 LRF138 (L1657) handle fragment: sparse rounded ($> 0.8\text{mm}$) and abundant angular quartz ($> 0.1\text{mm}$) and sparse rounded micrite ($> 1.0\text{mm}$, containing sparse angular quartz $> 0.05\text{mm}$), in an anisotropic matrix. A similar tradition to NA1 and NA2, but the quartz seems to be more multicoloured and, as NA2, does not merge into the background – northern Tunisia?

NA4: a very calcareous, lime-rich fabric with a dark brownish colour. LRF 137 (DFW8): a thick, hard fabric containing numerous small, white inclusions of limestone, light brownish grey (10YR 6/2) throughout. Tunisian, perhaps northern Tunisian, in origin.

NA5 is brick-red in colour with a white external saline wash and vertical smoothing. LRF141 (L1635): sparse rounded ($> 0.3\text{mm}$) and abundant angular quartz ($> 0.1\text{mm}$) and sparse rounded micrite ($> 0.2\text{mm}$, containing sparse angular quartz $> 0.05\text{mm}$), surrounded by reaction rings, in an anisotropic matrix. Also lime-rich, but with a more open texture than NA4 – Tunisian, perhaps northern Tunisia.

NA6: a moderately lime-rich matrix with abundant sub-rounded quartz and some inclusions of limestone with quartzite masses, and a white saline wash. LRF86 (L1705): sparse rounded ($> 0.3\text{mm}$) and abundant angular quartz ($> 0.1\text{mm}$), sparse micrite ($R > 0.2\text{mm}$, containing sparse quartz $A > 0.05\text{mm}$) surrounded by reaction rims, and sparse non-ferroan microfossils with tests filled with ferroan calcite ($> 0.2\text{mm}$), in an

anisotropic matrix. This fabric appears to be unique – northern Tunisia?

NA7 has a very lime-rich background of small specks. The vessel form (1887b) suggests a Tripolitanian or central Tunisian origin (see Forms, below). The fabric does not appear to resemble either source, but leans towards the central Tunisian.

The basic components of fabrics NA1–7 are very similar but the proportions and mix of the clay are slightly different. Thin-section analysis suggests that there is very little difference in all of these fabrics and only the grain size differs. NA1–3 have rarer particles of limestone, whilst NA4–7 have a more lime-rich matrix.

Forms (Fig. 182, 1884–8)

No. 1884, in fabric NA1, is a rim of the Africana I 'Piccolo' type with a narrow cylindrical body (see PW33). Keay (1984) dates the form approximately from the late 2nd to the early 4th century and Peacock and Williams (*op. cit.* 154) consider it to be mainly 3rd and possibly 4th century. Tyers (1996, 104) suggests that imports date from the mid 2nd century; a near-complete example dated to *c.* AD 140–160 was found in London (Davies *et al.* 1994, 28, with fig. 20, 51). The Lincoln vessel was found in a 4th century context together with quantities of 3rd century and earlier pottery.

An amphora spike also in NA1 (1885), is most likely to be Keay's type XXV variant 2 (Keay 1984, 210, fig. 88: Dr. Paul Reynolds, *pers. comm.*), which is dated from the early-mid 4th to the 5th century. There is no secure dating evidence for the Lincoln vessel, which was associated with samian of Antonine date but in a medieval context.

A handle in fabric NA3 (1886) was associated with pottery dating from the later 3rd to the 4th century. A rim in fabric NA4 (1887a) is similar in form to Keay's type V Africana IIA (Keay *op. cit.* 112, fig. 42.3), which is dated from the later 2nd to the 3rd century.

The rim form of 1887b, in fabric NA7, is very similar to PW Class 36/Keay XI, although the fabric does not conform to a Tripolitanian source, and it is not certainly central Tunisian in origin. The vessel type has a broad date range; Peacock and Williams (1986, 167) note that it is found in 1st century contexts but occurs more commonly after the mid 2nd century at Ostia, lasting until the 4th century. The Lincoln vessel was associated with later 4th century pottery but in a medieval deposit.

The rim of 1888 approximates to Keay's type XXV with a narrow cylindrical body (Keay 1984, fig. 24, closest to type XXV, E), dated to the late 3rd to mid 5th century. The Lincoln vessel was found with late to very late 4th century pottery. The fabric is bright red-brown in colour with a creamish external saline wash, containing fairly common sub-rounded

brownish quartz, iron-ore, small white limestone inclusions and reaction rims.

Richborough 527 Amphorae (R527)

NRFRC: LIP AM (Liparian Amphorae)

LRF 112

This class of cylindrical amphorae with short, looped handles and shallow rilling across the body wall (PW13) is mainly recognised by its most distinctive fabric, for which several sources have been suggested, based on the igneous inclusions. Peacock originally postulated the area of the Massif Central and Arthur (1989) raised the possibility of an origin in Campania; since then, kiln-waste has been discovered near Lipari off the north-east coast of Sicily (Tyers 1996, 99).

In Lincoln it is represented by only eight sherds from four vessels, all but one sherd coming from Cottesford Place in the Upper City. The sherds occurred in assemblages dating from the early-mid 2nd to the later 3rd-4th century. Tyers (*ibid.* 100) notes that 'British examples range from the pre-Conquest period through to the later 2nd or early 3rd centuries; whilst the Campanian material described by Arthur is largely 3rd century AD.'

Rhodian-type amphorae (RHOD)

This amphora has a cylindrical neck and simple beaded rim, with distinctive peaked, circular-sectioned handles; the lower body tapers towards a solid spike (PW9). It was imported into Britain between *c.* AD 50 and 150 and was mainly manufactured on Rhodes, although there may have been other sources in the Aegean (Tyers 1996, 63).

The RHOD assemblage ostensibly is the third largest group of amphorae from Lincoln, consisting of 207 sherds. However, this apparently large amount includes 120 sherds from a single, near-complete vessel (found at Spring Hill/Michaelgate) that is too fragmented for reconstruction, while 27 sherds are from another, less complete vessel (from The Park).

Dating: EROM

The near-complete vessel was found in a late 1st to early 2nd century context, while the other, less complete, vessel came from a mid to late 2nd century group. Almost half of the other sherds were in early Roman groups of the mid 1st to the early-mid 2nd century, the remainder occurring residually within later assemblages.

Fabric and technology

NRFRC: P&W AM 9; RHO AM 1 (Pink); RHO AM 2 (Yellow)

LRF44, 67, 69, 114, 120, 123

The fragmented vessel from Spring Hill/Michaelgate

is in a reddish pink fabric (Peacock and Williams 1986, 103: Fabric 1); the other, less complete vessel is in a creamy white fabric (*ibid.* 104, Fabric 2). The majority of the remaining sherds fall within the same ranges.

LRF44 (L1672): sparse quartz (A >0.1mm), abundant fragments of red-brown mineral, A >0.5mm (as PW9, Fabric 1) and sparse non-ferroan calcite (>0.3mm), in an anisotropic matrix.

LRF 69 (L1695) handle fragment: sparse quartz (A >0.1mm), moderate chert (A >0.4mm), sparse micrite (R >0.3mm), sparse feldspar (>0.3mm), sparse siltstone (R >1.0mm) sparse reddish altered? lava (R >1.0mm) and moderate muscovite (>0.1mm), in an anisotropic matrix.

LRF123 (L1623): micrite; non-ferroan microfossils (>0.2mm), moderate muscovite (>0.1mm), sparse biotite (>0.1mm) and sparse quartz (A >0.1mm), in an anisotropic calcareous matrix.

Spanish amphorae (SPAA)

This small group of 15 undiagnostic body sherds comprises a variety of fabrics that are almost certainly Spanish in origin, mainly with the same range of inclusions as noted for the C186 amphorae (see p. 216), and are probably *salazon* containers (Tyers 1996, 98–9). Only a few sherds were found in mid 1st to early 2nd century groups (the accepted date range for C186); most occurred residually in mid 2nd century and later assemblages.

Other amphorae (AMPH)

This category (182 sherds) comprises all amphorae that could not be readily identified. Over 40% occurred in groups dating from the mid 1st to the mid-late 2nd century; the remainder were mainly from later 3rd to 4th century assemblages, where they are most likely to have been residual. Several of the fabrics were selected for thin-section analysis but fabric descriptions are only given here for the illustrated examples.

Forms (Fig. 182, 1889–94)

No. 1889, with evidence of ribbing, is probably from a tall, cylindrical vessel with a collared rim and ovoid handles. The vessel, for which no parallel has been found, is in a fabric that is hard and smooth but slightly silty to the touch, and dark buff-brown in colour. The smooth fracture reveals a highly calcareous matrix (some particles of silt-size and a single example of 1.2mm) containing moderate rounded red, iron-rich inclusions (>0.2mm) and very rare quartz (SA >0.2mm); sparse fine white mica is visible in the surface.

No. 1890 has a flaring rim with a slight groove

above the constricted neck and is probably from a globular amphora. The thin-section (LRF79; L1614) shows abundant quartz (R >0.3mm), moderate rounded limestone (sparry ferroan calcite crystals in a non-ferroan micrite matrix, non-ferroan thin-walled bivalve shell and spherulites, some with ferroan calcite filling tests, >0.4mm), sparse rounded sandstone (SA grains >0.1mm and opaque matrix, >0.4mm), sparse quartz (R >0.8mm) and sparse opaques (R >0.2mm), in an anisotropic matrix. The fine pale fabric suggests a Gallic source but the thin-section shows that it is not notably micaceous, unlike most Gallic amphorae.

A similarly shaped rim with a two-ribbed handle (1891) may be from a large two-handled flagon rather than an amphora; it was clearly a liquid container of some sort, because the interior of the rim and neck is coated with a dark brown, resinous substance. The fabric is hard with a smooth, slightly silty feel, and is pale cream in colour but darker where the ?resin has leached into the fabric. It has a fine calcareous matrix containing moderate amounts of silt-sized, sub-angular quartz, occasional particles of red and black iron ore and moderate amounts of fine white mica, which is visible in the surfaces. It is reminiscent of the northern French/south-eastern English flagon fabrics (*cf.* CR 303, p. 53).

An unusual rim, 1893, resembles that of Keay's form LII (Keay 1984, fig.114), which is dated to the 5th century and occurs in Sicily, Naxos and Calabria. Roman pottery from the 5th century is rare in Britain but 1893 could be one of the latest types found in Lincoln. It was associated with very late 4th century pottery, but in a Late Saxon deposit sealing the remains of a building constructed against the rear of the late Roman rampart at Saltergate (Trench D); the building conceivably could belong to the very latest Roman or early Saxon period, but is thought more likely to be of Middle Saxon or very early Late Saxon date (Steane *et al.* forthcoming). The vessel fabric (LRF122), with its phyllite and muscovite inclusions, is similar to that of Keay's form LII. The thin-section (L847) contains sparse quartz (>0.4mm), sparse plagioclase feldspar (>0.4mm), sparse phyllite fragments (R >0.4mm), abundant muscovite (>0.2mm) and moderate biotite (>0.2mm) in an anisotropic matrix.

A body sherd with evidence of ribbing and an attached, ovoid-sectioned handle (1894) is probably from a 'cigar-shaped' amphora. The brownish red sandy fabric is very hard with a rough feel, containing abundant quartz (SA-R, mostly >0.5mm) and sparser limestone. The form is close to that of the F148 types (see above), especially an example from York (Monaghan 1993, fig. 288, 2825). The Lincoln vessel was associated with mid to late 1st century pottery, a date which fits well with that proposed for F148.

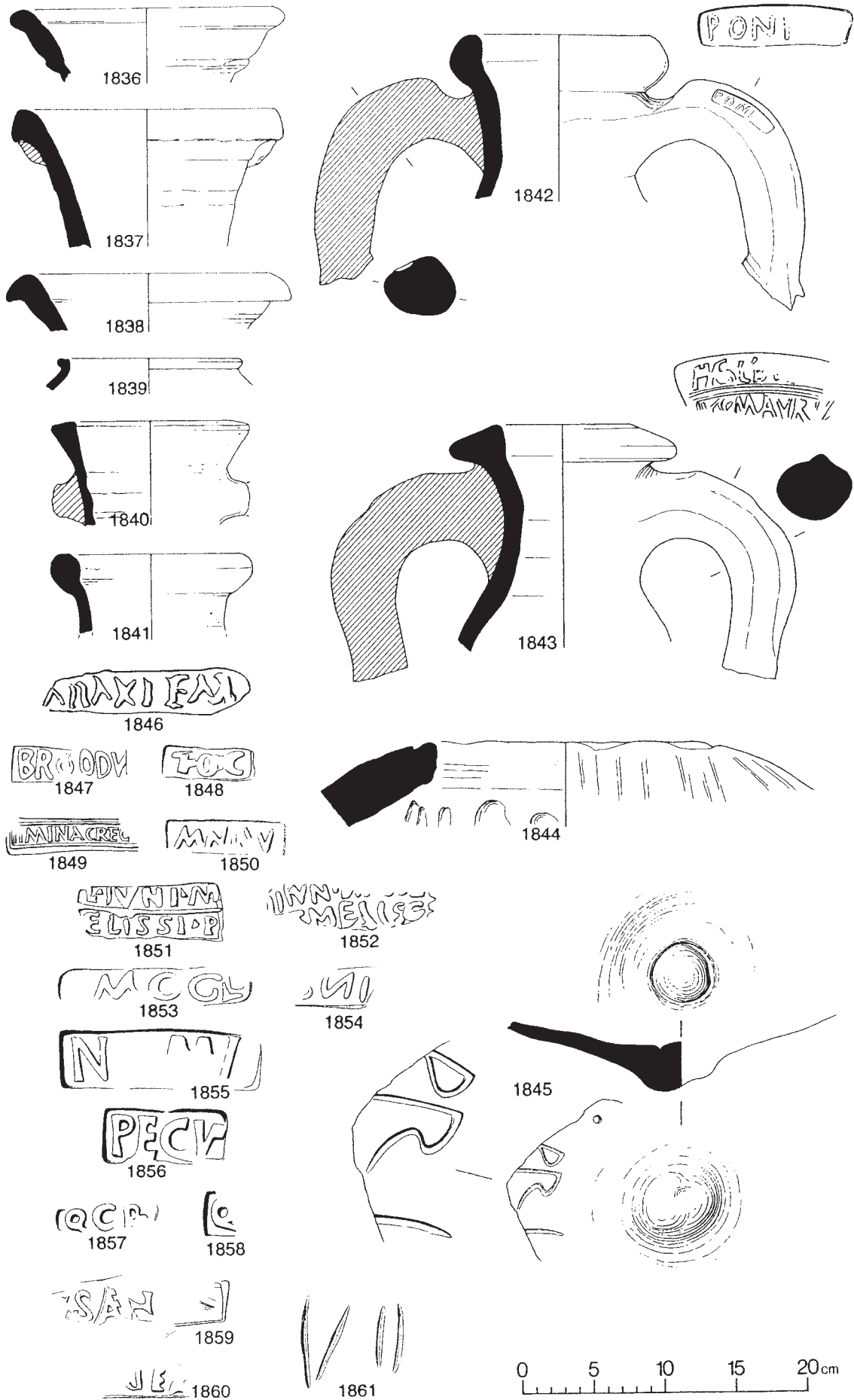


Fig. 180. Amphorae and stamps: 1836–61. Scale 1:4; graffiti 1845 and 1861 and stamps scale 1:2.

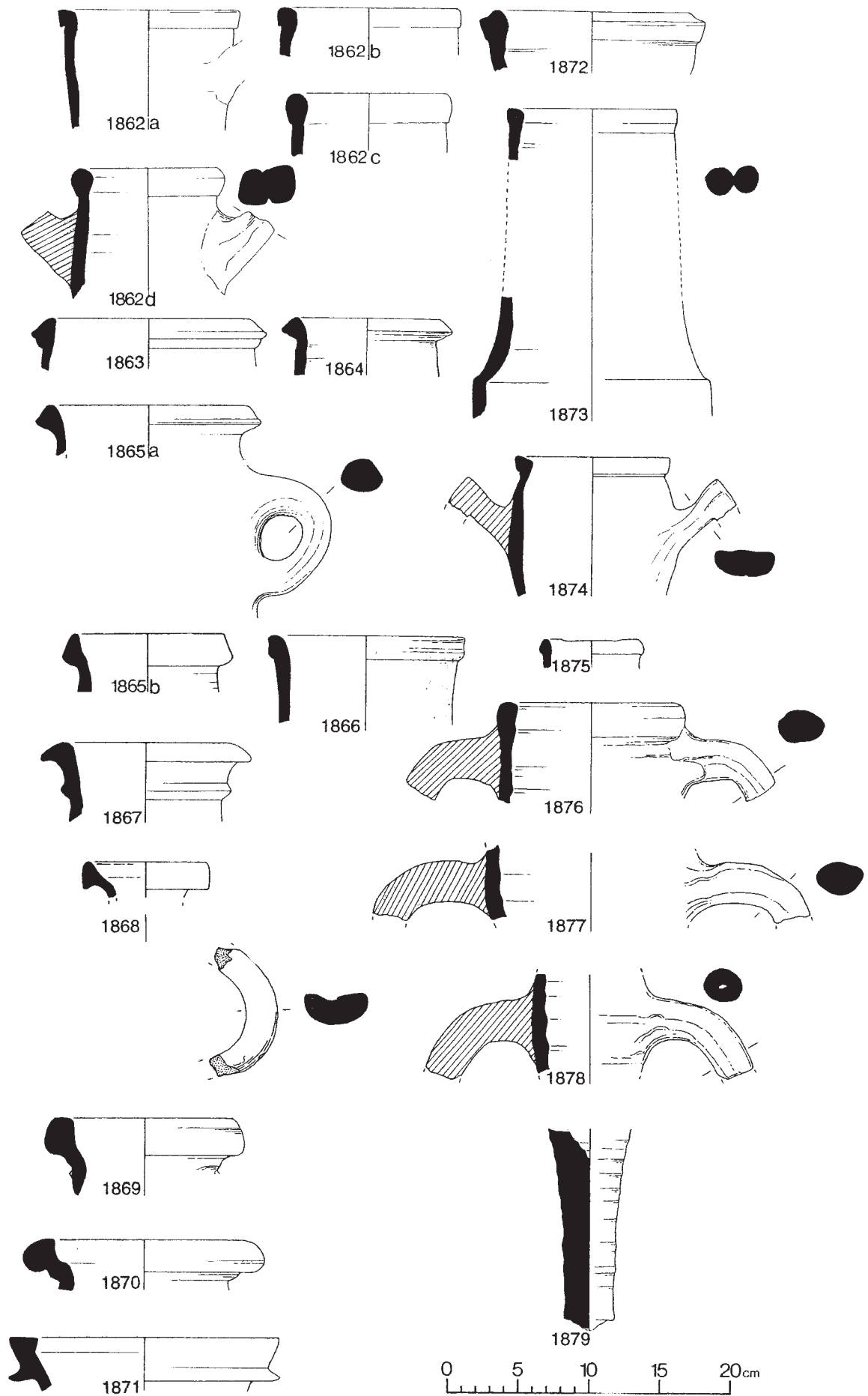


Fig. 181. Amphorae 1862a-79. Scale 1:4.

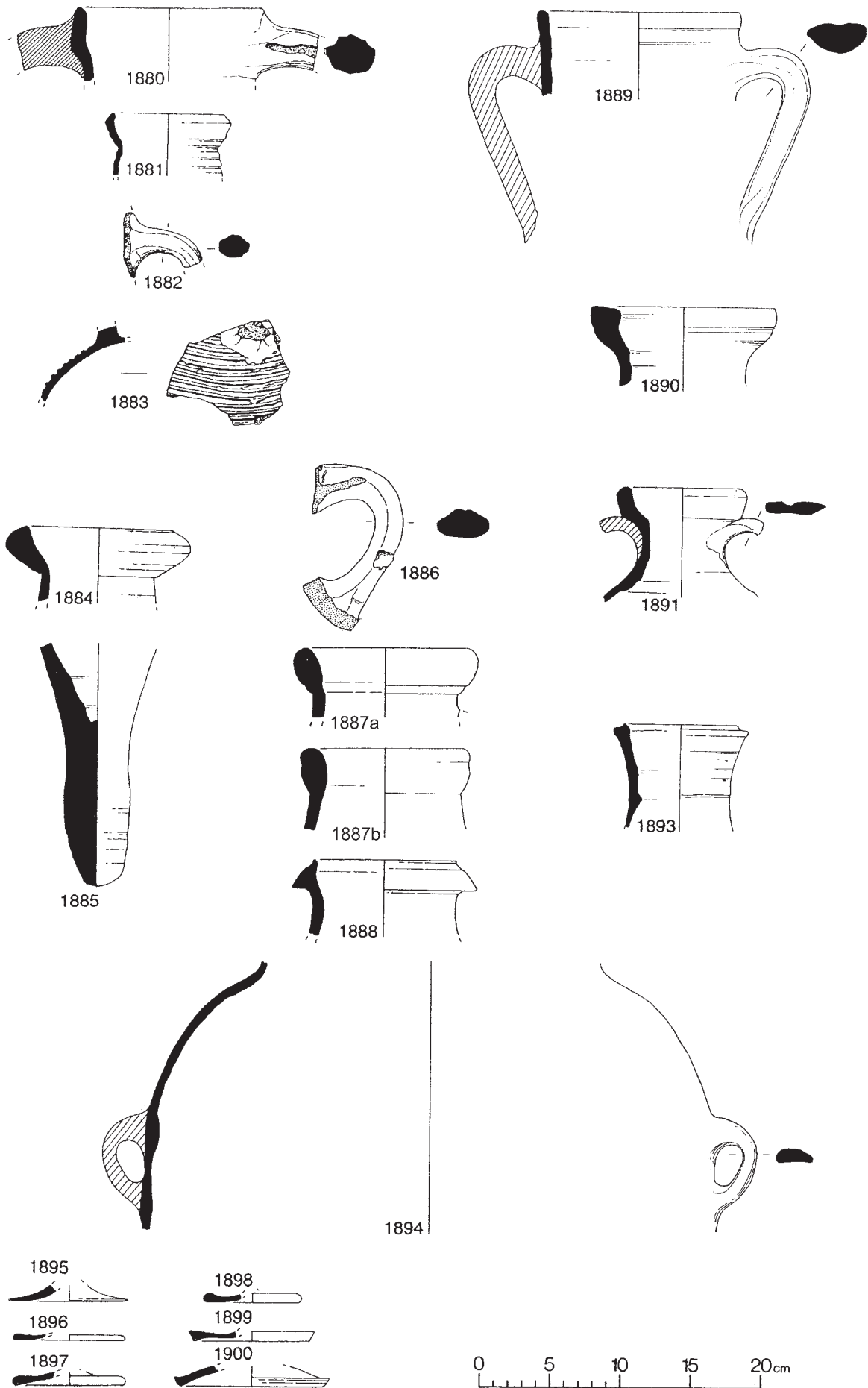


Fig. 182. Amphorae 1880-94 and seals 1895-1900. Scale 1:4.

A thin-walled body sherd bearing part of a depinto inscription in dark brown-black paint: [...] / OLIV[...] / PIC[...] / SAL[...], possibly an amphora for salted olives (oliv[ae...] pic[...] sal[itae...]), is illustrated and discussed in detail by Darling (1999, 115, no. 606).

Amphora seals (SEAL)

This small but relatively discrete group comprises just 18 sherds from only a few sites, mainly Cottesford Place and East Bight (EB66, EB82–3) in the Upper City, and The Park in the Lower City. More than half were found in early to mid Roman assemblages; the remainder were in late Roman groups, where they were almost certainly residual.

Fabric and Technology

LRF62–4, 104, 116, 130–1, 144–5

Virtually all of the amphora seals are in a range of pale to dark buff fabrics, occasionally with a greenish tinge, which largely resemble those of the Gauloise amphorae (see above GAU3–28). Two with

distinctively different fabrics were selected for thin-section analysis in order to ascertain the probable source.

LRF104 (L1689): sparse altered orthoclase feldspar (R >0.4mm), abundant quartz (R >0.4mm), abundant muscovite (>0.1mm), sparse biotite (>0.3mm) and sparse flint/chert (SA >0.4mm), in an anisotropic matrix. The inclusions are very similar to those noted in the C186 amphorae (see above), suggesting a source in southern Spain, possibly Cadiz.

LRF130 (L1690): sparse quartz (A >0.1mm), sparse schist (R >0.5mm), abundant fragments of light brown mineral (A >0.5mm), sparse non-ferroan calcite (>0.3mm) and moderate microfossils with ferroan calcite-filled tests (>0.2mm), in an anisotropic matrix. It appears to contain the brown mineral noted in some RHOD amphorae (see LRF44, p. 228).

Forms (Fig. 182, 1895–1900)

Most of the seals are concave in profile; a single example (1900) is convex. Lips are mainly rounded (as 1896–7), but two (1899–90) are angular and 1895 has no discernible lip.

9 The Samian

Brenda Dickinson and Joanna Bird, with Margaret Darling

Introduction

Margaret Darling

Specialist work started in the 1980s with reports on the samian from Silver Street and Saltergate (Dickinson *et al.* 1983a, 1983b) and Holmes Grainwarehouse (Bird 1985; Dickinson 1985a); those on The Park and West Parade were subsequently updated for publication (Bird 1999a, 1999b; Dickinson 1999). The published reports on the samian from the excavations of Dr J. B. Whitwell at East Bight in 1966 and Temperance Place in 1969 (Darling 1984, 50–1) were based on identifications and information kindly supplied by Brian Hartley and Brenda Dickinson. All other material, including that from the Lincoln Archaeological Research Committee excavations at East Bight and Dennis Petch's investigations of the public baths at Cottesford Place, was identified and dated by Brenda Dickinson and Joanna Bird. The basic archive data was transferred to a specialist database with extended fields (see p. 7), and the resulting digital archive is therefore a valuable resource, having been compiled in a relatively short space of time by two specialists.

This chapter deals with the samian in four sections, the first of which is the specialists' discussion of the city assemblage as a whole. The second is a report on the stamps (compiled from the earlier reports noted above) which, together with a note on the known stamps from Lincoln in other collections (see Appendix VIII), gives as complete a listing for Lincoln as feasible at the time of preparation (stamps from the unarchived Waterside sites are excluded). This is followed by a report on the notable decorated sherds, while the final section is an examination of the dating and spatial distribution of the samian, the differing assemblages by area of the city, the character of the samian in terms of vessel forms and dating, and the vexed question of the high residual content encountered on urban excavations.

A new font prepared by Dr. Paul Tyers for use with the Leeds samian stamp index (B. R. Hartley and Dickinson 2008) has been used with his permission for readings of the stamps where the nature of the characters is known. Where the precise forms of ligatured characters are not known, these are indicated by the usual underlining. Stamps of the potters A... to CER... have been updated using the published volumes (*ibid.*), but owing to limitations on resources the remainder (some originally identified more than 20 years ago) could not be checked for more recent changes to potters and die numbers, and whilst every effort has been made to ensure accuracy, these should be treated with caution.

9.1 Lincoln Samian

Brenda Dickinson with Joanna Bird

This discussion deals with the samian as a whole, and the histogram (Fig. 183) below shows the fluctuations in samian loss from the 1st to the 3rd century.

For a detailed breakdown of the material by site, see Appendix VI. The statistics in the tables below are based on information supplied by M. J. Darling, to whom grateful thanks are due. The series of excavations discussed here, which are the most extensive undertaken in the city, produced 9,848 sherds of samian (excluding that from the earlier Park and West Parade excavations – see Darling 1999 – but including samian from St Mark's Station East), divided as shown in Figures 184 and 185.

The samian was in a good state of preservation, but much of it consisted of small, redeposited sherds and there were few instances of cross-joins between contexts.

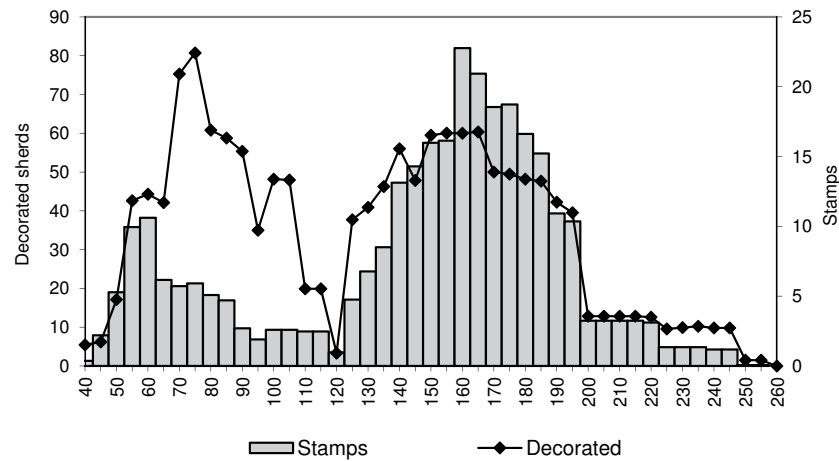


Fig. 183. *Samian: plotdate of stamps and decorated sherds.*

Source	Sherds	%
South Gaulish	2440	24.78
Central Gaulish (Les Martres-de-Veyre)	446	4.53
Central Gaulish (Lezoux etc.)	5657	57.44
East Gaulish	1305	13.25

Fig. 184. *Samian sherds: sources.*

South Gaul

Because so much of the South Gaulish decorated ware was badly fragmented, the potters' stamps were left to provide the bulk of the dating for the 1st century, along with a few diagnostic plain forms. Direct comparisons with other pre-Flavian fortresses in Britain was not possible, mainly due to a lack of complete archival details for each, but a histogram of average annual loss of stamped South Gaulish samian from Colchester, Exeter, Usk and Wroxeter (Fig. 186, reproduced by kind permission of G. B. Dannell) shows where the samian peaks in their military periods. It should be noted, however, that most of these sites would have had forts pre-dating their fortresses, while at Colchester there is extreme difficulty in distinguishing the military material.

The samian evidence suggests that the fortress at Lincoln was founded in the early 60s. The excavations produced only two Claudian pieces, and the commoner pre-Flavian plain forms, such as Dr. 24 and Ritt. 8, 9 and 12 account for a maximum 3.6% of the South Gaulish ware. Since forms Ritt. 9, and to a lesser extent, Ritt. 8, are unlikely to have been in production in the later 60s, because of their virtual absence from Flavian foundations, a date before AD 65 is favoured for the start of the fortress. In all three areas of the city the highest proportion of discarded 1st century samian falls *c.* AD 70, though there are variations on individual sites.

In Figure 187, the South Gaulish decorated ware is attributed mainly on style and the stamped form 29s were all stamped after moulding. Only the bowl of Pontus/Pontius carries a mould-signature.

Central Gaul

Les Martres-de-Veyre

The decline of the South Gaulish industry in the first decade of the 2nd century is reflected in the drop in the quantities of discarded samian across Lincoln in the early 2nd century. The supply at that time was supplemented to some extent by early Central Gaulish wares from Les Martres-de-Veyre, but, even so, the proportion of Trajanic samian from all the three areas is low, especially on the Wigford sites. The distribution of samian from Les Martres was uneven; in Britain, at least, certain areas received more than others, probably to the detriment of the more northerly regions, though even in the south variations occur. Lincoln, therefore, is not unusual in having comparatively little Trajanic Les Martres ware. Like many other British sites, it has produced a small quantity of Hadrianic-Antonine material from this factory. The list of decorated bowls assigned to particular potters is given in Figure 188.

Lezoux

The bulk of the Central Gaulish ware comes from

Form	South Gaul	Les Martres- de-Veyre	Central Gaul	East Gaul	Total
15/17	83	1	0	0	84
15/17-18	114	0	1	0	115
15/17R	17	0	0	0	17
15/17R-18R	26	0	0	0	26
15/31	0	0	5	0	5
16	2	0	0	0	2
18	391	1	2	1	395
18/31	20	112	198	7	337
18/31-31	0	1	285	9	295
18/31R	1	33	139	6	179
18/31-R	0	2	0	0	2
18/31R-31R	0	0	62	1	63
18-18/31	3	0	21	0	24
18-18R	2	0	0	0	2
18R	90	0	1	0	91
22	9	0	0	0	9
24	28	0	0	0	28
27	446	33	125	5	609
29	267	1	0	0	268
30	36	4	52	29	121
30R	0	3	1	0	4
31	1	6	696	187	890
31R	0	0	375	138	513
31-R	0	0	34	2	36
32	0	0	0	45	45
32 LUD Th(79)	0	0	0	11	11
33	8	36	962	129	1135
33A	13	1	8	1	23
35	21	2	13	1	37
35-36	7	5	12	0	24
36	48	11	128	22	209
37	309	104	614	134	1161
38	0	2	219	50	271
40	0	0	2	17	19
42	4	0	6	0	10
43	0	0	1	5	6
44	0	0	15	2	17
45	0	0	83	137	220
46	3	4	18	4	29
64	0	0	1	0	1
67	20	0	0	0	20
72	0	1	46	6	53
78	4	0	0	0	4
79	0	0	103	0	103
79R	0	0	25	0	25
80	0	0	17	1	18
81	0	4	14	1	19
CU11	41	16	21	0	78
CU11-RT12	21	0	0	0	21
CU15	1	1	13	4	19
CU15-23	0	1	21	0	22
CU21	0	0	28	2	30
CU23	0	0	15	1	16
LUD SMB-c	0	0	0	7	7
LUD Tg	0	0	5	2	7
LUD T \bar{y}	0	0	0	2	2
RT1	5	0	0	0	5
RT12	14	0	0	0	14
RT13	6	0	1	0	7
RT8	8	0	0	0	8
RT9	7	0	0	0	7
	2076	385	4388	969	7818
<i>Untyped</i>					
Bowl	18	2	210	26	256
Bowl/cup	0	1	5	0	6
Bowl/dish	48	9	233	50	340
Bowl decorated	57	13	120	29	219
Cup	71	3	35	9	118
Cup/dish	1	0	5	1	7
Closed	9	1	50	34	94
Dish	53	11	119	51	234
Jar	0	1	11	6	18
Mortarium	0	0	92	51	143
Flask/jar	1	0	0	0	1
Untyped body	106	20	389	79	594
Total	2440	446	5657	1305	9848

Fig. 185. *Samian vessel forms: sources.*

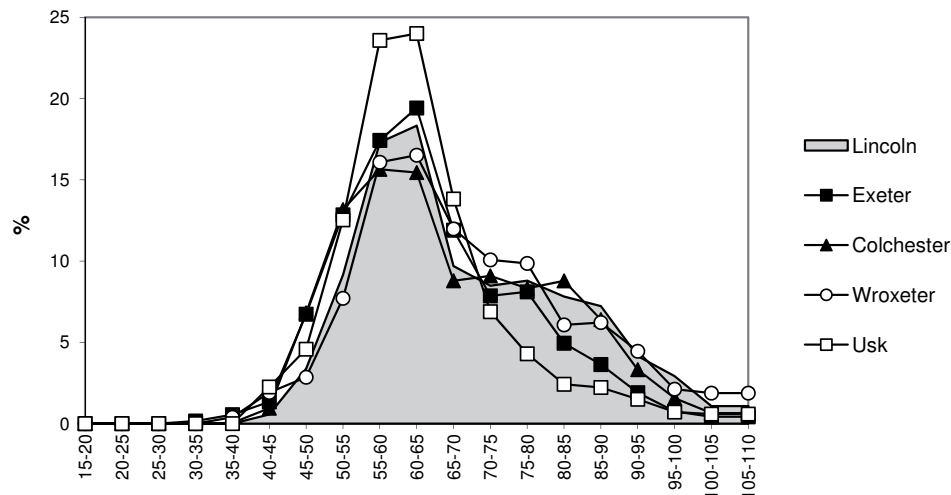


Fig. 186. South Gaulish samian stamps: comparative annual loss from Lincoln, Colchester, Exeter, Usk and Wroxeter.

Lezoux, and, again, this is entirely normal for Britain. Comparison of the distribution of the decorated wares of the Lezoux potters at Lincoln and on other sites suggests that the work of the major potters was spread throughout the province, south of Scotland, and that the only differences are of quantity rather than geographical location. The best-represented Lezoux potters at Lincoln, for instance, the Sacer ii group, Cinnamus ii, the Cerialis ii-Cinnamus ii group, Paternus v and his associates and, to a lesser degree, Casurius ii and Do(v)eccus I, all fare well on most of the major sites in Britain.

A fall in the quantities of discarded Central Gaulish ware is evident in Britain in general towards the end of the 2nd century, as the industry at Lezoux declined. In Lincoln as a whole the decorated ware peaks *c.* AD 155–160, while the quantity of plain ware does not appear to fall substantially for another

thirty years. However, this could be due to the wider date-ranges required for plain samian. The Lezoux potters represented are listed below (Fig. 189). The lower case Roman numerals appended to potters' names are those in the forthcoming Leeds Index of Potters' Stamps. The Roman numerals in brackets are those found in G. B. Rogers's corpus of Central Gaulish motifs (Rogers 1974).

East Gaul

The East Gaulish ware, a respectable 13% of the assemblage, contrasts sharply with 1% at Wroxeter (Dr G. Webster's excavations), 2.3% at Carlisle (the Archaeological Unit's excavations) and 3% at Ribchester (Lancaster University Archaeological Unit's excavations). In the larger assemblages from the eastern half of Britain the proportion of East

Potter	Unstamped	Stamped/ Signed	Total
Calvus I	3	-	3
Crucuro i or M. Crestio	1	-	1
Crucuro i?	2	-	2
Frontinus etc.	4	-	4
G. Salaris Aptus	-	1 (f. 29)	1
Germanus I	11	-	11
L.Cosius?	1	-	1
M.Crestio?	1	-	1
Mercator I	6	1	7
Murranus?	1	-	1
Pass(i)enus?	1	-	1
Peregrinus	-	1 (f. 29)	1
Pontus/Pontius	-	1	1
Vitalis ii	-	1 (f. 29)	1
Total	31	5	36

Fig. 187. South Gaulish decorated ware: potters.

Potter (style of)	Total
<i>Trajanic</i>	
Drusus i (X-3)	9
Igocatus (X-4)	2
Medetus/Ranto	4
Rosette Potter	4
X-2	1
X-9	1
X-13	2
X-14	1
X-13 or 14	3
<i>Hadrianic-Antonine</i>	
Cettus (Small S Potter)	7
Total	34

Fig. 188. Les Martres-de-Veyre decorated ware: potters.

Potter	Unstamped	Stamped	Total
Acaunissa	1	-	1
Advocisus	9	-	9
Advocisus etc.	4	-	4
Albucius ii	5	-	5
Albucius ii?	1	-	1
Arcanus	2	-	2
Arcanus or Geminus iii	1	-	1
Attianus ii	1	-	1
Attianus ii?	1	-	1
Austrus	2	-	2
Austrus?	1	-	1
Banuus?	2	-	2
Butrio	3	-	3
Butrio?	1	-	1
Butrio or Libertus ii (I)	3	-	3
Cassius i-Tittius	1	-	1
Casurius ii	9	-	9
Casurius ii?	2	-	2
Casurius ii or Do(v)eccus I	1	-	1
Censorinus ii	1	-	1
Cerialis ii-Cinnamus ii group	24	-	24
Cinnamus ii	30	1	31
Cinnamus ii etc	14	-	14
Criciro v	9	-	9
Divixtus i	5	1	6
Divixtus i?	2	-	2
Docilis i	1	-	1
Do(v)eccus i	14	-	14
Do(v)eccus?	4	-	4
Geminus iii	2	-	2
Geminus iii?	1	-	1
Ianuaris ii or Paternus iii (I)	1	-	1
Iullinus ii	8	-	8
Iullinus ii or Caletus	1	-	1
Iustus ii	1	-	1
Iustus ii?	1	-	1
Libertus ii (I)	1	-	1
Mammius ii?	1	-	1
Mercator iv (II)	0	1	1
Mercator iv? (II?)	3	-	3
Paternus iv	2	-	2
Paternus v (II)	9	4	13
Paternus v (II) group	21	-	21
Pugnus ii	5	-	5
Pugnus ii?	2	-	2
Quintilianus i group	6	-	6
Quintilianus i or Laxtucissa	3	-	3
Rentus	1	-	1
Sacer ii	5	-	5
Sacer ii-Attianus ii group	6	-	6
Secundus v	9	-	9
Secundus v?	1	-	1
Servus iv?	1	-	1
Sissus ii	2	-	2
Sissus ii?	1	-	1
Large S Potter	2	-	2
P-10	1	-	1
P-10?	1	-	1
X-5	1	-	1
X-6 etc.	6	-	6
X-7?	1	-	1
Total	260	7	267

Fig. 189. *Lezoux decorated ware: potters.*

Pottery	Vessels	Percentage of EG
Argonne	11 + 14?	max. 2.3
Blickweiler	1	0.14
Chémery-Faulquemont	4 + 2?	max. 0.55
Heiligenberg	1	0.09
La Madeleine	25 + 4?	max. 2.68
Rheinzabern	503	min. 46.53
Rheinzabern?	25?	2.31
Rheinzabern or Trier	1	0.09
Sinzig	1	0.09
Trier	95 + 22?	max. 10.83
Unassigned	372	34.42
Total	1081	100

Fig. 190. East Gaulish ware: sources.

Gaulish ware is usually higher than elsewhere in the province. This highlights the general scarcity of East Gaulish ware in the west of Britain, though this does not apply to all sites. At Lincoln the proportions for the Lower City and Wigford are similar, at about 17% each, but the 6.5% from the Upper City suggests a greater decline in the use of samian in that area in the 3rd century. The East Gaulish ware is divided as shown in Figure 190.

On the general record of samian in eastern Britain it is almost certain that the bulk of the unattributed samian will be Rheinzabern ware. The small contributions from some of the potteries which did not have large-scale trade with Britain may, or may not, be significant, but the scarcity at Lincoln of La Madeleine ware, which is not uncommon in the province, should be noted. Next to Rheinzabern, though usually a good way behind, this factory was the largest supplier of East Gaulish ware to Britain. Joanna Bird, who identified most of the East Gaulish decorated ware (see Fig. 191) and some of the unstamped plain ware, comments that, as far as the excavations in question are concerned:

'At no point were later East Gaulish wares circulating in Lincoln on a scale comparable to that observed at Colchester or London. The earliest piece of Trier ware is a sherd of Werkstatt II, Stufe D, of Hadrianic to early Antonine date, followed by between three and five pieces of Werkstatt II, of mid Antonine date. There is a small amount of Trier ware dating from the later 2nd century down to the middle of the 3rd century, including two bowls by the Dexter-Censor group and one (stamped) by Comitialis. An equally small amount dates up to the middle of the 3rd century, and includes a bowl of Dubitatus and two of the Primanus group. There are a few sherds, including one which is probably by a later potter using motifs of the Censor group, which are in the pale,

relatively poorly-finished wares characteristic of such late groups at St Magnus House, London (Bird 1986, 143) and the Trier Massenfund (Huld-Zetsche 1971).

The Rheinzabern wares start in the mid to late Antonine period, with four bowls of Reginus I and a stamped bowl of Cerialis I. The bulk of the pottery dates broadly from the end of the 2nd century into the first half of the 3rd, with few pieces closely datable; it includes a bowl in the style of Comitialis V, two of Lucanus I, four of Ianu[II, two of Helenius, two or three of Primiti(v)us I and one of the Iulius I-Lupus group. One bowl appears to be by the Iulius II-Iulianus I firm, which was probably active in the second quarter of the 3rd century; comparison with London and Colchester would suggest that more of their bowls might be found if mid 3rd century samian was present in Lincoln in significant quantities. Of the earlier East Gaulish pieces, the only one seen by the present writer was a sherd of a Satto-Saturninus bowl.'

Since the products of La Graufesenque and Lezoux are too widely dispersed throughout the province to provide useful evidence of trade routes from the continent, it is left to East Gaul and any occurrences of wares which are not commonly found in Britain to provide clues. In the absence of the latter at Lincoln, the East Gaulish evidence may be useful, for the 3rd century, at least. However, dispersal from the east coast makes sense for all periods of occupation at Lincoln. For the East Gaulish ware there is enough evidence to suggest that it was likely to have been landed in the vicinity of Lincoln, rather than being transported by road from a southern port such as London and the same may be true of the samian as a whole.

As far as sources of supply go, this is a fairly conventional collection of samian for a British site occupied continuously from the 1st century to the

Potter	Unstamped	Stamped	Total
<i>Chemery-Faulquemont</i>			
Satto ii-Saturninus ii	1	-	1
Satto ii-Saturninus ii?	1	-	1
<i>Rheinzabern</i>			
Cerialis v	-	1	1
Comitalis (V)	1	-	1
Florentinus	12	-	12
Helenius	1	-	1
Helenius?	1	-	1
Ianus ii (Janu(arius) II)	4	-	4
Iulianus iii	1	-	1
Iulius (I)-Lupus group	1	-	1
Iulius (I)-Lupus?	1	-	1
Iulius viii (II)	2	-	2
Iulius viii (II)-Iulianus iii (I)?	1	-	1
Lucanus v (I)	2	-	2
Pervincus?	1	-	1
Primiti(v)us (I)	1	-	1
Primiti(v)us (I)?	1	-	1
Primiti(v)us	2	-	2
Reginus vi (I)	4	-	4
<i>Trier</i>			
Afer iii	1	-	1
Afer iii/Dubitatus ii/Paternianus ii	1	-	1
Afer iii/Marinus iv	1	-	1
Attilus vii/Pussosus/Amator ii	1	-	1
Comitalis	1	-	1
Dexter ii-Censor ii group	2	-	2
Dubitatus ii	2	-	2
Primanus iv group	2	-	2
Werkstatt I Stufe D	1	-	1
Werkstatt II	2	-	2
Total	52	1	53

Fig. 191. *East Gaulish decorated ware: potters.*

middle of the 3rd century. All the South Gaulish ware, with one possible exception, comes from La Graufesenque. One sherd of form 37, from Steep Hill (see 9.3, no. 18) might be from a factory at Espalion (Lot), but kilns, though there is circumstantial evidence for them, have still to be found there (M. J.-L. Tilhard, *pers. comm.*). Second century Montans ware, which is not unknown in East Anglia and is relatively common in Antonine Scotland, and Banassac ware, which occasionally turns up in Britain, are both absent.

All the Central Gaulish ware is from either Les Martres-de-Veyre or Lezoux and forms the bulk of the collection. The range of Lezoux decorated ware is not unduly wide and is confined mainly to the work of potters whose wares are widespread throughout Britain.

The East Gaulish ware comes from most of the factories represented in Britain as a whole, but more than half of it is accounted for by Rheinzabern and Trier, with smaller amounts from La Madeleine and

the Argonne. Sinzig makes only a token contribution.

For a site of the importance of Lincoln during the Roman period, this collection of samian is in itself something of a disappointment, though much useful dating can be extracted from it. The extreme fragmentation of much of the material prevented attribution of a higher than normal proportion of the decorated ware and the only unusual piece is a decorated sherd (see 9.3, no. 79), which is either from an unidentified pottery or is an imitation of samian. Likewise, there are no unusually large quantities of particular vessels, or occurrences of rare samian forms. Nevertheless, this collection is important in the contexts of regional studies of samian in Britain and of the Lincoln finds as a whole. The detailed approach to the material from individual areas of the city is something which might profitably be undertaken for other major sites in the province.

Brenda Dickinson
April 1996

9.2 Lincoln Samian: Stamps and Graffiti

Brenda Dickinson

Stamps

Each entry gives: potter (i, ii, etc., where homonyms involved), die number, form, reading, published examples (if any), discussion and date, followed by site and context code. Stamps by potters' names A to CEROTCUS have been expanded by reference to B. R. Hartley and Dickinson 2008. Other readings rely on original specialist reports dating from 1983 onwards.

Superscript letters a, b and c denote:

- a A stamp attested at the pottery in question.
- b Not attested at the pottery in question, but other stamps of the potter known from there.
- c Assigned to the pottery on the evidence of fabric, distribution, etc.

Ligatured letters are underlined>.

- 1 Acaperrus 1a 33 ACAPERRI Lezoux.^c All the recorded examples of this stamp are on form 33. The fabrics suggest origin at Lezoux in the Hadrianic or, more probably, the Antonine period. EB66 U/S.
- 2 Acurio 4a 33a [ACV]RIO·FE (Steiner 1911, taf. XIX, 3) Lezoux.^b This stamp was also used on forms 18/31, 18/31R, 27 and 38, a range suggesting early Antonine activity. c. AD 140–155. LIN73C 99.
- 3 Advocisus 1a 38 ADVOCISI· σ Lezoux.^a Waster stamped with this die found at Lezoux. Output includes forms 79, 31R, 80, and 33. Site evidence: Hadrian's Wall (Chesters Museum), Binchester and Newstead. Also makes decorated ware of mid to late Antonine date. c. AD 160–190. P70 PO.
- 4 Advocisus 1b 33 ADVOCISI σ Lezoux.^b The occurrence of this stamp on form 18/31R suggests that the die was in use before c. AD 160, though it was also used on the later forms, 79 and 80. The site record includes Alcester, where the stamp is in a pit filled in the 150s (B. R. Hartley *et al.* 1994, 109, S115). c. AD 155–185. EB80 49.
- 5 Advocisus 2a 33 ADVOCISI·O Lezoux.^a One of Advocisus's commonest stamps, used on mid to late Antonine forms, such as 31R, 79, 80 and Ludowici Tx. c. AD 160–190. HG72 BR.
- 6 Aelianus i 1a 31 $\#$ A[ELIANIM] Les Martres-de-Veyre. He probably belonged to the later group there, in view of the forms of his dishes (*cf.* the high kick here). Hadrianic-Antonine. LIN73C 82.
- 7 Aestivus 2a 33 AIIS[TIVI:M] Lezoux.^a A stamp used on forms 31R and Ludowici Tg, both made after c. AD 160. It occurs at Carrawburgh and Chesterholm (2) and there are nine examples in the group of late Antonine samian from Pudding Pan Rock. c. AD 160–190. CP56 A9.3.
- 8 Aestivus 3c 38 or 44 AESTIMM (Walke 1965, no. 53) Lezoux.^a A stamp from one of Aestivus's later dies, to judge by its use on forms 31R and 79, but not on form 27. It has been noted from Haltonchesters and Wallsend. c. AD 160–185. SM76 +.
- 9 Aeternus 2a 33 AETERNIM retrograde (de Schaetzen and Vanderhoeven 1964, I, 37) Lezoux.^b A stamp noted in the Wroxeter Gutter hoard and in the group from Aquincum thought to have been destroyed in the Marcomannic Wars. The die for it was used on forms 31, 33 and 80 and another was used on form 79 and, rarely, on form 27. c. AD 155–185. LC84 16.
- 10 Aisius 2a 33 [A]ISIM Lezoux.^c Stamps of this minor Central Gaulish potter appear on forms 31, 31R, 27 and 81. c. AD 135–165. CP56 A10/US.
- 11 Albinus iv 6c 31 Δ LBIIIW Lezoux.^b Appears at Corbridge and Halton Chesters. Stamps from other dies at Castlecary, Castledykes and Chesterholm and on forms 18/31, 18/31R and 27. c. AD 130–160. P70 EK.
- 12 Albinus iv 8c 33 Δ LBIVVS Lezoux.^a Stamps from this die occur in the Rhineland, which seems to have received little, if any, Central Gaulish samian after c. AD 150. Its use on forms 18/31 and 27 also suggests currency before this date. c. AD 130–150. SW82 195.
- 13 Albucianus 6a 33 ALBVCINI Lezoux.^a A stamp noted in the group of late Antonine samian recovered off Pudding Pan Rock, Kent. Other stamps of this potter occur at forts in the north of Britain recommissioned c. AD 160. c. AD 160–200. SM76 CEP.
- 14 Albucianus 6d 31 [Δ L]BVCIANI Lezoux.^b Appears at Ospringe cemetery and Traprain Law. Makes forms 33 and 31 but also uses another die on forms 79 and 80. Other stamps appear at Pudding Pan Rock, Catterick, Bainbridge, Stanwix. Also on a form 27 in the Musée des Antiquités Nationales, Saint-Germain-en-Laye. c. AD 160–200. P70 JO.
- 15 Albucius ii 6b 33 ALBVCI (S. N. Miller 1922, pl. XXXVII, i) Lezoux.^a A stamp known from Balmuldy and Hadrian's Wall (Chesters Museum). It occurs on forms 42 and Ludowici Tg. c. AD 150–180. CP56 A8.5.
- 16 Albucius ii 6c 33 ALBVC[I] Lezoux.^a Albucius ii's range of forms includes some which went out of use c. AD 160 and others which were not made before then, with a bias toward the later forms. This particular stamp favours the earlier forms in his repertoire, such as 18/31 and 27, but one example of form 79/80 has been noted. c. AD 150–165. Z86 640.
- 17 Albucius ii 6d 33 ALB[VCI] (*ORL* B73, Taf. VIIIA, 3) Lezoux.^a There is no site dating for this stamp, but its use on forms 31R, 80 and Ludowici Tx, and its absence from form 27, which Albucius is known to have made, suggest a range c. AD 160–180. SPM83 291.
- 18 Albus iii 1a 18/31R or 31R [AKBI]MAI Lezoux.^a This stamp has been found in a mid Antonine layer at Lezoux and on dishes of form 31 from Carrawburgh and Bewcastle which are typologically later than c. AD 160. It was also used on form 31R. c. AD 155–185. M82 69.
- 19 Albus iii 3a 18/31 Δ LBIM (Ulbert 1959, Taf. 40, 1). Vessels with this particular stamp all seem to be in Lezoux fabric, but a stamp with very similar lettering occurs on form 15/17R in the fabric of Les Martres-de-Veyre, which can scarcely be later than the Hadrianic

- period. 3b is found almost exclusively in Britain and the Rhineland and is much more common in the latter, suggesting that the die belongs to the second quarter of the 2nd century, though there is evidence that Albus was still at work after AD160 (*cf.* no. 20, below). *c.* AD 135–150. CP56 A10.5.
- 20 Albus iii 4b 31 [ALB]VS·F Lezoux.^b A later stamp than the last, noted twice on form 31R, and so almost certainly from a die still in use after AD 160. *c.* AD 150–165. CP56 A8.42.
- 21 Annius ii 6a 33 ANNI·[M] retrograde. (Durand-Lefebvre 1963, 14, 41). The potter worked at both Les Martres-de-Veyre and Lezoux, but this particular stamp is noted only from Lezoux and on wares in its fabrics. It is known from Falkirk. Annius ii's Les Martres wares occur in the London Second Fire groups and a Lezoux vessel, stamped with a different die, is in the Birdoswald Alley find (Birley 1930, 186, 6). *c.* AD 130–150. SW82 195.
- 22 Antiquus 2a 31 AN[TICVI] Lezoux.^a Appears on a form 27 from Bavay. Also appears at Birdoswald. Possibly starting earlier than no. 4 above. *c.* AD 150–180. P70 JO.
- 23 Antiquus 3a 79 AN[TICVM] Lezoux.^b Appears on form 79/80. No dated sites but other stamps appear at Birdoswald and also on form 27 from Bavay. *c.* AD 160–180. P70 GK.
- 24 Apolauster/Apolaustrus 2b 33 A'POL'AVSTI Lezoux.^c This stamp occurs in the Wroxeter forum destruction deposits. It was also added, after moulding, to the rim of a decorated bowl of form 37 from the fort at Ilkley. Two other bowls, with rims stamped with a different die, are in the styles of Cinnamus ii, or an associate, and Casurius ii. *c.* AD 155–185. WC87 43.
- 25 Apolauster or Apolaustrus 2b 33 A'POL'AVSTI Lezoux.^c See no. 24 above. *c.* AD 155–190. P70 GK.
- 26 Aprilis ii 2a 31 APRIKSE Lezoux.^a The stamp has also been noted from South Shields. Aprilis's forms include 18/31R, 27 and one possible form 80. One of his stamps is in a large pit group at Alcester dated *c.* AD 150–160, and a range *c.* AD 145–175 is likely for the Lincoln piece. LIN73A 24.
- 27 Asiaticus ii 2a 33 ASTATICI[·OF] Lezoux.^a Asiaticus's repertoire consists mainly of the later Antonine forms, including 79 and 80, but one form 27 has been recorded for him. His stamps occur at Catterick and South Shields. *c.* AD 150–180. LCL69 10.
- 28 Asiaticus ii 3a 31 ASIATICIO Lezoux.^b Asiaticus's forms are mainly from the later Antonine range and include 79, 79R and 80, but he occasionally stamped forms 18/31R and 27. He must have been at work by the 150s, therefore, and this particular stamp is likely to have been in use *c.* AD 155–170, since the record for it shows a bias toward the earlier forms. SM76 CZN.
- 29 Asiaticus ii 5a 33 ASIATICIM Lezoux.^a One of Asiaticus's less common stamps, used on the later 2nd century forms, 79 and Ludowici Tg/Tx. *c.* AD 160–190. CP56 A8 U/S.
- 30 Atilianus i 1d 79R ATILIANØ (Durand-Lefebvre 1963, 32, 103) Lezoux.^a Atilianus I was at work in the later 2nd century, with stamped vessels recorded from forts on Hadrian's Wall and in a group of late Antonine samian recovered off Pudding Pan Rock, Kent. The form of the Lincoln dish suggests a range *c.* AD 170–200. LIN73C 119.
- 31 Atilianus i 1f 31 ATILIA[NI·Ø] (Durand-Lefebvre 1963, no. 102) Lezoux.^a The record for Atilianus i is consistently late Antonine. This particular stamp occurs at Chesterholm (2) and on forms 31R, 79 and 80. Others are known from Wallsend and the Pudding Pan Rock wreck. *c.* AD 160–200. SM76 II.
- 32 Atilianus i 5a Dish? [AT]ILIA[NIM] Lezoux.^b There are several vessels with this stamp from the Pudding Pan Rock wreck. It is usually on form 79, but is also known on form 31R. *c.* AD 160–200. CP56 B/C 7.
- 33 Attilus v 1a 31R ATTILLI·M Lezoux.^c Also makes 80 and possibly 15/31. Appears at Corbridge. Stamps from other dies appear at Ebchester, Lanchester and Chesterholm. Also makes Tx of late Antonine date, and possibly Tg. Late Antonine, *c.* AD 160–190. P70 GK.
- 34 Attius ii 2a 18/31 AT[TI·MAN] (Durand-Lefebvre 1963, no. 110) Lezoux.^a Some of Attius ii's stamps are known from the Saalburg Erdkastell (before AD 139) and the Rhineland, where Central Gaulish ware is rare after *c.* AD 150. However, he also stamped forms 79 and 80, which should be after AD 160. This is one of his earlier stamps, used on forms 18/31 and 27. *c.* AD 135–155. WB80 2004.
- 35 Aucella la 33 (burnt) [AVCELL]A·F Lezoux.^c Dating evidence for Aucella is sparse, but this particular stamp has been noted on forms 31, 33 and, once, on form 80. Antonine, *c.* AD 150–180? Grooved for riveting. SM76 CRZ.
- 36 Aucella 1a 33 AVCE[LLA·F] Lezoux.^a See no. 35 above. WC87 7.
- 37 Avetedo 1a 31R AUIITIIDOFII. Most of Avetedo's dies, including 1a, are attested at Rheinzabern. He also seems to have worked briefly at Trier and Waiblingen-Beinstein. This particular stamp, used on form Ludowici TbR, will belong to the late 2nd or early 3rd century. BWE82 62.
- 38 Bassus ii 4b 15/17 or 18 [OF]BASSI (Mary 1967, taf. 30, 18, 22) La Graufesenque.^a A stamp used on the pre-Flavian cup forms 24 and Ritt. 8. It is recorded in Period 1 at Zwammerdam (before AD 69). *c.* AD 45–65. F72 CBN.
- 39 Beliniccus i 5a 27 [BELINIC]CVSF (Terrisse 1968, pl. LII, col. 2, top) Les Martres-de-Veyre.^a Beliniccus i is one of a number of Central Gaulish potters who began their careers at Les Martres and ended them at Lezoux. Some of his dies, but not 5a, were used at both factories. There is no internal dating evidence for it, but stamps from other Les Martres dies occur in the London Second Fire deposits. *c.* AD 100–120. SH74 +.
- 40 Beliniccus iii 2a 27 BEINICVS·F Les Martres-de-Veyre.^a This potter probably migrated from Les Martres to Lezoux, making forms 15/31, 27 and 80 at the latter. His stamps from both centres occur at sites on Hadrian's Wall. This particular one seems to have been used only at Les Martres and a date *c.* AD 110–130 is likely for it. LIN73C 182.

- 41 Beliniccus i lla 18/31 or 31 BEKI[NICIM] retrograde (Curlé 1911, no. 12), Lezoux.^a A potter of this name worked at Les Martres-de-Veyre in the Trajanic period, but this particular stamp is consistently on Antonine forms in Lezoux fabric, and may have belonged to a different man. It is known in Scotland and at Haltonchesters and occurs in the Wroxeter forum destruction group. *c.* AD 135–165. SM76 CVX.
- 42 Bionis (Bio)? 7a 27g BIOFE La Graufesenque.^a All the evidence points to a pre-Flavian date for this stamp. It was used on form Ritterling 9, which almost certainly did not survive beyond *c.* AD 65, and is noted in Neronian groups from Oberwinterthur, Switzerland (a pottery store destroyed in the early 60s; publication forthcoming) and Berlingen (in a burial: Roosens and Lux 1973, fig. 18, 25). *c.* AD 50–65. M82 159.
- 43 Birrantus ii Φ2 18/31 or 31 BIRRA[Lezoux.^b No other examples of this stamp have been noted. Birrantus's output includes the plain forms 18/31 and 27 and decorated bowls of Hadrianic or early Antonine date, which turn up occasionally in Scotland. *c.* AD 125–145. HG72 FI.
- 44 Biturix 1c 33a BITVRIX F Lezoux.^b Biturix's stamps, including this one, occur in the Rhineland, where the import of Lezoux ware seems to have ceased about the middle of the 2nd century. The form of the Lincoln cup, and the use of the stamp on forms 18/31 and 27 are further evidence of Hadrianic or early Antonine date. *c.* AD 125–145. BE73 VI AB.
- 45 Cadgatis 1a 31R [CADGAT]I:MA Lezoux.^a Stamp occurs at Benwell, South Shields and Newstead. Stamps from other dies at Camelton, Castlecary, Catterick and on forms 27, 18/31R, rim of stamped Albucius bowl (S & S 1958, 120, 4). *c.* AD 160–180 on the form. P70 PK.
- 46 Caletus 2a 33 CA[K·ET]IM (Dickinson 1986, 187, 3.24). Lezoux.^a Though another die of Caletus was used at the Terre Franche kilns at Vichy, the uniformly British distribution of this stamp strongly suggests that this die was confined to Lezoux. Caletus, whose decorated ware is similar to that of Doecus, was one of the latest Central Gaulish potters to export to Britain. *c.* AD 170–200. L86 265.
- 47 Calvus I 5ff 18R (complete, in pieces) OFCALVI (Ludowici 1927, 223, b) La Graufesenque.^a A Flavian stamp, known from sites such as Carlisle, Castleford and Chester, and occasionally used on bowls of form 29 (before *c.* AD 85). The latest example of it noted so far came from Camelton, Newstead and the main site at Corbridge. *c.* AD 70–95. SP72 DTG.
- 48 Capellio 2a 33 CAPIIKIO Lezoux.^a The stamp is usually on form 33, but appears occasionally on forms 31 and Ludowici Tx. Another stamp, probably belonging to him, is on form Ludowici TgR. *c.* AD 160–190. BWE82 15.
- 49 Carantus i 6a 15/17R or 18R [CAR]ANIF La Graufesenque.^a All the site evidence for this stamp suggests that it was current in the Flavian period. It has been noted from Doncaster and the fortresses at Caerleon and Nijmegen and occurs at Domitianic foundations, such as Butzbach and Chesterholm. *c.* AD 70–100. BE73 VI BA.
- 50 Caratillus i 2a 33 CARATILLI Lezoux.^b Caratillus's stamps have been recorded at Pudding Pan Rock, but also from a pottery shop of the 140s at Castleford. This particular stamp occurs at Birrens (in Antonine I), Camelton, and South Shields and on forms 18/31, 27, and 80. *c.* AD 145–165. TP69 48.
- 51 Caratillus ii 4a 33 CARATILLI: Lezoux.^b Caratillus's stamps occur in Scotland (including Antonine I at Birrens), but also in a group of late Antonine samian from Pudding Pan Rock. His range of forms includes 18/31R, 27 and 80. *c.* AD 145–175. HG72 AZ.
- 52 Carillus iii 4a 15/17 or 18 CARI[LLFE] La Graufesenque.^b This stamp is known from Caersws, the Nijmegen fortress, Rottweil and in a group of samian of the 70s from Nijmegen. It was also used fairly commonly on form 29. This dish still has kiln-grit sticking to it and clearly was not long in use. *c.* AD 70–85. LIN73 BI 75.
- 53 Carussa 2f 31 [C]ARVSSAF Lezoux.^b There is no specific evidence for the date of this stamp. Carussa's work occurs at sites in northern Britain reoccupied *c.* AD 160, and he occasionally made forms 27 and 79, so a range *c.* AD 150–180 is likely. EB66 U/S.
- 54 Cassius ii 4d 27 CASSIV[SF] Chémery-Faulquemont. For details of this potter, see no. 55. *c.* AD 130–150. LCL69 4.
- 55 Cassius ii 4e 33a CASSIVSF (B. R. Hartley 1970, 29, 18) Chémery-Faulquemont.^a This stamp is known from the Saalburg Erdkastell (before AD 139). It differs only slightly in size, and is virtually indistinguishable from, stamps from another die (4d) which occur in Antonine Scotland (Bothwellhaugh, Mumrills and Newstead). Pottery from this factory does not occur in large quantities in Britain and it is worth noting that two other stamps of Cassius ii have been found at Lincoln (nos 54 and 56). *c.* AD 130–150. EB66 295 U/S.
- 56 Cassius ii 4e 27 CASSIVSF Chémery-Faulquemont. See no. 55 above. MCH84 403.
- 57 Casurius ii 37 mould stamp [CASV]RIVS[F] retrograde. *c.* AD 160–190. LIN73F 149.
- 58 Catianus ii 4d 31R CATIANIM retrograde. Lezoux.^a This stamp is represented in the group of late Antonine samian from the Pudding Pan Rock wreck. The die was used on late 2nd century forms, such as 31R, 79, 80 and Tx. *c.* AD 160–185. SM76 CLY.
- 59 Catullus v 4b 31R CATVLL[V2F] (Ludowici 1927, 212, e) Rheinzabern.^a This occurs at Newstead, where it is among the latest samian. As for many Rheinzabern potters, there is no site dating, but his frequent use of the standard form 32, some stamped with this die, and the use of another die on form Ludowici Tb suggest a late 2nd or early 3rd century range. F72 BVU.
- 60 Catullus v 6a 32 etc. CATV[KKVS] Rheinzabern.^a Catullus stamped late forms such as 32, 36, 39, 40 etc., and one of his stamps has been recorded, tentatively, from Newstead (where the connection could be Severan). A date *c.* AD 180–220 is likely. LIN73DI 106.
- 61 Catussa 3c 31 CATIVSSA (with a faint vertical stroke between T and V, reaching to half the height of the

- letters) Lezoux.^bNo other examples of this stamp have been noted. Catussa's output includes forms 31R, 79, 80 and decorated bowls of mid to late Antonine date. His stamps are known from Chesterholm and Greta Bridge. *c.* AD 160–190. SM76 CBR.
- 62 Caupirra 2a 31 CAV·PIRI·AM Lezoux.^bThe earliest dating evidence for the potter is a stamp from another die in Period IIC (*c.* AD 140–150) at Verulamium. This particular stamp occurs in the burnt material from the Period IID fire there (after *c.* AD 150; B. R. Hartley 1972, S312). It is also known from Benwell, where it will be Antonine. Caupirra's use of form 31R shows that he was still at work after AD 160, or so. *c.* AD 155–185. SW82 385.
- 63 Caupirra 7a 33 CAVPIRRA Lezoux.^bAppears at Corbridge, and in the important late Antonine group at Astwick, containing stamps: Doeccus i, Die 13c; Macrinus iii, Die 1a; Sacrilus, Die 3a; Avcella, Die 1a (2 stamps); Maternianus i, Die 2a. Stamp from another die occurs at Verulamium, Period IIC (before AD 150). *c.* AD 140–170 for potter, but probably AD 150–170 for this die. WP71 III BS.
- 64 Celadus 1b Bowl or dish OFCELADI> (Laubenheimer 1979, no. 31) La Graufesenque.^aCeladus's stamps occur on plain ware in groups of samian of *c.* AD 50–60 and the early 60s at La Graufesenque and Oberwinterthur, Switzerland, respectively (publication forthcoming), also on decorated bowls of the period *c.* AD 45–65. CP56 A9.20B.
- 65 Censor i 3a 15/17 or 18 [O]F·C·EN (Durand-Lefebvre 1963, 204, which lacks the stop between E and N) La Graufesenque.^aThe site record for this stamp is entirely Flavian, with examples from Carmarthen, Inchtuthil (B. R. Hartley 1985, 314, S1) and York (2, one from the fortress). *c.* AD 70–90. BE73 VI CA.
- 66 Cerialis v 5a 37 CERAL·F (Ludowici 1927, 240, a) Rheinzabern.^aCerialis v was one of the Rheinzabern potters who began work at Heiligenberg, and so his entire career will have been 2nd century. *c.* AD 160–190. F72 ASO, AYF.
- 67 Cerotcus 1a 33 CEROTCIM Lezoux.^cA stamp noted on forms 31 and 33. Antonine, on forms and fabrics. CP56 A9.1.
- 68 Cinnamus ii 5b 37 CI[NNAMI] retrograde. (Walke 1965, taf. 39, 11) Lezoux.^aDecorated bowls with this stamp occur in large quantities on Hadrian's Wall and are even more common in Antonine Scotland. *c.* AD 150–180. EB80 30.
- 69 Cintusmus i 2b 31 CINTVSMIM Lezoux.^aAppears at Birdoswald, Chesterholm and Catterick. Makes forms 27, 79 and 80. This die used on 31, 31R, 33, 38. Other stamps appear at Pudding Pan Rock, Piercebridge, South Shields, Hadrian's Wall and Newstead. Also stamps on the rims of bowls by Cinnamus. *c.* AD 150–180. P70 +.
- 70 Clemens iii 1a 31 CLEMENS Lezoux.^aStamp appears on a form 37 mould in the Musée des Antiquités Nationales, Saint-Germain-en-Laye in Lezoux style; a further example in Roanne Museum from Lezoux, and both have another stamp in the decoration of Priscus iii (Die 4d), an Antonine potter. Makes forms 79 and 31R, both stamped with this die. Site evidence: Catterick, Benwell and another site on Hadrian's Wall. *c.* AD 160–190. P70 GK.
- 71 Cobnertus iii 1a 18/31R COBNERTI·M Lezoux.^aThis stamp is particularly common on form 18/31R, which will not be later than *c.* AD 165, but evidence for the potter's other stamps suggest a career going down to *c.* AD 180. This will be one of his earlier stamps, therefore. *c.* AD 150–165. ZE87 159.
- 72 Comitalis 1a 37 COMITALISFEC retrograde, in the mould, Trier. All the decorated bowls with this stamp seem to have been made at Trier, to judge by their style, but the lettering is so much like that of the Comitalis stamps at Rheinzabern that there is no reason to suppose that it belongs to another potter. Although the quality of the decoration on the Trier Comitalis bowls is in general inferior to that of his Rheinzabern products, there is no way of telling whether the Trier style is the later. *c.* AD 170–240. WF89 756. Fig 206, 136.
- 73 Cosaxto/Cosaxtis 2a 33 [S·Λ·X·T]SN Although this potter is known to have worked at the Terre-Franche kilns at Vichy, his distribution suggests that he also worked at Lezoux, and this piece is likely to have originated there. His forms include 79 and 31R. The precise form of his name is uncertain. Mid to late Antonine. LCL69 3.
- 74 Cracuna i 2a 31 [CR]ACV[N]A·F (B. R. Hartley 1972, S69) Lezoux.^aThis is a common stamp in the Rhineland, which seems to have received little, if any, Central Gaulish samian after *c.* AD 150. It also appears several times in Antonine Scotland. Its frequent use on forms 18/31 and 27 suggests that it originated in the Hadrianic period. *c.* AD 125–150. W73 BK.
- 75 Cracuna i 2a 33 CRACVNA·F. For discussion, see no. 74 above. *c.* AD 130–160. BE73 VI BM.
- 76 Cracuna i 2a 31 or 18/31 [CRA]CVNA·F Lezoux.^aSee no. 74 above. *c.* AD 130–155. P70 QG.
- 77 Crestio 5a (almost certainly) 15/17R or 18R [OF>CREST]IO (Dickinson 1984, S3) La Graufesenque.^aThis stamp occurs on bowls of form 29 from La Graufesenque and the Gloucester Kingsholm site, both from signed moulds of Modestus i. It is also known from Period I at Verulamium, but a few examples have been noted at Flavian foundations, such as Chester (2), the Nijmegen fortress (3) and York (2). *c.* AD 55–70. M82 142.
- 78 Crestio 17c 18 CRESTI La Graufesenque.^bMost of Crestio's output is pre-Flavian, though he may just still have been at work in the earlier 70s. This particular stamp occurs at Malton. *c.* AD 50–70. CP56 A8.9.
- 79 Crestus 2a 27 OFCREST La Graufesenque. He seems to have worked almost entirely in the Flavian period. *c.* AD 75–100. LIN73C 150.
- 80 Crucuro ii 3b 33 CRVCVROF (Vanderhoeven 1975, no. 249) Lezoux.^bCrucuro ii was at work in the Hadrianic and early Antonine periods, making mainly forms 18/31 and 18/31R, with a few examples of forms 27, 31, 33 and 38. There is no site dating for this particular stamp, but others are known from Camelon and, perhaps, Wallsend. *c.* AD 125–150. ZE87 851.

- 81 Cunissa ii 2b 31 CVN[ISSA] Rheinzabern (Ludowici 1927, c). Like many Rheinzabern potters, Cunissa is not well-dated, but stamps from this die at Old Penrith, South Shields and the Butzbach vicus suggest late 2nd or early 3rd century activity. CP56 A9+.
- 82 Cunissa ii 2b 31 CVNIS[SA] Rheinzabern. See no. 81 above. ZE87 801
- 83 Dagomarus 11a 18/31(R?) DAGOMARI (Roosens and Lux 1974, taf. 1). Dagomarus moved from Les Martres-de-Veyre to Lezoux with some of his dies. At Lezoux he cut other dies, including this one, to judge by the associated fabrics. The stamp, found mostly on form 18/31, occurs at South Shields and in a group of burnt samian from a pottery shop at Castleford destroyed in the 140s (Dickinson and Hartley 2000, 59, 631–2). *c.* AD 125–140. F72 CBN.
- 84 Decmus ii 3b 38 or 44 [DEC]MI·MA Lezoux.^a There are nine or more examples of this stamp in a group of late Antonine samian recovered off Pudding Pan Rock, Kent. The potter's output includes forms produced at Lezoux in the later 2nd century, such as 31R, 79R and 80. *c.* AD 160–200. F72 AVI.
- 85 Dester 1a 18/31R [DEST]ER·F Lezoux.^a All Dester's stamps seem to have come from the same die, which was used on forms 31R and, probably, 79. He was certainly at work after AD 160, therefore, and a stamp from South Shields will belong to this period, but the Lincoln dish, in view of its form, is likely to be earlier. *c.* AD 150–160/165. WC87 35.
- 86 Dester 1a 31 DESTE]R·F Lezoux.^a See no. 85 above. *c.* AD 155–190. P70 GK.
- 87 Divicatus 3a 33 DIVICATVS Lezoux.^a There are twenty examples of this stamp from a pottery shop at Castleford destroyed in the 140s (Dickinson and Hartley 2000, 59, 633–52). The die continued in use until AD 160, at least, on the evidence of stamps on forms such as 31R, 80 and Tg. *c.* AD 140–170. WB80 3017.
- 88 Divicatus 3c 33 DIVICATVS Lezoux.^b Known from Newstead and Catterick North. Noted on forms 27, 18/31, 79 or Tg, 81. Other stamps from Malton, Bar Hill and a group of *c.* AD 140–150 at Castleford. Other stamps found on forms 18/31, 31, 27, 44, 42, 18/31R, 79 and Ludowici Tg. *c.* AD 140–170. P70 PL.
- 89 Divixtus i 9d 37 DI[VIX·F], in the decoration (S. N. Miller 1922, pl. XXXVII, 12) Lezoux.^a Bowls with this stamp are commoner in Scotland than on Hadrian's Wall (Camelon (3), Balmuildy, South Shields). His plain ware includes forms 27 and 80 and three stamped vessels in the Wroxeter Gutter deposit. *c.* AD 150–180. SM76 DBA.
- 90 Doccalus 5c 33 DOCCALI (Dannell 1971, no. 36) Lezoux.^b Eleven vessels with this stamp come from a pottery shop at Castleford destroyed by fire in the 140s (Dickinson and Hartley 2000, 59, 680–90). It also occurs in the Rhineland, which received little, if any, Central Gaulish samian after *c.* AD 150. *c.* AD 130–155. ZE87 171.
- 91 Donatus ii Incomplete 2 33 DONAT[Lezoux.^c Stamp also occurs on form 80 and so in use *c.* AD 160 or later. His output includes a high proportion of forms 18/31 and 27, and many of his vessels reached the Rhineland, suggesting activity before *c.* AD 150. *c.* AD 135–165. P70 JO.
- 92 Drippinus 1a 38 or 44 [D·R:I·P]·P·I:N·I·Lezoux.^c Drippinus's output seems to have been entirely Antonine, but is not closely datable within the period. His use of a different die on form 31R shows that he was still at work after AD 160. *c.* AD 150–190. SM76 CEI.
- 93 Duppius 1b 31 DV[QPIVSF] Lezoux.^b This stamp occurs in Period IID at Verulamium (after AD 150) and in a large pit group of the 150s at Alcester. It appears in roughly the same proportions on forms 27 and 79 or 80. Another similar stamp has been recorded from Mumrills. *c.* AD 150–170. EB66 6/4.
- 94 Felix i 2c 15/17 or 18 OFFEICIS (Walters 1908, 159, M645) La Graufesenque.^a Felix i's output is almost wholly pre-Flavian, but his stamps occasionally turn up at Flavian foundations, and so he probably continued to work until the later 60s. This particular stamp occurs at the Ulpia Noviomagus site at Nijmegen. *c.* AD 55–70. WB76 AO.
- 95 Felix ii 2c 27 [FEL]IX·F Lezoux.^c One of the potters whose work occurs in an early Antonine pottery shop at Castleford. This particular stamp has been noted at Carzield and Newstead and on forms 18/31R, 27 and 80. *c.* AD 140–170. EB66 U/S.
- 96 Firminus ii 2b Form unknown but flat base FIRMINV2[<ΓE] Rheinzabern.^a Stamp also appears on forms 32, 31R and Ludowici Tb. Osterburken. Late 2nd or 3rd century. P70 GR.
- 97 Fuscus ii 8c 18 FV[SCI] (Knorr 1910, taf. XXI, 33) La Graufesenque.^b Fuscus ii was one of the latest potters whose wares were exported from La Graufesenque, and many of his stamps are from sites founded under Domitian, most often at Butzbach and Saalburg. This particular stamp occurs at one such site, Wilderspool. *c.* AD 90–110. CP56 D7.
- 98 Geminus vi 4a 45 [GEMINI]M Lezoux.^a Also on forms 79, 80 and 33. *c.* AD 170–200 on the form. P70 GJ.
- 99 Genitor ii 5a 31 G·E·N·I·T·O·[R·F] Lezoux.^a Genitor ii's wares reached sites in northern Britain reoccupied *c.* AD 160. This particular one was used on form 31R, which will be after that date, and is known from Birdoswald. *c.* AD 160–200. SMG82 2111.
- 100 Gnatius ii 4a 33 GN[ATIVS]. The potter is certainly Central Gaulish, but it is still not possible to decide whether he worked at Les Martres-de-Veyre or Lezoux. There are many examples of this stamp in a pottery shop at Castleford destroyed by fire in the 140s (Dickinson and Hartley 2000, 59, 699–772) and a few from the Rhineland, which will almost certainly be before *c.* AD 150. Use of the stamp on forms 18/31, 27 and 31 also suggests Hadrianic or early Antonine date. *c.* AD 130–155. SPM83 150.
- 101 Gracchus iv 1a 33 GRACCHI·M Lezoux.^a This stamp is known on forms 31R and 79 or Tg, and so must still have been in use after AD 160. This is supported by records from Old Penrith, Carrawburgh and Chesterholm and there is no evidence of any earlier use. *c.* AD 160–190. SM76 CZN.
- 102 Gracchus iv 1a 33 GRACCHI·M Lezoux.^a See no. 101 above. *c.* AD 160–190. LCL69 1.

- 103 *Habilis* 1a 33 [HA]BILISM Lezoux.^a This stamp has been recorded from Chester and Chester-le-Street, and on forms 31R and 80, but it occurs in fair quantities on form 27, too. The range of forms on which it appears is paralleled for his other stamps. *c.* AD 150–180. EB66 U/S.
- 104 *Habilis* 5d 31R [HA]BILIS·F Lezoux.^b *Habilis*'s use of forms 27 and, more commonly, 79 and 80, suggests a range *c.* AD 150–180. The form of the Lincoln dish places it in the period *c.* AD 160–180. HG72 AZ.
- 105 *Ianuarius* vi 3a 31R IANVARIVSF Rheinzabern.^a A stamp noted from Chesterholm, Malton and South Shields. Late 2nd or early 3rd century. BWE82 56.
- 106 *Iucundus* iii 5e 15/17 or 18 OF·LVC[VN] (*sic*) La Graufesenque.^a *Iucundus* iii's stamps occur in Flavian contexts and on decorated bowls of form 29, belonging to the period *c.* AD 70–85. This stamp is apparently from one of his later dies, since it is known from Watercrock and the main site at Corbridge. *c.* AD 80–100. L86 207.
- 107 *Iulianus* iii 3e 31R [IVLIA]NVSF Rheinzabern.^a This appears on decorated bowls in a style almost identical to that of *Iulius* viii (Ricken's *Julius* II) and a mould from Rheinzabern and a bowl from Mainz (?) carry stamps of both potters (the mould: Ricken 1948, taf. 206, 10). Early to mid 3rd century. BWE82 49.
- 108 *Iulianus* iii 3e 37 [IVL]IAN[VS]F Rheinzabern.^a The decoration of this bowl is too badly blurred for identification. For discussion, see no. 107. LIN73DI 165.
- 109 *Iulius* v 1a 31 IVLI·MAN Lezoux.^c There is no site dating yet for this potter, but his forms and fabrics suggest activity in the second half of the 2nd century. *c.* AD 150–200. LIN73C 124.
- 110 *Iulius* viii 3a 32 etc. (?) IVLI[VS]FE Rheinzabern.^c *Iulius*'s wares belong to the late 2nd and early 3rd centuries, and most of them are likely to be 3rd century, though it is not possible to be certain about this piece. The stamp has been recorded from Holzhausen and Niederbieber. *c.* AD 180–260. EB66 U/S.
- 111 *Iulius* viii 3c 32 etc. IVLIVSE[E] Rheinzabern.^a One of the less common stamps of the potter whose decorated ware is linked with that of *Iulianus* iii (see no. 110, above). Early to mid 3rd century. BWE82 104.
- 112 *Iulius* Numidus 4a 79 [N]VMIDIMA Lezoux. This particular stamp is known from Benwell, Brougham cemetery, Chesters, Ebchester and Malton. These, and the high proportion of form 79 in his work, suggest a date *c.* AD 160–190. LIN73F 356.
- 113 *Iullinus* ii 3a 33 IVLLINIM (Dickinson 1986, 190, 3.371) Lezoux.^a This stamp was used on moulds with decoration typical of the mid to late Antonine period and on contemporary plain forms, such as 31R and 79. There are two examples in the group of late 2nd century samian recovered off Pudding Pan Rock, Kent. *c.* AD 160–190. F72 +.
- 114 *Iunius* ii 5b' 18/31R [I]VNIVS Lezoux.^b This is from a die which at some stage was chipped on the top corner of the frame, and the Lincoln piece shows this damage. There is no dating evidence as yet to separate the two versions of the stamp; both were used mainly on forms 18/31 and 27, and stamps from them appear in the Rhineland. This suggests Hadrianic or early Antonine date. *c.* AD 125–150. EB80 49.
- 115 *Iustio* 1a 31 IV2T[IoF] Rheinzabern.^b *Iustio* is not well dated, but a stamp from this die on form *Ludowici* Tb, in a burial at the Neuburg cemetery, suggests late 2nd or early 3rd century date. CP56 A8.3.
- 116 *Iustus* ii 2f 31R [IVS]TIMA Lezoux.^b Only one other stamp has been noted from this die, from Caister-by-Yarmouth. Other stamps of *Iustus* ii are known from Hadrian's Wall and its hinterland forts, and from Pudding Pan Rock. His forms include 31R, 79/80 and 80. *c.* AD 160–190. SM76 CBR.
- 117 *Iuvenis* ii 5c 31R IVVII[NISF] (*Ludowici* 1927, 218, k) Rheinzabern.^a The form of this die suggests manufacture after *c.* AD 160 at the earliest, and his use of a variety of other forms introduced in the later 2nd century suggests that he may not have started work before *c.* AD 170. Stamps from other dies are noted from Niederbieber. His decorated ware seems to be 2nd century. *c.* AD 170–200. ZE87 358.
- 118 *Ivenus* 7a 80 IVIIVI Lezoux.^b Making forms 18/31R, 27 and 80. No site evidence for the stamp and no other examples noted. A stamp from another die from Camelton. *c.* AD 150–180. P70 GK.
- 119 *Lallus* i 2a 38 or 44 [LALL]·MA Lezoux.^b The site record for this stamp includes Newstead, Hadrian's Wall (Chesters Museum), and a pit group of the 150s at Alcester. It appears mainly on form 33, but there are two examples on form 18/31R and one on form 27. Another of his stamps was used on form 79. *c.* AD 145–175. EB66 6/4.
- 120 *Licinus* 20a 15/17 or 18 OFLICNI La Graufesenque.^a Stamp noted from Camulodunum (Hawkes and Hull 1947, 197, 96) and in a group of samian of *c.* AD 50–60 at La Graufesenque (publication forthcoming). *c.* AD 45–65. SP72 DYM.
- 121 *Lossa* 2a 31 LOSSAFEC (*ORL* B16, 25, 4a–b) La Madeleine.^c This stamp is always on dishes, usually unrouletted and mostly of form 18/31. Apart from this and a stamp from Carlisle, all the examples noted so far are from the two Germanies. *Lossa* seems to have specialised in dishes, but appears not to have made form 32, and this suggests early to mid Antonine activity, rather than later. F72 +.
- 122 *Luppa* ii 2a 18/31 or 31 [LV]PPA (*ORL* B73, 48, 66) Lezoux.^b *Luppa*'s stamps, including this one, occur in the Rhineland, suggesting use in the Hadrianic or early Antonine period. This date is reinforced by the use of this stamp on forms 18/31, 27 and 81. *c.* AD 130–155. MCH84 326.
- 123 *Maccalus* 3a probably 31R MA[CCALIM] Lezoux.^a Stamp found at Pudding Pan Rock, Corbridge, Ebchester, Housesteads and Brough (Petuaria). Stamp from another die found at Chester-le-Street. *c.* AD 160–200. P70 IO.
- 124 *Maccarus* 13e' 15/17 or 18 ƆFMACC/ La Graufesenque.^a *Maccarus* was a Claudio-Neronian potter and his stamps, from several dies, occur at

- Velsen (before AD 47?) and on forms such as Ritt. 1, 8 and 9. There is no site dating for this particular stamp, but a range *c.* AD 45–60 is not in doubt. LH84 A16.
- 125 Macrianus 4a 33 MCR[IANI] Lezoux.^c Stamp occurs on form 27, and another die on forms 79R and 31R. Stamps from his later die appear at Bainbridge and Malton and, probably, in the Pudding Pan Rock wreck (Liverpool Museum). Date for this, his earlier die, *c.* AD 150–180. P70 KE.
- 126 Macrinus iii 7b 31R MACRINVS Lezoux.^a One of the less common stamps of a potter whose output was mostly after AD 160, as this must be, in view of its form. His use of other stamps on form 27 suggests that he was at work in the 150s, but 7b will belong to the range *c.* AD 160–180. SM76 CEI.
- 127 Magio ii 2b 31R MAGIOF (Ludowici 1927, 220, c) Rheinabern.^a There is no site dating for the potter, but his use of forms 32 and Ludowici Tb suggests late 2nd or early 3rd century date. F72 BLA.
- 128 Mainacnus 2a 31R [MAI]VCNI or [MAI]NCNI Lezoux.^b Appears mostly on form 31R. Many examples from Pudding Pan Rock wreck, *c.* AD 160–200. P70 GK.
- 129 Mainacnus 5a 31 MAII[ACI] Lezoux.^b The use of this stamp on form 31R indicates that it was current after *c.* AD 160. One of Mainacnus's other stamps occurs at South Shields and in the group of late 2nd century samian recovered off Pudding Pan Rock, Kent. *c.* AD 160–200. CP56 A9a.9.
- 130 Malleo 6a 33 MALLEVI Lezoux.^b Stamps with this die forms 33 and 31. With another die, stamps forms 79, 80, 31R and Tx. Evidence from other dies: found at Newstead, Binchester, Worcester Fire (2), Hadrian's Wall, Wallsend, Catterick and Verulamium Second Fire (but not burnt). *c.* AD 150–180. P70 GJ.
- 131 Malliacus 3g 18/31 or 31 [MALLI]ACI Lezoux.^b A stamp occurring in Antonine Scotland and in a group of burnt samian dated to the 140s from Castleford (Dickinson and Hartley 2000, 59, 786–9). *c.* AD 135–160, in view of the form. LIN73A 8.
- 132 Malliacus 3g 18/31 or 31 MALLIACI Lezoux.^b See no. 131. *c.* AD 135–160. WB80 3034.
- 133 Mansuetus ii 2a 33, probably [MVSUETIO] Lezoux.^a There are examples of this stamp from sites in northern Britain reoccupied *c.* AD 160, but it appears occasionally on form 27. His work is known at Verulamium, in Period IID (after AD 150). Whether by him or not, the piece is certainly Antonine and, if correctly identified, belongs to the period *c.* AD 150–180. EB66 6/4.
- 134 Marcellus iii 3a 33 MARCIKIM (B. R. Hartley 1961a, 107, 4) Lezoux.^a Some of this potter's stamps turn up in Hadrianic groups at Lezoux and a later product occurs in the burnt material from the Antonine fire deposits at Verulamium (B. R. Hartley 1972, S144). This will give him a range *c.* AD 125–155. SM76 CWV.
- 135 Marcus v 1a 38 or 44 [MAR]CIMA. Lezoux.^a A stamp noted on Hadrian's Wall and at northern forts recommissioned in the later 2nd century, such as Ilkley and Bainbridge. It is mainly on forms 31 and 33, but some of his other stamps occur on forms which did not evolve fully before *c.* AD 160, such as 31R, 79 and 79R. *c.* AD 160–200. F72 AWS.
- 136 Marcus v 8a 33 MARCII Lezoux.^a Appears at South Shields, Halton Chesters, Corbridge, Chesters and Chesterholm. Occurs on forms 33 and 31R. Other dies used on forms 79, 79R and stamps appear frequently on Hadrian's Wall; also Pudding Pan Rock, Malton and Newstead stamped with another die. *c.* AD 160–200. P70 GK.
- 137 Martius iv 1b 33 MAR[TIM], with two graffiti, X, under the lower wall and illegible, under the base, both inscribed after firing. Lezoux.^a This stamp is commonest on form 33, but is also known on forms 80 and Ludowici Tx. Many examples have been noted from Hadrian's Wall and there is one in a group of late 2nd century samian from New Fresh Wharf, London (Dickinson 1986, 191, 3.103). *c.* AD 160–190. CP56 A9.
- 138 Martius iv 1b 38 MARTI[M] Lezoux.^a See no. 137. P70 GT.
- 139 Mascellio i 4a 33 [MASC]IILLIO Lezoux.^b A stamp recorded in the material recovered off Pudding Pan Rock and at northern forts reoccupied *c.* AD 160. Some of his other dies were used to stamp late 2nd century forms, such as 31R and 79. *c.* AD 160–190. SM76 CWV.
- 140 Maternus iv 1e 31 [-MATE]RNI Lezoux.^b This particular stamp and one of his others occur at Pudding Pan Rock. His repertoire of forms includes 31R (with this stamp), 79 and 80, but also one 27. *c.* AD 160–190. EB66 U/S.
- 141 Maximus i 4a 33 MAXIMI· Lezoux.^a One form 27 with this stamp and it occurs also on forms 31 and 33. Burnt example in the Verulamium Second Fire. Stamp from another die on form 80. *c.* AD 150–180. P70 PL.
- 142 Medetus 3a 18/31 MÆTI·M (Walke 1965, no. 244) Les Martres-de-Veyre.^a There are three examples of this stamp in the London Second Fire deposits. It is also noted on form 15/17, which was only rarely made at Les Martres after the Trajanic period. *c.* AD 110–125. CP56 A9.5.
- 143 Memor 3a' (almost certainly) 27g [ÆMOR]ISA (Laubenheimer 1979, no. 121) La Graufesenque.^a This is from a broken die which originally gave MEMORISM. The stamp in its complete form occurs at Newstead and the later version is known from sites founded under Domitian, such as Butzbach, Cannstatt and Saalburg. *c.* AD 80–100. SMG82 270.
- 144 Mercator i 7a 37 MERCATO retrograde, La Graufesenque.^a Mercator's decorated ware is stylistically Flavian-Trajanic and the occurrence of the stamp at sites such as Brough-on-Humber (B. R. Hartley 1969, 130, 7) and Old Penrith is consistent with range *c.* AD 85–110. EB80 116.
- 145 Mercator ii 2a 18/31R MERCAT[] Lezoux.^a A stamp of the earlier of two Lezoux homonyms, used on forms 18/31 and 27. His work occurs in the Rhineland, and his decorated ware shows stylistic links with the Quintilianus i group. *c.* AD 135–155. EB66 9/1.
- 146 Mercator iv 3a 37 MER[CATOR·M] retrograde.

- (Karnitsch 1960, taf. 2, 3) Lezoux.^a Stamps from one of this potter's dies occur in the group of late Antonine plain samian from Pudding Pan Rock. His decorated ware shows stylistic links with Paternus v and his associates. This particular stamp occurs on decorated bowls from Chesters (S. & S. 1958, pl. 145, 3 and 7) and South Shields, and is used less frequently on plain forms. *c.* AD 160–190. CP56 A8.16–17.
- 147 Mercator iv 3a 31 ME[RCATOR·M] (Déchelette 1904, I, no. 130, 1) Lezoux.^a See no. 146. SM76 CUA.
- 148 Mercator iv 8b 79 or Tg ME[RCA·M] (Durand-Lefebvre 1963, no. 462) Lezoux.^a The commonest forms with which this stamp is associated are the dishes 79 and 79R, neither of which evolved completely before AD 160. The site record includes forts in northern Britain reoccupied about this time. *c.* AD 160–190. Z86 645.
- 149 Miccio iii 2a 33 MICCIOI·M Lezoux.^c Miccio iii's forms include 18/31, 18/31R, 27 and 79R. The last suggests that the die was still in use in AD 170 or later, but he is likely to have begun work before *c.* AD 150, to judge by the predominance of earlier Antonine forms. This particular stamp occurs on form 18/31R, and is noted from Hadrian's Wall (Chesters Museum). *c.* AD 145–175. HG72 DW.
- 150 Probably Modestus i 2c 18 OFM[ODES+] La Graufesenque.^b This stamp appears at London and Hofheim. Stamps from other dies: Cirencester Fort Ditch (2), Kingsholm, Colchester Pottery Shop (4), Usk, Camulodunum, Chester, Rheingönheim, Wroxeter, York, Caerleon and Ubbergen (site closing in early Flavian period). He makes forms 29, 15/17, 18 and 24. *c.* AD 50–65. P70 RK.
- 151 Modestus i 9a' 27g [OFM]OI (Laubenheimer 1979, fig. 10, 135) La Graufesenque.^a A stamp from broken die which originally gave OFMOD. Both versions of the die were in use in the pre-Flavian period and both were used to stamp forms 24 and Ritt. 8, neither of which would normally be later than *c.* AD 65. However, the broken die almost certainly survived in use into the Flavian period and stamps from it occur at sites founded in the 80s. Unless Modestus was unusually long-lived, it is likely that the die passed into other hands after it was broken, though not necessarily immediately. *c.* AD 60–75/80. H83 236.
- 152 Mommo 14a' 27g JMOM La Graufesenque.^a The die from which this stamp comes, which originally gave OMOM, was used on the pre-Flavian cup, form Ritterling 8. Stamps from the reduced die occur at Flavian foundations, such as Binchester and Segontium. There is also one from a pit at Verulamium filled *c.* AD 75 (B. R. Hartley 1972, S.17). *c.* AD 70–90. CP56 A9.9.
- 153 Mont – Cres- 6a 15/17–18 OFMONTC (Durand-Lefebvre 1963, 157, 480) La Graufesenque.^a A stamp of basically early Flavian potter (or potters), though noted once on Neronian-Flavian bowl of form 29. *c.* AD 65–80. SP72 CZS.
- 154 Mossius ii 2a 33 MOSSI·M Lezoux.^b Appears at Malton, Benwell, Wroxeter, Ribchester, and stamps from other dies at South Shields, Chesters Museum, Catterick. Makes forms 31, 33, 80 and 27. *c.* AD 150–180. P70 GJ.
- 155 Moxius ii 1a 18/31 MOX [IVS·F]. This stamp has been recorded from Les-Martres-de-Veyre, but was not necessarily found at the kilns. However, the fabric suggests origin there. Examples from Birrens and Carzield show that he was not one of the earliest potters at Les Martres. Hadrianic-Antonine. EB66 6/4.
- 156 Mox(s)ius v 1a 31 [M]OXIMA Lezoux.^b Appears on form 31R. Site evidence: Bainbridge, South Shields, Chesters. Also appears on form 37 rims, with ovolos used by Albucius ii or Paternus v and Doeccus i. *c.* AD 160–190. P70 GK.
- 157 Mox(s)ius v 1a 38 MOXIMA Lezoux.^b See no. 156. WP71 III BF.
- 158 Muxtullus 1b 33 MV[XTVLLIM] Lezoux.^b One of Muxtullus's earlier stamps. It occurs in Scotland and in groups of samian of the 140s and 150s at Castleford and Alcester, respectively. Some of his other stamps appear at sites in northern Britain founded, or reoccupied, *c.* AD 160. *c.* AD 140–160. LCL69 4.
- 159 Muxtullus 3a 38? [MV+TVL]LI·· Lezoux.^b One of the later stamps of potter whose career began in the 140s, as evidenced by the presence of his wares in group of samian of that date from Castleford. Stamps from Die 3a occur on Hadrian's Wall and at Pennine forts reoccupied *c.* AD 160. There is also one on the rim of decorated bowl in the style of Iullinus ii, or an associate. *c.* AD 155–170. HG72 DD.
- 160 Namilianus 3b 33 [NAMIL]IANI Lezoux.^a This stamp has also been noted at Benwell and Pudding Pan Rock, and appears on forms 31R and 79. *c.* AD 160–200 TP69 51.
- 161 Namilianus 3c 31 NAMILIANI Lezoux.^b Stamps from this die occur on forms 31R and 79R. His other stamps have been noted from Hadrian's Wall and in the group of late 2nd century samian recovered off Pudding Pan Rock. *c.* AD 160–200. SM76 CEI.
- 162 Niger ? cup La Graufesenque. Missing. *c.* AD 50–70. SP72 BWA.
- 163 Niger ii 3b' 27g)FNGIII La Graufesenque.^a The die from which this comes originally gave OFNGRI, but prolonged use caused deterioration in the letters and shortening of the ends of the frame. This, the third version of the stamp, occurs on form Ritt. 8, and an even later version is on form 24, making pre-Flavian date certain. *c.* AD 50–70. LIN73A 51.
- 164 Niger ii 4a' 18 (almost complete) OFNIGR (Durand-Lefebvre 1963, no. 500) La Graufesenque.^a This is from modified die, whose originally square ends had become tapered through wear; stop also developed in the 0. The original version (4a: Hermet 1934, no. 113a) is on dish in the Cirencester Fort Ditch group of *c.* AD 55–65. 4a' was used on the pre-Flavian cup, form Ritt. 8, but is known from Caerleon. The modified die was therefore likely to have been in use *c.* AD 60–70. EB80 107.
- 165 Niger ii 5a 27g OFNGR La Graufesenque.^a This stamp occurs in burial at Berlingen, Belgium, with other samian vessels of Neronian and Neronian-Flavian potters (Roosens and Lux 1973, fig. 19, 26). *c.* AD 50–65. EB83 25.

- 166 Niger ii- And-- 1a 15/17R or 18R OFNIGRI·AND (Hermet 1934, pl. 112, 114) La Graufesenque.^a This stamp was used in the section of Niger ii's workshop which made rouletted dishes and bowls of form 29. The And- part of the stamp perhaps represents the name of the section foreman. There is no site dating for any of the stamps recorded so far, but the decorated bowls are clearly contemporary with Niger's main body of work. *c.* AD 50–65. SPM83 461.
- 167 Oneratus 1a 31R OIER[ΛTVZ] (Ludowici 1927, 223) Rheinzabern.^a There is no site dating for either the potter or the stamp, but its use on forms 31R, 32 and 36 suggests range *c.* AD 180–240. SM76 ANA.
- 168 Osbimanus 10c 33 OSB·IM Lezoux.^a Osbimanus's wares occur on Hadrian's Wall and in group of samian from TÁC, Hungary, probably burnt in the Marcomannic Wars. He made forms 31R and 80, both stamped with this particular die, and form 18/31R. *c.* AD 150–180. WC87 32.
- 169 Pass(i)enus 18b 24 [O·P]ASEN (Durand-Lefebvre 1963, 177, 550) La Graufesenque.^a Some of this potter's dies were in use at the very end of the Neronian period, or even in the early 70s, but this is from one of his earlier dies. It occurs at Usk (B. R. Hartley and Dickinson 1993, 213, 123) and in the Oberwinterthur Keramiklager of the early 60s (information from Fr. C. Ebnöther). *c.* AD 50–65. F72 YP.
- 170 Pater ii 2a 81 [PATER]·F Lezoux.^a This has been noted from the Saalburg Erdkastell (before AD 139); it also appears in Period IID at Verulamium (after AD 150: B. R. Hartley 1972, S101), but the die is unlikely to have continued in use beyond *c.* AD 155, in view of the number of examples from the Rhineland. *c.* AD 125–155. EB80 103.
- 171 Pateratus 6a 33 [PA]TERA[T] Lezoux. One of his less common stamps, it occurs twice on form 18/31R. Pateratus's stamps occur at sites such as Birdoswald, Chesterholm and Chester-le-Street, and there are three examples from pottery shop of the 140s at Castleford. *c.* AD 145–175. LIN73A 24.
- 172 Paterclinus 3a 33 PATERC[LINIM] Lezoux.^b Stamp appears at Brough (Petuaria) and Corbridge. Stamps from other dies appear in: Wroxeter Gutter and at South Shields, Chesters Museum (burnt), Benwell, Malton, Bainbridge and Chesterholm. Makes forms 31R, 79, 80, 38, 33 and also 27, stamped with various dies. *c.* AD 150–180. P70 GJ.
- 173 Paterclinus 4a 79 etc. [PAT]ERCLINI Lezoux.^a Found at Lezoux, Wroxeter Gutter, South Shields, Chesters Museum (burnt), Benwell, Malton, Bainbridge and Chesterholm. Also stamps with this die forms 31R, 80, 38 and 33. With another die stamps form 27. Also makes decorated ware. Figure-stamp stamped with his name found at Rheinzabern but he is unlikely to have worked there. *c.* AD 160–180. HG72 BV.
- 174 Paterclinus 4a probably 79 PAT[ERCLINI] Lezoux.^a See no. 173. P70 WY.
- 175 Paternulus 1a 33 PAT[ERNVLI] (B. R. Hartley 1972, S81) Lezoux.^a The site evidence for this stamp is not plentiful, but it occurs at Verulamium in Period IIB (*c.* AD 110–140). This accords with its use on forms 18/31, 27 and 42. *c.* AD 125–140. SW82 195.
- 176 Paternus v 7a 37 PATERNFE retrograde. (Durand-Lefebvre 1963, 181, 562) Lezoux.^b This well-known label stamp is common in Hadrian's Wall assemblages of the later 2nd century, but has yet to be found on Scottish sites with normal Antonine occupations. *c.* AD 160–195. F72 BHW.
- 177 Paternus v 7a 37 PATERNFE retrograde. See no. 176 above for discussion and dating. LIN73C 83.
- 178 Paternus iii 2a 81 PATERNI Lezoux.^a The vessels stamped with this die from Carrawburgh and Chesterholm are likely to be Hadrianic, in view of its use on forms 18/31, 27 and 81. However, the die almost certainly continued in use into the Antonine period, *c.* AD 130–160. H83 1336.
- 179 Paternus v 7a 37 [PATER]NFE retrograde, in the decoration (S. and S. 1958, pl. 169) Lezoux.^b See no. 176 for discussion and dating. SM76 CER.
- 180 Paternus viii 3a 32 [PAT]IIRWSFII Rheinzabern.^a A stamp which occurs in group of largely unused samian from New Fresh Wharf, dated *c.* AD 235–245 (Dickinson 1986, 193, 3.139). It was used on forms 31, 31R and 32R. Late 2nd to first half of the 3rd century. CP56 A9.3.
- 181 Patricius i 13f' Cup PATRIC[I] La Graufesenque.^a At the stage when the die was used to stamp this cup it had had the A scored through and the first I cancelled with an X, as if to signify change of owner. The original die was used on forms 29 (before *c.* AD 85), but the modified die is only attested for cups. *c.* AD 70–90. ZE87 843.
- 182 Patruinus ii 1a concave base (burnt) [PATRVI]NVSFE, in guide-lines (Dickinson 1986, 3.142) Trier.^a There is no site dating yet for the potter, but the use of this stamp on forms 31R, 32 and 36 suggests activity in the late 2nd or first half of the 3rd century. SM76 BJS.
- 183 Paullus iv 2a 18/31 or 31 [PAV]LIMA Lezoux.^b There is no dating evidence for this particular stamp, but Paullus's decorated ware, connected stylistically with Cerialis ii and Cinnamus ii and occurring in large quantities in pottery shop of the 140s at Castleford, and his use of forms 18/31 and 27 suggests date *c.* AD 140–170. EB66 9/2.
- 184 Paullus iv 5a 33 PAVLIM Lezoux.^a Apart from forms 18/31 (1) and 18/31R (2), this stamp is only known on form 33. It occurs in burial at Riepmst (Belgium) with vessels stamped by Banassac and Lezoux potters, including Cerialis ii. The diagonal stroke between A and V presumably comes from scratch on the die. *c.* AD 140–170. EB66 U/S.
- 185 Paullus v 8b 33 PAWI·K·I· Lezoux.^a This untidy stamp is from modified die which first gave PAVKKI. Paullus v's stamps occur on Hadrian's Wall, at Pennine forts reoccupied *c.* AD 160 and in groups of late Antonine samian from London and Pudding Pan Rock. This particular stamp has been noted at Carrawburgh. *c.* AD 160–200. SM76 BKU.
- 186 Pentilius 1a 79 PIINTIL·MW Lezoux.^c No definite evidence but probably from Lezoux on fabric etc., and one appears in Lezoux Museum. Makes form 79. Site evidence: Catterick, appears several times at Chesterholm and there are 10 stamps from the Wroxeter Gutter, *c.* AD 160–190. P70 GK.

- 187 Peppo 2c flat dish PEPPOF[EC] Rheinzabern. There is very little dating evidence for this potter, but his forms (including 31R, 32 and 36) suggest that he did not start work much before AD 180. LIN73F 356.
- 188 Peregrinus i 3a 29 PEREGRIV La Graufesenque.^a This stamp is known from Agricolan foundations in Britain, including Ilkley and Loudoun Hill, but its occurrence at Burghöfe probably means that the die was first used in the pre-Flavian period. *c.* AD 65–85. HG72 IM.
- 189 Pontus/Pontius 37 cursive signature]ont[retrograde. South Gaulish. Pontus/Pontius, who occasionally ligatured n and t in his signatures. He stamped form 29s, after moulding, but all his mould-signatures are on form 37s. Most of them will be contemporary with the 29s, to judge by the style of their decoration. Signatures have been noted on bowls from Chester, Cappuck and the fortresses at Caerleon and Nijmegen, among others. *c.* AD 70–90. SPM83 302.
- 190 Potentinus iii 1b probably 32 POTIINTINVS Rheinzabern.^a Makes late forms 32, 40 and Ludowici Tn (stamped with different die). Late 2nd or 3rd century. P70 GK.
- 191 Potitianus ii 1a 79 or Tg [POTI]TIANIM Lezoux.^a The form of the vessel is sufficient to suggest mid to late Antonine range and stamp from another die at Chesters is additional evidence of date. *c.* AD 160–190. F72 BDM.
- 192 Primanus iii 3c' 33 [P]RIMANI[·M] Lezoux.^b This is from the die after it had developed vertical scratch between M and A, which shows as faint I on the stamp. Primanus iii's stamps are known from Hadrian's Wall and Pennine forts, also from the Wroxeter Gutter deposit and the Pudding Pan Rock wreck; later 2nd century range is certain, therefore. *c.* AD 160–200. SM76 CIP.
- 193 Primanus iii 6f 3l PR[IMANI] Lezoux.^a Site evidence: Pudding Pan Rock, Wroxeter, Housesteads, Bourges (on form 15/3l of mid to late Antonine date). Stamps from other dies appear in Wroxeter Gutter and Bainbridge. *c.* AD 160–190. P70 GK.
- 194 (Probably) Primulus i 4h 15/17 or 18 PRIMVI La Graufesenque.^a The die from which this comes was subsequently broken twice and both the original and final versions were used to stamp vessels which occur in pottery store at Oberwinterthur (Switzerland), destroyed by fire in the early 60s (C. Ebnöther, publication forthcoming). The Lincoln piece, therefore, cannot have been made after AD 65, at the latest, though it could, of course, have survived in use for some years, as did vessel from the fort at Castleford with the same version of the stamp. SP72 +.
- 195 Primus iii 18b 27, 27g OFPR[IM], La Graufesenque.^a This stamp occurs both in Period I at Verulamium (B. R. Hartley 1972, S4) and in the two Colchester pottery shops destroyed in AD 60/61 (Hull 1958, fig. 76, 13). It was used to stamp pre-Flavian cups of forms 24 and Ritt. 8. *c.* AD 55–65. EB80 84.
- 196 Primus iii 18b 27, 27g OFPRIM, La Graufesenque.^a See no. 195. W73 CW.
- 197 Primus iii 18b 27g OFPRIM La Graufesenque.^a See no. 195. EB66 9/11.
- 198 Primus iii 27a 15/17 or 18 PRIMIOb La Graufesenque.^b One of the potter's less common stamps, apparently used only on dishes. There is one example from the second Pottery Shop at Colchester, destroyed in AD 60/61 and dish from Old Winteringham has footring typical of the Claudian or very early Neronian period. *c.* AD 45–65. LH84 AA20.
- 199 Priscus iii 4d 31 [PRISC·I·]M Lezoux.^a Stamp used on later 2nd century plain forms, such as 31R, 79 and 79R, and also on decorated moulds. One of these from Lezoux (Roanne Museum) also carries stamp of the contemporary potter, Clemens iii. *c.* AD 160–190. L86 265.
- 200 Priscus iv 3a 18/31R PRIS[CVS] Trier.^c There is no site dating for the potter; the form of the dish suggests Antonine date, almost certainly not late in the period. SM76 CER.
- 201 Pugnus ii 1a 37 [P]VGNI[MA] Lezoux.^b This stamp, which occurs on decorated bowls in Pugnus's latest style, was also used on plain forms, including form 27. *c.* AD 150–180. HG72 EV.
- 202 Pugnus ii 2a 33 PVGVIM Lezoux.^b No other examples of this stamp noted. Evidence from other dies: also making form 27 and appears in Wroxeter Gutter, Benwell, Corbridge, Chester-le-Street, Alcester (pit group of early Antonine date) and Camelon. *c.* AD 145–175. P70 PL.
- 203 Quartus ii 5a 27g QVARTI·O La Graufesenque.^b Quartus began work under Claudius and his stamps occur at Velsen (before AD 47) and in warehouse at Narbonne dated *c.* AD 50–60. However, this particular stamp has been recorded at Hedderheim and Caerleon. *c.* AD 55–65. TP69 64.
- 204 Quintilianus i 1b 31 [QVINT]ILIANI M Lezoux.^b The record for this stamp includes sites on Hadrian's Wall, Inveresk and pottery shop of the 140s at Castleford. *c.* AD 125–150. EB66 U/S.
- 205 Quintus v 5a flat base [QVI]NTIM (CW2 XXX (1930), 187) Lezoux.^a Common stamp on Hadrian's Wall and also attested in the group of late Antonine samian recovered off Pudding Pan Rock, Kent. The die was used to stamp forms current in the later 2nd century, such as 31R, 79 and 79R. *c.* AD 160–200. CP56 A9.6.
- 206 Quintus v 5a 38 or 44. For discussion, see no. 205. *c.* AD 160–200. F72 BVA.
- 207 Quintus v 5a 33 [Q]VINTIM Lezoux.^a See no. 205. *c.* AD 160–200. L86 221.
- 208 Reburus ii 4l 33 REBU[RRIOF] Lezoux.^a Reburus's output included many examples of both forms 27 and 79, suggesting early to mid Antonine activity. His stamps occur in large groups of the 150s at Lezoux. *c.* AD 140–170. LIN73C 107.
- 209 Regalis i 4a 33 REGALIS·F Lezoux.^b Makes forms 31R and 79R also with this stamp, and stamped with other dies, forms 27 and 80. This stamp appears at Corbridge and Benwell; others at Newstead and Hadrian's Wall generally. *c.* AD 150–180. P70 PL.
- 210 Reginus iv 5b 33 REGINI·M Lezoux.^a There is no internal dating for this stamp, but others used by the potter occur in the material from the Wroxeter forum destruction, in the Verulamium Second Fire group (after AD 150) and in group of burnt samian

- of *c.* AD 170 from Tác (Hungary). His forms include 18/31, 27 and 79. *c.* AD 150–180. Z86 644.
- 211 *Regulus* 9b 33 RIIG[VK~~V~~SI] Lezoux.^b Records for this stamp are divided equally between those vessels made before *c.* AD 160 (forms 27 and 42) and those after (form 80), though the balance for the rest of his work is in favour of the earlier date. His range is probably *c.* AD 140–170, with 150–170 for 9b. CP56 A9.1.
- 212 *Reogenus* 1b 31 [RIIOGE]NIM Lezoux.^a Makes forms 27, 79, 79R and Ludowici Tg. This stamp appears at Catterick, Hadrian's Wall and in Worcester Fire (mid Antonine). Others appear at Camelon, Mumrills, Ardoch, Birrens and Old Kilpatrick. *c.* AD 150–180. P70 QP.
- 213 *Rottalus* 1a 33 (burnt) ROTTALIM Lezoux.^a Stamp noted in quantity of unused late 2nd and 3rd century vessels from New Fresh Wharf, London (Dickinson 1986, 194, 3.176–8). It occurs also at Benwell and Chesters and was used on some of the forms produced at Lezoux in the later 2nd century, such as 31R, 79, 79R and Ludowici Tg. *c.* AD 160–200. F72 BVD.
- 214–5 *Rottalus* 1a 31; 31R ROTTALIM; ROT[Lezoux.^a See no. 213. Two stamps. BWE82 59, 125.
- 216 *Ruffus* ii 1a 33 [RVFFI]·MA Lezoux.^c This stamp was also used on forms 18/31R and 27. It occurs at Newstead (3), Cappuck and in group of burnt samian of *c.* AD 140–150 from Castleford. *c.* AD 140–160. HG72 EN.
- 217 *Rufinus* iii 5a 15/17(R?) or 18(R?) [R]VFINI·MA La Graufesenque.^b It is just possible that Rufinus iii began work under Nero, but the bulk of his output is Flavian. This stamp occurs at Castleford, Malton and Newstead, and so is not one of his earliest. *c.* AD 70–90. EB83 25.
- 218 *Sabinus* iii 16b 27g OFSAB (Laubenheimer 1979, no. 214) La Graufesenque.^a It is still not certain whether all the stamps attributed to this Sabinus really belong to him, and so each stamp must be considered on its own merits. There is no site dating for this particular stamp, but its form and fabric are clearly Flavian. *c.* AD 70–90. WB80 3035.
- 219 *Sabinus* iii 33a 24 [ISA]BINII La Graufesenque.^a Nine examples of this stamp from group of samian of *c.* AD 50–60 from La Graufesenque, six of them on form 29. Occurs also on form Ritterling 8. One of the earlier stamps of potter whose wares appear occasionally at Flavian foundations. *c.* AD 50–65. P70 QL.
- 220 *Sabinus* viii 7b 33 SABINI·[MA] (Dickinson 1986, 195, 3.179) Lezoux.^a This stamp occurs in the same assemblage from London as the Rottalus stamp above, but its state of wear is not known. Nevertheless, mid to late Antonine date is not in doubt, given examples from Bainbridge and Chesterholm, and the potter's use of forms such as 31R, 79, 79R and 80. *c.* AD 155–185. SPM83 161.
- 221 *Sacirotus* 1a 18/31 [SA]CIR[~~o~~TI·MAS] Les Martres-de-Veyre.^a This occurs on typologically Trajanic dishes in the fabrics of the earlier group of Les Martres potters. There is an example in the London Second Fire groups. *c.* AD 100–120. F72 OW.
- 222 *Sacirus* ii 6c 33 SACIRV, retrograde. (Lombard 1972, pl. VII, 45) Lezoux.^a This potter's stamps are commonest on form 27, but single examples have been noted on forms 79 and 79/80. 6c is recorded once on forms 27 and 31, but is otherwise known only on form 33. *c.* AD 135–165. CP56 A9+.
- 223 *Sacrillus* 5a 33 (burnt) SACPILLI (Dickinson 1986, 3.184) Lezoux.^b From the site evidence Sacrillus clearly worked in the later 2nd century. His stamps occur in the Pudding Pan Rock wreck and on forms 31R, 79, 79R and 80. One is on the rim of stamped bowl of Doeccus. 5a is known from Hadrian's Wall and its hinterland forts. *c.* AD 160–200. SM76 CLI.
- 224 *G. Salarius Aptus* 7a 29 [SAL·ARI·A]P+ La Graufesenque.^a Decorated bowls stamped inside by this potter are stylistically Neronian. His wares occur in group of samian of *c.* AD 50–60 at La Graufesenque (information from M. Alain Vernhet) and in the Cirencester Fort Ditch find of *c.* AD 55–65. *c.* AD 50–65. CP56 A9a.
- 225 *Salvetus* i 5p 24 SALVETV (Simon 1978, 250, C781) La Graufesenque.^a With graffito ID...X[inscribed under the base, after firing. *Salvetus* ii's wares occur in Tiberian pit at La Graufesenque, but this, though certainly pre-Flavian, is unlikely to be one of his earlier stamps. It is nearly always on form 24, but is unknown on form Ritt. 5, his earliest cup form. *c.* AD 45–55. F72 B87.
- 226 *Saturninus* ii 8a 33 [SATVRNI]NI (Dickinson 1986, 3.186) Lezoux.^a There are many examples of this in the late Antonine samian from the Pudding Pan Rock wreck. The die was used to stamp some of the later 2nd century forms, such as 31R, 79R and 80. *c.* AD 160–200. SM76 CJW.
- 227 *Saturninus* ii 8a probably 79 SATVRNINI Lezoux.^a See no. 226. P70 +.
- 228 *Saturninus* ii 8a 31R [SAT]VRNINI Lezoux.^a See no. 226. LIN73DI 165.
- 229 *Saturninus* ii 8c 31 (R-sized, but without rouletting) SA[TURNINI] Lezoux.^b *Saturninus*'s repertoire includes forms 31R, 79, 79R and 80. This stamp has not been noted in dated context, but the presence of his work at the Pudding Pan Rock wreck and at sites in the north reoccupied *c.* AD 160 suggests date of *c.* AD 160–200. LCL69 4.
- 230 *Saturninus* ii 8c 31 SA[TVRNINI] Lezoux.^b See no. 229. LIN73F 341.
- 231 *Secundinus* vi 3a probably 79 SIICVNDIN[IM] Lezoux.^a Occurs on forms 79, 80, Ludowici Tg, and also decorated ware. Stamps from other dies appear at South Shields and Brough (Petuaria). *c.* AD 160–190. P70 UY.
- 232 *Secundus* ii 28b 24 or 27 SECVNDM[A] La Graufesenque.^b There is no internal dating for this stamp, but the potter seems to have started work under Nero, on the evidence of stamp (from different die) in the Boudiccan burning in London. His wares also occur on Agricolan sites in Scotland. *c.* AD 60–90 if form 27, 60–65/70 if form 24. F72 CI.
- 233 *Sediatianus* 1a 33 SIIDATI~~W~~IM Lezoux.^b Antonine type fabric. Also makes forms 79, 80, 31R but mainly form 33. This stamp noted only on form 33. Appears at Corbridge. Stamp from another die occurs at

- Housesteads. Mid to late Antonine, *c.* AD 160–190. P70 SL.
- 234 Sedatus iv 2c 33 SĒDATI·M, with graffito Iv[inscribed under the base, after firing (Walke 1965, no. 341) Lezoux.^a Heavily burnt vessel with this stamp from Gauting may have come from the Hadrianic fire there. It also occurs in the Rhineland and was used on forms 27 and 18/31. It appears on jar mould signed by the early Antonine potter, Paullus iv. *c.* AD 130–160. CP56 Cellar 3.
- 235 Senila, Senea or Senita la 33 SENI]IA·M (Nash-Williams 1930, no. 92) Lezoux.^a This potter's output includes the plain forms 18/31 and 27 and decorated ware with stylistic connections with the Quintilianus i group. All of these could be before AD 150, but this particular stamp has been noted in group of burnt samian of *c.* AD 170 at TÁC (Hungary). This gives him range *c.* AD 140–170. SM76 +.
- 236 Sennius 1a 38 or 44(?) SENNIM Lezoux.^a Stamp used on forms 18/31, 27 and 31. It occurs in pit of the 150s at Alcester (B. R. Hartley *et al.* 1994, 110, S155). Stamp from another die is on form 38 and one is on the rim of bowl in the style of Cinnamus ii. *c.* AD 150–180. SM76 CWV.
- 237 Severianus 3a 31 [SEVERIA]NI·W (Dickinson 1986, 195, 3.197–9) Lezoux.^a Other stamps of this potter occur in group of late Antonine samian recovered off Pudding Pan Rock, Kent, and on later 2nd century forms, such as 31R and 79R. *c.* AD 160–200. ZE87 1039.
- 238 Severus iii 2a 33 SEVERI·MI Lezoux.^b The fabrics of this piece and another, from Binchester, suggest origin at Les Martres-de-Veyre. However, the stamp occurs in an early Antonine pottery shop at Castleford, in which there is practically no Les Martres ware. The same stamp appears in Period IID at Verulamium (after AD 150). It is likely, therefore, that Severus took the die with him from Les Martres to Lezoux. Other stamps (in Lezoux fabric) come from Antonine Scotland. The date range for the die is *c.* AD 130–155, with 130–140 for its use at Les Martres. TP69 49.
- 239 Severus v la 33 or 80, etc. [SE]VERI·O·F Lezoux.^b Several of Severus v's stamps occur on Hadrian's Wall and this particular one turns up at some of its hinterland forts. His output includes dishes of form 31R, which will be after AD 160, and decorated ware of mid to late Antonine date. *c.* AD 160–190. SM76 CRU, CWV, almost certainly joining.
- 240 Severus vi 3a 31R [SE]JERIM Lezoux.^a Stamp used on forms 31, 33, 38 and 79. These, in combination with occurrences on Hadrian's Wall and at Bainbridge, suggest date of *c.* AD 160–190. LIN73C 124.
- 241 Sextus i Incomplete 1 27 SIIX[T-] La Graufesenque.^a Evidence for this potter is sparse, but stamp from Butzbach (ORL B14, no. 24), if belonging to him, suggests that he was still at work in the later 1st century. *c.* AD 70–100. ZE87 849.
- 242 Sextus v 4d 31R SEXTIMA Lezoux.^a There are at least two examples of this stamp in the Pudding Pan Rock material. It is usually on form 33, but was also used on forms 31, 31R and 38. *c.* AD 160–200. SM76 CBR, CCG.
- 243 Silvanus ii 3b 27 SILVANI Lezoux.^b This occurs at Inveresk (Dickinson 1988, fiche 1: B5, 2.68) and also in the Rhineland, where it should belong to the second quarter of the 2nd century. The potter made mainly forms 18/31 and 27, but his occasional use of form 80 should mean that he was still at work *c.* AD 160. *c.* AD 130–160. DT74II +.
- 244 Silvinus i 11a 27 ΣIKVINIM La Graufesenque.^b There is no evidence of the use of this stamp in the pre-Flavian period, though the potter, or another man with the same name, is known to have worked under Nero. It occurs at Chesterholm (in the Period 1 ditch of *c.* AD 87–90) and at Malton. *c.* AD 75–90. EB80 103.
- 245 Soiellus? 1a 79 or Ludowici Tg SOIIKKIM Lezoux.^c The form of this dish indicates date after AD 160, though the use of different stamp on form 27 suggests that the potter started work rather earlier. *c.* AD 160–180. CP56 A9.1.
- 246 Sollemnis i 2a 18/31–31 SOLL[EMNI·OF] Lezoux.^a This was used on form 27 and on bowl of form 37, whose decoration suggests Hadrianic or early Antonine date. Stamps from the potter's other dies are known from Birdoswald, in the Hadrianic group from the Alley, and Castleford, in group of samian from pottery shop which burnt down in the 140s. *c.* AD 125–150. EB80 99.
- 247 Stabilis i 6b 31 [ST]ABILIS Rheinzabern.^a Stabilis is dated mainly by his forms, which include 31R and 32. This particular stamp occurs on forms 36 and Ludowici Tb. Late 2nd or early 3rd century. EB66 U/S.
- 248 Sulpicianus 1a 33 SVKPICIANI Lezoux.^a All the stamps recorded for Sulpicianus come from the same die as this. There are two examples in group of late Antonine samian from London (Dickinson 1986, 3.207–8) and one from Haltonchesters. His output includes the later type of Central Gaulish form 38. *c.* AD 160–200. SMG82 2069.
- 249 Taburus 1a 29 OFTABVR La Graufesenque.^a None of the decoration of this bowl survives. Taburus's use of another die on forms 24, Ritt. 8 and Ritt. 9 makes pre-Flavian date certain. *c.* AD 50–65. LH84 CII.
- 250 Tasgillus ii 9b 33 (almost complete) TAsGILLIM Lezoux.^a This potter began his career at Les Martres-de-Veyre under Trajan and moved to Lezoux in the Hadrianic period, where he continued to work into the 140s. The stamp is known on forms 18/31R, 27 and 42 and there is one example from Camelon. Stamp from the die after it had been broken and reused occurs at Rough Castle. *c.* AD 125–150. SM76 CTM.
- 251 Tauricus i 10a 33 [TAVRIC]VF Lezoux.^b There is no site dating for this stamp, but its occurrence on form 79 suggests that the die was still in use after AD 160. His other stamps are recorded from Mumrills, in pit at Alcester filled in the 150s and in the Wroxeter Gutter find (7). *c.* AD 150–180. CP56 A9.5.
- 252 Teddillus 1a 33 [TE]DILL·F Lezoux.^a Teddillus is known to have stamped forms 18/31 and 27, but this particular stamp has only been found so far on form 33. There is no conclusive site dating, but stamp from Hadrian's Wall (Chesters Museum) is almost certainly

- Hadrianic and six examples from Corbridge are unlikely to be pre-Antonine. *c.* AD 130–160. F72 ALK.
- 253 Tertius ii 4a 15/17R or 18R [TE]RT[I·MA] La Graufesenque.^a Tertius iii began work early, but probably not before *c.* AD 40, since his record includes few of the earliest samian forms. His stamps turn up in pit of *c.* AD 50–60 at La Graufesenque (publication forthcoming) and he may have continued working in the 60s, on the evidence of vessel with this stamp from Caerleon. *c.* AD 40–65. SP72 DXN.
- 254 Tintirio 1a 31 TINTIRIOM Lezoux.^a The potter was at work in the early to mid Antonine period, stamping forms 18/31, 18/31R, 27, 31, 31R and 80. This stamp is probably from one of his later dies, as it occurs on form 80. *c.* AD 155–175. LIN73C 82.
- 255 Titticus 1a 38 or 44 TI[TTICIO] (de Schaetzen and Vanderhoeven 1964, pl. XIII, 33) Lezoux.^c Dating evidence for this potter so far rests solely on his forms. Some are Hadrianic-Antonine, but this will be Antonine. *c.* AD 140–160. SM76 AVO.
- 256 Tituro 1a 33 TITVRONISQF Lezoux.^a (Stops in the centres of the Os missing on this example, therefore probably one of the earlier stamps from the die, since the stops are normally associated with worn lettering.) Site evidence: Wroxeter Gutter, Corbridge, Wroxeter Forum destruction, Benwell, Wallsend and Malton. Making forms 79, 31R, 80. *c.* AD 160–180. P70 GK.
- 257 Tituro 5b 31 TITVRONIS Lezoux.^b The use of this stamp on later 2nd century forms, such as 31R, 79R, 80 and Tx and the presence of other stamps of Tituro on Hadrian's Wall suggest range *c.* AD 160–190 for the potter. SM76 DAD.
- 258 Tituro 5b 33 TITVRONIS. For discussion, see no. 257. BE73 VI +.
- 259 Titus iii 5a 33 [TI]TI·MA[:] Lezoux.^b Early to mid Antonine. LIN73DI 175.
- 260 Titus iii 6a 31 [T]ITI[MA] Lezoux.^b The evidence for this potter includes stamps from Mumrills, Alcester (in pit filled in the 150s) and TÁC, Hungary (in group of burnt samian of *c.* AD 170). His forms include 18/31, 18/31R and, stamped with this particular die, 31R. *c.* AD 145–175. CP56 A8.4.
- 261 Tullo/Tullus 3a 33 TVLLVSF Pont-des-Rèmes.^c Stamps are known from Benwell, where it will belong to the later 2nd century occupation, and Newstead. *c.* AD 150–180. CWG82 5008.
- 262 Vagiros/Vagirus 8a 27 OYAFIP+ Lezoux.^c Though not uncommon, stamps of Vagiros have yet to be found in dated contexts. The potter's range of forms includes 28 and 80, suggesting an early to mid Antonine range, with *c.* AD 145–160 for this particular vessel. The stamp is presumably an attempt to render the name in Greek. ZE87 1069.
- 263 Vagiros/Vagirus 8a 27 Lezoux.^c See no. 262 above. L86 290.
- 264 (Probably) C. Valerius Albanus 3a 18 C·[WL·A·BA] La Graufesenque.^a This stamp was used on form 29 (before *c.* AD 85). It has been noted in wreck of *c.* AD 80 off Cala Culip, in Spain (Nieto *et al.* 1989, fig. 7, 34.1) and also at Cardean. *c.* AD 70–90. CL85 106.
- 265 Venicarus i 1a 18/31R or, less probably, 31R [VENIC]ARVS (Fischer 1969, 187, 19). This stamp is from die which was used at both Sinzig and Haute-Yutz; any examples in Britain are almost certainly from Sinzig. It occurs on form 18/31 in grave at Crundale, Kent, with other complete vessels, stamped by Lezoux potters who were not active before AD 150–160. Early to mid Antonine. BE73 VI BX.
- 266 Verinus 3a' 32 (burnt) [VERINVS]F Rheinzabern.^a This is from modified die, which originally had rounded end to the frame instead of diagonal one, as here. There is no site dating for Verinus, in spite of the large quantity of stamps recorded for him. However, his use of some of the later Rheinzabern forms, such as Ludowici RSa and RSc, suggests activity in the late 2nd or first half of the 3rd century. BWE82 54.
- 267 Verus vi 2c 32 etc. [VE]RVSFEC, in guide-lines (Ludowici 1927, 232, b). Verus vi was one of the East Gaulish 'Wandering Potters' (B. R. Hartley 1977, 251–61), and this particular stamp comes from die which was used at Rheinzabern (where the dish was made), Trier and Westerndorf. Late 2nd or early 3rd century. F72 BDM.
- 268 Verus vi 3g flat base [VE]RV2FE (Ludowici 1927, 232, i) Rheinzabern.^a There is no internal dating for this particular stamp, but the potter's use of forms 32 and Ludowici Tb and record from Niederbieber suggest range *c.* AD 180–240. SM76 BYC.
- 269 Victor v Incomplete 1 33 VIC..o[Rheinzabern.^c The die slipped when being applied to the pot and the stamp is badly distorted. It may be the same as one of the stamps already noted for Victor v, and is certainly in his style, but cannot certainly be equated with any of them. As so often with Rheinzabern stamps, there is virtually no dating evidence, but his output includes some of the later Rheinzabern forms, such as 32 and Ludowici Tb and Te. Late 2nd or early 3rd century. BWE82 54.
- 270 Victorinus ii 7j 31R VICTORINVS Rheinzabern.^b The stamp occurs on forms 31, 31R and 32 and at Brougham cemetery. There is no useful site dating for Victorinus's plain ware, but his decorated ware shows him to have been one of the latest Rheinzabern potters, working in the first half of the 3rd century. CP56 A8.1.
- 271 Victorinus ii 7j 31R VICT[ORINVS] Rheinzabern.^b See no. 270. LIN73F 371.
- 272 Viducus ii 4a 33a VIDVCOS·Γ Les Martres-de-Veyre.^a This stamp occurs in the London Second Fire deposits, while one of his others is recorded from Malton. *c.* AD 100–120. CP56 A9.4.
- 273 Virius i 1a 18/31R VIRIVSFE La Madeleine.^a This stamp is datable only by its form, which belongs to the Hadrianic-Antonine range. SM76 BYG.
- 274 Vitalis iii 2a 18/31 V+AL[IS·M·S·F·] Les Martres-de-Veyre.^a This stamp is noted from London (in the Second Fire deposits), Corbridge and Malton. The die was therefore in use in the Trajanic period, and perhaps also early under Hadrian, though its use on form 15/17, which was rarely later than Trajan at Les Martres, makes the latter less likely. *c.* AD 100–120. SP72 CQJ.

- 275 Vitalis viii 5b either 31 or 31R [VIT]ALISFE Rheinzabern.^bNo site dating evidence for stamp, but appears on form 32. Also makes form 40. Started at Kräherwald and then moved to Rheinzabern. Occurs in pottery store at Langenhaim destroyed in the early 3rd century (Simon and Köhler 1992, tafn 34–5). *c.* AD 160–200. P70 GR.
- 276 Vitalis viii Uncertain 2 31 VITAKISFE retrograde. Rheinzabern.^bNo other examples of this stamp have been noted by the writer. Vitalis viii began work at Kräherwald, but some of his other stamps are known from Rheinzabern and this particular one is almost certainly from there. Stamp from Holzhausen, from die used at Rheinzabern, points to activity in the later 2nd or early 3rd century, as does his use of some of the later East Gaulish forms. SMG82 2077.
- Unidentified*
(Arranged chronologically and by site)
- 277 JO on form 24, South Gaulish, pre-Flavian. P70 PC, PD.
- 278 OFL[on form 29, without surviving decoration, South Gaulish, *c.* AD 50–65. LH84 K50.
- 279 / \ \ [on form 24, South Gaulish. Neronian. CP56 A9.10a.
- 280 OF·I[retrograde on form 24, South Gaulish. Neronian. F72 BRW.
- 281 ...ICINI? on form 27g, South Gaulish. Neronian. SH74 TX.
- 282 .O[or JO. on form 15/17 or 18, South Gaulish. Neronian. H83 1363.
- 283 I[or]I on form 27g, South Gaulish. Neronian. H83 557.
- 284 Oi[on form 27g, South Gaulish. Neronian or early Flavian. HG72 JN.
- 285 JIN on form 27g, footring slightly worn. South Gaulish. Neronian-early Flavian. LH84 K56.
- 286 Edge of stamp form 27, South Gaulish. Neronian or early Flavian. LIN73C 89.
- 287 Illegible stamp 27, South Gaulish. Neronian or early Flavian. LIN73C 175, 178, 182.
- 288 VI[or]IA on form 27g, South Gaulish. Flavian. EB80 148.
- 289 Trace of stamp form 27, South Gaulish. Flavian. LIN73A 128.
- 290 VI[or]IA on form 27g, burnt, South Gaulish. *c.* AD 70–95. EB80 98.
- 291 JC on form 27, South Gaulish. Flavian or Flavian-Trajanic. CP56 A8.20.
- 292 Rosette on form 27, South Gaulish. Flavian or Flavian-Trajanic. F72 CAS.
- 293 Fragmentary stamp on form 27g, South Gaulish. 1st century. DT74II AAC.
- 294 M[on form 27, South Gaulish. 1st century. EB80 98.
- 295 M (?) cursive signature on form 30 or 37, Central Gaulish (Les Martres-de-Veyre). Trajanic. BE73 I PM.
- 296 ..\ IIRV[retrograde (?) on form 27, from Les Martres-de-Veyre. Trajanic. CP56 A9.7.
- 297]VXMIII? on form 18/31, in the fabric of Les Martres-de-Veyre. First third of the 2nd century. HG72 LL.
- 298 Trace of stamp form 27, Central Gaulish Lezoux. Trajanic or Hadrianic. LIN73C 82.
- 299 27 illegible. Central Gaulish. Hadrianic. LCL69 4.
- 300 Rosette stamp on concave base, Central Gaulish. Hadrianic or early Antonine? BE73 VI +.
- 301 IVIII.[on form 31, Central Gaulish. Hadrianic or early Antonine. F72 BWF.
- 302 JIM on form 18/31R, Central Gaulish. Hadrianic or early Antonine. LIN73C 83.
- 303 Abraded unidentified stamp on cup footring, Central Gaulish. Hadrianic or early Antonine. SPM83 450.
- 304 MA[on form 27, Central Gaulish. Hadrianic or early Antonine. WB80 2028.
- 305]V/C or]IC on form 18/31, Central Gaulish. Hadrianic or early Antonine. Z86 659.
- 306 JIM Dish (?)R(?), Central Gaulish. Hadrianic or Antonine. EB66 6/4.
- 307 SACRI[?] on form 18/31R or 31R. Central Gaulish. Hadrianic or Antonine. SM76 CJF.
- 308 Fragment of stamp on probable form 27, probably Lezoux fabric, certainly Central Gaulish, appears to read: D[. Probably Hadrianic-Antonine date. WP71 I AN.
- 309 SA[on form 33, burnt on the rim, East Gaulish? (Argonne?). *c.* AD 150–200. Z86 657.
- 310]IV or]II[, flake from Les Martres-de-Veyre. First half of the 2nd century. EB66 6/14.
- 311]CISA.F? on form 31, Central Gaulish. Antonine. BE73 VI AA.
- 312]IVA[? on form 38 or 44, Central Gaulish. Small bowl, with the flange or bead deliberately chipped off, presumably after accidental fracture. Antonine. BE73 VI AB.
- 313 Part of rosette stamp on form Curle 15 or 23, Central Gaulish. Antonine. BWE82 63.
- 314 Abraded unidentified stamp on form 31, Central Gaulish. Antonine. BWE82 17.
- 315 An eight-petalled rosette on form 46, Central Gaulish. Antonine. BWE82 64.
- 316 CAONR retrograde, almost certainly an illiterate stamp, on form 33, Central Gaulish. Antonine. BWE82 +.
- 317 An eight-petalled rosette on form 46, Central Gaulish. Antonine. Unidentified. CP56 A9.1.
- 318 FR[(?) on form 33, heavily burnt, Central Gaulish. Antonine. CP56 A9.3.
- 319 D[on form 31, Central Gaulish. Antonine. CP56 A9.6.
- 320]OF on form 33, Central Gaulish. Antonine. CP56 A9.9a P103.
- 321]BE:V or]RI:V on form 33, Central Gaulish. Antonine. CP56 A9+.
- 322 Fragment only unidentified stamp on form 31, Central Gaulish. Antonine. CP56 D6.1.
- 323 D[on form 33, Central Gaulish. Antonine. F72 BVA.
- 324 JM? on form 31, Central Gaulish. Presumably Antonine. HG72 CE.
- 325 Unidentified stamp on form 31?, Central Gaulish. Antonine. L86 290.
- 326 SE[retrograde, on form 37, from mould inscribed below the decoration in capital letters before firing, Central Gaulish. Probably Antonine, in view of the

- one surviving decorative detail, but not attributable to particular potter. L86 118.
- 327 SI[or]IS on form 33, Central Gaulish. Antonine. LCL69 3.
- 328 The edge of stamp only 31, Central Gaulish. Antonine. LIN73EII 10.
- 329 VIVI[, illiterate stamp on form 33, Lezoux fabric. Antonine date. P70 JO.
- 330 Form 33, Central Gaulish fabric, probably Lezoux but not certain. Fragment of stamp showing bottoms of letters only. Antonine. 2nd century. P70 PL.
- 331]MA on form 33, Central Gaulish. Antonine? SH74 FT.
- 332 IIIAI...IIIA on form 31, Central Gaulish. Antonine. SM76 ANA.
- 333]\VYIV[retrograde, on form 18/31R or 31R, Central Gaulish. Antonine. SM76 CER.
- 334 AIIIIIAM on form 33, Central Gaulish. Antonine. SM76 CER.
- 335 P[on form 33, Central Gaulish. Antonine. SM76 CEV.
- 336 C[on form 31, Central Gaulish. Antonine. SM76 CLY.
- 337]ACIMA(?) on form 38 or 44, Central Gaulish. Antonine. SM76 +.
- 338 MIV[or MM[on form 33, Central Gaulish(?). Antonine(?). SM76 CRU.
- 339 Form 38 or 44, Central Gaulish. The surface of the stamp has flaked, leaving it illegible. Antonine. SM76 CTM.
- 340 A twelve(?) petalled rosette on form 46 (burnt), Central Gaulish. Antonine(?). SM76 CZC.
- 341]X...III on form 33, Central Gaulish. Antonine. SM76 +.
- 342 M[on form 31, Central Gaulish. Antonine. The beginning of the frame has swallow-tail. SMG82 2024.
- 343 Unidentified stamp fragment on form 33, Central Gaulish. Antonine. SPM83 291.
- 344 C...III on form 33, Central Gaulish. Antonine. SPM83 482.
- 345 A[on form 33, Central Gaulish. Antonine. SW82 502.
- 346 CVC[on form 33, Central Gaulish. Antonine. TP69 49.
- 347 Unidentified stamp fragment on form 33, Central Gaulish. Antonine. TP69 64.
- 348]MA(?) on form 31, Central Gaulish. Antonine. WC87 23.
- 349 Edge of stamp on form 31, Central Gaulish. Antonine. WC87 25.
- 350 III/\ [on form 33, Central Gaulish. Antonine. WC87 50.
- 351 Fragment of stamp on form 31 of Lezoux fabric, appears to read: AAI-[. Antonine. WP71 I AN.
- 352 C[form 18/31R, Lezoux fabric. c. AD 135–165. P70 GH.
- 353 Form 18/31R or 31R, Lezoux fabric probably, circle round fragment of stamp, letter possibly]E: c. AD 145–175. P70 NZ.
- 354 Fragmentary stamp, reads]MAN on form 33, Central Gaulish fabric and probably Lezoux. The fabric looks Antonine in date but the form of the letters does not. Could be dated in the 2nd century, mid to late Antonine. P70 GK.
- 355 Burnt stamp fragment on form 31, Central Gaulish. Mid to late Antonine. BWE82 12.
- 356]M on form 31, burnt, Central Gaulish. Mid to late Antonine. L86 265.
- 357 Form probably 31R, of Lezoux fabric. Fragmentary stamp reading:]M Probably mid to late Antonine. P70 PR.
- 358]NI [, bowl, probably form 38, of Lezoux fabric. Mid to later Antonine. P70 PK.
- 359 CAX...MI on form 31, Central Gaulish. Mid to late Antonine. CP56 A9a.
- 360]A on form 31R, Central Gaulish. Mid to late Antonine. SM76 CRU.
- 361 B[on form 31R, Central Gaulish. Mid to late Antonine. ZE87 847.
- 362]OFI Unidentified stamp on form 31R, Central or East Gaulish. Probably late Antonine. EB66 +.
- 363 Form 79 or 80 of Lezoux fabric, with fragment of unidentifiable stamp. Late Antonine. P70 UF.
- 364]VOP]IKKAA on form 79R, Central Gaulish. An illiterate stamp, previously noted on the same form in collection of late 2nd century samian from New Fresh Wharf, London (Dickinson 1986, 197, 3.242). Late Antonine. CP56 A9.5.
- 365 Illiterate stamp II\·AII·AAIA on form 33, fabric of standard late Lezoux type. Late 2nd century. P70 PK.
- 366 Broken stamp fragment on form 31R, very abraded, East Gaulish. Late 2nd or 3rd century. BWE82 56.
- 367 Stamp fragment on form 32 etc., Rheinzabern. Late 2nd or 3rd century. BWE82 7.
- 368 Stamp fragment on form 31R, Rheinzabern. Late 2nd or early 3rd century. BWE82 15.
- 369 Rosette stamp on form 46, East Gaulish and probably from Rheinzabern. Late 2nd or 3rd century. P70 IG.
- 370 Form 32 etc. of East Gaulish fabric, likely to be Rheinzabern, fragmentary stamp:]SF. Late 2nd or 3rd century. P70 IG.
- 371]E on form 31R, East Gaulish, impressed very deeply. Late 2nd or 3rd century. LIN73F 1.
- 372]V ? on form 31R, Trier. Late 2nd or 3rd century. ZE87 359.
- 373 A rosette with eight spokes on form 46, East Gaulish (Rheinzabern). Late 2nd or early 3rd century. SW82 477.
- 374 P-I[on form 31, East Gaulish. Late 2nd or first half of 3rd century. F72 ARO.
- 375 VE..... on form 31R, East Gaulish (Rheinzabern). Late 2nd or first half of the 3rd century. H83 1248.
- 376]MO\ [? on form 31R, East Gaulish (Trier). Late 2nd or first half of the 3rd century. M82 29.
- 377 FAT... on form 33 (burnt), East Gaulish? Late 2nd or first half of the 3rd century. SM76 CZO.
- 378 Form 31, East Gaulish (Trier). No stamp, but rudimentary label incised in the centre of the base (by stylus?). This occurs sometimes at both Trier and Rheinzabern. 3rd century. SMG82 131.
- 379 Form 46(?), burnt, Central Gaulish. No stamp survives. There is a deep groove around the footing,

with faint grooves above and below the external junction of base and wall. Antonine. SM76 CWQ.

Graffiti

There are 24 fragmentary graffiti on samian vessels:

South Gaul: 4 graffiti, forms 15/17, 18 (2) and 24, dating from *c.* AD 45–55 to Flavian.

Les Martres-de-Veyre: a single graffito on a form 18/31.

Lezoux: 15 graffiti, forms 18/31–31, 27, 31 (4), 31R (2), 33 (5), 72?, and a dish, dating from Hadrian to early Antonine to *c.* AD 160–190.

East Gaul: 4 graffiti, forms 31, 33(3), dating mid-late Antonine to late 2nd to early 3rd century.

Most occur on the undersides of footrings (13), one on a rim, and the rest on body sherds. There are several with only single letters: W, C, X, N. All are inscribed after firing.

Form 31R, Central Gaulish, has a graffito]iivt[? inscribed under the base. Mid to late Antonine. BWE82 62.

Form 31, Central Gaulish. No stamp survives, but there is a graffito AM[, inscribed on the lower wall. Antonine. SM76 AHW.

Form 31, Central Gaulish, stamp no. 62, inscribed under the base, AS, *c.* AD 155–185. SW82 385.

Form 33, Central Gaulish, stamp no. 36, inscribed under the base after firing, TITI, *c.* AD 150–180. WC87 7.

Form 33, Central Gaulish, stamp no. 9, inscribed inside the footring, VX I, *c.* AD 155–185. LC84 16.

Form 33, Central Gaulish, stamp no. 234, inscribed under the base, IV, *c.* AD 130–160. CP56 Cellar 3.

Closed form, probably form 72, with inscribed graffito, RS? *c.* AD 150–200. SM76 DAE.

9.3 Decorated Samian

Brenda Dickinson and Joanna Bird

This catalogue has been compiled from reports by Brenda Dickinson and Joanna Bird. Site contexts are noted at the end of each entry, together with a reference to the original reports, which are all held in the archive. These are denoted as follows: UC (Dickinson 1995a), LC (Dickinson 1995b) and WIG (Dickinson 1993) for the three areas of the city, HG (Bird 1985) for the sherds from Holmes Grainwarehouse (HG72), and EG (Bird 1995; 2005) for the East Gaulish vessels. The catalogue also includes selected vessels from the Waterside sites (WNW88, WF89, WO89) and from Castle West Gate (CWG86) in the Upper City.

The decorated sherds have been arranged primarily by kiln source, chronologically and then by site. * = not illustrated.

South Gaulish (Figs 192–4)

Brenda Dickinson

- 1 Form 29, South Gaulish. Lower zone, with a leafy scroll or festoon, containing crossed tendrils and a small roundel. The lower concavity contains a bird to right (O.2227A). The scroll and roundel are on a bowl from Colchester (Calver Collection) stamped by Crestio and the crossed tendrils are on another of his bowls, from Valkenburg ZH (Glasbergen 1948,afb. 56, 3). The bird is on a bowl stamped by Gallicanus ii, from a large pit of *c.* AD 50–60 at La Graufesenque, which contains many of his vessels and those of some of his contemporaries (information from M. Alain Vernhet). *c.* AD 45–65. SP72 DSX. UC43.
- 2* Form 29, South Gaulish, stamped [SAL·ARI·A]P+: G. Salarius Aptus, Die 7a. The only surviving decoration is a series of vertical wavy lines in the lower zone. For a discussion of the potter's date, see stamp no. 224. *c.* AD 50–65. CP56 D1, A9a under portico. UC1.
- 3 Form 29, South Gaulish. Part of the upper zone, with a double festoon containing a spiral or leaf tendril and a tassel ending in an astragalus. A smaller festoon has almost certainly been inserted between pendants to fill the remaining space, which was too narrow to accommodate the larger festoon. This contains an eight-petalled rosette. The smaller festoon, an almost identical pendant and perhaps the astragalus which joins the festoons, are on bowls with basal stamps of Gallicanus ii in a pit group of *c.* AD 50–60 at La Graufesenque (information from M. Alain Vernhet) and astragalus pendants occur on bowls stamped by Carus i (Knorr 1919, taf. 20F) and Senicio (*ibid.* taf. 77L). *c.* AD 50–65. CP56 A10.8. UC2.
- 4 Form 29, South Gaulish. The lower zone of this bowl is exactly matched on a mould from La Graufesenque which has a cursive signature of Modestus i. The trifold motif, one particularly common on his bowls, and the leaf in the straight wreath are on a bowl from London, stamped internally, after moulding (Knorr 1952, taf. 42B). Neither of the hares in the medallion is paralleled in Déchelette, Hermet or Oswald. *c.* AD 50–65. EB80 116. UC33.
- 5 Form 29, South Gaulish. The poppy heads (Knorr 1919, taf. 13, 6), here in palisade formation, and twelve-petalled rosette (*ibid.* 12) are on a bowl from Vindonissa stamped by the Bassus ii-Coelus firm and in the distinctive style of these potters (Knorr 1952, taf. 10F). *c.* AD 55–70. CP56 D5–6.3. UC3.
- 6 Form 29, South Gaulish. The nautilus gadroons in the lower zone are on form 29 from La Graufesenque in the style of Germanus i (Hermet 1934, pl. 99, 6). They also appear, with the same dividers, on a bowl in the Hermet Collection stamped internally by Mommo, but with other motifs suggesting that the mould was by Germanus. *c.* AD 60–70. SH74 SF. LC11.
- 7 Form 30, South Gaulish. The double-bordered ovolo

- has a straight tongue, to which a rosette tip has been added. This was a fairly common practice on South Gaulish form 30s and this particular ovolo is known elsewhere with different rosettes added. The same one as this is on bowls in a group of unused samian from the early occupation of the fortress at York (Dickinson and Hartley 1993, 751, 2666–7). The large leaf is probably the one on form 30 in the style of Sabinus iii from London (Stanfield 1937, fig. 10, 41). *c.* AD 60–80. SH74 PK. LC10.
- 8 Form 29, South Gaulish. The upper zone has two leaf-tips, side-by-side. The lower zone probably consists of a scroll, with a bud (of the same general type as Hermet 1934, pl. 12, 40) in an upper concavity. Neronian or early Flavian. SMG82 138. WIG6.
- 9* Form 29, South Gaulish. The upper zone contains a scroll. The lower zone has a double medallion and a lanceolate leaf, probably on a tendril in the corner of a panel. The fabric and glaze suggest Neronian-Flavian date. *c.* AD 65–80. CP56 A8.29. UC4.
- 10 Two joining sherds of form 29, South Gaulish. The scroll in the upper zone includes an M, upside down: this is part of a signature which should read MA, retrograde, as on a bowl from Heddenheim with an incomplete stamp, JNI, in the base (Fischer 1973, 185, 9). It is also on a bowl from the Nijmegen fortress stamped internally by Primus iii (Museum Kam 232), and on bowls from La Graufesenque and Leicester without surviving stamps. All these bowls have scrolls with the same, or similar, buds. *c.* AD 65/70–80. SP72 DOA, DTY. UC45.
- 11 Form 37, South Gaulish. The basal wreath is formed of overlapping impressions of a leaf which was used principally, if not exclusively, by Germanus i. It occurs on form 29 with his stamp, from a pit at Verulamium which was filled by *c.* AD 75 (B. R. Hartley 1972, D16). *c.* AD 70–80. WB80 2016. UC40.
- 12 Form 29, South Gaulish, drilled for riveting. The unusually deep upper zone has a series of vertical, split-ended rods, interrupted by a kneeling stag (O.1745). The animal is on form 29 from Rottweil stamped by Cabucatus and on form 37 from Richborough with a mould-stamp of Mercator i (Bushe-Fox 1928, pl. XXVII, 11). *c.* AD 75–85. CP56 A8.14. UC5.
- 13 Form 37, South Gaulish. An unusually small example of the form, with a panel containing a prancing dog (D.924 = O.1970) in a chevron medallion. The adjacent panel contains a saltire, with bunches of grapes at the sides. The dog is basically a pre-Flavian type and probably went out of use by the mid 70s. Chevron medallions, though not this particular one, occur in a Neronian context at La Graufesenque. The wavy-line borders and rosette junction-mask are crisp and contribute to the overall impression of a very early example of the form. *c.* AD 65/70–80. CP56 A8.31. UC6.
- 14 Form 37, South Gaulish. Three zones of decoration are visible, with: 1) two sacrificers (D.462 = O.974), alternating with freestanding saltires, including trifold motifs at the sides and triple poppy heads at the bottom. 2) A maenad, between panels with three rows of chevrons in vertical series. 3) S-shaped gadroons? There are no close parallels for any of the details and the decoration does not strongly suggest origin at La Graufesenque, though the fabric and glaze are not noticeably different from the products of that factory. In any case, this bowl is unlikely to be later than *c.* AD 80. *c.* AD 65/70–80. CP56 D6.1. UC7.
- 15 Form 37, South Gaulish. The decoration includes a wreath of trifid motifs over a striated spindle, probably in a scroll. The wreath is on form 29 from a Neronian group at La Graufesenque with an internal stamp of Celadus (Haalebos 1979, 134), which has links with bowls from signed moulds of Senicio. However, this piece is Flavian, though almost certainly not late in the period, in view of the crisp border which divides the zones. *c.* AD 70–85. M82 101. WIG10.
- 16 Form 29, South Gaulish. The zone of hollow bifid motifs are on a bowl from Period 1B-C at Fishbourne (before *c.* AD 75: Dannell 1971, no. 19), by an early Flavian potter who used the same type of beaded border as here. The main part of the lower zone is occupied by a palisade of lanceolate leaves. *c.* AD 70–85. SP72 DKV. UC44.
- 17 Form 37, South Gaulish. The scene with a man fishing from rocks originated in Germanus i's workshop, but was used, with variations, by later potters working in his tradition. A close parallel occurs at La Graufesenque on a stamped bowl of Germanus (Hermet 1934, pl. 22, 204). *Cf.* also a bowl of the Flavian-Trajanic potter, L. Cosius, from Rottweil (Knorr 1907, taf. XIV, 1). The Lincoln piece looks Flavian, on the evidence of fabric and glaze. *c.* AD 70–90. CP56 A8.12. UC8.
- 18 Form 37, South Gaulish. A larger, but closely similar version of the double-bordered ovolo, with tongue on the right and tip turning to the right, was used by Tilhard's Groupe A on bowls from Espalion, where kilns are suspected, but have yet to be found (M. J-L. Tilhard, unpublished thesis). The Espalion assemblage also contains a series of similar chevrons, but none exactly matching this. However, this type of ovolo was also used at La Graufesenque (M. Alain Vernhet, *pers. comm.*) and, as it is virtually impossible to distinguish between the fabrics of La Graufesenque and those of the Espalion bowls by eye, the origin of the Lincoln piece must remain unresolved. Flavian date is not in doubt, however. *c.* AD 70–90. SH74 LG. LC9.
- 19 Form 37, South Gaulish. A central wreath is composed of trifid motifs which were used on form 29 by the Bassus ii-Coelus firm (Knorr 1919, taf. 13, 4) and on form 37 by several potters, including Germanus i and Frontinus. *c.* AD 70–90. SP72 DSL. UC46.
- 20 Form 37, South Gaulish. The mould-signature below the decoration belongs to Pontus/Pontius and reads]ont[retrograde, though the o looks more like a blind a, as often on his signatures. The leaf in the scroll is on a bowl from Nijmegen with a full signature Pontim retrograde (Mees 1995, taf. 167, 11). *c.* AD 70–90. SPM83 302.

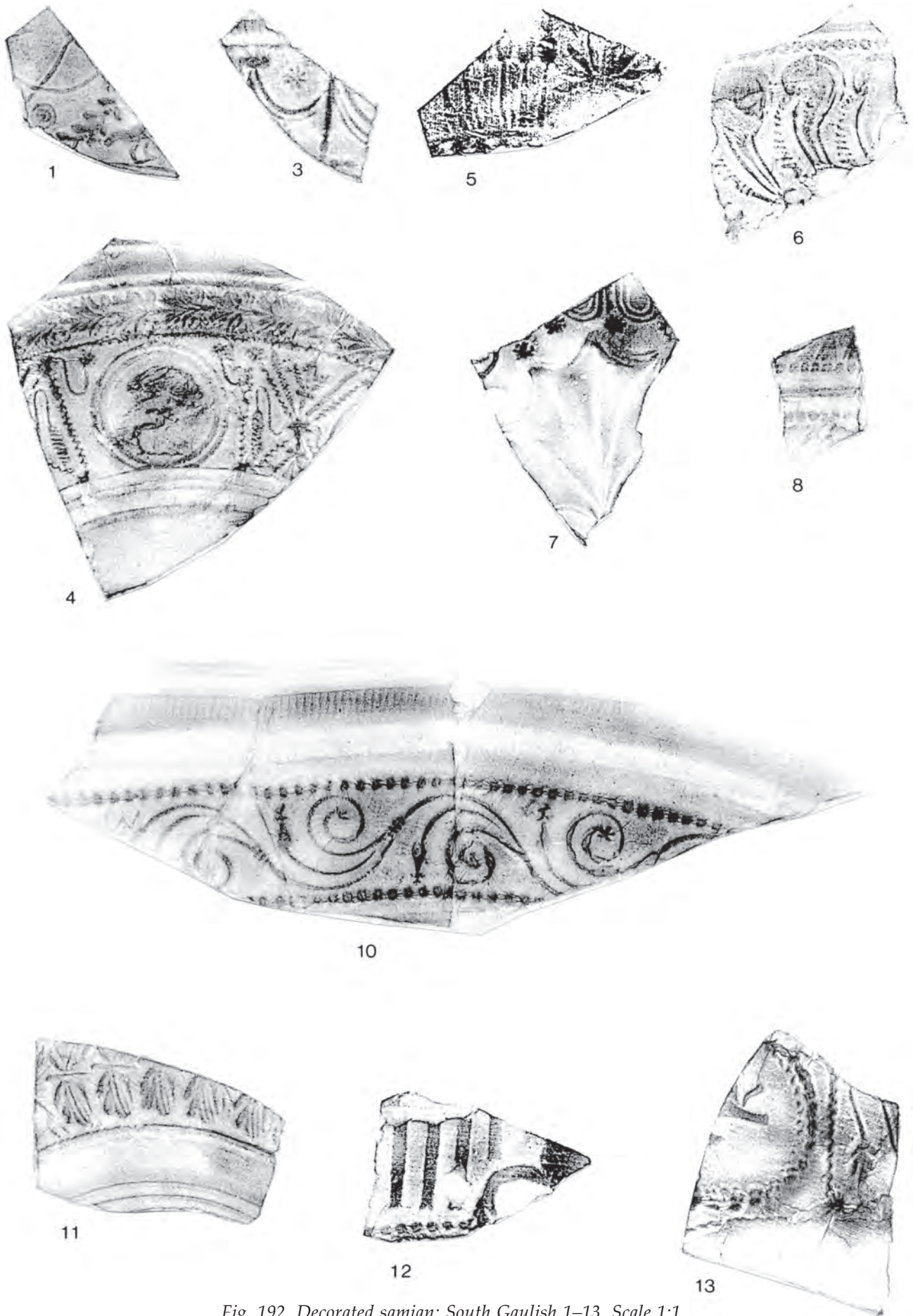


Fig. 192. Decorated samian: South Gaulish 1-13. Scale 1:1.

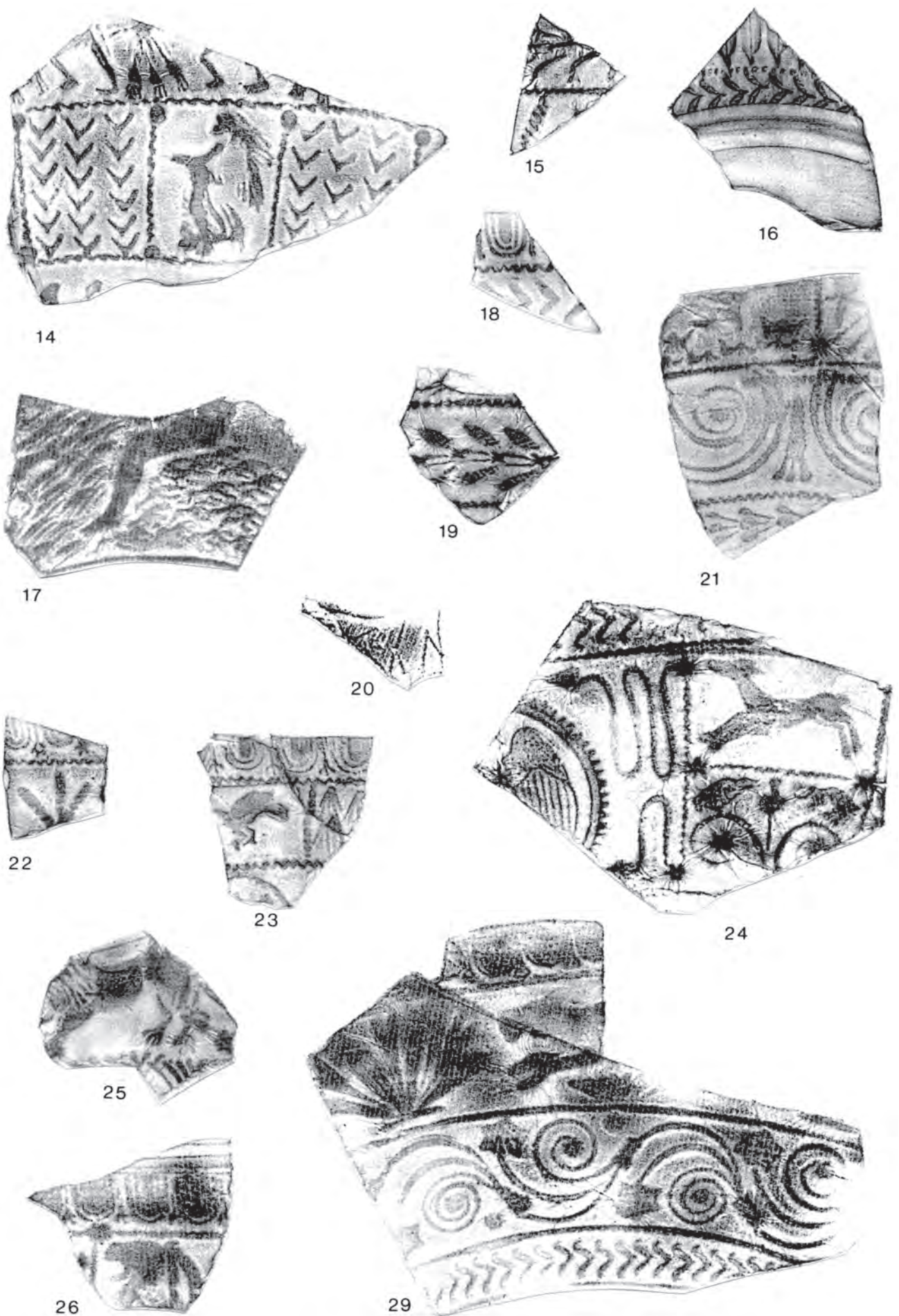
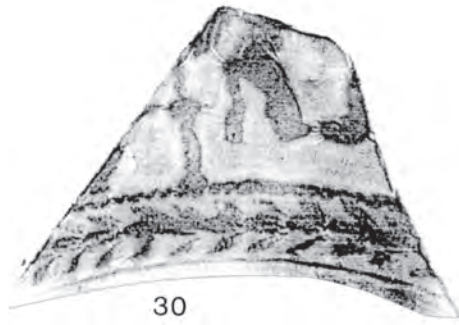
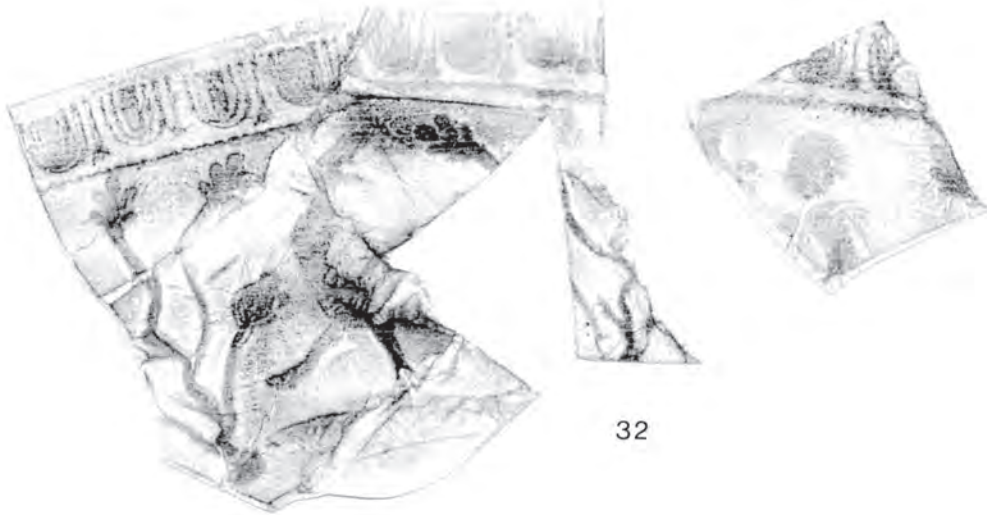


Fig. 193. Decorated samian: South Gaulish 14–29. Scale 1:1.

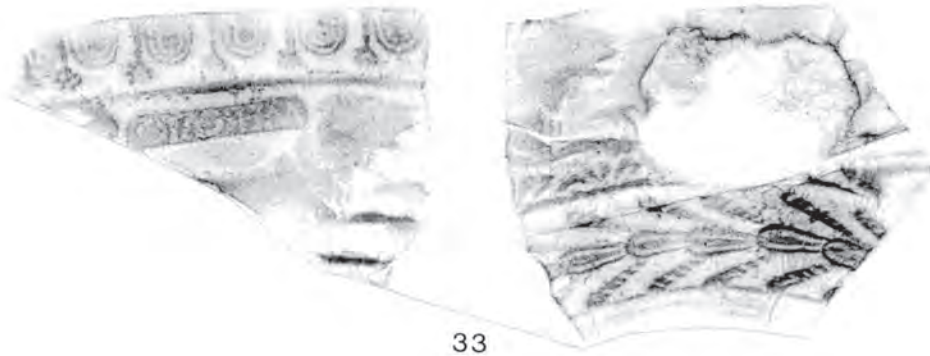
- 21 Form 37, South Gaulish. The upper surviving zone has a panel with two rows of polygonal leaves, with only the edges impressed. The adjacent panel is a saltire, with diagonal wavy lines at the bottom and tulip leaves at the sides. The lower zone has double festoons with spirals and a tassel ending in a tiny triple poppy-head motif. The same motif is used in the basal wreath. No close parallels have been found for the individual motifs; the bowl is in the transitional style between forms 29 and 37, when zonal decoration and sharp wavy-line borders were still in use, and so it will belong to the period *c.* AD 75–90. M82 145. WIG11.
- 22 Form 37, South Gaulish. The ovolo, with narrow core and four-pronged tongue, occurs on a bowl from Carlisle in a deposit dated before AD 85 and probably belonging to the early 80s (Dickinson 1992, 54, 1). It is also known in Scotland, at Camelon and Elginhaugh. The trifold motif may be made up of separate spindles, as on a bowl with the same ovolo from Chelmsford (Rodwell 1987, fig. 45, 14). *c.* AD 75–95. SP72 DEA. UC47.
- 23 Three fragments of form 37, South Gaulish. The trident-tongued ovolo was used by Severus iii and Pontus, and occurs in the Pompeii Hoard of AD 79 (Atkinson 1914, no. 56). The zone of small panels includes a bird to left (similar to O.2269) and two rows of pointed leaf-tips. The use of beads for dividing panels is unusual in South Gaul, but they appear occasionally on bowls with internal stamps of Severus iii, for what it is worth. *c.* AD 75–90. SP72 DTG, DTY. UC48.
- 24 Form 37, South Gaulish. This bowl is almost certainly by Frontinus, who regularly used panels with medallions and corner tassels, and divided other panels horizontally, as here. The chevrons in the upper wreath and the corner tassels in the panel with the medallion are on a bowl with a mould-stamp from Richborough (Simpson 1968, pl. LXXXI, 23). The cogged medallion and doe (O.1808A) are on a signed mould from La Graufesenque (Hermet 1934, pl. 85, 2, where the decoration is shown as if on a bowl). The spirals and poppy head are on a signed mould for form 29 from the same factory. The decoration also includes a pair of Nile geese (*ibid.* pl. 28, 68) and an eagle. The decoration seems to be closed by another wreath. *c.* AD 75–100. CP56 A9.35. UC9.
- 25 Form 37, South Gaulish. The lion to left (D.763 = O.1438), grass-tufts (Hermet 1934, pl. 14, 87) and rosette are on a bowl from the Bregenz Cellar in the style of a potter working in the tradition of Germanus i. *c.* AD 85–110. CL85 106. UC50.
- 26 Form 37, South Gaulish. The trident-tongued ovolo is on a signed bowl of Biragillus i from Vaison-la-Romaine. A panel contains a Diana and hind (O.104); this is on a bowl in his style from Geneva, which probably has the same ovolo (Paunier 1981, 327, 109). *c.* AD 85–110. CP56 A8.17. UC10.
- 27* Form 37, South Gaulish. The trident-tongued ovolo was used by Florus iv on moulds from Montans, though their decoration is standard for Flavian-Trajanic bowls at La Graufesenque. A coarse cable border divides it from the main zone of decoration. *c.* AD 85–110. CP56 A9.31. UC11.
- 28* Form 37, South Gaulish. One panel includes a horizontal 'drumstick' (Knorr 1919, taf. 57, 20) between hoops (probably with rosettes at the ends), the latter being a device of Mercator i; *cf.* a bowl from Gunzburg (*ibid.* textbild 47). The adjacent panel has a Diana and hind, which he also used (*ibid.* pl. 57, 1). *c.* AD 85–110. CP56 A9a.8b. UC13.
- 29 Form 37, South Gaulish. A bowl in the style of Mercator i, with his commoner, trident-tongued ovolo (Knorr 1919, taf. 57, 19). The upper zone contains alternating dogs (D.928 = O.1994) and plants (Knorr 1919, taf. 57, 11, arranged in threes) and partly-impressed grass-tufts (*ibid.* 13). Similar zones, with different animals, occur on stamped bowls from Vindonissa (*ibid.* G) and Rottweil (*ibid.* H). Mercator only rarely used chevron wreaths, and then normally on bowls with a different ovolo. Calvus i, however, many of whose motifs are repeated in Mercator's work, used them. The scroll, with its ivy leaves (*ibid.* 25), 'butterfly' ties (*ibid.* 16), spirals and blurred rosettes is closely paralleled on form 29 from Bregenz, stamped OFCVLVI (*ibid.* taf. 18), with a miscut die of Calvus. *c.* AD 85–110. CP56 A10.6. UC14.
- 30 Form 37, South Gaulish. One of the panels contains a pair of Cupids (D.268 = O.406 and O.435). Both are on a bowl from La Graufesenque with a mould-stamp of C. Iulius Sa-. The wreath of trifold motifs is on bowls from the fort at Ilkley and in the Bregenz Cellar find (Jacobs 1913, nos 13–14). *c.* AD 85–110. CP56 E1. UC15.
- 31* Form 37, South Gaulish. Only the bottom of the ovolo survives, including one trident tongue. The decoration includes a hare to right and, probably, two reversed S-shaped gadroons. *c.* AD 85–110. CP56 A9.26. UC16.
- 32 Form 37, South Gaulish. The trident-tongued ovolo is on stamped bowls of Crucuro i from Bath and Colchester. It is also on bowls whose decoration owes much to the work of Germanus i, and whose principal feature is a tree, as here. For the ovolo and a similar tree, *cf.* Holt (Grimes 1930, fig. 37, 41). The doe (D.881 = O.1755), originally used by Germanus, is on a bowl in the Flavian-Trajanic Bregenz Cellar hoard, with the grass-tufts and a similar tree (Jacobs 1913, no. 12). The huntsman with horn is apparently unknown. *c.* AD 85–110. EB80 81. UC34.
- 33 Form 37, South Gaulish, with mould-stamp MERCATO retrograde, in the decoration (see stamp no. 144). The ovolo, with tongue ending in a rosette with a central dot, is on a stamped bowl from Günzburg (Knorr 1919, textbild 47). The lion is D.747 = O.1400. For the trifold basal wreath and grass-tufts, see Knorr 1919, taf. 57, 12–13). *c.* AD 85–110. EB80 116. UC35.
- 34* Form 30, South Gaulish. A panel with a saltire with striated spindles at the sides is followed by one with a semi-naked figure to right, with hand on knee. The spindle is perhaps one used by Mercator i (Knorr 1919, taf. 57, 17), which is on stamped bowls from



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Fig. 194. Decorated samian: South Gaulish 30-6. Scale 1:1.

Rottweil (*ibid.* taf. 57A), London (formerly Guildhall Museum) and Southwark. The coarse cable border between the panels suggests Flavian-Trajanic date. *c.* AD 85–110. EB82 4. UC38.

- 35 Form 37, South Gaulish. The ovolo, with tongue ending in a trident tilted to the right, is on a stamped bowl of L. Tr-- Masc(u)lus at La Graufesenque. The hare (D.941 = O.2056) is on a bowl with the same stamp from Hof Steinhausen (Knorr 1952, taf. 37A). The other panel has a palm (Hermet 1934, pl. 14, 82), between satyrs (O.597). *c.* AD 85–110. SB85 120. WIG14.
- 36 Form 37, South Gaulish. The large ovolo, with tongue at the left-hand side, was used at La Graufesenque in the Flavian-Trajanic period and occurs on bowls from the Bregenz Cellar find (Jacobs 1913, no. 34) and Holt (Grimes 1930, fig. 36, 25). The chevron festoon is probably repeated in a zone with tassels between. It occurs, probably with the same stirrup leaf, on another bowl from Holt which has an ovolo used by the same potter, or group of potters (*ibid.* fig. 35, 19). All the details are on a bowl from Little Chester (Dickinson 1985b, 85, 55). *c.* AD90–110. CP56 A9.35. UC12.

Central Gaulish

Les Martres-de-Veyre (Fig. 195)

Brenda Dickinson

- 37 Form 37, Central Gaulish, in the style of Drusus i (X-3) of Les Martres-de-Veyre. The decoration includes a Cupid (D.234 = O.389) and spirals (Rogers S63), both of which appear on a bowl from Colchester (S. & S. 1958, pl. 11, 139). The column (Rogers P85) is on a bowl from London (*ibid.* pl. 12, 144). *c.* AD 100–120. CP56 El. UC17.
- 38 Form 37, Central Gaulish, in the fabric of Les Martres-de-Veyre. The decoration is in the style of the mould-maker X-13, whose moulds were used by Donnaucus and Ioenalis. This bowl has part of a mould-signature below the decoration, perhaps D[. One panel involves striated spindles in the bottom part of a saltire, as on a bowl from London (S. & S. 1958, pl. 44, 513). The adjacent panel contains a sphinx to left (O.857), over a row of rings. The figure is on form 29 from Caerwent (S. & S. 1958, pl. 44, 502). CP56 E7.1 (but bag marked E7.2). UC18.
- 39* Form 37, Central Gaulish, in the style of Drusus i (X-3) of Les Martres-de-Veyre. The Cupid (D.231 = O.384) is on a bowl from Holt (Grimes 1930, fig. 42, 196). The tripod at the top of the border (Rogers Q91), beads (Rogers A4) and seven-beaded rosette (Rogers C280) are all on a bowl from Manchester (S. & S. 1958, pl. 15, 193). *c.* AD 100–120. CP56 F7.2. UC19.
- 40 Form 30, Central Gaulish, in the fabric of Les Martres-de-Veyre. The decoration is in the style of the potter X-11, who supplied moulds to both Donnaucus and Ioenalis. The details are: ovolo (Rogers B59), hunter (D.623 = O.167), boar (D.834 = O.1666), large and small ram's-horn motifs (the larger being Rogers 370 or 371) and seven-beaded rosette (Rogers C280). The frond above the hunter is not clear. The figure-types are on bowls from Les Martres (Terrisse 1968, pl. XXVII, 374 and pl. XXXVI, 1007, respectively). The wreath is on a bowl from London (S. & S. 1958, pl. 34, 4). *c.* AD 100–120. EB80 103. UC36.
- 41 Form 37, in the style of the Rosette Potter of Les Martres-de-Veyre. The panels include: 1) a draped figure on an altar (Rogers Q74) and a spiral, in an arcade (Rogers F55), supported by ram's-horn motifs (Rogers G380). The inner border of this panel is a wavy line with 'crowns' (Rogers U64) on it. 2B) A band of ram's-horn motifs (Rogers G370); 2C) a horse (D.908 = O.1976). The basal wreath consists of trilobed motifs (Rogers G169). The horse does not seem to be known for the potter, but most of the other details are. See S. & S. 1958, pl. 20, 253 for the small ram's-horns, pl. 22, 270 for the basal wreath and altar, pl. 23, 292 for the larger ram's-horns and a similar arcade and pl. 23, 293 for the 'crowns.' *c.* AD 100–120. SMG82 143. WIG7.

Lezoux (Figs 196–9 and Fig. 200, 75–8)

Brenda Dickinson and Joanna Bird

- 42 Form 37, Central Gaulish. The borders (Rogers A15), bifid motif in the top of the saltire (Rogers G301) and astragalus (Rogers R27) were used by Rogers's anonymous potter P-10. There are no parallels for the other bifid motif, the acanthus or the tulip bud, but the potter used variants of all three. I am indebted to Mr G. B. Rogers for the information about this Trajanic-Hadrianic Lezoux potter. Trajanic-Hadrianic Lezoux ware is uncommon in Britain and the fabric of the Lincoln bowl suggests Hadrianic date, though it might just be as early as *c.* AD 120. LIN73C 144. LC8.
- 43 Form 37, Central Gaulish. This type of scroll, involving vine leaves, striated spindles and birds, was used at Lezoux by Sacer i and some of his associates, such as Attianus ii and Drusus ii. All three potters used this particular bird (D.1019 = O.2252). For general parallels for the scroll, *cf.* Sacer (S. & S. 1958, pl. 83, 11 – from Leicester) and Attianus (Grimes 1930, fig. 46, 121 – from Holt). *c.* AD 125–145. CP56 A9, A.13. UC20.
- 44 Form 37, Central Gaulish. The ovolo, with beaded tongue ending in a rosette (Rogers B18) is on a stamped bowl of Attianus ii from London (S. & S. 1958, pl. 85, 6). A freestyle scene includes an animal to right and a horse and rider (D.158 = O.249), the latter on another bowl by Attianus, from Verulamium (*ibid.* pl. 86, 13). *c.* AD 125–145. CP56 A10.12. UC21.
- 45 Form 37, Central Gaulish. A bowl in the style of Sacer i, in his typical zonal style, with double festoons over animals and plants. The bird (D.1019 = O.2252), festoons and pendant in the upper zone and the larger plant in the lower zone (using Rogers G224) are all on a stamped bowl from Augst (S. & S. 1958, pl. 82, 3). The other plant (Rogers L19) is on a similar bowl from London (*ibid.* 6). The panther occurs on a bowl in Sacer's style from Aldborough. *c.* AD 125–145. CP56 Cellar III. UC22.

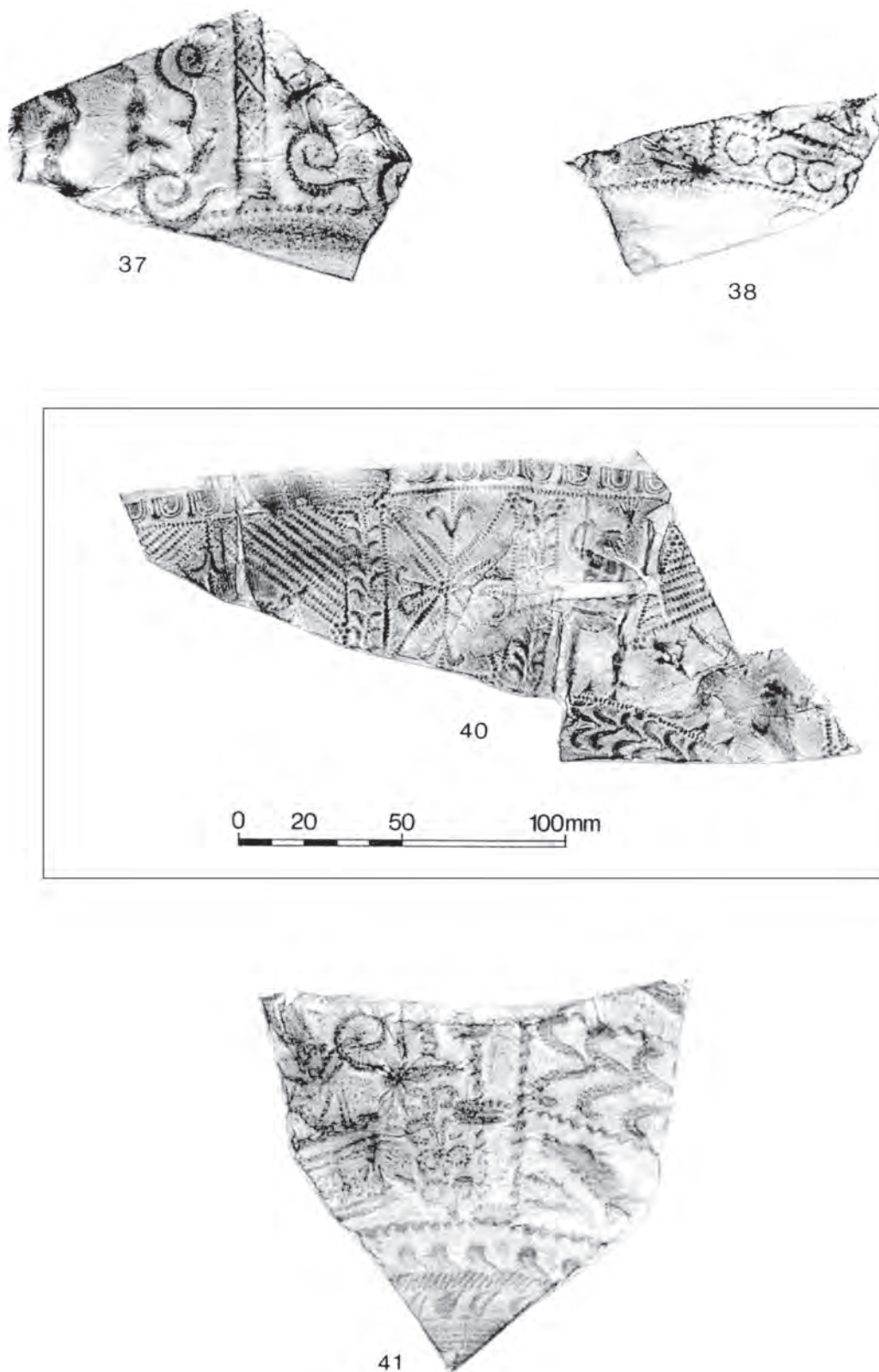
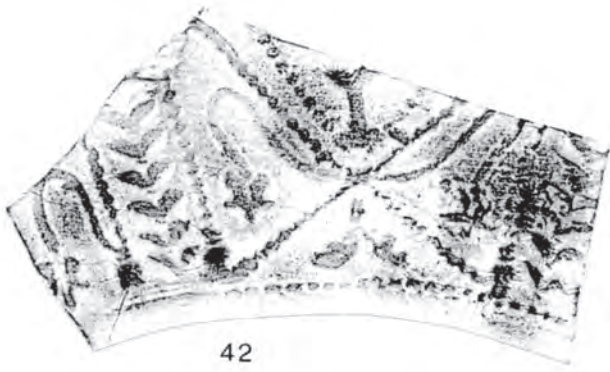


Fig. 195. Decorated samian: Les Martres-de-Veyre 37–41. Scale 1:1; 40 scale 1:2.

- 46* Form 37, Central Gaulish. Square beads (Rogers A13) divide a panel horizontally and border it vertically. The adjacent panel has an acanthus (Rogers K17), probably in the side part of a saltire. The beads were used by Rentus and the acanthus is on a mould in his style from Lezoux (Musée des Antiquités Nationales, Saint-Germain-en-Laye). *c.* AD 125–145. CP56 A9.25. UC23.
- 47 Form 37, in the style of Austrus. One panel shows a bull (not recorded by Oswald), two Cupids (O.396, 402A), a dog (D.395 = O.667, partly impressed) and an acanthus (Rogers K5). The adjacent panel features a faun(?) (D.357 = O.604). Austrus moved from Lezoux to Blickweiler in the Hadrianic period, where he used some of the same figure-types and motifs. However, all but one (the bull) are recorded from Lezoux and the bowl is more likely to have originated there, since Blickweiler ware is not common in Britain. The motifs include an astragalus, impressed diagonally across the border, a cup (Rogers U67) and a leafy spray (Rogers J167). The spray and double ridge below the decoration are on stamped bowls from Lezoux and London (S. & S. 1958, pl. 95, 16), respectively. The larger Cupid and acanthus are on unstamped bowls from Cambridge and London, respectively (*ibid.* pl. 94, 9 and 95, 21). *c.* AD 125–140. SM76 DBO. WIG4.
- 48 Form 37, Central Gaulish. A panelled bowl, with single-bordered ovolo (Rogers B74), wavy-line border (Rogers A25) and: 1) a lion to left (O.1459) and a row of leafy sprays (Rogers K37) depending from the top border. 2) A beaded ring (Rogers C290). The eight-beaded rosette is Rogers C281. All the details were used by potters who worked with Quintilianus *i*, but the bowl cannot be assigned to a specific potter. For the ovolo, ring, borders and rosette, see S. & S. 1958, pl. 73, 49 (Birdoswald), and for the borders, ring, spray and rosette, pl. 71, 31 (Colchester). *c.* AD 125–150. SM76 DET. WIG5.
- 49 Form 37, Central Gaulish. A panel with a boar to left (D.834 = O.1666) has a small inset panel containing a hare to left (O.2117). The adjacent panel has a saltire, with striated spindles at the sides. The style of decoration and the wavy-line borders (Rogers A23) suggest Hadrianic or early Antonine date, though no specific potter comes to mind. *c.* AD 125–150. EB83 23. UC39.
- 50 Form 37, Central Gaulish. An unusually large bowl, with a proportionately large ovolo with rosette displaced to the right at the tip of the tongue (Rogers B2). This seems to be associated only with one of the styles attributed to the Lezoux potter, X-6. It occurs, with the bird to left, looking back, on a bowl from Les Martres-de-Veyre, not necessarily from the kilns (S. & S. 1958, pl. 76, 28). The double festoons and wavy line (Rogers A23) are on a bowl from Greatchesters (*ibid.* pl. 75, 13) and the astragalus is on a bowl from Kirkby Thore (*ibid.* 21). *c.* AD 125–150. WB80 3019. UC41.
- 51 Form 37, Central Gaulish. A bowl in the style of Paternus *iv*, a Lezoux potter who signed moulds in the nominative. The almond-shaped leaf (Rogers J56) is on bowls in his style from Lezoux and Watercrock (Wild 1979, fig. 121, 76). The bird (O.2250A) and single festoon are on one from Burgh-by-Woodbridge. The dancer (O.819A) and trifold motif (Rogers G122?) have not yet been found on his bowls. *c.* AD 130–150. BE73 V GE. LC1.
- 52 Form 37, Central Gaulish. The ovolo (Rogers B208) was used at Lezoux by Docilis *i*, Cantomallus and Casurius *ii*. This bowl will not be by Casurius, in view of the type of beads used below the ovolo, and they best match the beads of Docilis. *c.* AD 135–165. WC87 1. UC55.
- 53 Form 37, Central Gaulish. A small bowl, with ovolo Rogers B47, used at Lezoux by Criciro *v*. He also used the very fine beads, as a spear shaft, on bowls from Corbridge and York (S. & S. 118, 18). The eight-petalled rosette (Rogers C51?) is on bowls in the styles of Cinnamus *ii* and Iullinus *ii*. The double astragalus is similar to, but different from, Rogers R91. The medallion is on bowls from Walton-le-Dale and York(?) by potters working in styles similar to Pugnus *ii*'s Hadrianic-Antonine decorated ware. There is no parallel in Rogers for the small, indented cushions. The workmanship of this, like that of many small bowls made at Lezoux, is noticeably poor. The border is uneven and the finishing of the rim has produced a distinct ledge above the ovolo. The decoration is not closed by a basal ridge or beads, which is also most unusual in Central Gaul. In addition, the motifs are eclectic and the style does not match that of a single potter, or group of potters. All this strongly suggests that small bowls, in general, were produced as practice pieces by apprentice potters. Hadrianic or early Antonine. LIN73C 81. LC5.
- 54 Form 37, Central Gaulish. The ovolo (Rogers B262) and beaded border below it (Rogers A2) are on bowls in the style of Rogers's P-15, from Little Chester (B. R. Hartley 1961a, fig. 7, 20) and Newstead (Birley 1950, fig. 6, 6). The upper concavity of a scroll contains a bird to right (O.2239B), pecking a leaf. Hadrianic-Antonine. SMG82 2059. WIG8.
- 55 Form 37, Central Gaulish. All the details appear on bowls by members of the Cerialis *ii*-Cinnamus *ii* group at Lezoux, but this one varies somewhat from the standard decoration for the group. The Cupid is one of a series of variants of O.419; here the wing scarcely shows. It is on a bowl from Resça-Romula (Popilian 1973, pl. VI, 9). The leaping dog (D.934 = O.1980), here only partly impressed, is a common figure-type for the group. The leaping figure (D.403 = O.688) is on bowls from Ilkley and Salzburg (Karnitsch 1971, taf. 38, 8). The wavy-line border, not often found on bowls by this group of potters, and the tree (Rogers N2) are on a bowl from Corbridge (Simpson 1953, fig. 17, 40). The line is also used as a horizontal divider on a bowl from Camelon (Falkirk Museum C122). The lozenge (Rogers U33) and the characteristic bur of the Cerialis-Cinnamus group (the tip of Rogers J178) are on a bowl from Richborough (Stanfield and Simpson 1990, pl. 175) with a mould-stamp of Paullus *iv*, one of the main members of the group. *c.* AD 135–170. BE73 VI AB. LC2.



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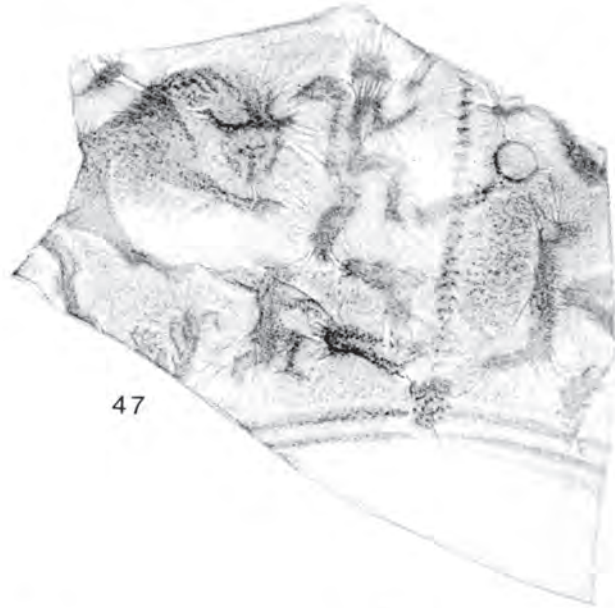
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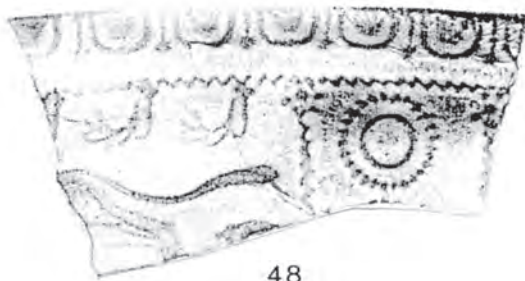
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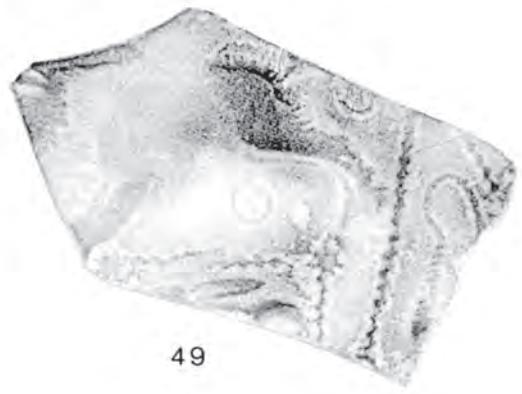
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Fig. 196. Decorated samian: Lezoux 42-52. Scale 1:1.

- 56 Form 37, Central Gaulish. Cinnamus–Cerialis, with ovolo 3b (Rogers B144) which they shared. Bird and scrollery as S. & S. 1958, pl. 162, 59; vine leaf, *ibid.* pl. 162, 57; circles and bird, *ibid.* pl. 162, 61; lion attacking boar (O.1491), *ibid.* pl. 163, 71 (Cinnamus) and pl. 164, 1 (Cerialis). The feather motif is characteristic of the early Cinnamus group (Simpson and Rogers 1969, pl. 2, 13; pl. 3, 14–16). The signature is probably that of Cerialis. c. AD 135–160. HG72 FB, FA, DW. HG54, 61 and 68.
- 57 Form 37, Central Gaulish. A freestyle bowl by one of the potters in the Cerialis ii–Cinnamus ii group. The bear (not in D. or O.) is on a bowl from Carlisle (T. May and Hope 1917, pl. VI, 86); the stag (D.874 = O.1781) is on a bowl from Camelon (B. R. Hartley and Dickinson, forthcoming). The potters in the group used various leaves partly impressed as space-fillers (cf. S. & S. 1958, pl. 163); this is a particularly sharp impression of a vine leaf (Rogers H51?) and is paralleled on a bowl in Southampton Museum with a mould-signature Ves retrograde. c. AD 135–170. LIN73C 34. LC4.
- 58 Form 37, Central Gaulish. The ovolo (Rogers B144) was mainly used by potters in the Cerialis ii–Cinnamus ii group and is on bowls from Lezoux with a mould-stamp of Cinnamus and a signature of Cerialis, respectively (Simpson and Rogers 1969, 6, 9 and 13). The scroll has identical leaves in both concavities (Rogers H99). The surviving section of it is unusually narrow, and the scroll was perhaps laid out inaccurately. The bud in the upper concavity, an incomplete impression of Rogers J178, was much used by Cerialis, but it was not certainly confined to him. It occurs with the leaf on a bowl of Cinnamus from Rouen (Simpson and Rogers 1969, 8, 16). c. AD 135–170. SMG82 2115. WIG9.
- 59 Form 37, Central Gaulish. A bowl in the style of the Cerialis ii–Cinnamus ii group, with panels: 1) warrior (D.614 = O.1059). 2) Bifid motifs (Rogers G284) arranged in a cross, between lozenges (Rogers U3). 3) A double medallion. Other bowls by this group of potters feature the bifid motif (Fishbourne: Dannell 1971, no. 83), warrior (Chester: Newstead and Droop 1940, pl. VIII, 6) and lozenge (Corbridge: S. & S. 1958, pl. 158, 16). c. AD 135–170. SP72 79 DEG. UC49.
- 60 Form 30, Central Gaulish. Style of Cinnamus of Lezoux. Scroll bowl with large leaves (S. & S. 1958, pl. 162, 58), pointed leaves (*ibid.* pl. 162, 61) and small stylized leaves (*ibid.* fig. 47, 8); the scroll is peopled by birds (*ibid.* pl. 157, 2 and pl. 159, 26), and a small goat (*ibid.* pl. 157, 6), with small circles and ovolo 3a. c. AD 150–170. HG72 AZ. HG39.
- 61 Form 37, Central Gaulish. Ovolo, line, stamp and rosette as S. & S. 1958, pl. 155, 20, by Pugnus (see stamp no. 201), here with wreath festoon. c. AD 150–180. HG72 EV. HG58.
- 62 Form 37, Central Gaulish, in the style of Albucius, who produced a number of closely similar bowls. Stanfield and Simpson 1958, pl. 121, 11 shows the ovolo, beadrow, lattice column, astragalus and festoon, Ariadne, pigmy and beaded circle; pl. 122, 22 has the ovolo, beadrow, lattice column, leaf, bifid leaf and flautist seated on a leopardskin (Oswald 617A). The second little figure is a cupid, for which there is no precise parallel. Rivet-holes. AD 150–180. HG72 FA, DW. HG64, 69.
- 63 Form 37, Central Gaulish. The ovolo (Rogers B143) was used with a beaded border below by Cinnamus ii, but Secundus v used it with a straight line, as here, on a stamped bowl from Great Chesterford (Simpson and Rogers 1969, fig. 2,). The gadroon supporting the arcade is on a bowl in his style from Leicester (S. & S. 1958, pl. 154, 15; this is assigned to Pugnus, but has Secundus's characteristic small dolphin). The naked figure in the second panel is O.570. Secundus had many details in common with Cinnamus, but his use of the straight line below ovolos and the general untidiness of his work distinguishes him from Cinnamus. c. AD 150–180. LIN73C 114. LC7.
- 64 Form 37, Central Gaulish. The ovolo (Rogers B145) was used at Lezoux by Cinnamus ii, Carantinus and Illixo. The leaf in the scroll is not known to Rogers. The double medallion in the lower concavity and the lack of bindings where the tendrils meet the scroll suggest the work of Cinnamus. Cf. a stamped bowl from Carlisle (S. & S. 1958, pl. 162, 60). c. AD 150–180. M82 212. WIG12.
- 65 Form 37, Central Gaulish. The ovolo (Rogers B143), with a straight line underneath, is on a stamped bowl of Secundus v from Great Chesterford (Simpson and Rogers 1969, 6, 4), which also has the crane and outer medallion. The chevron medallion (Rogers E16) is on a bowl in his style from Cirencester. The corn-stook in the adjacent panel (Rogers N15) is on another bowl from Lincoln (S. & S. 1958, pl. 155, 23), attributed to Pugnus, but more likely to be by Secundus. The column below it (Rogers P76) is on a bowl from Verulamium with the same ovolo and straight line as the last. Secundus v had figure-types and motifs in common with Cinnamus ii, including the ovolo on this bowl, but his work is characterised by the use of straight lines below ovolos and the placing of one medallion inside another. c. AD 150–180. SM76 CRU, CRX, CUM, DET. WIG3.
- 66* Form 30, Central Gaulish. A bowl in the style of Cinnamus ii, with his ovolo 3 (Rogers B143) and panelled decoration. c. AD 150–180. EB81 5/9. UC37.
- 67 Form 37, Central Gaulish. A bowl in the style of Cinnamus ii, with his ovolo 3 (Rogers B143), double medallion, dog (D.934 = O.1980), spiky leaf (Rogers H101), astragalus binding (Rogers R70) and rings. All the details are on a stamped bowl from London (S. & S. 1958, pl. 162, 61). c. AD 150–180. WC87 32. UC56.
- 68 Two fragments of form 37, Central Gaulish. The ovolo (Rogers B85) is on bowls in the style of Cinnamus ii, including one from Camelon, and on a bowl from Toulon-sur-Allier, and probably made there, with a mould-stamp of Secundus v. However, it is on another bowl in his style from Wall, which is more likely to be Lezoux ware. The combination of the ovolo and rings at the tops of panel borders is a feature of a style which incorporates elements from the repertoires of both Cinnamus and Paternus v. The dolphin (D.1052 = O.2393) and the single festoon both belong to Paternus's range, while the Venus (D.185 =

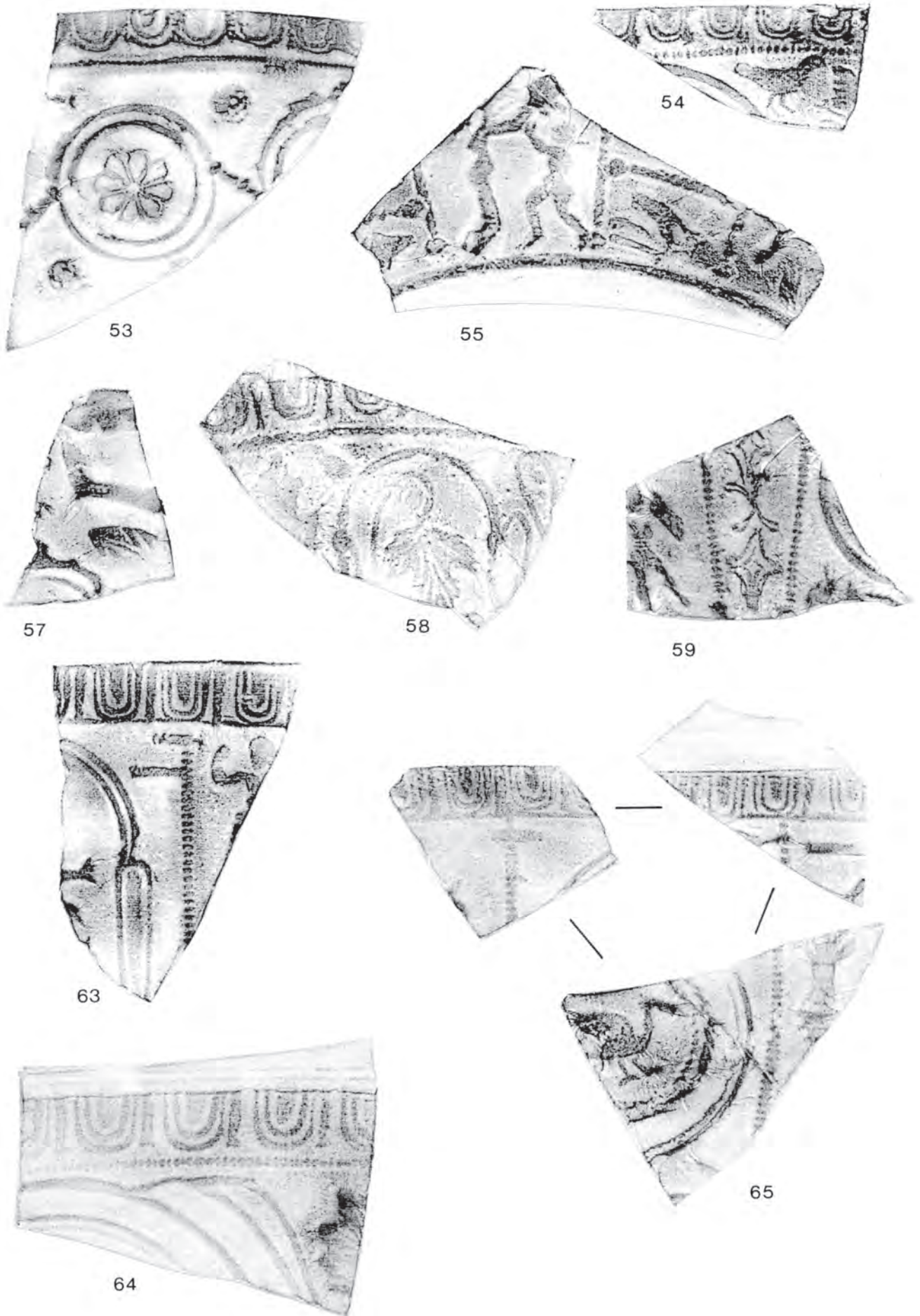


Fig. 197. Decorated samian: Lezoux 53–65. Scale 1:1.

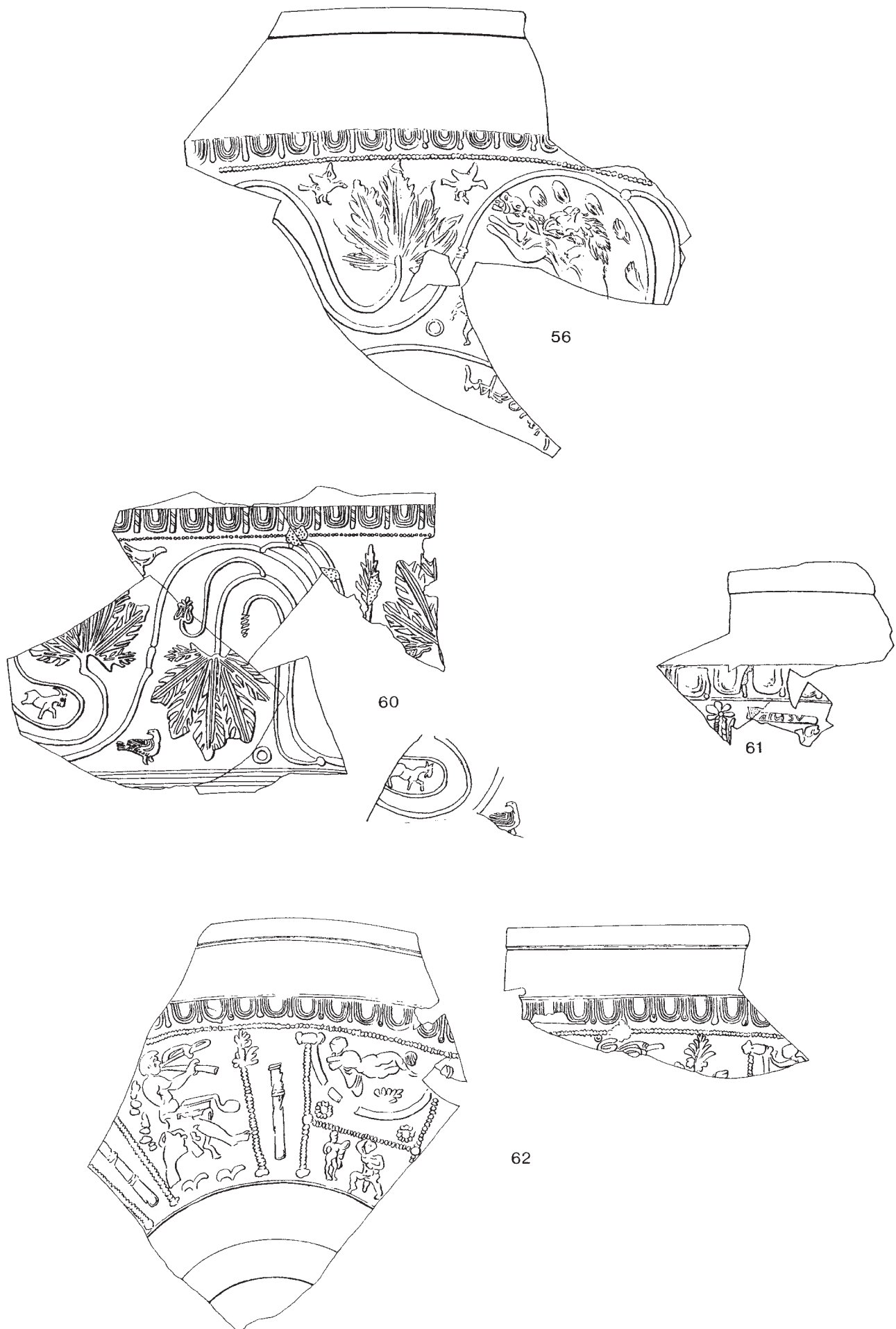


Fig. 198. Decorated samian: Lezoux 56, 60–2. Scale 1:2.

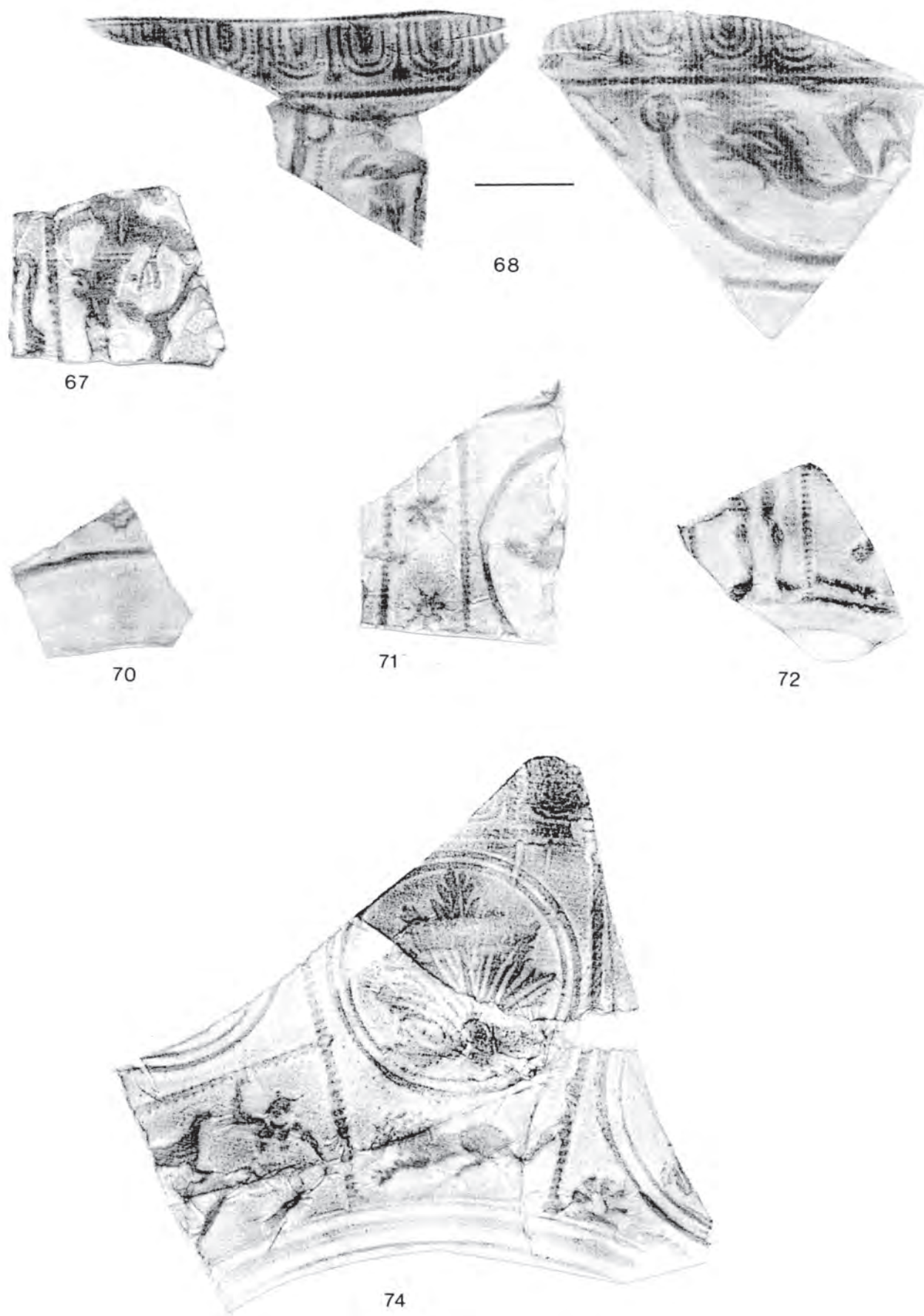


Fig. 199. Decorated samian: Lezoux 67-74. Scale 1:1.

- O.331) was used by Cinnamus, but also by Libertus ii and Butrio. The last is on a bowl with the same ovolo, but with rosettes replacing the rings, in the Wroxeter Gutter hoard (Atkinson 1942, no. H30). *c.* AD 150–180. WC87 66, 68. UC57.
- 69* Form 37, Central Gaulish. A panelled bowl, with a leaping figure in a double medallion. Antonine, almost certainly after AD 150. CP56 A9a.1. UC26.
- 70 Form 37, Central Gaulish. The mould-signature upside down below the decoration, SE[retrograde, is in ordinary capitals, rather than cursive script. The only remaining element of the decoration is a lozenge, of the same general type as Rogers U31 and 33. In the absence of any diagnostic decoration the name cannot be assigned to a known Lezoux potter, but the lozenge suggests Antonine date. L86 118. UC54.
- 71 Form 37, Central Gaulish. A bowl with panels: 1) a bird (D.1011 = O.2324) in a single medallion. 2) A narrow panel with seven-petalled, hollow rosettes (Rogers C144). The astragaloid borders are Rogers A9; the astragalus horizontally across and perhaps vertically at the bottom of the border is probably Rogers A62. The parallels for individual details clearly indicate some connection with Paternus v or an associate, but the style is not ascribable to a particular potter. *c.* AD 150–190. CS73 AE. WIG13.
- 72 Form 37, Central Gaulish. A panel contains a Mars (of the same type as D.88 and O.143, and intermediate in size between the two). The adjacent panel includes a long astragalus impressed horizontally (perhaps Rogers R12). The figure is on a signed mould of Catussa from Lezoux (Clermont-Ferrand Museum) and a bowl in the style of Drusus ii in the Yorkshire Museum, York (H3564). The astragalus is perhaps on another of his bowls, from Worcester (S. & S. 1958, pl. 89, 9). However, it was also used by Advocisus, for whom the beads would fit. He may also have used the figure, on a bowl from Lancaster. On balance, the bowl is most likely to be by him. *c.* AD 160–190. CAT86 10. UC51.
- 73* Form 37, Central Gaulish, with a mould-stamp of Mercator iv impressed vertically in a panel (see stamp no. 146). The preceding panel contains a double medallion. *c.* AD 160–190. CP56 A8.16–17. UC24.
- 74 Form 37, Central Gaulish. A bowl in the style of Iullinus ii, with panels including: 1A) a double festoon; 1B) a bird (O.2239B) and athlete (D.103 = O.177). 2) A leaf (Rogers H14) in a double medallion, over a crouching lion (O.1423?). 3) A double medallion with trilobed motif, rosette (Rogers C179?) and striated spindle. This is not a typical Iullinus bowl, but the tiny hollow beads used as junction-masks are diagnostic of his work (*cf.* S. & S. 1958, pl. 126, 11). The leaf is on bowls in his style from Alcester and Reims and the rosette and trilobed motif are on two different bowls from Malton. For the double groove below the decoration, *cf.* S. & S. 1958, pl. 125, 7). *c.* AD 160–190. SM76 CGZ. WIG2.
- 75 Three sherds of form 37, Central Gaulish, in the style of Advocisus. His larger ovolo (Rogers B102) accompanies a freestyle scene with animals, including panthers to left and right (D.795 = O.1542 and O.1511, respectively), a doe (D.883 = O.1805) and a dog (O.1985A). In the background are a plant (Rogers L22) and vegetation made by the tips of a vine leaf or acanthus. The ovolo, doe, dog and plant are all on a stamped bowl from Aldborough, and he is also known to have used the larger panther. *c.* AD 160–190. WB80 1060. UC42.
- 76 Two fragments of form 37, Central Gaulish. The ovolo (Rogers B106) was used by Paternus v, mainly on his smaller bowls, such as this. The panels contain: 1A) a double festoon and a seven-petalled rosette. 2) A tendril, with a leaf (Rogers J146), and a toothed ring (Rogers E57). The borders are Rogers A2 (oval beads) and A36 (rhomboidal beads). For the ovolo, see S. & S. 1958, pl. 106, 10, from Mainz, and for the leaf *ibid.* pl. 105, 12, from Carrawburgh. *c.* AD 160–195. CP56 A8.8. UC25.
- 77 Form 37, Central Gaulish. A freestyle bowl with the large label-stamp of Paternus v (see stamp no. 177), with one of his ring-tongued ovolos, beaded border (Rogers A2), dog (D.927 = O.1983), goat (O.1842) and striated spindles. *c.* AD 160–195. LIN73C 83. LC6.
- 78 Form 37, Central Gaulish. The label stamp of Paternus v in the decoration, [PATER]INFE retrograde. (see stamp no. 179), is distorted. The panels include: 1) a double medallion; 2A) a single festoon; 2B) a serpentine motif (Rogers U281), between trifold motifs (Rogers G9). The column over the stamp is Rogers P3. The vertical and horizontal borders are Rogers A40 and A13(?), respectively. The astragalus is probably Rogers R60. This bowl adds no new details to Paternus's repertoire except, perhaps, a border, but the trifold and serpentine motifs are not particularly common for him, nor is their arrangement. *c.* AD 160–195. SM76 CER, CRX. WIG1.

Central Gaul (Fig. 200, 79)

Brenda Dickinson

- 79 Form 37. This small bowl is either from one of the lesser samian potteries or is a colour-coated imitation. The fabric appears to be Central Gaulish, but has a grey core. The sherd has mortar on all the fractures. The decoration seems to be moulded, rather than a combination of appliqué and barbotine. The scroll design shows a leaf and a stag or doe to right. No parallels are known for the bowl, but, if samian, it is likely to be 2nd century. LIN73C 63. LC13.

East Gaulish (Figs 201–4)

Joanna Bird and Brenda Dickinson

- 80* Form 37 in the style of Satto-Saturninus. The rosette is Lutz 1970, type G20, which he notes as a Chémery type, and the beads are probably G2. The design is likely to be a lattice of beads and rosettes, as Lutz's scheme A V. Trajanic-Hadrianic. BWE82 53. EG25 (JB).



Fig. 200. Decorated samian: Lezoux 75–8, Central Gaulish 79. Scale 1:1.

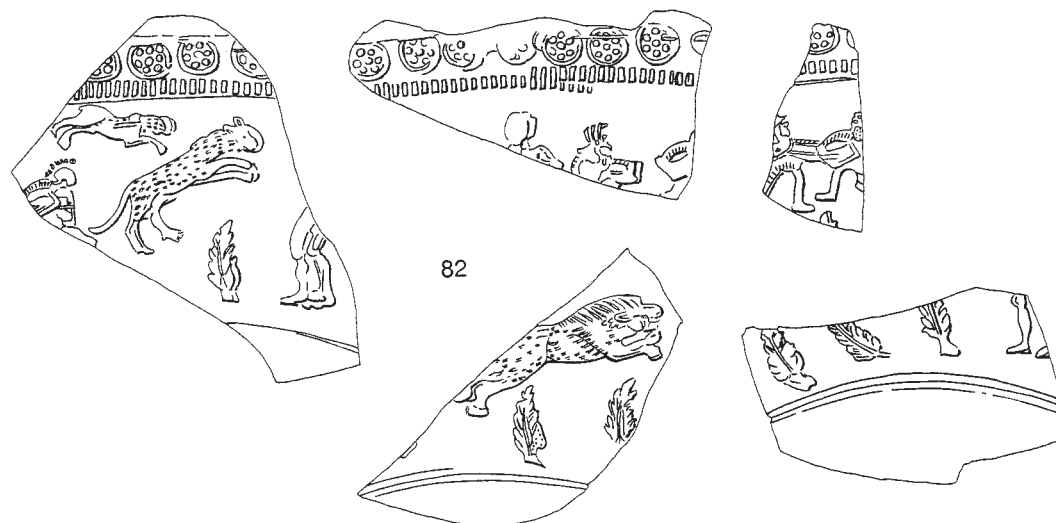


Fig. 201. Decorated samian: East Gaulish 82. Scale 1:2.

- 81* Form 37 in the style of Trier Werkstatt I, Stufe D. The ovolo (here overlapping), line, arcade, Pan and poppy heads are all in the same arrangement on Huld-Zetsche 1972, taf. 41, D25, which may be from the same mould. The rim is grooved above the ovolo. Hadrianic to early Antonine. SPM83 454. EG36 (JB).
- 82 Form 37, bowl in the style of Reginus I. All the motifs except the bear were used by him at Rheinzabern, but there is no exact parallel for this bowl in Ludowici and Ricken 1948. Some of the motifs (including the bear) were also used by Reginus at Heiligenberg, but the use of so many at Rheinzabern and the fabric where visible (the bowl is heavily burnt) indicate Rheinzabern as the source. The motifs are: a rosette in a circle (Ricken and Fischer 1963, type O98), used as an ovolo, a heavy rectangular beadrow (type O252), a leaf (type P47a), Thracian (type M220a), gladiator (type M228a), captive (type M231a), bear (type T57), panther (type T45a) and small lion (type T37). c. AD 155–185. HG72 AZ (sherds from the same bowl from AA, CE, and DJ). HG42 (JB).
- 83* Form 37, Rheinzabern, probably in the style of Reginus I. The ovolo is probably Ricken and Fischer 1963, type E55a; Reginus I is also recorded for the leaf P47a and the boar T70a, which are shown together on Ludowici and Ricken 1948, taf. 14, 14. Mid to later Antonine. CS73 AQ. EG1 (JB).
- 84 Form 30 in the style of the Dexter-Censor group at Trier. They used this ovolo (Gard 1937, type R2) and sometimes a guideline (e.g. Pferdehirt 1976, taf. 5, A130), and a stamped bowl of Censor from Bonn (Fölzer 1913, taf. 16, 12) has the ovolo and the ornament, Fölzer type 795. The rosette is probably Gard O111/Fölzer 857. The scroll is an unusual arrangement in their work. Later 2nd century, perhaps to the turn of the 3rd. BWE82 62, 109 (2 sherds). EG27 (JB).
- Nos 85–88 from Cottesford Place and perhaps no. 89, from East Bight, all seem to be the products of a large group of interconnected potters working at Rheinzabern in the later 2nd and first half of the 3rd century. Parallels with the Lincoln bowls occur most frequently in the work of Atto, Attillus vi and Comitalis. The attributions are somewhat tentative, but a range c. AD 180–240 seems likely for these bowls.
- 85 Form 37. The decoration includes ovolo (Ricken and Fischer 1963, E26), double medallion (*ibid.* 20a) and leaf (*ibid.* P75a). All the details, in a different arrangement, are on a stamped mould of Atto from Rheinzabern (Ricken 1948, taf. 134, 3), but a stamped bowl of Comitalis, in his Style VI (*ibid.* taf. 104, 9) has almost identical decoration, only the ovolo being slightly different. CP56 A9.1. UC27 (BD).
- 86 Form 37. The double medallions (Ricken and Fischer 1963, K20) contain an archer (*ibid.* M174a) and a flute player (*ibid.* M166). The rest of the decorative zone is filled with alternating boxers (*ibid.* M196a) and acanthi (*ibid.* P145, upside down). Of the many potters who shared these details, only Atto used them all. However, the style of the decoration is rather different from his, while Primitius, who used four out of the five, regularly used medallions separated by figures (Ricken 1948, taf. 187, 12, 15). CP56 A9.1. UC28 (BD).
- 87 Form 37. The ovolo (Ricken and Fischer 1963, E25), double medallion (*ibid.* K20) and sea-horse (*ibid.* T188) are all on a mould from Rheinzabern in Style VI of Comitalis (Ricken 1948, taf. 105, 8) and on a bowl without surviving stamp (from Saltergate, Lincoln: LIN73F 375). The leaf (Ricken and Fischer 1963, P75a) is on a stamped bowl from Rheinzabern (Ricken 1948, taf. 105, 2). CP56 A9.38. UC29 (BD).

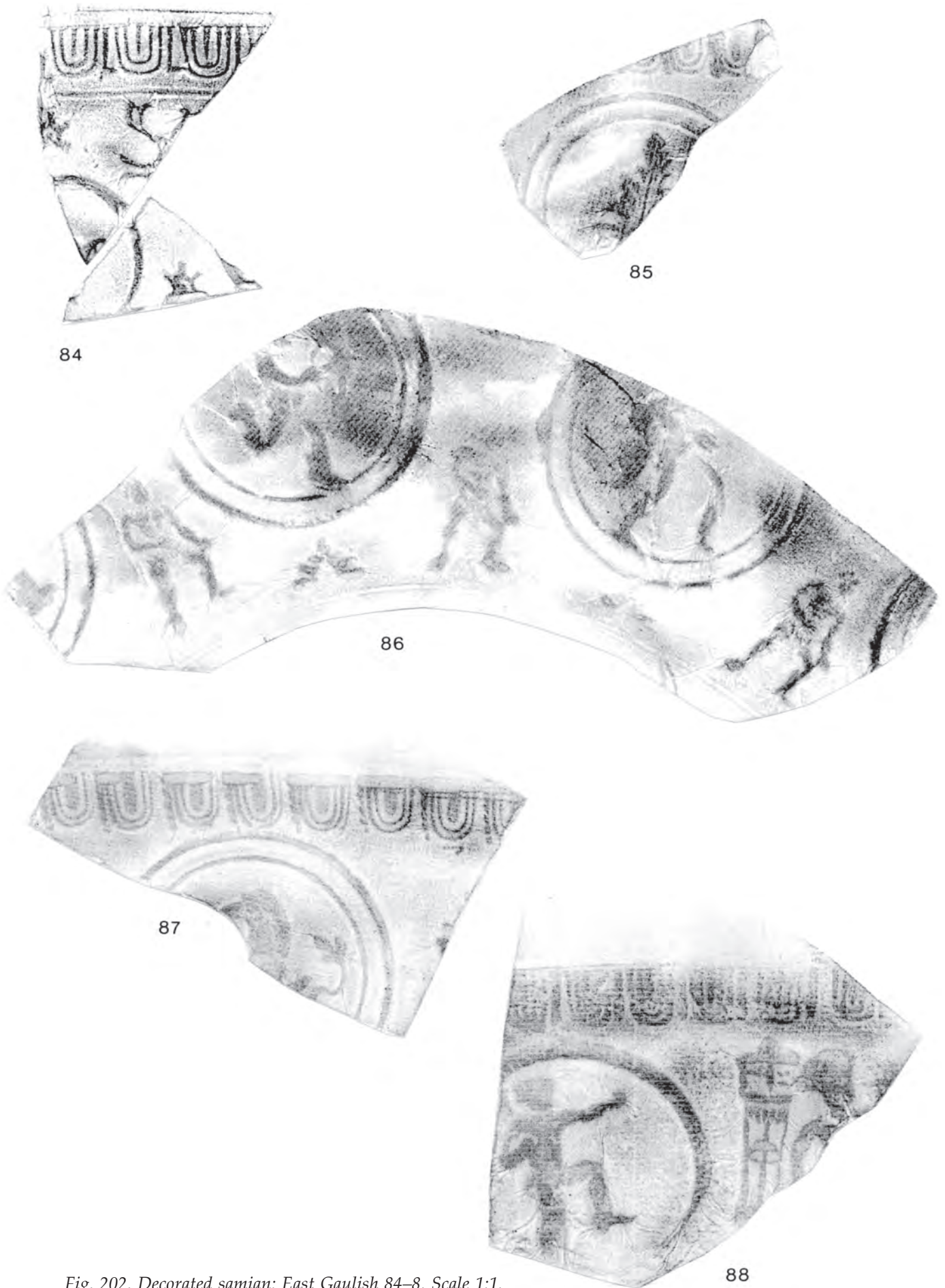
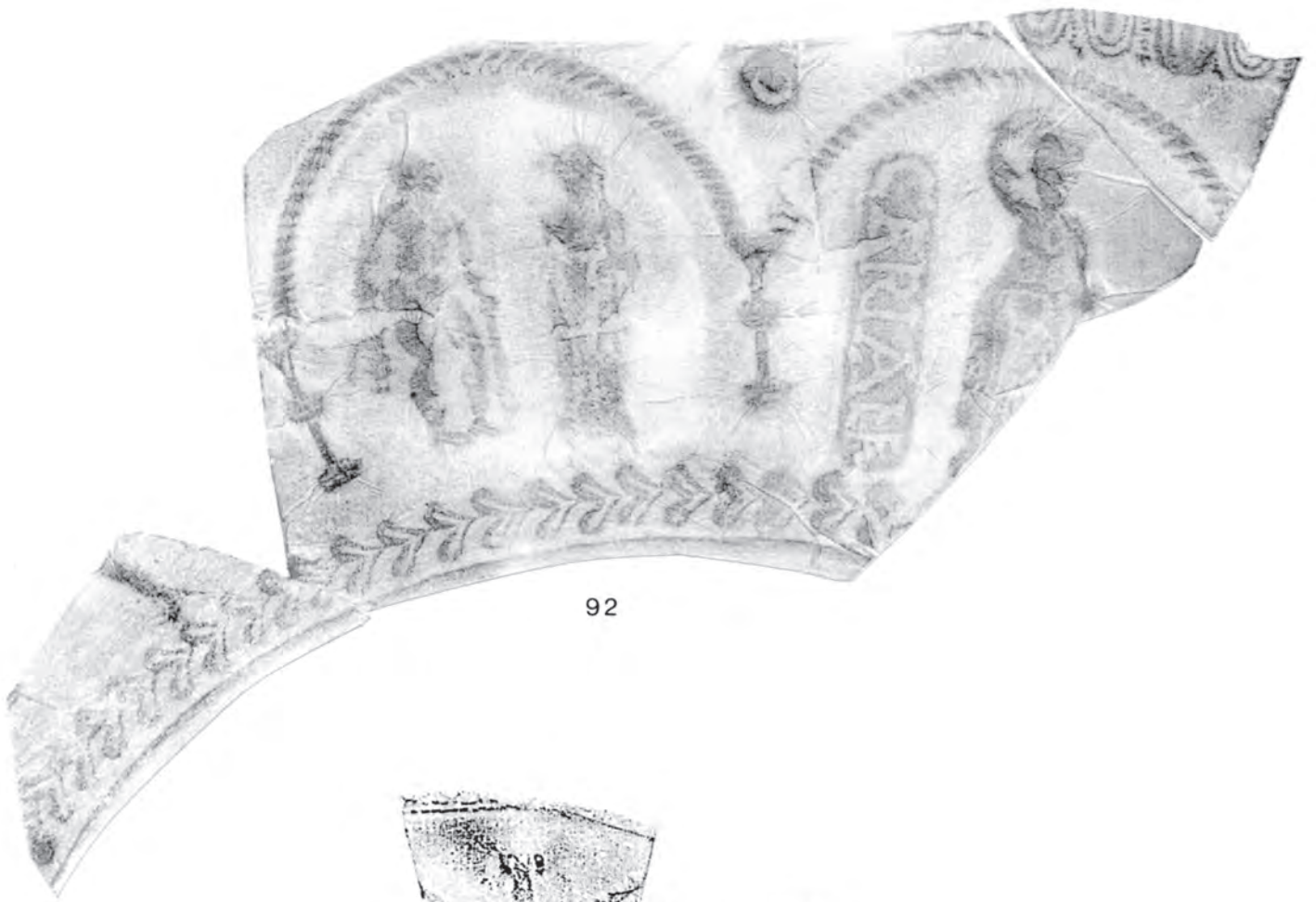


Fig. 202. Decorated samian: East Gaulish 84–8. Scale 1:1.

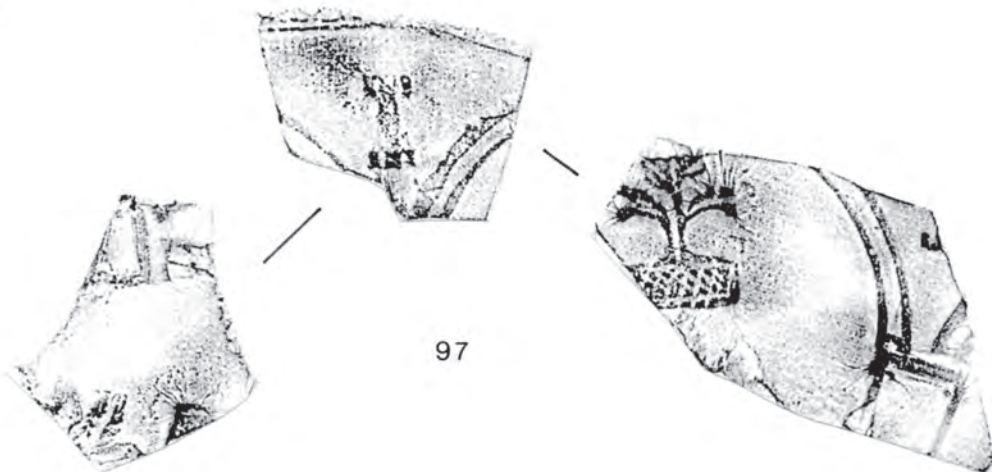
- 88 Form 37. The ovolo (Ricken and Fischer 1963, E40), boxer (*ibid.* M195), medallion (*ibid.* K48) and tripod (*ibid.* O11) are all on a stamped bowl of Comitalis, in his Style III (Ricken and Fischer 1963, taf. 83, 1). The other figure-type, a Venus (*ibid.* M45) is also known for Comitalis. CP56 A9a.9. UC30 (BD).
- 89* Form 37, East Gaulish. Panelled decoration, with a double medallion (Ricken and Fischer 1963, K20), used extensively by potters working in the period c. AD 180–240. See the note before no. 85. EB74 2/6. UC32 (BD).
- 90 Form 37. A freestyle scene includes a dolphin (Fölzer 1913, taf. XXX, 692, but without the crest) and a dog (*ibid.* 642). The dolphin is on a stamped bowl of Comitalis from Trier and a signed bowl of Tordilo from Bonn (*ibid.* taf. XIX, 2). Both figure-types are on a bowl from Lincoln, unstamped, but with Comitalis's ovolo (LIN73DI 144, 151). Probably later 2nd century. CP56 A9.7. UC31 (BD).
- 91* Form 37 in the style of Comitalis V of Rheinzabern. The motifs are all recorded for this style; the ovolo is Ricken and Fischer 1963, type E17, the lion T4, the captive M231a (here smudged during manufacture), the leaf P38, the medallion K19 and the beadrow O262. The motif in the medallion is not certainly identifiable. Ludowici and Ricken 1948, taf. 98, 6 has the figures and ovolo. Later 2nd to early 3rd century. F72 BVJ. EG9 (JB).
- 92 Form 37 with a mould-stamp of Cerialis of Rheinzabern (see stamp no. 66). The motifs are all recorded for the style of Cerialis I: the ovolo is Ricken and Fischer 1963, type E2, the Hercules M84, the goddess M31 and the basket-bearer M56; the other figure is not certainly identifiable, as Cerialis I used several types with similar feet. The circle is O131, the stand O10, the arcade KB112 and the wreath R34. The stamp is Cerialis a, normally found with this style. Ludowici and Ricken 1948, taf. 42, 16 has the stamp, arcade, stand, wreath, circle and ovolo in a similar arrangement. Later 2nd to early 3rd century. F72 ASO, AYF (3 joining sherds). EG4 (JB).
- 93* Form 37, Rheinzabern. The ovolo, Ricken and Fischer 1963, type E2, was used by several potters, but particularly by Cerialis I. Later 2nd to early 3rd century. EB80 30. EG22 (JB).
- 94* Form 37, Rheinzabern. The ovolo is broken, but is probably Ricken and Fischer 1963, type E2, used by several potters but particularly by Cerialis I. Later 2nd to early 3rd century. BWE82 56. EG26 (JB).
- 95* Form 37, Rheinzabern. The medallion is probably Ricken and Fischer 1963, type K48, which has diagonal impressions on one side and rectangular beads on the other. The leaf is type P99; medallion and leaf were shared by Janu[I, the Cerialis group and Comitalis I and II. Later 2nd to early 3rd century. SPM83 101. EG33 (JB).
- 96* Form 37 in the style of Janu[II of Rheinzabern. The poppy head, Ricken and Fischer 1963, type P119, and ovolo E70a are in a similar arrangement on Ludowici and Ricken 1948, taf. 19, 8, and the ovolo and the arcade KB87 on taf. 20, 3. Later 2nd to early 3rd century. SM76 AQL. EG16 (JB).
- 97 Form 37 in the style of Janu[II of Rheinzabern, who is recorded for all the motifs. The upper border is Ricken and Fischer 1963, type O246; the arcade KB74 rests on the stand O186, which is impressed sideways above two vertical lines (*cf.* Ludowici and Ricken 1948, taf. 19, 10 and 14). Between the arcades is the stand O188; below them is a leaf P34 on the ornament O177, which in turn stands on a larger leaf P 73. Tafel 19 shows a number of similar bowls. Late 2nd to early 3rd century. BWE82 48, 53, 62 (3 sherds; 48 and 62 join). EG24 (JB).
- 98* Form 37, Rheinzabern. The ovolo is Ricken and Fischer 1963, type E1, shared by several potters; the other motifs are not identifiable. Later 2nd to early 3rd century. SB85 110. EG37 (JB).
- 99* Form 37 in the style of Afer and Marinus of Trier. The ovolo (Gard 1937, type R8/9/11/13) is recorded for Marinus, the Diana M21 for Afer and Marinus, and the column V18 for Afer. Fölzer 1913, taf. 18, no. 6, has all the motifs in a similar arrangement. First half 3rd century. F72 BIF, F68? (2 sherds). EG6 (JB).
- 100* Form 37 in the style of Afer of Trier. His small cogged medallion (as Gard 1937, taf. 15, 1) with a larger cogged medallion or festoon: *cf.* Gard taf. 14, 16 and 17. The small medallion contains a shell, Gard T172. First half 3rd century. SB85 110. EG38 (JB).
- 101* Form 37, Trier. The ovolo, Gard 1937, type R14, was used by Atillus-Pussosus and Amator, and by other potters of probable 3rd century date. First half 3rd century, probably into the second quarter; late yellowish fabric and slip. M82 82. EG29 (JB).
- 102* Form 37, Rheinzabern. The figures, panther Ricken and Fischer 1963, type T35, and woman M246, were shared by Cobnertus III, Comitalis V and Julius II-Julianus I. Measurement of the fragmentary medallion indicates that it is probably K7, which only Julius II-Julianus I used as well, so a date into the first half of the 3rd century is likely. SM77 BPZ. EG20 (JB).
- 103 Form 30, Rheinzabern. Several of the motifs (ovolo Ricken and Fischer 1963, type E26, larger leaf P75a, leaf-cross P51a and acanthus P145) were shared by Comitalis VI, Florentinus, the potter of 'Ware mit Eierstab E25.26' and Atillus, but of these potters only Florentinus is recorded for the small leaf (P26), and only Florentinus and 'Ware mit E25.26' for the border (O261) and double arcade (KB138). Ludowici and Ricken 1948, taf. 113, nos 15–18, and taf. 114, nos 1–5, show generally similar designs by Florentinus, all on form 30, a form which was never made in quantity at Rheinzabern. First half 3rd century; heavily burnt. F72 BDQ, BDS, BDY, BVA, BVV, BVS, BVT. EG13 (JB).
- 104* Form 37 in the style of Helenius of Rheinzabern, who is recorded for all the motifs. The ovolo is Ricken and Fischer 1963, type E27, the mask M15, the bird T245b and the leaf P75c; Helenius also regularly used a guideline for the ovolo. Ludowici and Ricken 1948, taf. 176, 2 has the ovolo, leaf, bird and similar scroller. First half 3rd century; worn interior. SM76 CBL (2 joining sherds). EG21 (JB).
- 105* Form 37, Rheinzabern. The motifs are all found on



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Fig. 203. Decorated samian: East Gaulish 90-7. Scale 1:1.

- bowls assigned to 'Ware der Art Julius I und Lupus': the bear is Ricken and Fischer 1963, type T57, the *bestiarius* M203b and the captive M229b; the motif above the bear may just be a mark in the mould. For the figure stamped across the basal guideline, cf. Ludowici and Ricken 1948, taf. 160, 18. First half 3rd century. SM76 AHW. EG15 (JB).
- 106 Form 30, East Gaulish. The double medallion (Ricken and Fischer 1963, K19a) and the divider with the crown motif (*ibid.* 113) are on a stamped mould of Primiti(v)us from Rheinzabern (Ricken 1948, taf. 191, 1F). The Hercules (Ricken and Fischer 1963, M87a) and bifid motif (*ibid.* P142a) are also on a stamped mould (Ricken 1948, taf. 193, 1F). Both bowls are in Ricken's Primitivus style 1. Early to mid 3rd century. LIN73A 61. LC3 (BD).
- 107* Form 37, Rheinzabern. The ovolo, Ricken and Fischer 1963, type E40, and lion T19a were shared by Primitivus I and II, but they are only recorded together on a bowl in Primitivus I style, where they are in the same arrangement (Ludowici and Ricken 1948, taf. 189, 3). First half 3rd century. SM76 AHW. EG14 (JB).
- 108* Form 30 in the style of Primitivus I of Rheinzabern. The astragalus, Ricken and Fischer 1963, type O196, and border O242 are in a closely similar arrangement on Ludowici and Ricken 1948, taf. 191, 1 (a form 37); he is also recorded for the leaf, P75c. First half 3rd century. BWE82 63. EG28 (JB).
- 109 Form 37, Rheinzabern. The cornucopia is probably Ricken and Fischer 1963, type O160b, shared by several potters, all probably working within the 3rd century. Of these, the potter of 'Ware mit Eierstab E34.30' used it in a similar band (Ludowici and Ricken 1948, taf. 243, 11). There is no parallel for the leaf in Ricken and Fischer. First half 3rd century; heavily burnt. F72 BPX EG8. (JB).
- 110* Form 37, Rheinzabern, in the style of the potter of 'Ware mit Eierstab E25.26'. The wreath, Ricken and Fischer 1963, type R44, and cornucopia O160 are together in a different arrangement on Ludowici and Ricken 1948, taf. 119, 12. The other motif is not certainly identifiable. First half 3rd century. F72 XU. EG12 (JB).
- 111* Form 30, probably Rheinzabern. The ring is closer to Ricken and Fischer 1963, type O142 than to O143, but this impression is rather too ovoid to be certainly identified. The beadrow is probably O263; the motif at left may be a triple poppy head (cf. P116–121). Later 2nd to first half 3rd century. CS73 AR. EG2 (JB).
- 112* Form 37, Rheinzabern. The ovolo is Ricken and Fischer 1963, type E25, used by several potters. Later 2nd to first half 3rd century. F72 AJP. EG3 (JB).
- 113* Form 37, Rheinzabern. Lion, probably Ricken and Fischer 1963, type T4a, which was shared by several potters. Later 2nd to first half 3rd century. F72 AYU. EG5 (JB).
- 114* Form 37, Rheinzabern. The ovolo is probably tongueless, but is too incomplete to identify. Later 2nd to first half 3rd century. F72 BIL. EG7 (JB).
- 115* Form 37, Rheinzabern. The ovolo, Ricken and Fischer 1963, type E17, was used by a number of potters. Later 2nd to first half 3rd century. F72 BVT. EG10 (JB).
- 116* Form 37, Rheinzabern. The medallion, Ricken and Fischer 1963, type K20, was shared by several potters. Later 2nd to first half 3rd century. F72 D46. EG11 (JB).
- 117* Form 37, Rheinzabern. The ovolo is not quite complete, but is probably Ricken and Fischer 1963, type E25, shared by several potters. Later 2nd to first half 3rd century. M82 208. EG30 (JB).
- 118* Form 37, East Gaul. Part of an animal, probably a resting deer, damaged in finishing. Later 2nd to first half 3rd century. SMG82 39. EG31 (JB).
- 119* Form 37, Rheinzabern. The Hercules, Ricken and Fischer 1963, type M87, was used by several potters. Later 2nd to first half 3rd century. SPM83 161. EG34 (JB).
- 120 Form 37, East Gaul; the fabric suggests origin at Rheinzabern. The central element of the incomplete ovolo is made up of two lines, one of them bent at right angles; this is similar to Ricken and Fischer 1963, types E48 and E49, but they are both single-bordered, while this seems to be double-bordered and more neatly made. Later 2nd to first half 3rd century. SPM83 167. EG35 (JB).
- 121* Form 37, Rheinzabern. The ovolo is probably Ricken and Fischer 1963, type E25, the medallion K20; both were shared by several potters. Late 2nd to first half 3rd century. Z86 108. EG40 (JB).
- 122 Form 37 in the style of Dubitatus of Trier. The ovolo (Gard 1937, type R18/Fölzer 1913, type 953) and medallion (Gard K35) were shared with the Afer group; the little animal, a deer or goat (Gard T75/Fölzer 663), is recorded for Dubitatus. The beadrow (Gard V83) is also recorded for Dubitatus, and is shown as a vertical divider on Gard tafn 19–20. The motif at left is not certainly identifiable. A large number of bowls by Dubitatus and Dubitus was recovered in the Langenhain cellar group of c. AD 233 (Simon and Köhler 1992). Early to mid 3rd century. GP81 256, 259 (2 joining sherds). EG23 (JB).
- 123* Form 37, Trier. The ovolo is blurred but is probably Gard 1937, type R19, used by Afer, Dubitatus and Paternianus. Second quarter of 3rd century; late yellowish fabric and slip. SM76 BEF. EG18 (JB).
- 124* Form 37 in the style of the Primanus group at Trier. The ovolo and spiky rosette are on Gard 1937, taf. 26, 1–3. Mid 3rd century, after c. AD 230. SM76 BOT. EG19 (JB).
- 125* Form 37 in the style of the Primanus group at Trier. The ovolo and what is probably the same corded motif are on Gard 1937, taf. 25, 15. Mid 3rd century, after c. AD 230. SMG82 2077. EG32 (JB).
- 126 Form 37, Trier. The column occurs the other way up on bowls in the style of the Censor group (Oelmann 1914, taf. 6, nos 2, 3, 19; Fölzer 1913, type 871 and taf. 18, 4). The motif above is not certainly identifiable, but cf. perhaps the fish on Gard 1937, taf. 27, 25. The late yellowish fabric and slip suggest a date towards the middle of the 3rd century. SB85 121. EG39 (JB).
- 126a* Form 37, Trier. Werkstatt II, probably from the same mould as Huld-Zetsche 1993, A52, which is also recorded as a small bowl. The rosette is type O98, the small deer T70, the crane T104 and the ovolo

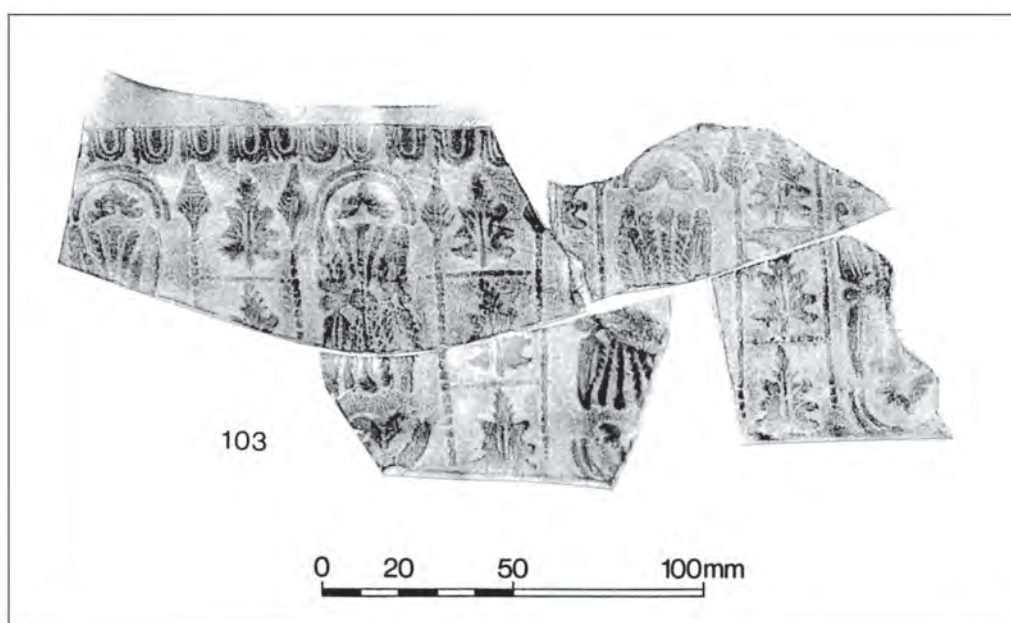


Fig. 204. Decorated samian: East Gaulish. 103 scale 1:2; 106–26 scale 1:1.

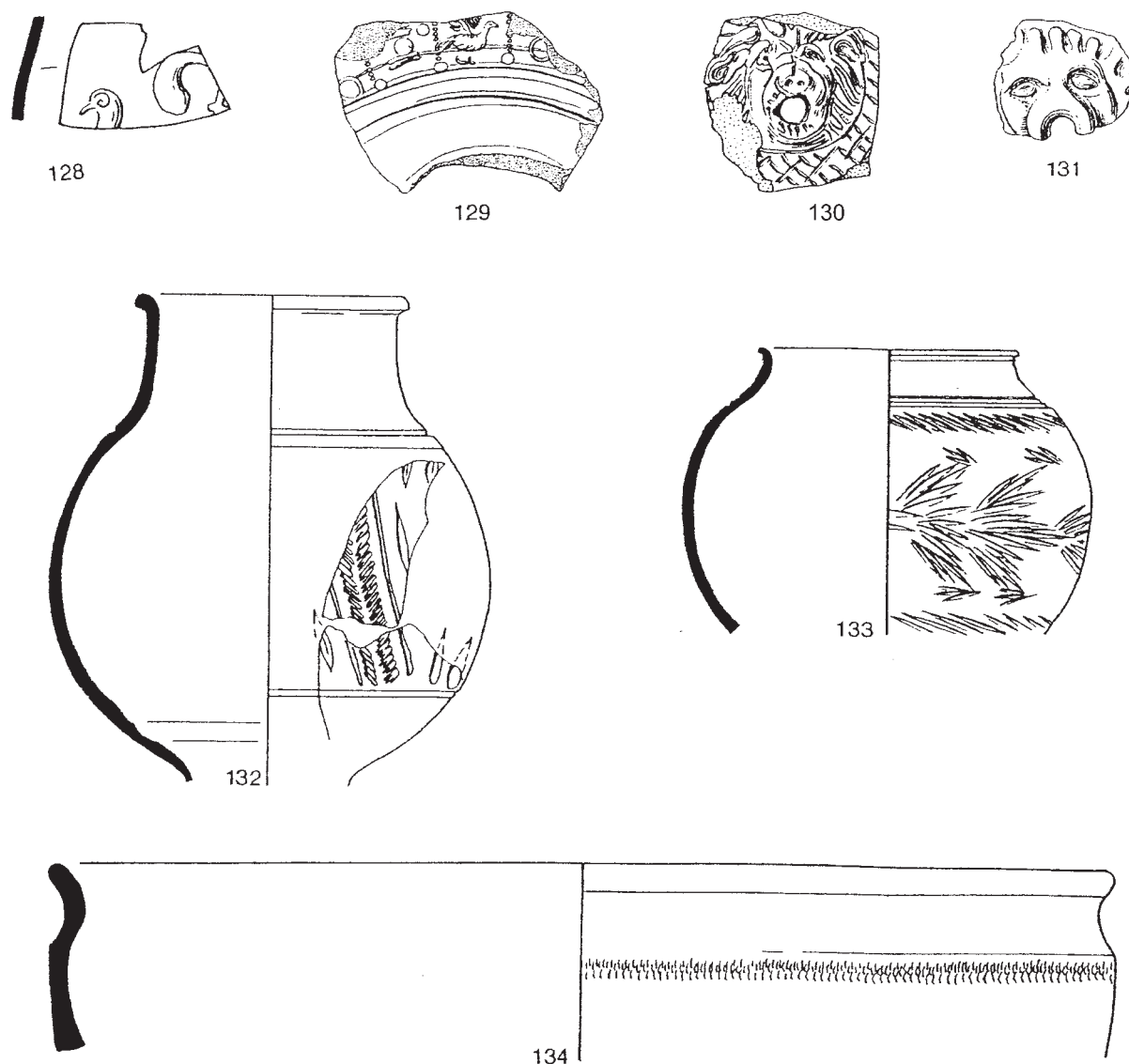


Fig. 205. Decorated samian 128–34. Scale 1:2.

at the base E12. The complete design also includes an upper ovolo border, E13, and a cupid, M86a, alternating with the animals. Huld-Zetsche notes an unpublished bowl from Corbridge from this mould, now in the Corstopitum Museum. Early to mid Antonine. EBA92 107 (JB).

Miscellaneous decorated vessels (Fig. 205)

- 127* Form 45, East Gaul. The rim is decorated with a barbotine motif in rather flat relief. The motif is incomplete, but may be the back legs of a bear: there is some attempt at texture to indicate the fur. Later East Gaulish mortaria were sometimes decorated with elaborate barbotine (e.g. Oswald and Pryce 1920, pl. 73, 7, a form 43 with stag and leaves); they are usually products of Rheinzabern. Early to mid 3rd century. SM76 BCJ. EG17.
- 128 Form Ludowici VM beaker, Argonne? Body sherd decorated with a barbotine bird's head, c. AD 200–260. SM76 BMG.
- 129 Form Déchelette 64, Lezoux. Made by Libertus or Butrio. Hadrianic. L86 257.
- 130 Form 45, Lezoux. Lion head spout, c. AD 170–200. CP56 A9.38.
- 131 Form 45, East Gaul. Lion head spout, burnt. Late 2nd to early mid 3rd century. HG72 CF. HG104.
- 132 Form 54, East Gaul: 5 sherds (one vessel) incised, jar, Dr. 54 as Oswald and Pryce 1920, pl. 77, 5 with vertical incised palm fronds. Burnt. Late 2nd to mid 3rd century. HG72 CF. HG103.
- 133 Form 72, Lezoux. Incised jar, c. AD 150–200. SM76 CEI, CXV.
- 134 Variant form 81, Lezoux. Rouletted. After AD 160. SM76 CEY.

East Gaulish from Waterside sites (Fig. 206)

Joanna Bird

- 135* Form 37, Rheinzabern. The ovolo (Ricken and Fischer 1963, type E17) was shared by a number of potters. Late 2nd – first half 3rd century. WNW88 239. EG41.
- 136 Form 37 with mould-stamp of Comitalis of Trier (see stamp no. 72). The ovolo occurs on other bowls in Comitalis' style (cf. Oelmann 1914, taf. 8, 11). The pinnate leaf (cf. Gard 1937, type P24) is probably the one on a sherd from Butzbach attributed to Comitalis (Müller 1968, taf. 47, 1328); the animal is a small shaggy bear (Fölzer 1913, type 600; Gard 1937, type T31), here repeated in a frieze. The ovolo, bear and leaf occur with a heart-shaped leaf, probably the motif beside the pinnate leaf here, on a bowl from the fort at Ems (ORL 1911, taf. 2, 33). An unpublished sherd from Zugmantel shows the bear and stamp, and a second sherd, which may come from the same bowl, has the ovolo (inv. no. Z.1377a). Another unpublished Zugmantel bowl has the ovolo and pinnate leaf (no inv. no.). I am grateful to Ingeborg Huld-Zetsche for her comments on this piece, and for illustrations of the Ems and Zugmantel bowls. Later 2nd–early 3rd century. WF89 756 (3 sherds). EG42.
- 137* Form 37 in the style of Lucanus of Rheinzabern, now identified as Lucanus I (Bittner 1986, 236). His characteristic ovolo (Ludowici and Ricken 1963, type E53), above a frieze of multiple medallions. The double medallion K56 is set round a smaller set of concentric rings O119; a small double circle with central rosette, O126, sits between the medallions. Ludowici and Ricken 1948, taf. 163, 16 has the same layout but without K56. First half 3rd century. WF89 759 (3 sherds, 2 joining). EG43.
- 138* Form 37, East Gaul. The foot of a figure with what is probably the stem of a leaf. Later 2nd to early 3rd century, probably. WF89 759. EG44.
- 139* Form 37 in the style of Trier Werkstatt II, Stufe E. The ovolo (Huld-Zetsche 1993, type E16) and beaded border (O156) were only used together by this group. Mid Antonine. WO89 535. EG45.
- 140* Form 37 in the style of Dexter of Trier. The smaller of his characteristic vase ovolos (Fölzer 1913, type 948) above a frieze of vine scrolls. The vine scrolls (Fölzer 719) are separated by a column (Fölzer 871) carrying a mask medallion (Fölzer 557). A similar bowl at Langenhain has a *thyrsus* separating the scrolls in place of the column and medallion (Simon and Köhler 1992, taf. 20, C.I.98). Later 2nd century. WO89 535 (2 ?joining sherds). EG46.
- 141* Form 37, Rheinzabern. The individual motifs (medallion Ricken and Fischer 1963, type K20, *togatus* M245, dolphin T193 and sea-horse T188) were shared by several potters, but only Respectus is recorded as using them all. Similar Respectus bowls are shown on Ludowici and Ricken 1948, taf. 112, nos 9–12, 16, 19 and 20, all but no. 16 with mould-stamps. First half 3rd century. WO89 535. EG47.
- 142* Form 37 in the style of Trier Werkstatt II, Stufe F. The main frieze is the same as Huld-Zetsche 1993,

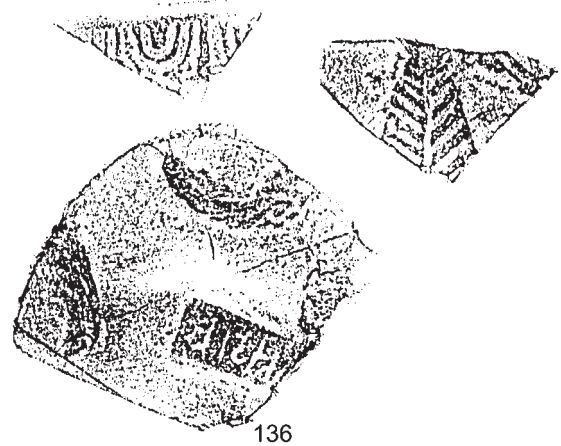


Fig. 206. East Gaulish decorated samian 136. Scale 1:1.

taf. 65, F43, which has the plain horizontal borders, toothed festoon (type K32), large toothed rosette (O101) and small toothed circle (O105). Only the edge of the ovolo survives but it is likely to be E16. The motif below the frieze is not a repeat of O105, as on F43, but is too broken to be certainly identified. Mid Antonine. WO89 546. EG48.

143* Form 30, burnt. The ovolo is Ricken and Fischer 1963, type E53, used by Lucanus (now identified as Lucanus I: Bittner 1986, 236). The motif beneath is not certainly identifiable. First half 3rd century. WO89 570. EG49.

144* Form 37 in the style of Julius II-Julianus I of Rheinzabern. They frequently used both the ornamental pillars (Ricken and Fischer 1963, types O161 and O179) but the plain arcade (KB66) is not common in their work. Early to mid 3rd century, probably into the second quarter. WO89 570. EG50.

South Gaulish decorated vessels from Castle West Gate

Brenda Dickinson

- 145* Form 37, South Gaulish. The decoration is arranged in zones, with a double festoon over a band of rosettes, then a zone with a dog (Knorr 1919, taf. 57, 6) and plant (three impressions of Hermet 1934, pl. 14, 87). The basal wreath consists of S-shaped gadroons. The two central zones occur on a bowl from Vindonissa with a mould-stamp of Mercator i (Knorr 1919, taf. 57G) and he also used the plant and the gadroon, or one almost exactly like it. The zone of rosettes is on a bowl from Carlisle which has affinities with his work; it comes from a context of c. AD 93–105 (Dickinson 1991, fig. 89, 28). Pontus used the dog and plant on a signed bowl from Mainz and the gadroons on another, from London (formerly Guildhall Museum). The gadroons are also on bowls with mould-stamps of Severus iii, from Rome, and M. Crestio, from Chesterholm. c. AD 80–110. CWG86 100. UC52 (25).

Source	Upper City	Lower City	Wigford	Total
South Gaul	1508	790	266	2564
Les Martres-de-Veyre	222	182	57	461
Lezoux	1736	3163	2131	7030
East Gaul	243	680	515	1438
Total	3709	4815	2969	11493

Fig. 207. *Samian sherds by source and city area.*

146* Form 37, South Gaulish. The bottom halves of alternate panels contain chevron festoons, one with a bird to left, looking back, between 'drumstick' tassels. The intervening panel has a Pan (D.416 = O.714) and a tendril ending in a striated spindle. All three panels contain partly-impressed grass-tufts (Hermet 1934, pl. 14, 87). The Pan and spindle are on a bowl from Cannstatt with a mould-stamp of L. Tr- Masc(u)lus (Knorr 1905, taf. XI, 1). The festoon, bird and 'drumstick' are on bowls in his style from Lauriacum (Karnitsch 1955, taf. 2, 5) and in the Bregenz Cellar find (Jacobs 1913, no. 7). The grass-tufts are on another bowl almost certainly by him from Holt (Grimes 1930, fig. 38, 45). The festoon and 'drumstick' were also used by his contemporary, Biragillus i (cf. Dickinson 1990, fig. 181, 47, from Carlisle). c. AD 90–110. CWG86 15. UC53 (38).

Report compiled 1996.

9.4 Samian in the City

Margaret Darling

Introduction

The aim of this section on the Lincoln samian is to examine the data from two perspectives, primarily detailing where the samian provides specific evidence relative to either individual sites or areas of the city, and secondly, exploring aspects of the incidence of different vessel types and the relationships between decorated, plain and stamped vessels. The two approaches are in fact indivisible; any exploration of the vessel forms has a bearing on the functional analysis of the sites, just as the ratio between decorated and plain wares may have a bearing on any evaluation of differing economic areas. Equally, the incidence of decorated and stamped wares is crucial to any secure assessment of the important dating evidence provided by samian for the period up to the 3rd century. The problems of residuality are also considered.

Since the advent of computers, samian and pottery data can be more fully utilised than has been possible in the past, and it is hoped that the digital data will be made available for future research. The following discussion, in which site codes are used for brevity

(see Fig. 3), should enable the extent of the data and its potential to be assessed.

Methodology

The samian from each site is recorded in two main databases: firstly, as part of the core pottery database, and secondly as a specialist database, the latter having additional fields for recording kiln, potter's name, die numbers, and date. Every sherd has been individually dated and this, together with its unique level of detail, makes the database a valuable tool for analysis. As the material is from urban sites with a high residual content in later deposits, the most useful method to utilise the dating has been to base the analyses on the specialist's dating of the sherds, rather than the deposition date. The level of residual/extended 'life' content is also taken into account.

The archive measure is sherd count (weights were recorded for only a limited number of sites) but stamps are treated for analysis as single vessels, irrespective of the number of sherds. Decorated vessels have a vessel count, taking into account links between contexts. Experimentation using the number of records rather than the sherd count as a measure to avoid the problems arising from single vessels having been smashed has shown that the differences between sherd count and records are marginal, and do not affect the overall pattern. The records routinely used for analysis produce an average of 1.3 sherds per record.

The total quantities of samian from the three main areas of the city are listed by source in Figure 207. This includes material from The Park (P70; Darling 1999), East Bight (EB66 (Darling 1984) and EBS), and the large quantity from the baths at Cottesford Place (CP56).

Some analyses of the samian have excluded the material from The Park since the original records, dating to the 1980s, are less detailed than those more recently compiled, and generally have focused on the main sites, with only minor sites excluded, resulting in a sample of 9,670 sherds. Samian from the Wigford excavations at St Mark's Station East (ZE87) has been included. The quantities of samian from each area of the city are listed by site and source in Appendix VI.

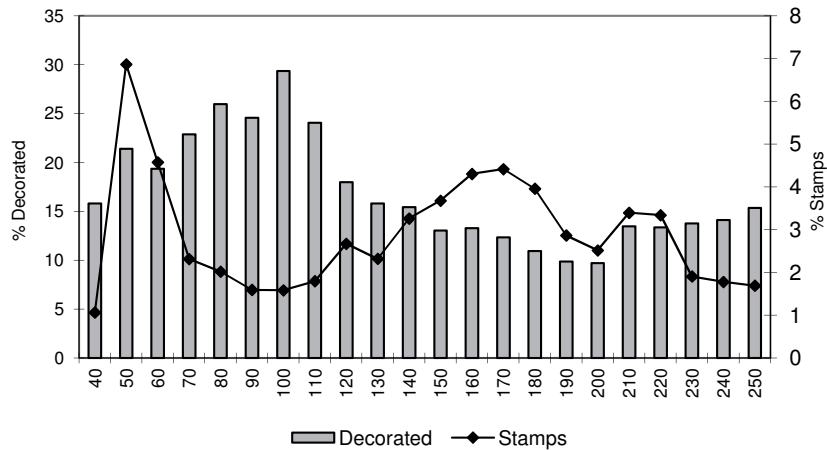


Fig. 208. *Samian*: stamps and decorated sherds as percentages of all samian (sample 9,681 sherds).

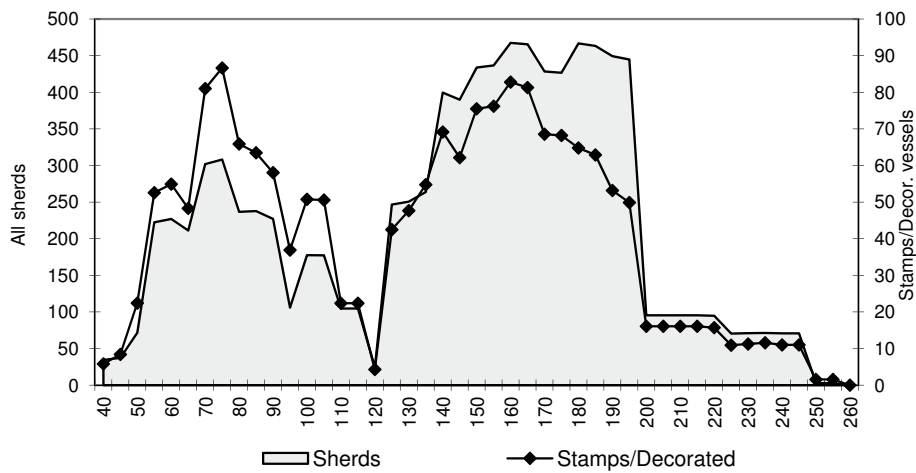


Fig. 209. *Samian*: plotdates of all sherds and combined stamps and decorated vessel sherds.

Dating

The principal question asked of samian is dating. The use of a computer program such as Plotdate (see p. 7) enables the different types of samian evidence to be spread over the chronological range, and the individual contributions assessed. In view of the importance of the samian dating evidence at all levels, ranging from that of individual pottery groups at specific sites to that from whole areas of the city, the different methods of assessing the samian date are considered here in detail. The most useful samian are the decorated and stamped sherds; however, it is relevant to note that the less datable ordinary unstamped plain wares predominate, accounting for approximately 75% of all samian from Lincoln. Stamps average only 3% of all samian sherds, while the average of decorated vessels is 15%. Notably these percentages vary chronologically, as shown by Figure 208, which gives the percentage of stamps and decorated sherds by decade; the most significant feature is the decline in decorated sherds from the 1st to the early 2nd century, continuing

to a low point of 10% c. AD 200. The interaction between these two more datable samian categories is shown in Figure 183.

Figure 208 shows that neither stamps nor decorated wares can be used individually to produce definitive dating evidence: due to their differing chronological incidence, a combination of the evidence is necessary. There is also the question of the unstamped plain wares. To put this in the context of the samian dating evidence for individual sites and areas of the city, the two measures are shown in Figure 209. This demonstrates particularly the problem of assessment for the 1st to early 2nd century if only one measure is considered, the measure based on all sherds including plain wares lagging behind that of the more datable stamps and decorated sherds, but rising above it in the later 2nd century.

Turning to the evidence for the individual areas, Figure 210 shows the early emphasis of the Upper City, and the later bias of the Wigford suburb and the Lower City. The main points of interest are the comparative paucity of 1st century samian from the

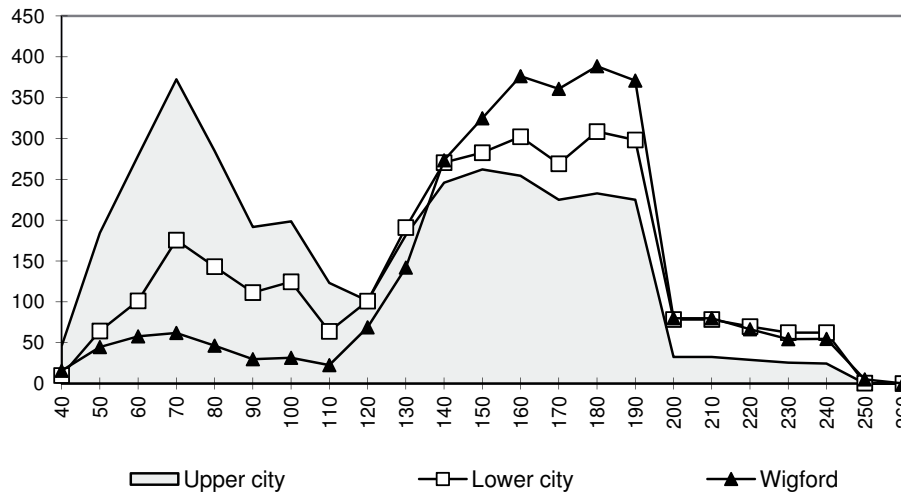


Fig. 210. Samian: plotdates of all sherds by city area.

Lower City, and the apparent economic decline of the Upper City in the 2nd century and later, as shown by the samian. It is also important to note the dominance of the samian from the Wigford suburb for most of the 2nd century, since this clearly affects any examination of the incidence of decorated wares and ratios of vessel types. Any averages calculated from the total samian assemblage are necessarily biased by the character of the Wigford group, since much of this comes from a single site, St Mark's Church (SM76). The evidence for each area is presented in detail below.

Upper City

Dating profiles based on the total samian assemblage from each site are shown in Figure 211. These are arranged loosely in a chronological sequence, to enable comparisons between sites. Figure 212 shows the sherd values of all samian, overlaid by the dating profile for the combination of stamps and decorated wares, from the Upper City. Here the values of the decorated and stamped sherds are similar in the 1st century, but diverge significantly in the 2nd century.

In the 1st century, apart from differing sample sizes, there is little difference between the early samian assemblages (up to the decade AD 80–90) from the defences sites at East Bight – EB66, EB80 and EBS (W73 has only a small sample) – and the intramural sites of the *principia*, SP72 and the later baths, CP56; all peak *c.* AD 70–80. The samian from the extramural site L86 peaks a decade earlier, *c.* AD 60–70, and declines significantly thereafter, suggesting that the 1st century rubbish dumped here was principally of the legionary period. All sites show a decline after the decade AD 80–90, which seems likely to be related to samian supply rather than of significance for individual sites (see Marsh 1981); most sites show increased quantities in the succeeding decade, AD 90–100. A notable

exception, at that period, is the former *principia* site, SP72, perhaps reflecting activities associated with the forum. The bulk of the 1st century samian from the neighbouring site WB80 belongs to the decade AD 70–80, with a very sharp decline in the following decade. The samian from the various Cathedral sites is highest in the final decade into the 2nd century, AD 100–110, and has a higher percentage of the 1st century samian than any other site.

At the extramural site WC87, the first significant quantity of samian dates to the decade AD 140–150, peaking in the following decade. Dating evidence for the start of occupation on this site is slight, but a later 2nd or 3rd century date is probable. It is in the decade AD 150–160 that decline sets in for all of the sites (discounting W73 and CL85, where the small quantity of samian derived mainly from medieval rubbish dumps), notably the defences sites of EB80 and EBS, and the forum site SP72, all closing with similar low percentages, while the neighbouring site WB80 and the extramural L86 decline less steeply. The only sites finishing more strongly are the extramural WC87, EB66 with a quantity of 2nd century samian from the *colonia* rampart, and the baths CP56, where virtually all this samian came from rubbish dumped into the defunct building. All the Upper City sites close the 2nd century with about 10% less late 2nd century samian than the Lower City sites noted below, such as Flaxengate (F72), and Saltergate (LIN73D-F), although the strongest ending sites, WC87 and CP56, are relatively close to the dating profile of the Lower City site Spring Hill/Michaelgate (SPM83).

The 3rd century samian (most East Gaulish wares are broadly dated to the late 2nd to 3rd century) in the Upper City comes mainly from the baths site CP56, with small quantities occurring on the defences sites at East Bight, the two extramural sites L86 and WC87, and although there is only a minute quantity

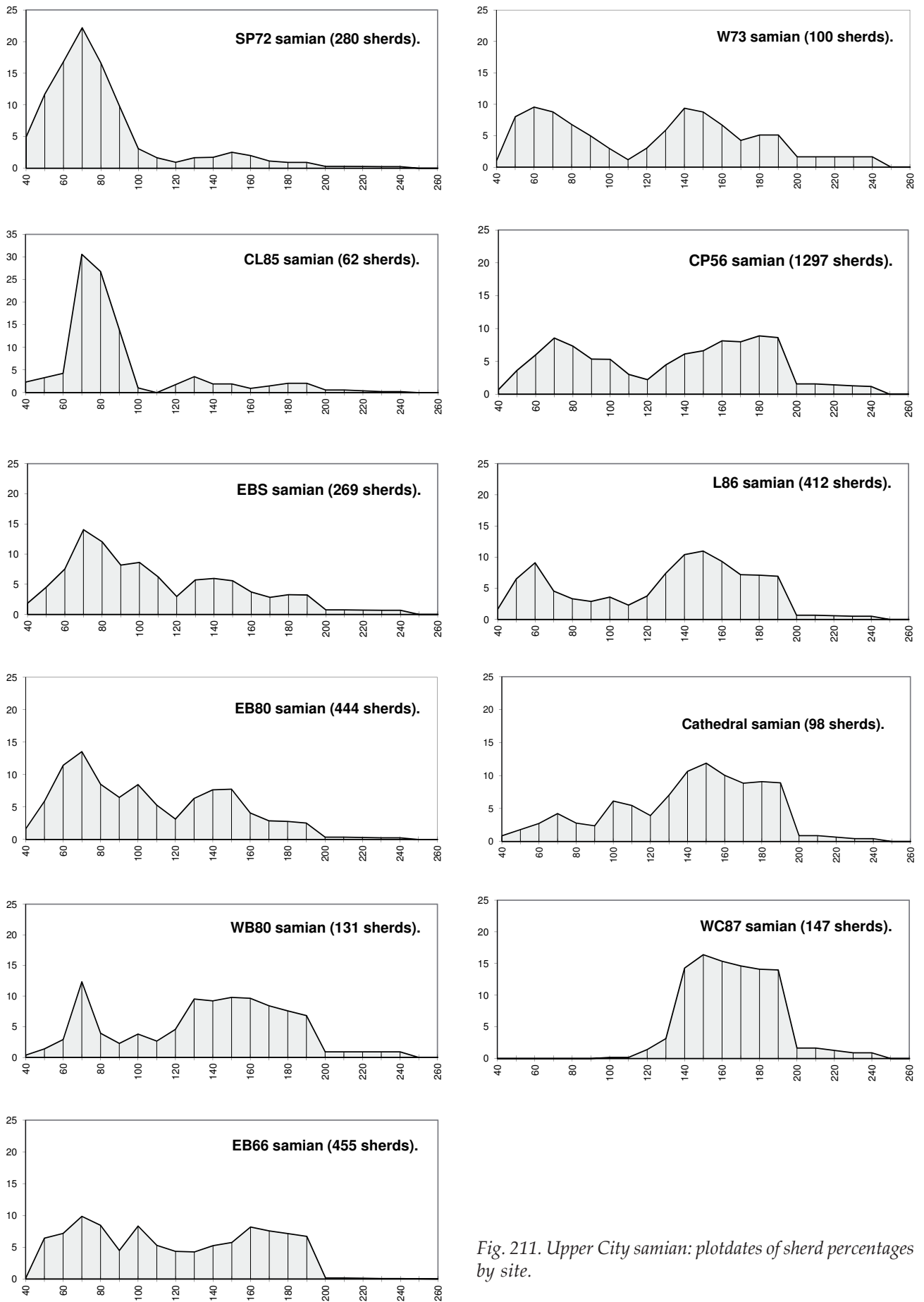


Fig. 211. Upper City samian: plotdates of sherd percentages by site.

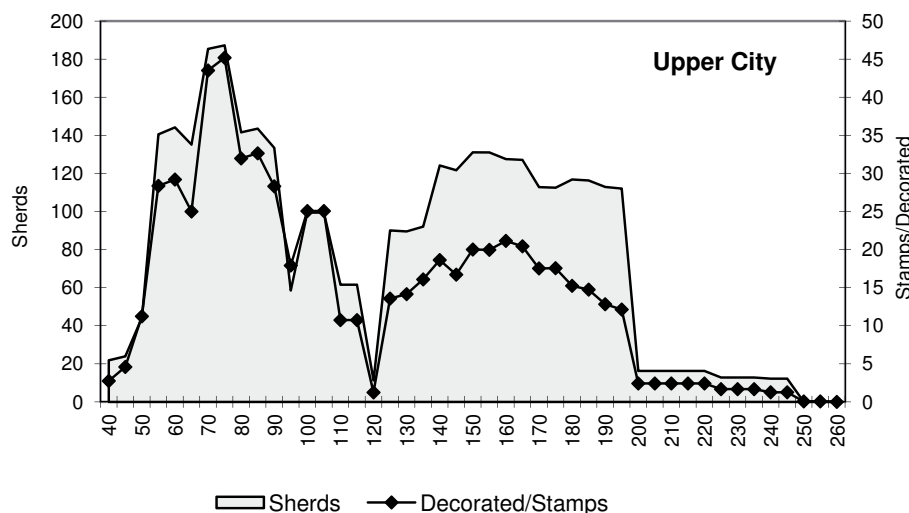


Fig. 212. Upper City samian: plotdate of all sherds and stamps/decorated vessel sherds.

from the forum SP72, a small quantity came from the neighbouring WB80 (that from W73 is from medieval dumps). Comparison with the Lower City sites suggests that although the quantity from the Upper City appears very small, it is probably about average, given that several of the sites lie on, or immediately within, the defences and two are public buildings. Despite the fact that the samian from CP56 came from dumps in part of the baths, it is likely to reflect occupation within the area.

Lower City

Dating profiles based on the total samian assemblage for each site are shown in Figure 213, again arranged loosely in a chronological sequence. Figure 214 shows the sherd values of all samian, overlaid by the dating profile for the combination of stamps and decorated wares, from the Lower City. Unlike the equivalent chart for the Upper City (Fig. 212), the evidence from the decorated and stamped sherds scores well above that from the total samian in the 1st century, while the two lines are more convergent later. This also occurs with the samian from Wigford (see below).

In the 1st century, the Silver Street (LIN73A-C) and Broadgate East (BE73) sites, lying inside and immediately outside the eastern defences respectively, contribute the bulk of the samian, with the decade AD 70–80 being the most important, and probably marking the start of occupation. Apart from these, there is a cluster of intramural sites comprising SPM83, MCH84 and the group SH74, DT74, F72 and SW82, with samian suggesting 1st century occupation; H83 also has an appreciable group, given the small extent of the excavation of the earliest levels of this site, but with a later emphasis.

Most of the main sites with 1st century samian noted above show a decline in the latter part of the

2nd century, although the decline at SPM83 is less marked, while notably F72 and two of the Silver Street trenches (LIN73A, B) increase, as do two of the Saltergate trenches LIN73E, F). The samian sample from the late site of GP81 is very small at only 43 sherds, although this does also show a later 2nd century increase. The decline in the 2nd century samian from LIN73C may be related to the derivation of most of the samian from the rampart, and does not necessarily conflict with the evidence from the neighbouring trenches LIN73A and LIN73B. The evidence suggests significantly less activity on the extramural site of BE73.

Once into the 3rd century, only two sites show any appreciable samian evidence for occupation, F72 and trenches D and F at Saltergate, with which the small quantity from LIN73E can be associated. All sites have some late East Gaulish samian. Much of the later 2nd and 3rd century samian came from late Roman levelling dumps, providing evidence for the Lower City as a whole rather than the individual sites.

Wigford

Dating profiles based on the total samian assemblage from each site are shown in Figure 215, arranged in a loose chronological sequence. Figure 216 shows the sherd values of all samian, overlaid by the dating profile for the combination of stamps and decorated wares, from the Wigford suburb.

The only substantial 1st century occupation in Wigford was at HG72, where there was evidence of early activity, including coarse pottery of types current during the legionary period. This site produced most of the 1st century samian, and the only other site with a significant early group is M82, part of an early cemetery with legionary tombstones. The proportion of samian up to *c.* AD 70 at M82 is

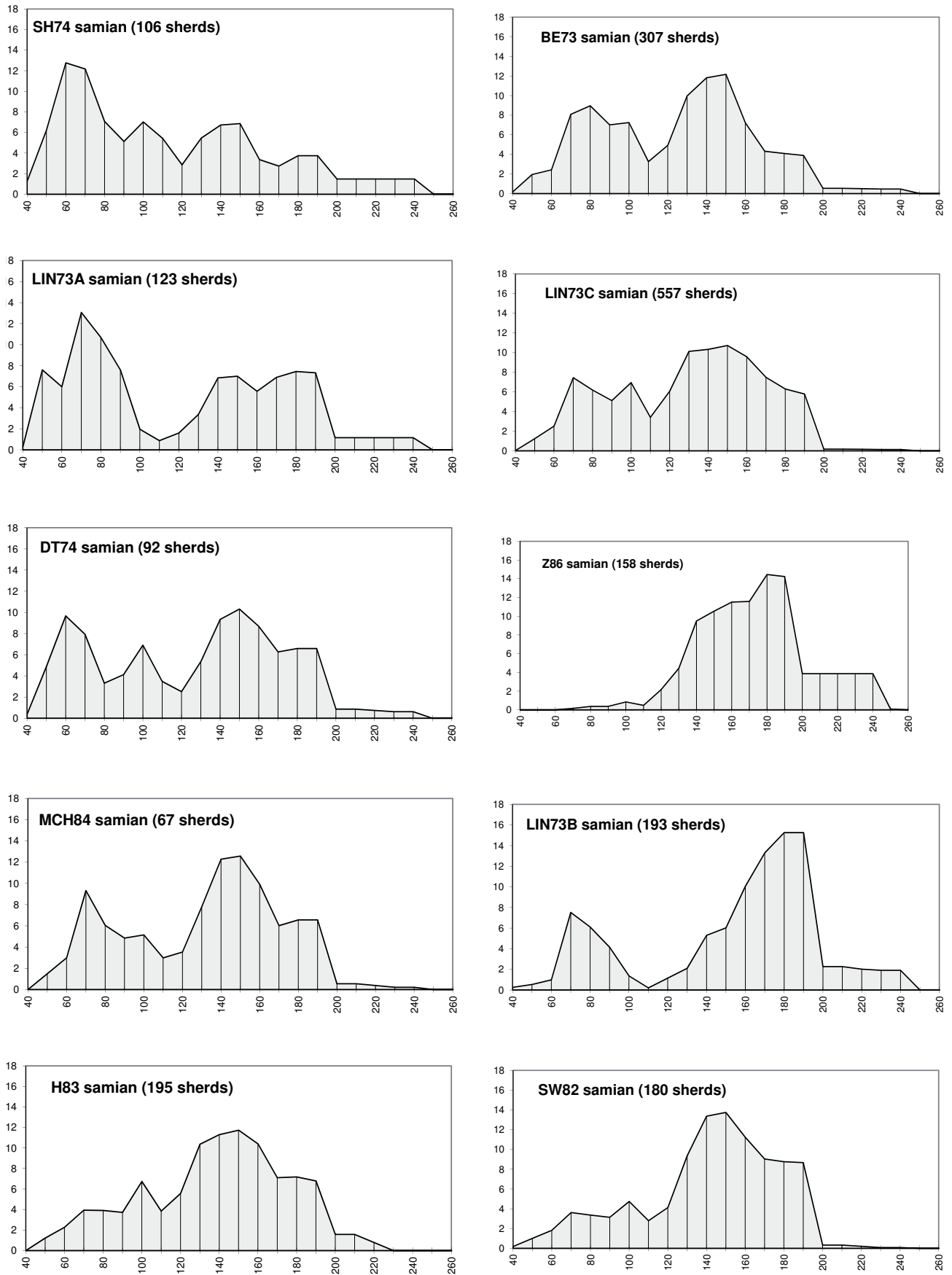


Fig. 213. Lower City samian: plotdates of sherd percentages by site (F72: samian from stratified Roman contexts only) (continues opposite).

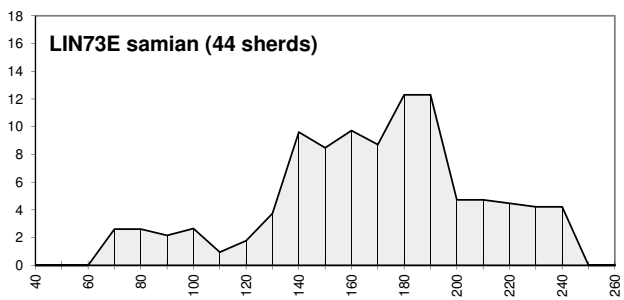
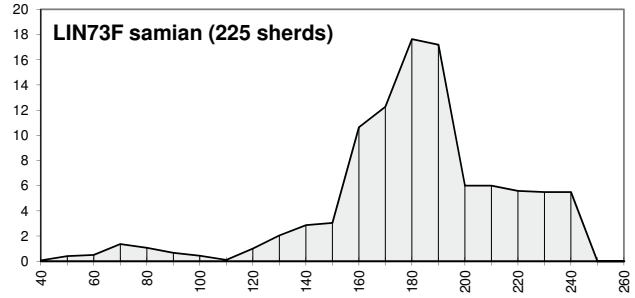
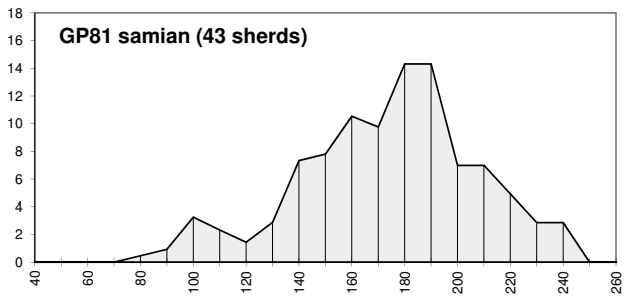
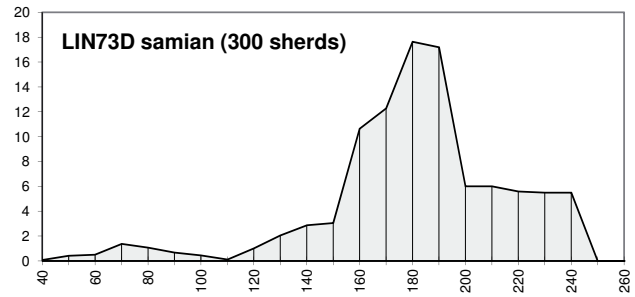
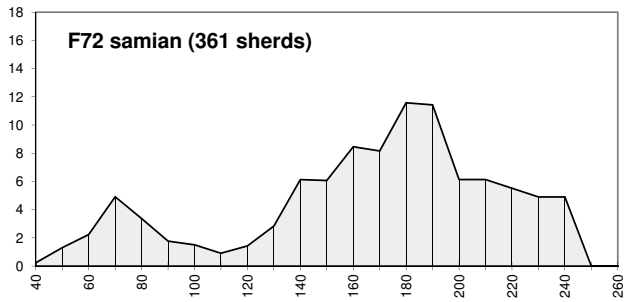


Fig. 213. Lower City samian: plotdates of sherd percentages by site continued.

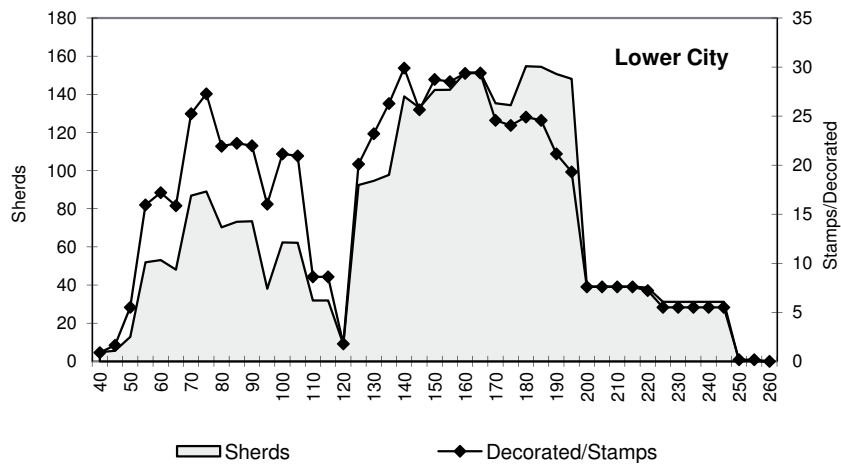


Fig. 214. Lower City samian: plotdate of all sherds and stamps/decorated vessel sherds.

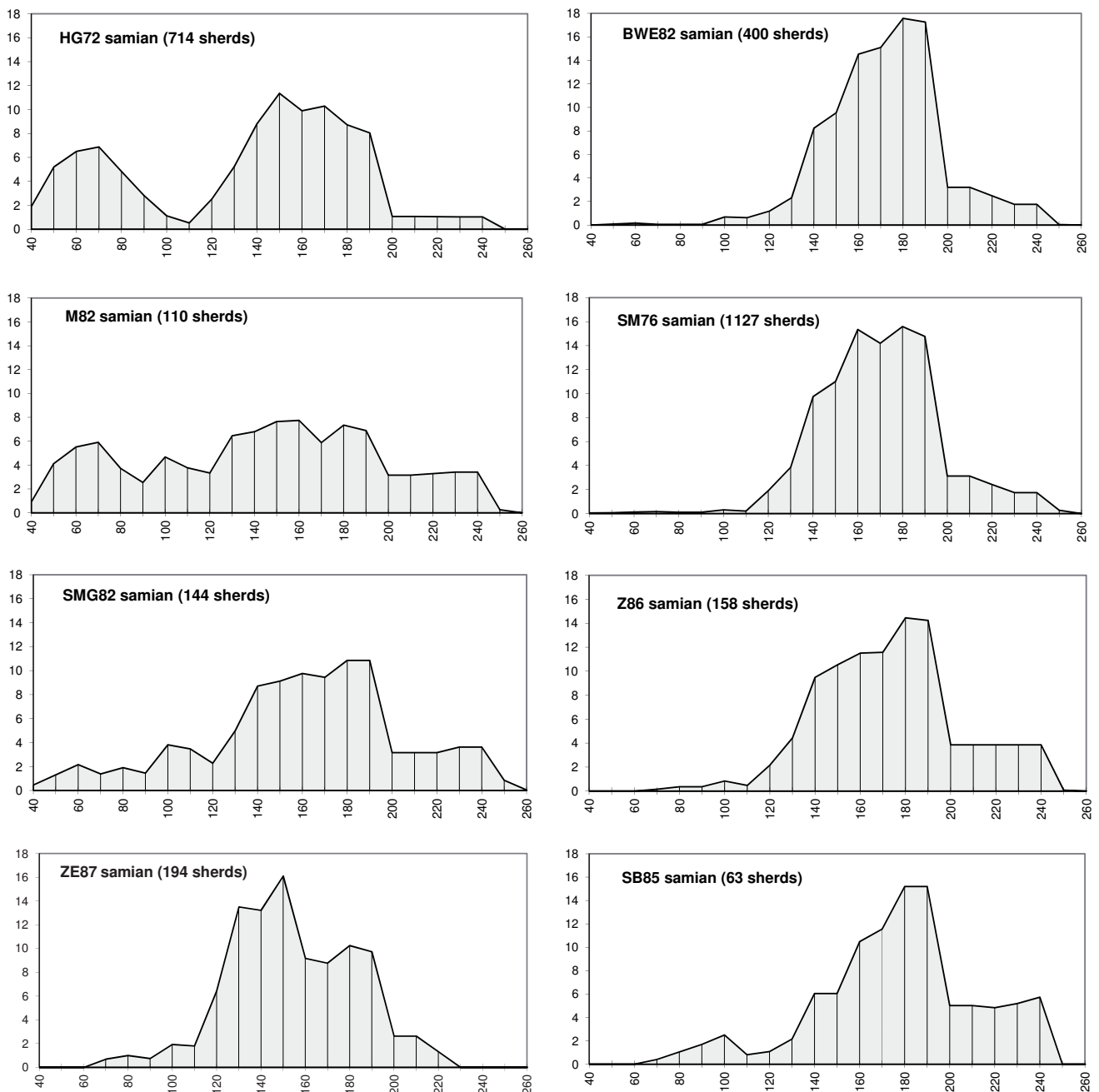


Fig. 215. Wigford samian: plotdates of sherd percentages by site.

very similar to that found at HG72, but while HG72 declines thereafter, M82 picks up to enter the 2nd century with an almost identical profile to that from the neighbouring site of SMG82. This latter site had proportionately less earlier samian until the end of the century.

Apart from the sites of HG72, M82 and SMG82 in Wigford, the 1st to early 2nd century samian from this area appears to derive largely from dumps brought in later for land reclamation and levelling purposes. An indication of the unusual nature of

these dump assemblages is the extraordinarily high percentages of samian included in the plotdate analysis, nearly double that from other areas of the city. The plotdate of all samian by city area (Fig. 210) shows the samian from Wigford peaking higher than that from the Lower City in the later 2nd century, *c.* AD 160. Examination of the average percentage of sherds by decade from the Lower City indicates the samian from Wigford is 5–6% above the average. It is, however, notable that the Lower City sites with above average sherd percentages are

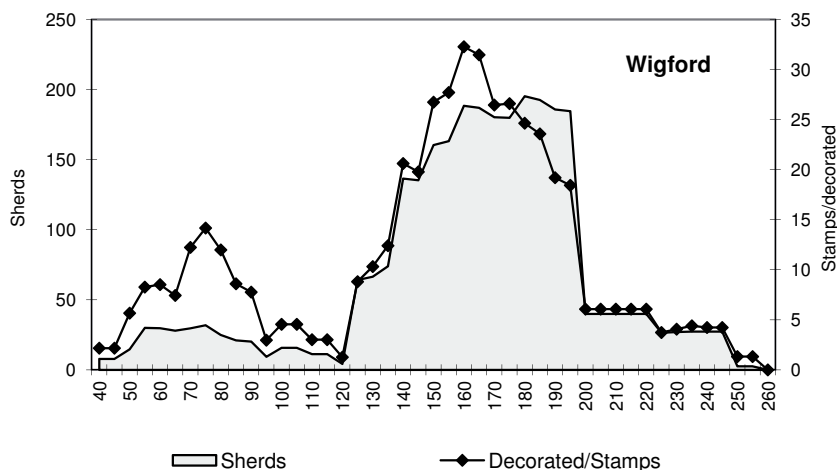


Fig. 216. Wigford samian: plotdate of all sherds and stamps/decorated vessel sherds.

the predominantly late sites where the samian was grossly residual, as at Saltergate and Flaxengate.

The highest 2nd century percentages in Wigford are from BWE82, SB85 and SM76, the largest site, whereas the percentages for sites where there was earlier occupation (as HG72 and M82) are close to the averages from the Upper and Lower City. The SMG82 site, where some earlier occupation can be anticipated (it is close to both the early cemetery and to the junction of Ermine Street and the Fosse Way), lies outside the average, while Z86 has more datable pottery than the adjacent site, SM76. In short, the dumping for land reclamation contains far less coarse pottery contemporary with the samian than found in other areas of the city.

The Wigford assemblage from the 2nd century is dominated by the site of SM76, where most of the samian was brought onto the site in rubbish for levelling. The group from the earliest phase of SM76 contains 1st century samian almost entirely from decorated vessels, while the 2nd century samian extending up to the decade AD 180–190 contains notably low percentages of decorated wares. The sites divide broadly into two groups: the first comprising the southern M82, SMG82, HG72 and ZE87, starting the century with proportionately more samian but ending with less than in the second group, comprising BWE82, SM76, Z86 and SB85. The broad crossover point between the two groups is in the region of AD 150–160.

The southern sites of M82 and SMG82 have almost identical 2nd century dating profiles although SMG82 finishes more strongly. The HG72 site starts with very low quantities of early 2nd century samian, but by AD 140 has much the same proportions as most of the other sites. The samian from ZE87 declines significantly after the decade AD 150–160, and a similar but less sharp drop occurs at HG72.

There is very little difference between the dating profiles of 2nd century samian from the sites of SM76, BWE82, Z86 and SB85, although the last site has a lower percentage until *c.* AD 160, and ends more strongly. The main increase for all these sites is in the last two decades of the century. However, virtually all this samian appears to have arrived in dumps of rubbish, unrelated to contemporary occupation in the immediate vicinity.

The 3rd century is barely represented at ZE87, while both SM76 and BWE82 show a decline in their samian against continuing quantities at Z86 and SB85. Both the southern sites of M82 and SMG82 continue and there seems to be no significant difference between them and the main group of sites further north.

The character of the samian

Vessel classes

One of the aims of examining the samian from the city by vessel class or form was to try to establish what can be regarded as a 'normal' assemblage, so that any divergences could be investigated for any information they might shed on the particular site or area concerned. For example, it is possible that a higher than normal percentage of decorated vessels may indicate a higher status site, while in the same way, a preponderance of cups may have a bearing on the function of the site. Some general changes over time are obvious, as with the decline of plates in favour of deeper vessels, but examination of the Lincoln samian has shown that there are other changes in the forms in use.

Figure 217 shows the principal forms by area (plain and decorated bowls are separately plotted), accounting for 90% of the samian; the remainder comprises indeterminate forms that could be bowls or cups or dishes, together with untyped sherds and

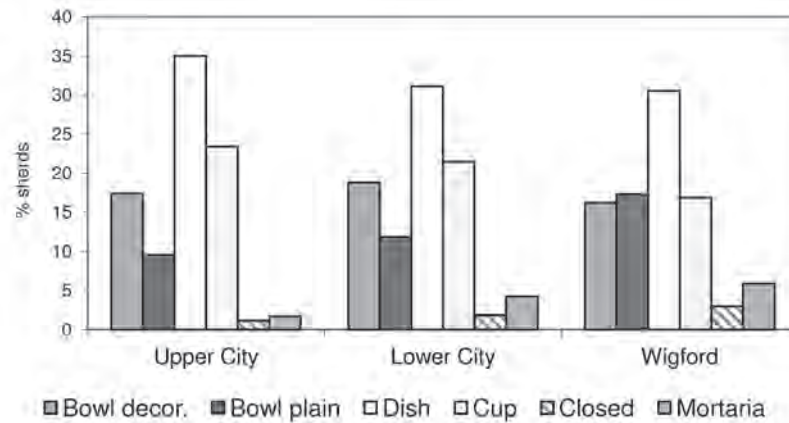


Fig. 217. *Samian: percentages of principal forms by city area.*

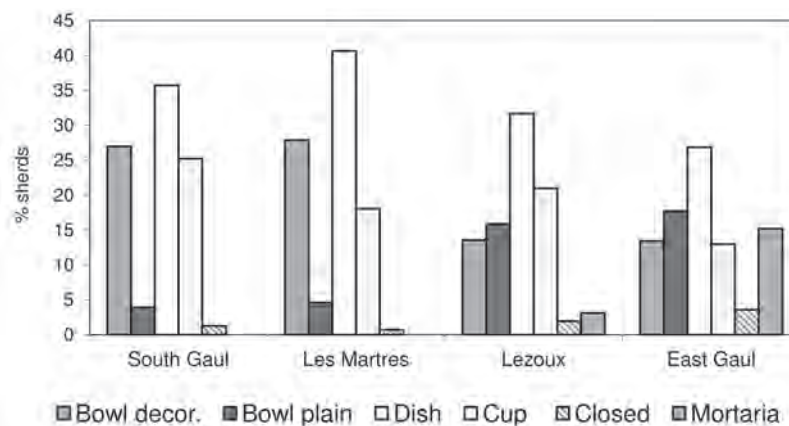


Fig. 218. *Samian: percentages of principal forms by source.*

Ritterling 13 inkpots, of which only seven occurred, five from the Upper City, and one each in the other areas. Most spatial differences appear to have a chronological basis. Figure 218, which plots the forms according to source, chronologically arranged, shows decorated bowls, dishes, and cups declining over time, with the later emphasis on plain bowls and mortaria.

The charts in Figure 219 show the dating profiles of the main forms by source as sherd plotdates, illustrating the interaction of the sources: the decline of imports from South Gaul is compensated for by vessels from Les Martres-de-Veyre, which in turn lead into the early period of vessels from Lezoux. The individual vessel types are listed by source in Figure 185.

Analysis of the chronological incidence of samian forms in Lincoln is based on a calculation of the percentages of forms by source per decade; this data is detailed in Appendix VII. The main features may be summarised. Decorated bowls from South Gaul and Les Martres-de-Veyre rise as high as 30% of the assemblage, while those from Lezoux are highest at 20% *c.* AD 130 but decline to only 7% by the end of the century. Decorated bowls from East Gaul from

c. AD 180 onwards maintain a level 12–15%. Plain bowls from Lezoux gradually rise in importance as the decorated vessels decline, while those from East Gaul maintain a fairly level 20%, declining slightly in the 3rd century. Dishes decline from a peak *c.* AD 120, and then maintain a fairly constant level, over 25% coming from Lezoux and East Gaul. There appears to be a slight decline in cups from Lezoux from *c.* AD 140, these accounting for *c.* 20%, while those from East Gaul are generally at a lower level, *c.* 12–13%, with a slight decline towards the mid 3rd century. Mortaria from Lezoux occur in the late 2nd century at *c.* 7%, while the percentage from the East Gaulish kilns is 12–18%.

While the large sample from the city thus provides useful data, abnormal vessel form assemblages occur for site-specific reasons, as noted above regarding the samian on many of the Wigford sites, where it was brought in amongst the material used for land reclamation and levelling.

Decorated and plain vessels

The decline in the percentage of decorated vessels arriving in Lincoln in the 2nd century, the main

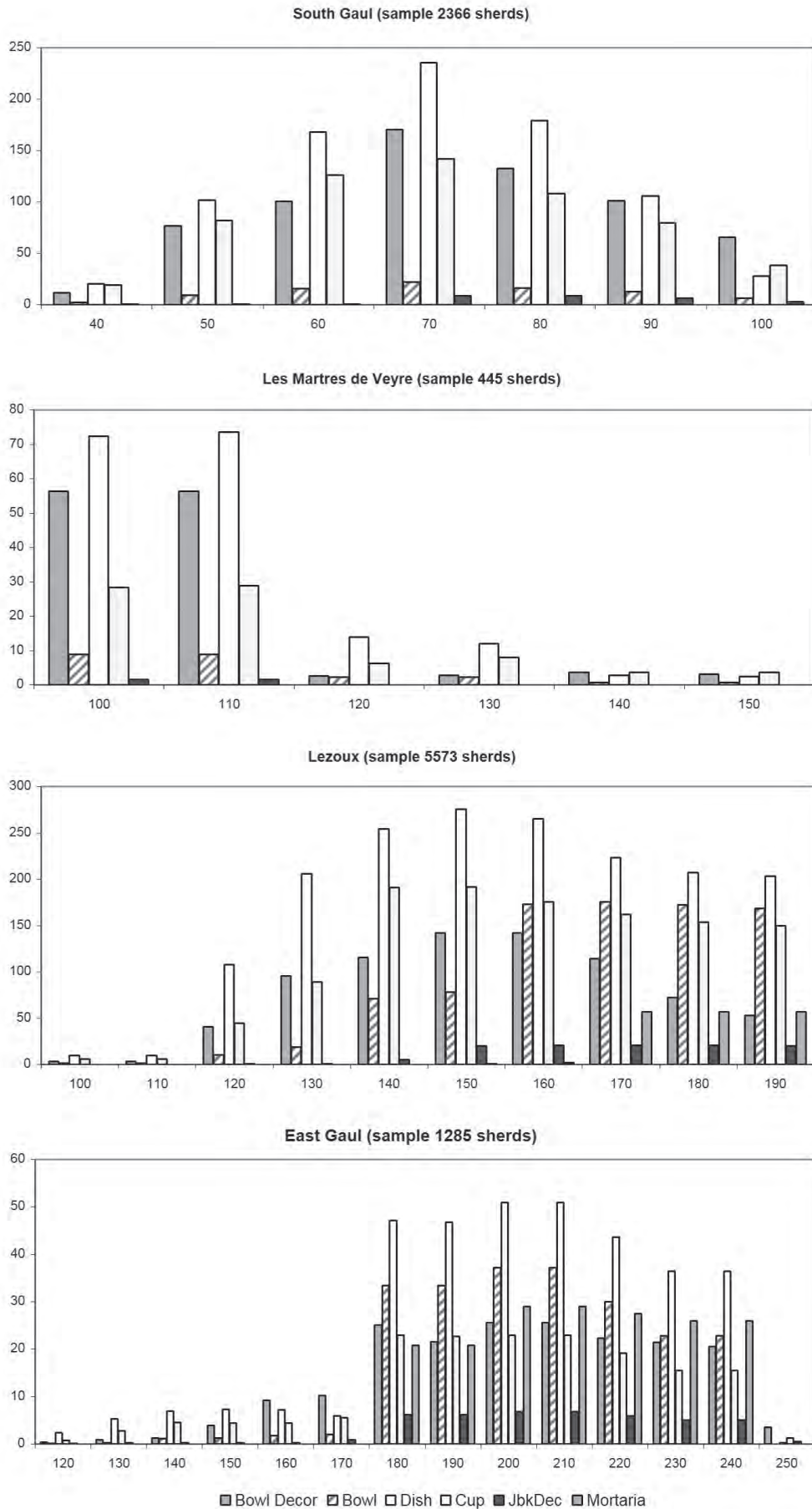


Fig. 219. Samian: plotdates of principal forms by source and sherd count.

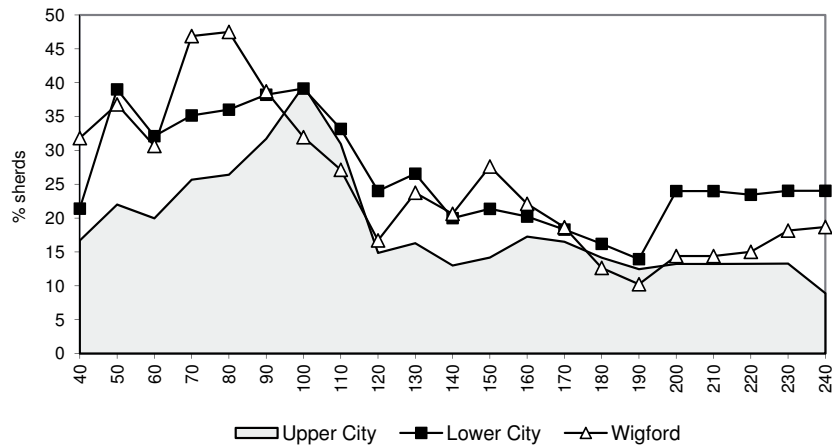


Fig. 220. *Samian*: plotdate of decorated sherds as a percentage of all identified forms, by city area.

period of samian importation, has been examined on the basis of the ratio between decorated and plain vessels (Darling 1998). Since that publication, work on the rest of the city assemblage makes it clear that East Gaulish decorated vessels occur at more consistent ratios, and an updated view of the different areas of the city can be presented here. Figure 220 shows the decorated vessels as a percentage of all identified forms.

It is important to note that the Upper City is dominated by the large assemblage from the baths CP56 (comprising 35% of the total), mostly samian dumped in the 3rd century, while most of the Wigford evidence comes from St Mark's church (SM76), and the Lower City is a mix of very miscellaneous sites, many of which had large later Roman deposits.

An unexpected result of this analysis is that the Upper City, where higher status occupation might be expected to be reflected by the pottery, has the lowest proportion of decorated wares of the three areas, virtually the same as that from Wigford (percentages of decorated samian: Upper City 20.2%, Lower City 24.2%, Wigford 20.4%). The samian from the Upper City (over 60% of all the South Gaulish ware) came from deposits associated with, or derived from, the legionary fortress. The largest quantities are from the defences sites (EB80, EB66 and EBS) and the baths (CP56), with smaller groups from the forum site SP72 and the extramural L86, averaging 25.8% decorated. The low percentage of decorated wares from the large baths site CP56 is unusual, given its location near the centre of the Upper City. The extramural sites L86 and WC87 both have more decorated ware than found at CP56 from *c.* AD 150 onwards, WC87 being the closest to the city average. The samian from the forum site SP72 is mostly 1st century, but there is a quantity of later samian, mostly plain vessels, as also found on the neighbouring WB80, again with a high ratio of plain to decorated. Generally this appears

to indicate decline in the Upper City, although the absence of significant samples from the central area underlying the historic centre of Lincoln precludes sensible conclusions.

Much of the 1st century samian from Wigford and the Lower City comes from sites barely, if at all, occupied at that period, the smaller quantities of decorated vessels averaging 40–41% and 36–37% respectively. In the earlier part of the 2nd century, Wigford still has the highest percentages of decorated samian, mostly from land reclamation deposits. From *c.* AD 160 onwards the proportion of plain wares rises in all areas, particularly in Wigford, while the Upper and Lower Cities are closely similar. Wigford is dominated by the largest site, SM76 (38% of samian from Wigford), although the quantity of decorated ware recovered from the strip buildings there is probably exceptionally low.

Once past AD 200 and the cessation of importation from Central Gaul, the results for all three areas indicate fewer plain wares. The notable feature here is the higher percentages of decorated vessels from the Lower City. The quantities of samian dated to the 3rd century from the Lower City and Wigford are very similar, about 350 sherds, while only 140 sherds came from the Upper City, and the Lower City has proportionately more decorated wares than both Wigford and the Upper City.

To summarise, the ups and downs within the earlier part of the 2nd century may be of little significance, but there is a marked increase in the proportion of plain vessels in all three areas in the last two decades of the 2nd century, *c.* AD 170 to 200. The higher incidence of decorated 1st century vessels in both Wigford and the Lower City is plain to see, but virtually all occurred residually in later contexts and dumps. Since a higher proportion of decorated vessels could be taken to indicate higher status occupation, this demonstrates how essential it is that this type

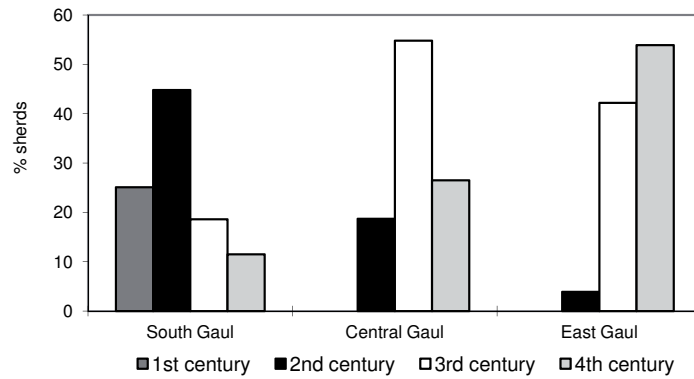


Fig. 221. Samian as stratified by pottery context date: sherd percentages.

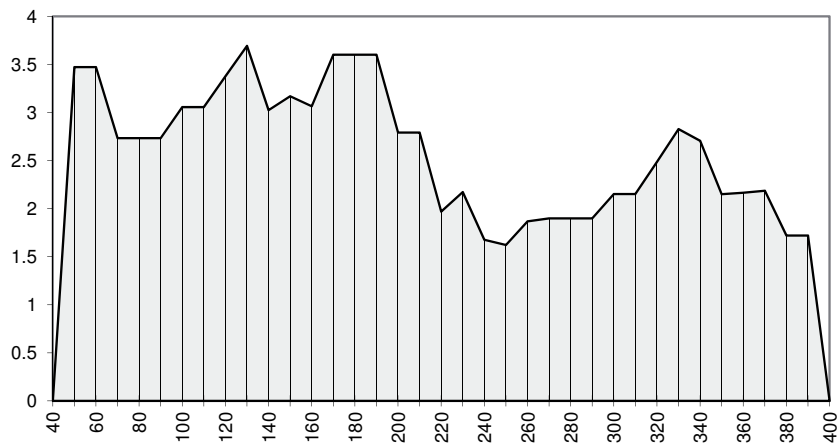


Fig. 222. South Gaulish samian: ratios of plain to decorated sherds as stratified by pottery context date.

of analysis is related to the stratigraphic data to be of any value. The ratios of plain:decorated for the Upper and Lower Cities are relatively close in the 2nd century, but diverge in the latter part of the 2nd century, and the higher proportion of decorated wares from the Lower City could be interpreted as a shift in the 'quality' occupation. While the lower percentages of decorated vessels from CP56 contribute to the low percentages for the later 2nd century, the percentages in the 3rd century are about the city average. The closing assemblages from both the Upper City and Wigford are similar, the emphasis seeming to have moved to the Lower City.

It is unfortunate that comparative data from other cities has not been explored to examine this aspect of the samian evidence.

Residuality

The residual occurrence of samian can also be explored by using the computer program RCOD (see p. 8) to extract all records of a named fabric or vessel type, together with details of the phasing of the context, the total sherd count of the parent context

and the latest date of the pottery from the parent context (the pottery context date). The stratified incidence of the samian is summarised by century in Figure 221, which shows the extreme dislocation of this material.

Nearly half of the South Gaulish samian extracted by RCOD occurs with 2nd century pottery, and a slightly higher percentage of Central Gaulish samian was stratified with pottery dating to the 3rd century. That 29% of all Central Gaulish sherds came from 4th century contexts reflects the dumping of rubbish both in the later Roman and medieval periods. This is a feature of several sites, making the interpretation of samian evidence difficult.

The possibility that decorated vessels had a longer life than plain forms has been examined by determining the ratio of plain to decorated wares in the dated stratified deposits. The ratios for Central Gaulish samian showed little change from the 2nd century onwards, but those for South Gaulish samian showed a distinct decline in 3rd century contexts, indicating higher proportions of decorated wares (Fig. 222). This may well arise largely from the dumps of rubbish used for land reclamation

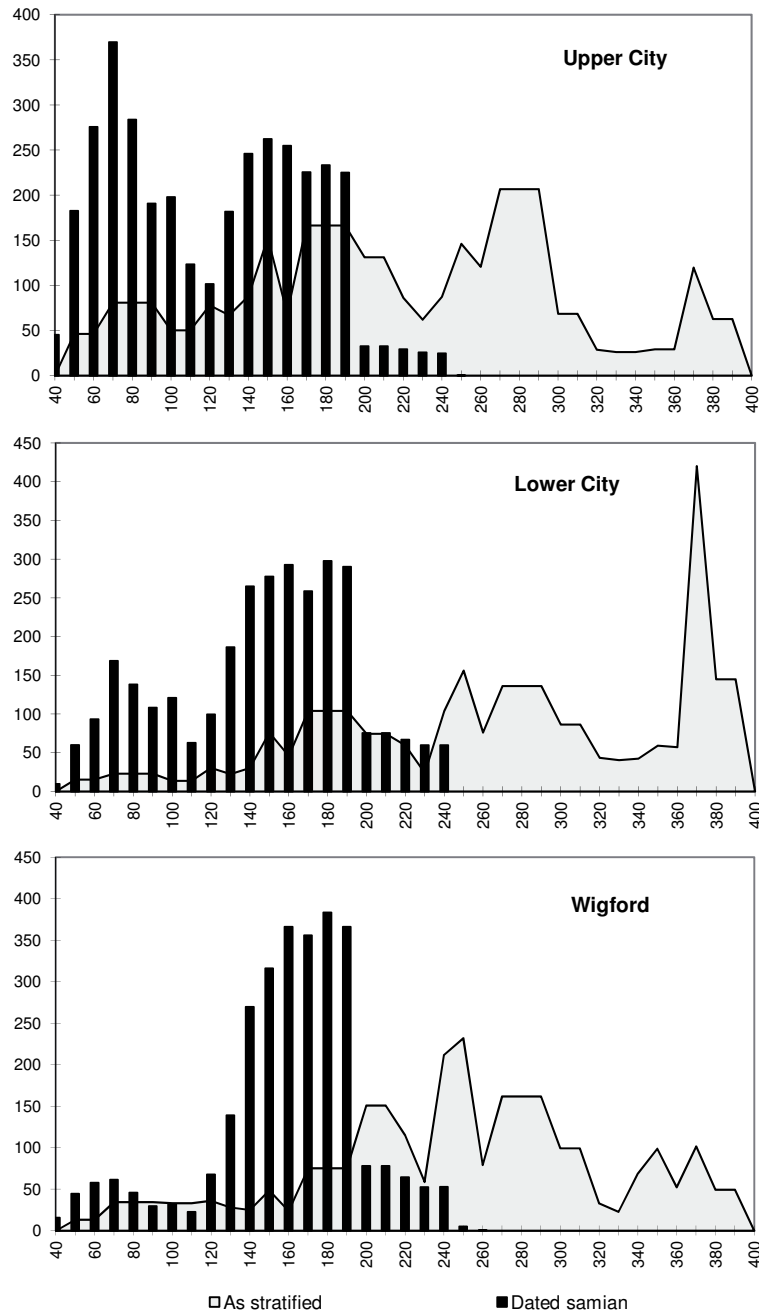


Fig. 223. *Samian: comparison of dated vessels (columns) with their stratification by pottery context date, by city area.*

and levelling in the Wigford suburb, although why these dumps, deposited probably in the late 2nd or early 3rd century, should contain particularly high percentages of South Gaulish samian is unclear, unless it is an indication of vessels surviving as heirlooms. As noted above, this unusually high percentage of decorated South Gaulish vessels also occurs on other sites, particularly in the Lower City, where it was associated with 2nd and 3rd century samian in dumps of much later date.

Finally, the residuality of the samian can be examined within the three individual areas of the

city. The charts in Figure 223 show the incidence of all samian sherds by pottery context date, overlaid by columns showing the samian by specialist date. These emphasize the dislocation between the date of the samian and its deposition date. The problem presented by quantities of samian from late Roman dumps and other contexts in the Lower City is particularly clear, and it is of interest that while the first peaks for the Upper and Lower Cities coincide with the dated samian profile, Wigford peaks later: further evidence for the peculiarity of the land reclamation dumps.

10 Discussion

Margaret Darling and Barbara Precious

10.1 Summary of the Roman pottery from the city

Margaret Darling

This section uses the results of analysis to present a wider view of the Roman pottery from Lincoln, addressing such issues as the chronological and spatial distribution of the pottery, and functional analysis. It deals with the pottery according to the three distinct topographical areas of the city, in line with the subdivision of the site reports:

The Upper City: the legionary fortress and succeeding upper *colonia*, with extramural sites at Winnowsty Cottages and The Lawn to the east and west respectively (Steane *et al.* 2006).

The Lower City: the lower *colonia* north of the river Witham, including the extramural site of Broadgate East (Steane *et al.* forthcoming).

Wigford: the southern suburb stretching beyond the river Witham, with sites fronting the Brayford Pool (Steane *et al.* 2001), and other, riverfront, sites (Waterside, unpublished).

The total quantity of Roman pottery recorded in the database and used for this corpus amounts to over 150,000 sherds. Of this quantity, approximately 80% came from either Roman or immediately post-Roman stratified contexts, varying according to the site. The quantities of pottery divide relatively evenly between the three areas, as shown in Figure 224. The

samian shows virtually the same distribution, with slightly less in the Wigford suburb.

Analyses of data have been largely restricted to material from the excavations of 1982–87, and data from the Silver Street and Saltergate excavations have been used selectively depending on the type of analysis, owing to the incomplete nature of their assemblages (arising from the on-site discard policy adopted for those excavations). In order to fully examine the ceramic data from the city, other assemblages have been included in analyses where appropriate; thus the pottery from the earlier excavations at The Park and East Bight (EB66, stratified pottery) has been included only where it was considered to be useful since, although the original records were subsequently entered into the CLAU database, some data was not recorded in the same format as that developed for the pottery from later sites. Analyses of some sites with excessive quantities of unstratified pottery (such as Cottesford Place, Flaxengate (F72), Saltergate Trench E, St Benedict's Square and St Mark's Church) are based on pottery from primarily stratified Roman or immediate post-Roman deposits. The pottery from miscellaneous small interventions was excluded from analysis.

The major Lincoln sites that are excluded from analysis here consist of the Waterside sites, the Castle West Gate and the kiln site at Swanpool (SK87: see p. 311); all still await the completion of archive recording, although selected notable samian and other vessels from some of these have been included, and whatever data is available has been utilised in analyses in chapters 3–9. The material from excavations at St Mark's East is not fully archived, although the samian has been both archived and reported upon, and is therefore included in the analysis.

Area	All pottery	%	Samian	%
Upper City	44343	29.5	3729	32.9
Lower City	62276	41.5	4812	42.5
Wigford	43527	29.0	2777	24.5
Total	150146	100	11318	100

Fig. 224. Quantities of pottery by city area.

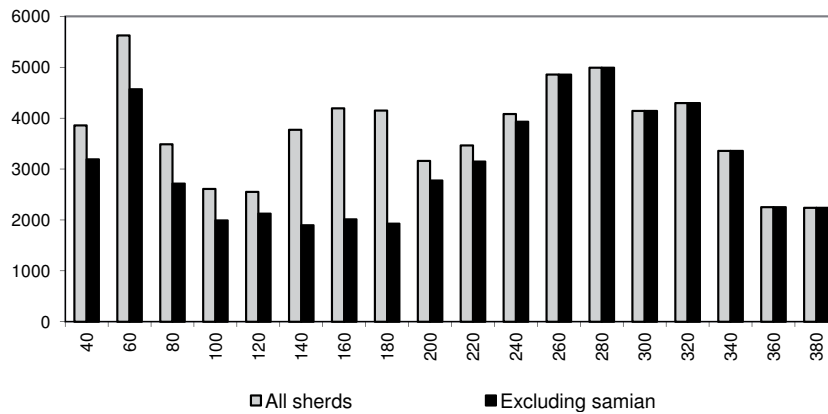


Fig. 225. Plotdate of all pottery, and excluding samian, from total sites.

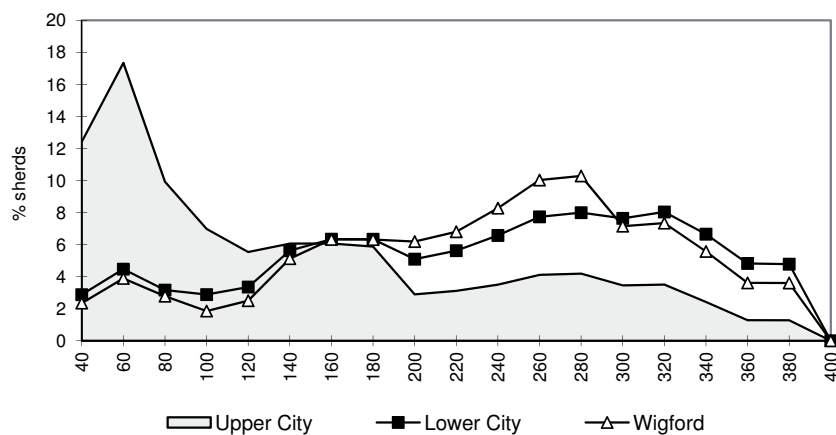


Fig. 226. All pottery: plotdate of sherd percentages by city area.

Chronology

The chronological span and emphasis of the pottery from the excavations is shown in Figure 225. All excavations were undertaken in advance of development work, resulting in a paucity of sizeable assemblages from the Upper City apart from Cottesford Place (CP56), and the larger sites lying in the Lower City, particularly Flaxengate (F72) and The Park (P70), where the large late rampart dumps containing quantities of 3rd century pottery may contribute to some distortion of the chronological profile, and St Mark's Church (SM76) in Wigford.

Figure 225 shows clearly the bias of the total assemblage, with a 1st century peak in the legionary period, followed by generally lower levels through the 2nd and into the 3rd century, although rising in the early 3rd century, with the bulk of the pottery dating from the mid 3rd to the mid 4th century. The final lower level for the second half of the 4th century may be more apparent than real, due to the difficulty of dating pottery fabrics and types specifically to that

period. The chronological variations in the settlement of the three areas of the city can be gauged from Figure 226.

Samian

The large quantity of samian provides a good sample for analysis, relating on the one hand to the evidence it provides to individual sites and areas of the city, and on the other, to the character of samian from the city, and chronological changes. The large digital database provides the first opportunity to examine many fundamental aspects of samian supply to the city, and this is discussed in a separate section (9.4), to which reference should be made for detailed information. The overall contribution for the dating of occupation of the city as a whole is illustrated by Figure 210, which shows the chronological spread for each area, the Upper City clearly contrasting with the other areas.

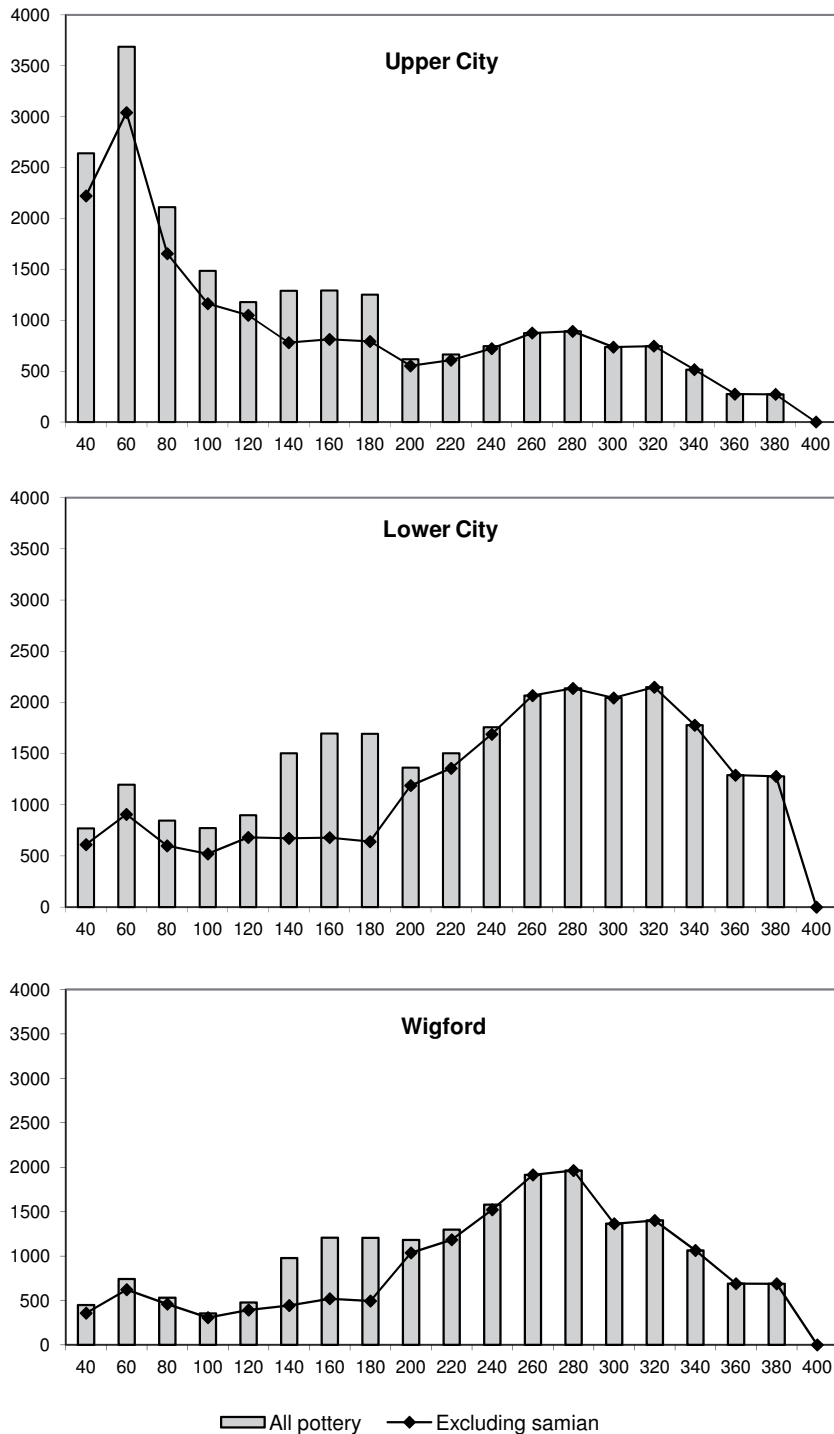


Fig. 227. Plotdates of all pottery, and excluding samian, by city area.

Spatial development

Figure 227 shows the plotdates of the pottery from each area, as an area for the coarse pottery excluding samian, and as columns for all pottery. As anticipated, the 1st century dominates site of the fortress and the Upper City, and detailed analysis indicates the strength of the occupation there until the later 2nd

century, by which time more activity is evident in the Lower City. Much of the early pottery from Wigford is from rubbish (probably from the Lower City), deposited as land reclamation/levelling, although there is evidence of 1st century activity on sites such as Holmes Grainwarehouse (HG72), Monson Street (M82) and St Mary's Guildhall (SMG82). The decline

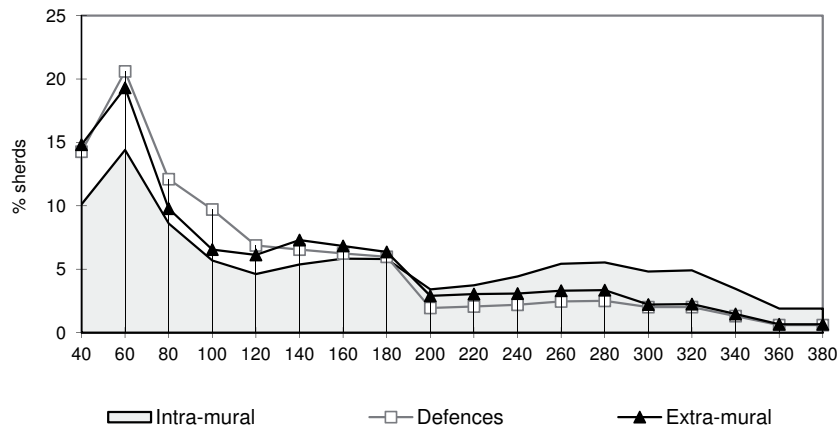


Fig. 228. Upper City: plotdate of all pottery spatially, by sherd percentages.

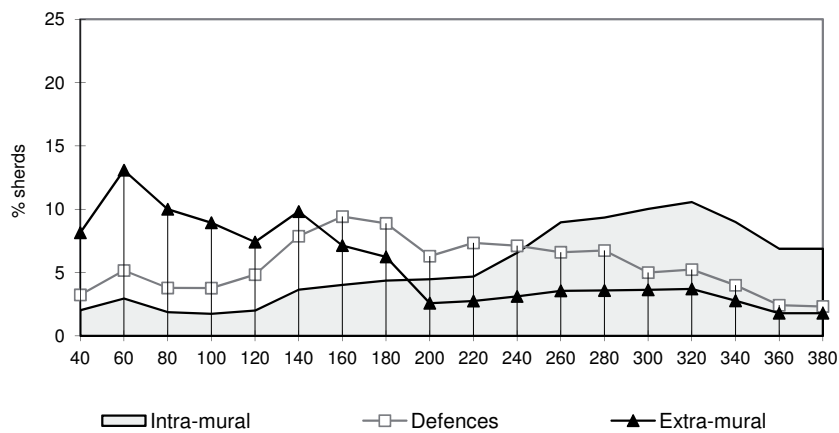


Fig. 229. Lower City: plotdate of all pottery spatially, by sherd percentages.

of the Upper City is more apparent than real and is largely due to the chronological imbalance between the city areas, due to the high level of 1st century occupation there. Activity in the Upper City in the 3rd century, after the end of samian importation, is relatively strong, although the Lower City may have been even more vibrant. The Lower City has the strongest evidence for 4th century occupation, particularly in the later decades. The major period of activity on many of the sites in the Wigford suburb is in the 3rd century, declining perhaps by the mid 4th century, as also appears to be the case for the Upper City.

Activity within the walled area: the Upper and Lower Cities

The situation relating to the interaction of the Upper and Lower Cities seems clear. However, the derivation of the pottery from each area differs, with 54% of the Lower City pottery coming from sites in the intramural area, against 48% in the Upper City,

where the bulk is from a single site, Cottesford Place. This pottery came from 3rd century rubbish dumped into part of the baths, and there is very little pottery from the other intramural sites, which limits conclusions. There is, however, good evidence for mid to late 2nd century activity on the extramural sites, The Lawn (L86) and the small Winnowsty Cottages (WC87).

To enable a comparison, the sherds have been plotted on the same basis for both areas in Figures 228–9. Based on the main sites the samples plotted are 21,255 sherds, representing 48% of the total assemblage from the Upper City, and 26,745 sherds – 44% of the total – from the Lower City.

These charts show the extramural sites adjacent to the Upper City starting strongly in the 1st century (on the evidence solely from The Lawn), and still relatively active in the mid to late 2nd century, but tailing off later. The only significant difference is the lower level of early activity shown by the single Lower City extramural site Broadgate East (BE73).

The extramural sites for the Upper City show a fairly steep decline to *c.* AD 200, a feature which is less marked in the Lower City, and while the 3rd to early 4th century levels appear low, given the high percentages in the 1st century, there seems to be little difference between the two areas.

Further analysis by calculating the date of sherds for each area by century to obviate the obvious impact on percentages of the quantity of early pottery from the Upper City showed that this area has less 2nd century pottery, but the differences between the plotdates for the two areas only exceed 5% in two instances. This seems too small to be regarded as significant evidence for a decline in the Upper City, particularly since over 60% of the pottery is from the dumps at Cottesford Place. At present there is insufficient evidence to assess the relationship between the two main areas of the city.

Mid to late 2nd century pottery in the Lower City comes mainly from the defences sites, The Park and Trench C at Silver Street, whereas the percentages for the same period from the defences sites in the Upper City are depressed by the high 1st century content. Further analysis by date showed that over 40% of the 1st century Lower City pottery came from the defences sites, rising to over 50% in the mid to late 2nd century, whereas the Upper City defences contributed just over 30% of the 1st century Upper City pottery, dropping to below 30% in the mid-late 2nd century. Plotdate analysis of the pottery from the defences sites showed the Upper City to peak at *c.* AD 100, while the Lower City peaks at *c.* AD 160, the latter possibly reflecting the demolition of earlier buildings to make way for the defences. The obstacle to clear assessment of the defences lies in the large groups from late Roman rampart dumps at The Park, deposited in the 4th century but containing much earlier rubbish (Darling 1999, 132). Whether these can be regarded as deposits likely to truly represent occupation in the Lower City is debatable.

The extramural sites adjacent to the Upper City produced a higher percentage of the total pottery by date throughout than that seen from the single Lower City extramural site Broadgate East (BE73). The material from dumps at the Waterside sites excavated in 1988 and 1989 is likely to provide extremely useful information for the assessment of occupation in the Lower City, hopefully lessening the bias caused by the large rampart deposits. Unfortunately the chances of obtaining large samples from the Upper City seem remote, although a more detailed assessment of the Cottesford Place pottery relative to the stratigraphy of the site could yield useful evidence.

At present the pottery appears to suggest some transference of activity from the Upper to the Lower City in the 2nd century, although the extent cannot

be realistically assessed, with an expansion into the Wigford suburb in the late 2nd or early 3rd century. There is little strong ceramic evidence that the Upper City was in decline in the later Roman period, apart from the fact that part of the baths was filled with rubbish and the site, near the centre of the Upper City, apparently not redeveloped. The main activity in the Wigford suburb appears to have been in the 3rd century, with much of the later pottery coming from St Benedict's Square (SB85), again associated with land reclamation. The level of occupation then appears to decline before the end of the Roman period.

The Wigford suburb

Turning to the Wigford suburb, the sites there divide into two broad groups: those starting with 1st century or earlier occupation – Holmes Grainwarehouse, Monson Street and St Mary's Guildhall – and the main group where activity started later, due to the need for land reclamation – St Mark's Church, Brayford Wharf East (BWE82), St Mark's Station (Z86), and St Benedict's Square. The total pottery from these two groups is shown in Figure 230.

Predictably, this shows clearly the 1st century emphasis of the earlier sites, with the later sites not really registering until *c.* AD 140–160. Apart from a tiny group (45 sherds only) from the earliest pot-bearing group at St Mark's Church (SM76), which could be dated only generally to the mid-late 2nd century, the main early group (LUB 3) from this dominant later site contained Dales ware and NVCC sherds indicative of a 3rd century, probably mid 3rd century, date. The latest samian was *c.* AD 160–190/200. The earlier material in this later group comes from levelling dumps used in the land reclamation. It is therefore worth examining the evidence excluding the samian, as shown in Figure 231.

This shows the main period for the start of activity at the later sites as *c.* AD 200, the earlier rise shown in Figure 230 deriving mainly from the samian, mostly found in the levelling dumps. 1st century samian is less than 1% of the total assemblage, the 2nd century to *c.* AD 150 accounts for 15%, while the bulk of the samian, over 70%, from these sites centres on the later Lezoux period, *c.* AD 150–200, the main rise being *c.* AD 160–170.

Further analysis of the later Roman period showed very little difference in the profiles of the early and later sites. There appear to be lower levels for the later 4th century, suggesting that activity in Wigford declined earlier than in the Lower City.

The evidence of the fabrics

The fabrics for each area are shown as percentages of the total site assemblages in Figure 232. These have

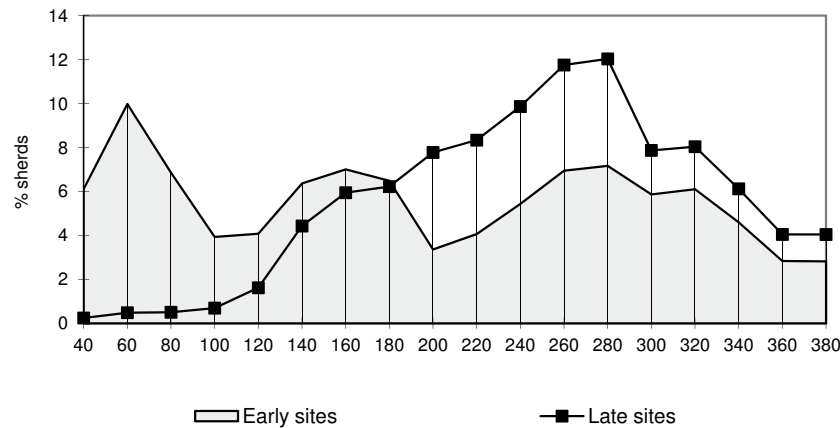


Fig. 230. Wigford: plotdate of all pottery from early and late sites, by sherd percentages.

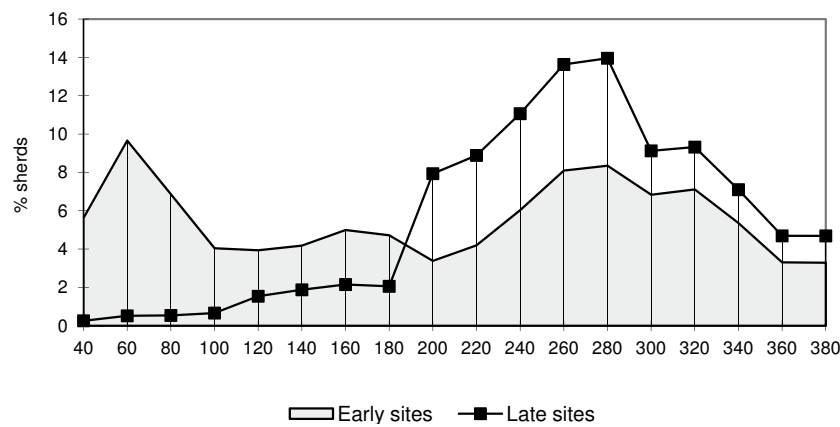


Fig. 231. Wigford: plotdate of pottery excluding samian from early and late sites, by sherd percentages.

been grouped for clarity as SAM: samian, MORT: mortaria, AMPH: amphorae, FINE: all fine wares, EROX: earlier oxidized fabrics (mostly for flagons and such vessels), OXID: general oxidized fabrics, IASH and IAGR, the shell- and quartz-gritted Iron Age tradition fabrics, EGRY: early grey fabrics (LEG, GRSA and IASA), BB1/2, and finally MLCO, a group of later Roman fabrics that includes DWSH, LCOA, SMSH and various Crambeck fabrics, the latter two rare in Lincoln. All fabrics are listed in Appendix I, which also shows the relevant analysis group for each. Specifically early and late fine wares are separately recorded in the database but account for less than 1%, therefore have been subsumed here into the FINE category. In order to illustrate the smaller fabric groups clearly, this figure excludes the largest category, the reduced GREY fabrics, which account for 46% of the Upper City, 53% of the Lower City, and 52% of the Wigford pottery. Full details of the quantities by city area and site are given in Appendix III.

The earlier emphasis of the Upper City assemblage is evident with higher percentages for the early

fabrics (EROX, IAGR, EGRY), and it is notable that the Lower City has over twice the quantity of late coarse fabrics (MLCO). The Lower City figures include the Silver Street (LIN73A-C) and Saltergate (LIN73D-F) excavations where pottery was discarded on site, leading to a marginally higher percentage of samian from the Lower City, and possibly to a lower percentage of late coarse fabrics (MLCO) for the area. Much of the Wigford samian is from levelling dumps and land reclamation material, and should perhaps be viewed more as having derived from elsewhere, probably the Lower City. This is also relevant to the level of BB1 from Wigford, most of which was stratified with the samian in the earlier phases of sites.

The interaction of the Iron Age tradition fabrics IASH and IAGR is of interest, since the relatively small quantity of IAGR from Wigford, with little late 1st and early 2nd century occupation compared to the Upper City, tends to substantiate the view that this fabric took over from the earlier shell-gritted fabrics.

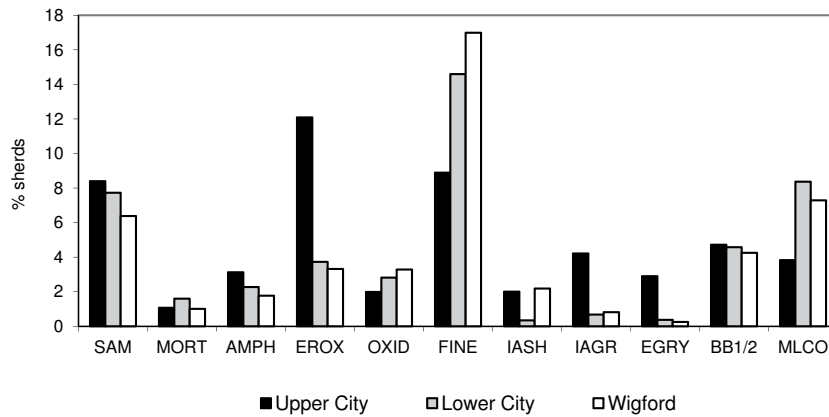


Fig. 232. Fabrics: sherd percentages by city area.

The high percentage of fine wares from Wigford mainly reflects the strong 3rd century content of the largest assemblage, from St Mark's Church, and the exceptionally high quantities of samian and fine wares in the pottery from the unusual Brayford Wharf East assemblage (Steane *et al.* 2001, 78) only increase the percentage for the area by just over 0.65%.

The percentages of late fabrics MLCO suggest the main area of activity in the latest Roman period to have been the Lower City, with comparatively little from the Upper City, and a lower level from Wigford, much of the latter comprising DWSH, shell-gritted fabrics, rather than the very late LCOA fabric double lid-seated jars that are so prominent in the latest deposits. The Upper City is also low in fine wares, a chronological feature that suggests a decline within the 3rd century if not earlier, and the fabric percentages are typical of a chronological emphasis from the 1st to later 2nd and early 3rd century. This view, however, reflects the material currently available from the area, with little excavation of truly intramural sites.

Mortaria

Mortaria represent only about 1% of the total pottery, with little variation between the three city areas. The mortaria assemblage by source, including samian, can be summarized for the earlier Roman period to *c.* AD 200 as shown in Figure 233.

This shows the main supplies coming from local sources, supplemented by imports from the continent, until the later 2nd century, when vessels from the Mancetter-Hartshill industry started to increase in number. A small quantity of mortaria also came from the Verulamium region, mostly occurring in early 2nd century contexts. The first samian mortaria started to occur at the end of the period, their earliest appearance being dated *c.* AD 170.

Local potters, including those at South Carlton, were probably ceasing mortaria production towards the end of the 2nd century. This is a normal occurrence with smaller local industries in the 2nd century, despite the local Lincoln kilns having traded their vessels as far north as the Antonine Wall.

The next period, the 3rd century, produced quadruple the quantity, given that residual vessels are included, and the dated occurrence from the various sources is shown in Figure 234. This is the main period for Mancetter-Hartshill mortaria, but by the later 3rd century, mortaria were coming in from the Lower Nene Valley; a few Oxfordshire vessels, and the first vessels from the local Swanpool industries also occurred. The quantity of samian mortaria still appearing in rubbish deposits in the later 3rd century is notable.

The dated occurrence of mortaria in the final period is shown in Figure 235, where the quantities, including residual sherds, have nearly doubled from the 3rd century. The two major industries of Mancetter-Hartshill and the Lower Nene Valley were almost equally represented until the later years of the century, by which time there were increased numbers from the Oxfordshire kilns (mostly of the red-slipped variety), and all were being overtaken by the local Swanpool products. Quantities of samian mortaria still occur in the late rubbish deposits.

The coarse ware mortaria can also be viewed spatially across the city. As percentages of the area assemblages, mortaria account for 1.07% in the Upper City, 1.18% in the Lower City, and 1.01% in Wigford. Figure 236 shows the occurrence of imported mortaria for each area, based on weight. This chart emphasizes the concentration of most of the imported vessels in the Upper City, with the later Rhenish mortaria appearing in the Lower City as well.

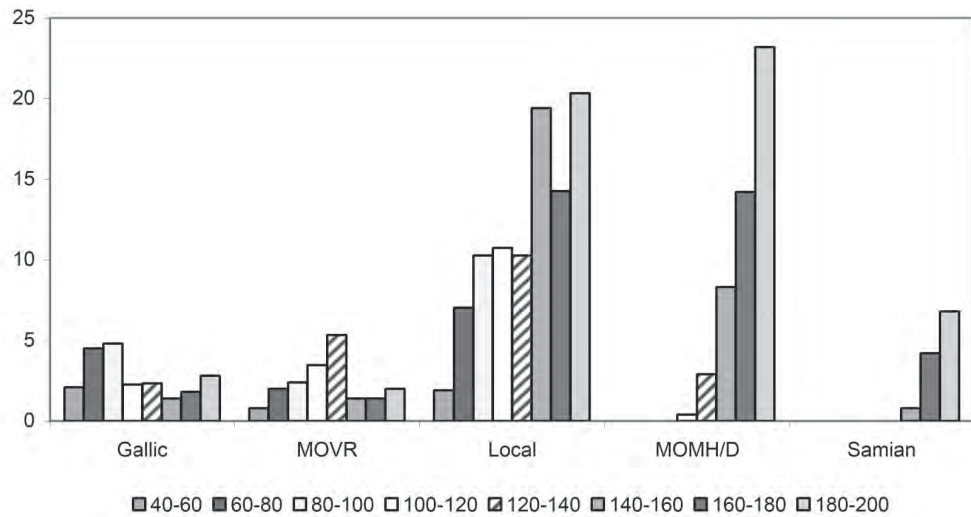


Fig. 233. Mortaria of the period to c. AD 200: plotdate of sherds as stratified by pottery context date.

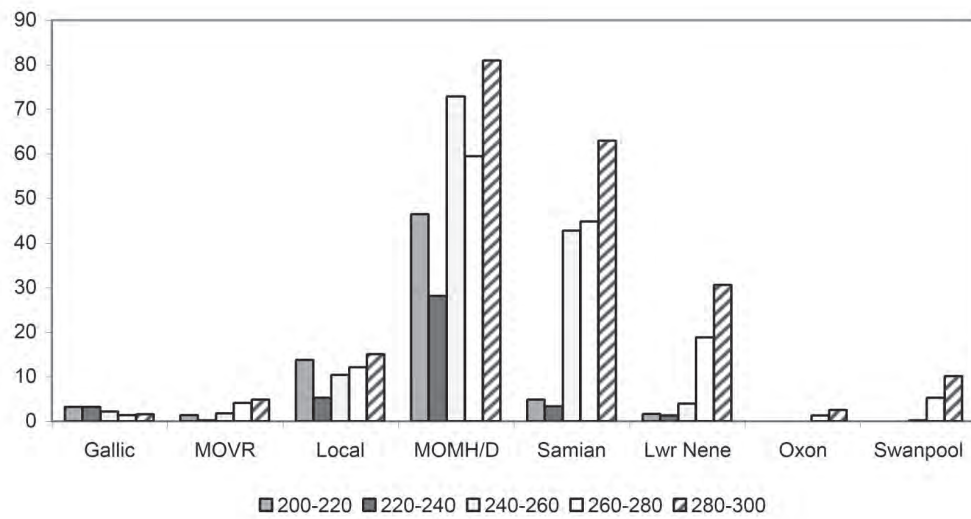


Fig. 234. 3rd century mortaria: plotdate of sherds as stratified by pottery context date.

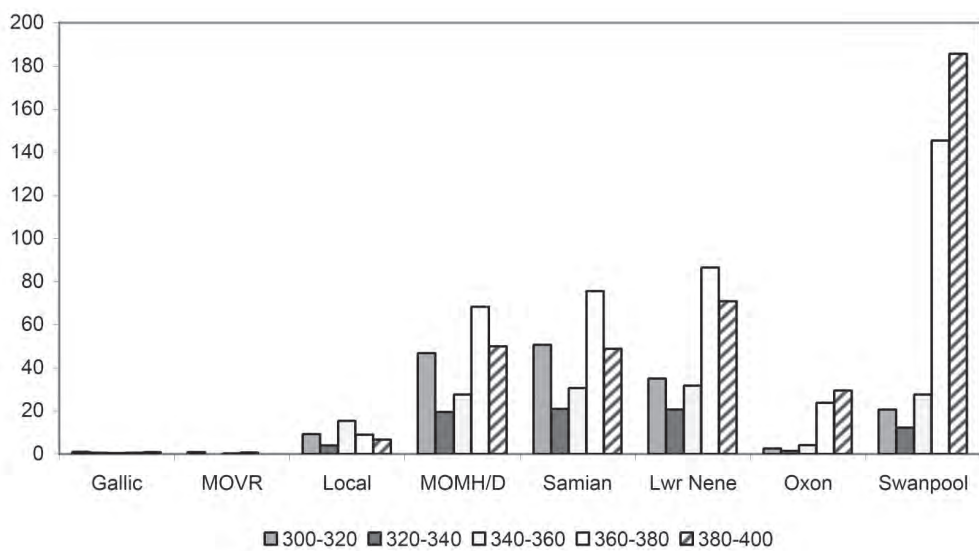


Fig. 235. 4th century mortaria: plotdate of sherds as stratified by pottery context date.

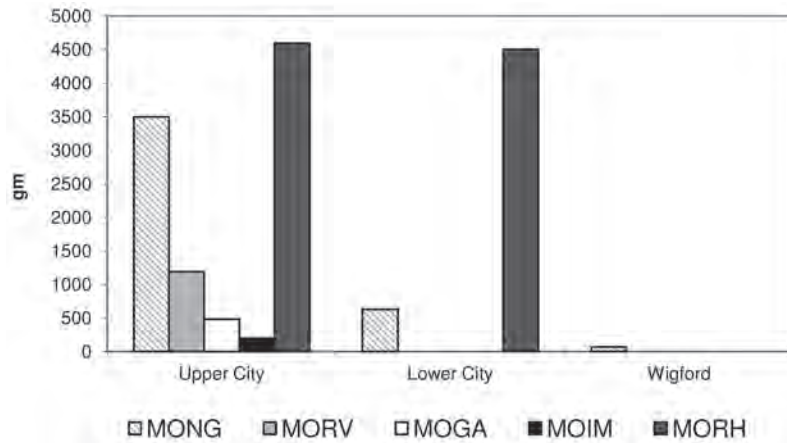


Fig. 236. Spatial distribution of imported mortaria, by weight (gms).

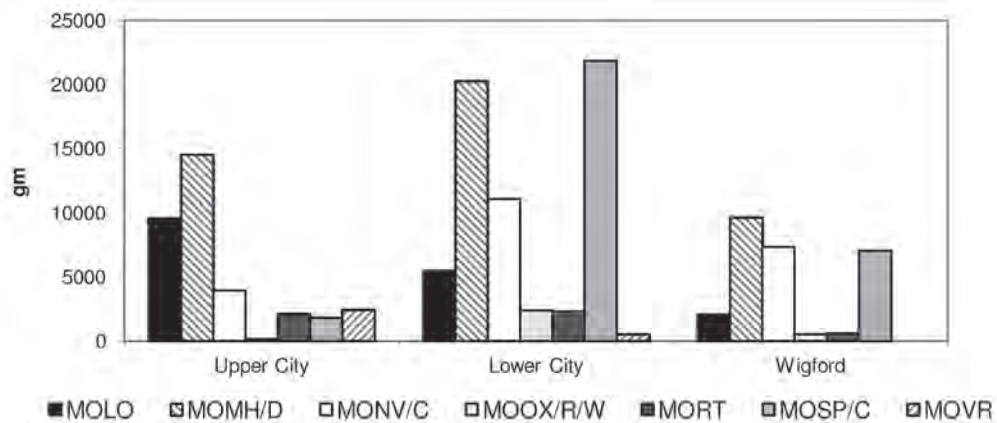


Fig. 237. Spatial distribution of principal British mortaria, by weight (gms).

The spatial occurrence of the other mortaria (those accounting for over 1% of the total city mortaria assemblage) is shown in Figure 237, again based on weight. This chart shows only the local mortaria (MOLO) at a higher level in the Upper City, whereas the bulk of the mortaria, vessels from the Mancetter-Hartshill industry, are from the Lower City. Unsourced mortaria divide fairly equally between the Upper and Lower City, but notably the later mortaria, from the Nene Valley, Oxfordshire and local Swanpool kilns occur most in the Lower City. This is consistent with the earlier decline in activity in the 4th century in the Wigford suburb.

The samian mortaria were not all weighed, but they occur most strongly in Wigford and the Lower City. Mortaria from the Lezoux samian account for only 3.1% of all Lezoux samian, while those from the East Gaulish kilns represent 15.2% of the sherdage, and are the third most common form after bowls and dishes. The small quantity from the Upper City is due largely to the smaller quantity of samian of that period, but the percentages for both Lezoux

and East Gaulish mortaria are lower than those in the Lower City and Wigford. The latter has more from Lezoux than the other areas, but this is more likely to have a chronological basis, while more East Gaulish mortaria came from the Lower City. There is seemingly no significant functional difference between Wigford and the Lower City, which was probably the origin of much of the material found in the suburb.

Amphorae

The distribution of amphorae across the city is shown in Figure 238, which also shows the quantities of Dressel 20, the commonest type. There is little difference between the Upper and Lower Cities but Wigford, where the occupation mostly started in the 3rd century, has much fewer amphorae with a higher proportion of Dressel 20 type. The spatial distribution of the other amphorae is summarised on the basis of weight percentages due to the disparate quantities, in Figure 239.

The exceptionally high level of Rhodian sherds

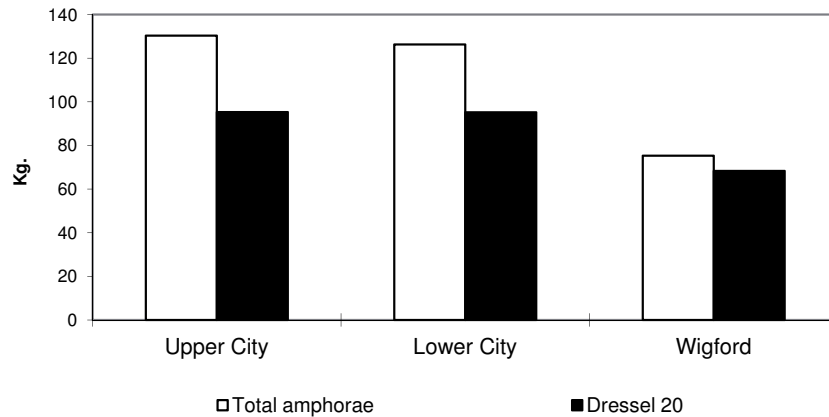


Fig. 238. Spatial distribution of all amphorae, and Dressel 20 type, by weight (kg).

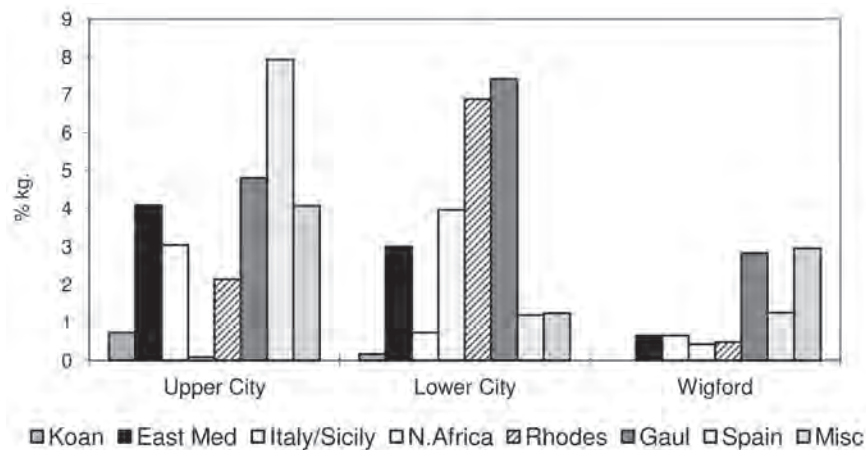


Fig. 239. Spatial distribution of amphorae by source and weight percentages.

from the Lower City is due to the occurrence of a nearly complete vessel at the hillside site of Spring Hill/Michaelgate (SPM83), in a late 1st to early 2nd century context. The North African amphora sherds derive almost entirely from the Lower City, less than 1% occurring in the Upper City and Wigford deposits. Gallic amphorae are also more common in the Lower City. The miscellaneous amphorae include the F148 types, only occurring in the Upper City, the Chalk amphora from Wigford, and unidentified types and seals. Amphorae of earlier date from Wigford are mostly confined to sites with evidence of 1st century activity (mostly from Holmes Grainwarehouse and St Mary's Guildhall), but two sherds from a probable Rhodian came from St Mark's Church, disturbed from early levels.

Analysis of the Dressel 20 amphora spatially on the basis of the broad split between earlier and later fabric types (where recorded) showed that *c.* 75% of the sherds from the Upper City are of the earlier

fabric type, against just over 40% and 50% from the Lower City and Wigford respectively. The higher proportion of early fabric from Wigford is largely from the early deposits at Holmes Grainwarehouse and Monson Street, but a quantity also occurred at St Mark's Station, much of it in rubbish brought onto the site as landfill material. Only *c.* 5–6% of the Dressel 20 sherds from St Mark's Church and Brayford Wharf East are of the earlier fabric type.

Functional analysis

The first attempt to examine the pottery for function using the material from the Wigford sites was based largely on fabric, but this was too crude to yield any useful evidence. The analytical method was revised for work on the Upper and Lower City sites. The program works by filtering the data, whether from a total site assemblage or from a stratified group, through a data lookup file, which is the crux of the

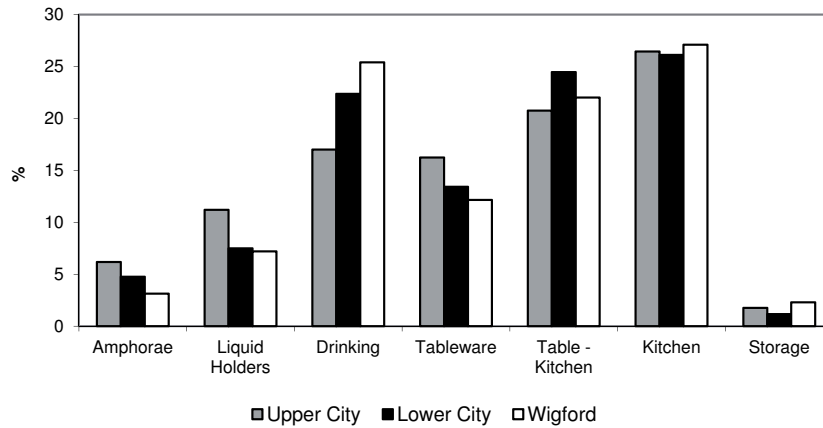


Fig. 240. Vessel functions: percentages by city area.

analysis. This consists of a complete listing of all vessel types by fabric, each combination having had a possible function assigned to it. It is thus feasible to equate a CR or PINK bowl with tableware, as opposed to a GREY or BB1 bowl, usually placed in the table-to-kitchen category, the Roman equivalent of Pyrex, used for both cooking and serving, and GREY jars can be assigned variously to the kitchen or as liquid holders, dependent upon their type. Clearly assumptions are made subjectively, but the data is applied consistently, pointing up differences between assemblages. Details of the vessel forms by city area and site are given in Appendix IV.

A further improvement to the analysis technique has been the exclusion of sherds of unidentified function (*e.g.* body sherds, particularly GREY) to eliminate distortion between assemblages with differing fragmentation, which affects the data recording. The average of unattributed sherds across the City is 46%; this percentage depends upon the assemblage, and is as low as 24% for Brayford Wharf East, which has an extraordinarily high content of both samian and fine wares. The on-site discard policy at Silver Street resulted in unusually low percentages for unidentified sherds, whereas those for Saltergate, where material was also discarded, are nearer the average. In view of the uncertainty caused by the discard policy, both sites have been excluded from this analysis.

The categories are derived from a similar analysis used by Greene (1993, 77), and by Darling (2002, 185–9), and are: Liquid holders, Drinking vessels, Tableware, Table-to-Kitchen, Kitchen, Storage vessels, Ritual, Lighting, Industrial, and Writing. Amphorae have been added. Percentages of the ritual, lighting, industrial and writing categories are all below 1% and are excluded from Figure 240.

The main differences between the Upper and

Lower Cities have a chronological basis, as with the higher percentage of liquid holders and tablewares in the Upper City, and of the table-to-kitchen vessels in the Lower City probably largely reflecting vessels in the style of BB1, despite the fact that the two areas have almost equal quantities of BB1 fabric. Storage vessels are a minor part of the repertoire, generally appearing to be more common on the sites with earlier Roman occupation (including Holmes Grainwarehouse in Wigford), but it is perhaps significant that the Upper City extramural site Winnowsty Cottages has the highest site percentage. This suggests that the occurrence of storage vessels is related not to chronology but to the need to store foodstuffs, and easy access to markets. Rural assemblages usually have far higher percentages of such vessels. The Wigford assemblage in this overall analysis is very similar to that of the Lower City, which probably was the source of much of the material in the earlier deposits used as levelling material. The main changes in chronological development occur between the 1st-2nd and 3rd-4th centuries, the earlier Roman assemblage having more liquid holders and tablewares than the later groups.

An attempt to examine the total city assemblage by function and date using Plotdate produced some results, but from a much reduced sample of some 74,000 sherds. All undated sherds, whether or not attributed a function, were obviously excluded. The resulting charts were consistent with expectations relating to liquid holders, drinking vessels, tableware, storage vessels and amphorae. Vessels for kitchen use clustered strongly in the later Roman period, probably because grey jars with undiagnostic rim types cannot be more closely dated. The table-kitchen category produced a useful chart, indicating increasing use, particularly from *c.* AD 120 onwards, with the largest proportion in the 4th century. This is

consistent with the arrival of BB1 bowls and dishes, leading to local copying continuing strongly through the rest of the Roman period, thereby changing the Roman household's repertoire of vessels.

It is clear that such overall analyses of functional content reflect primarily the chronological changes in Roman pottery, such as high proportions of tablewares during the period of samian importation, and of drinking vessels for the main Nene Valley period, and would of course be subject to changes due to fashions and availability of vessels in other materials, particularly glass. Until good stratified groups with a minimal residual content can be analysed and groups of the same date-range compared, it is not possible to opine that a group is peculiar in its functional content unless it is excessively so. In which case, it is likely that the abnormality will be obvious from an analysis of the fabrics, as with the assemblage from Brayford Wharf East (Steane *et al.* 2001, 78).

The technique does, however, have potential, and was used to compare similar but spatially separated groups at The Park; comparison of the groups from 'dark earth' deposits with other late Roman groups demonstrated their differing functional content (Darling 1999, 67–70). Equally, assemblages with a significant late Roman content produce closely similar functional profiles (as with those from Hungate (H83), St Benedict's Square and St Mark's Station), while the analyses of those with slightly less late Roman pottery (as West Bight (WB80) and Grantham Place (GP81)) are broadly alike. Likewise, the profiles for two of the East Bight sites (EB80 and EBS) are very close, and are like that from The Lawn, but no other Lincoln site fits with them. To assess the functional content of groups more accurately requires changes to primary archiving codes, particularly to separate, for instance, jars that were clearly not used for cooking.

10.2 Development of local pottery industries

Margaret Darling

Pre-Roman evidence

The hilltop at Lincoln has always appeared an obvious site for an Iron Age settlement, and previous excavators claimed to have found Iron Age pottery. On examination, however, all such sherds have turned out to be the Iron Age tradition cooking vessels that continued in use into the Roman period. A few sherds of possible Iron Age date came from The Lawn, immediately outside the west defences of the fortress, including one of a late La Tène beaker (Fig. 85, 871), a type common on a number of sites in the Belgic area of south-eastern England,

although its fabric suggests it is almost certainly from the marginal Belgic area which spreads as an arc from Hertfordshire to Northamptonshire. This vessel is probably likely to have come from north Buckinghamshire or Northamptonshire, and since 1st century deposits at The Lawn appear to be legionary rubbish, it was perhaps brought to Lincoln by a soldier moving from that area. The other few sherds from The Lawn differ in fabric and manufacture from the larger group of Iron Age material at Holmes Grainwarehouse (HG72), where the vessels were all shell-gritted. On such slender evidence, the case for Iron Age occupation on top of the hill remains doubtful (see Stocker (ed.) 2003, 28–30).

The strongest ceramic evidence for Iron Age occupation in Lincoln is that found in Wigford at Holmes Grainwarehouse (Darling 1988). The small group of shell-gritted vessels includes a globular decorated jar (Fig. 72, 741), which can be paralleled stylistically with vessels from Dragonby broadly dated to the 1st century BC (May and Elsdon 1996, fig. 19.54, no. 647, type group 5). Other vessels are later in date, late La Tène forms, both handmade and wheel-thrown, that probably extended into the Roman conquest period. The Iron Age vessels were largely redeposited in Roman contexts and it is probable that only the very edge of the settlement lay within the area excavated. On this evidence, it is virtually impossible to be certain whether the Iron Age settlement was still in existence when the Roman army arrived. The vessel forms and techniques most strongly identified as being of pure Iron Age date do not occur elsewhere in the city, but the coarse cooking vessels were extensively used by the army. These latter are not susceptible to close dating and fit into the general late Iron Age/early Romano-British period, many of the forms almost certainly still being made well into the 2nd century.

The nearest known native centre was at Sleaford (Elsdon 1997), but on present evidence it is impossible to be certain that the settlement at Lincoln was of any great importance (the topography of the area suggests that it may have been relatively small), and its relationship to the two major sites at Sleaford and Dragonby (May 1996) is unknown (see Stocker *op. cit.* 31–3). What is certain is that native potters within the area were fully able to supply the army with cooking vessels, almost certainly all in shell-gritted fabrics (IASH). The evidence from early contexts at Lincoln suggests that these fabrics were superseded by coarse quartz-tempered fabrics (IAGR), very similar to the pimply fabrics collectively termed 'Trent Valley ware'. These occur with legionary period pottery, both handmade and wheel-thrown, and continued to be made into the 2nd century, with a very widespread distribution.

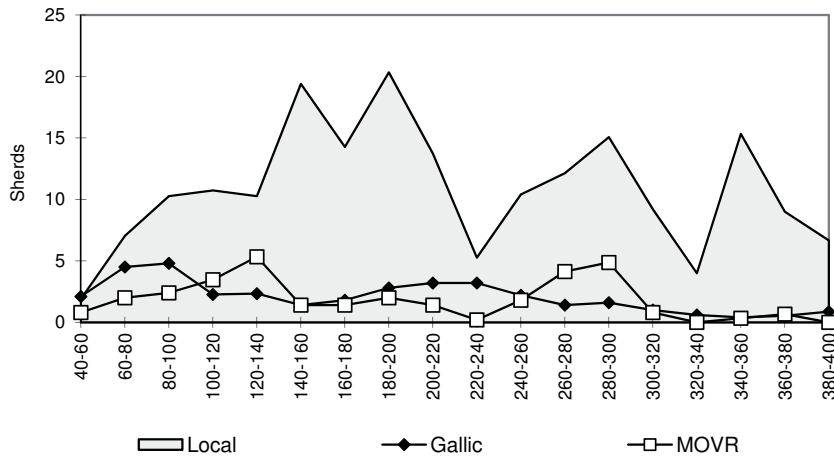


Fig. 241. Early-mid period mortaria: plotdate by sherd count.

Legionary period

The legionary period assemblage is thus firmly rooted with the local Iron Age potters supplying the main component, cooking vessels. Their ability to supply these in sufficient quantities distinguishes the pottery of the Lincoln legionary fortress from that found at the western fortresses at Usk (Greene 1993) and Wroxeter (Darling 2002), and slightly later, at Inchtuthil (Darling 1985b). Wheel-thrown pottery occurs on Iron Age sites in the area, and it is possible that production of the quartz-tempered coarse fabrics (IAGR), used increasingly in the early Roman period at Lincoln, started in the conquest period. The forms of the cooking pots in shell- and quartz-gritted fabrics are initially identical. What generally does not appear in the fortress from the available Iron Age repertoire are the Late La Tène ('belgic') vessels such as beakers, jars and bowls, general tablewares, as seen in the small Holmes Grainwarehouse group. The provision of such tablewares, together with the Roman introductions of flagons and mortaria, appears to have been organised by the army itself; the rare use of a red wash-like slip on one of the fabrics (RDSL) and some of the vessel types suggest that the potters were probably attached to the legion.

Although 1st century kilns have not been located in the area (apart from the Technical College kiln, which possibly started mortaria production in the late 1st century), local manufacture of the early tablewares, flagons and mortaria seems certain. An early mortarium body sherd appears to have trituration grits derived from copper-working, which might suggest that the legionary potters were located in or near the usual *fabrica*. The legionaries probably relied initially on mortaria from the continent and perhaps also from the Verulamium region, as can be

gauged from Figure 241. The local mortaria include seven sherds from South Carlton mortaria, but the chart shows the relatively minor occurrence of mortaria from elsewhere in the earliest period, those from the Verulamium region being both rarer and mostly later.

A programme of Neutron Activation analysis of oxidized and slipped fabrics (mainly concerned with South Carlton kiln products) was undertaken by Dr P. Rush (funded by the British Academy). Samples from the main flagon (and other tableware) fabrics CR and PINK, the cream fabric with reduced surfaces LEG, that was used extensively for beakers and other vessels in the legionary period, and the red-slipped fabric RDSL were analysed, alongside products of the Technical College and South Carlton kilns. All the fabrics seen in legionary deposits (CR, PINK, LEG and RDSL) fell into a single cluster, together with most of the Lincoln Technical College kiln samples. Those from South Carlton, c. 5km north-west of Lincoln, formed a separate cluster, clearly drawing on different clay sources (Darling 1994b).

Whether pottery of this type occurring on legionary sites was made by soldiers or not has been long debated (Breeze 1977; Darling 1976, 1977b, 2002; Greene 1993) and the basic principle that the Roman army was only involved in pottery manufacture under certain circumstances is clear. The continental background to set British sites in their context has been admirably expounded by Greene (*op. cit.* 44–9). The Lincoln legionary assemblage differs from those at Usk and Wroxeter, but is reminiscent of that found at Kingsholm, Gloucester (Darling 1977b; 1985a) in particular and would fit a situation where military quartermasters or civilian agents of *negotiatores* made arrangements with potters to buy certain specified categories: at Lincoln, cooking

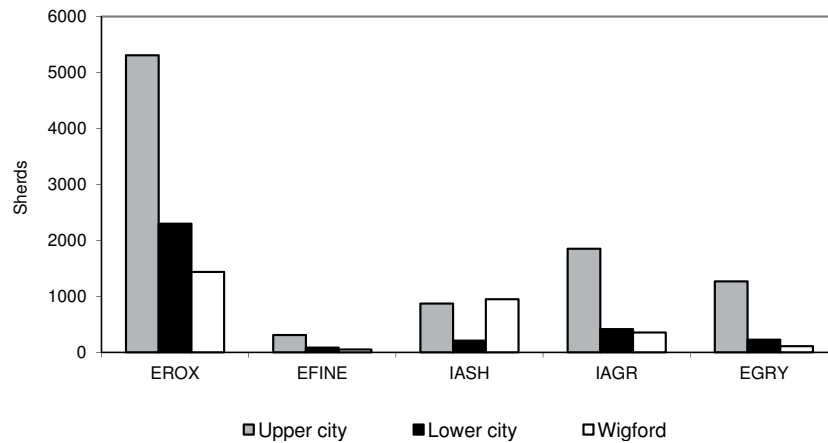


Fig. 242. Spatial distribution of early coarse ware fabric groups, by sherd count.

vessels. The rest of the pottery was either brought in from outside, alongside samian and other imports, or made locally by continental potters. This is the situation also at Longthorpe, one of the assumed earlier bases of *legio IX Hispana* before it moved to Lincoln (Dannell 1987; Darling 1981b), where the same rare red-slipped tablewares occur among the products of the kilns outside the fortress. There are other parallels with the pottery from the Longthorpe fortress, such as the Hofheim type flagons in early CR, OXSA and PINK fabrics and, while certainty is impossible, the accumulated evidence suggests that at least one potter worked at both places. The coarse pottery other than cooking vessels from legionary contexts is entirely continental in type, and fits with the forms of pottery supply seen in similar situations on the continent (Greene *op. cit.* 45). Most of the vessel types occur at military sites on the Lower Rhine, but a number appear to come from pottery traditions further south, broadly in the area from the Upper Rhine to Raetia, and possibly westwards into Gaul. The Raetia area shows influences from North Italy, seen in the Lincoln cups, GRSA nos 765–6, LEG nos 788–90, and particularly in the PINK face pot, no. 473 (Braithwaite 2007, 247, fig. J4, 2). The origin of the slipping technique is unclear (possibly Gaul), but the evidence suggests that continental potters were involved, and probably travelled with the legion. Whether they were soldiers or not is impossible to tell, but the strong presumption is that they were. The manpower implications of potting are likely to have been minimal; on the basis of the Usk evidence, where potters were providing virtually all vessel requirements (other than the normal imports), Greene (*op. cit.* 43–4) estimates that only four potters would have been required. At Lincoln, virtually all the ubiquitous cooking pots, which account for the highest breakage due to heating stresses, came

from local native sources, the preferred Roman army supply source (Darling 1976). The remainder were vessels unfamiliar to native potters, the Roman introductions of flagons, mortaria and tablewares, made by continental potters. On this basis, probably only one or two potters were involved.

The evidence from both Usk and Wroxeter, the principal sites for the examination of probable legionary involvement in potting, suggests that as the circumstances changed, so did the pottery supply, with increasing quantities being supplied by civilian potters. Whether the one or two potters working for *legio IX Hispana* continued to pot for the incoming *II Adiutrix* is unknown. The Ninth Legion left Lincoln to campaign further north, and potters would not have been required. There is no evidence from the fortress at York or any of the military sites possibly associated with the campaigns of Cerialis to suggest the presence of potters from Lincoln. It seems unlikely that the potters stayed in Lincoln to serve *II Adiutrix*, a new legion recently formed from the navy, but until there are good stratified groups from legionary deposits, the question must remain unanswered.

The main coarse ware fabrics (excluding mortaria and amphorae) in use during the legionary period, some continuing into the *colonia* period, are shown in Figure 242, as they occur spatially across the city. The early oxidized group (EROX) includes cream and pink flagon-type fabrics, both also used for various other tablewares; early fine wares (EFINE) include the red-slipped fabric (RDSL) together with rare imported vessels; the Iron Age tradition vessels, predominantly cooking pots, are the shell- and quartz-gritted IASH and IAGR respectively, while the finer pale grey fabric LEG, that is closely related to CR, PINK and RDSL, and the GRSA used for flagons and drinking vessels, are included in EGRY.

The dominance of these fabrics in the Upper City fortress area is clear, while the early site at Holmes Grainwarehouse (HG72) and a small quantity from the Monson Street cemetery (M82) largely account for the early vessels from Wigford. Apart from the new imported early fine wares, this pottery is from local potters.

The Colonia

There is very little evidence for the transition from the legionary to the early *colonia* period. The provision of cooking pots in the Iron Age tradition appears to have continued, the types changing very slowly, with the gradual arrival of jars with curved and everted rims in the same quartz-gritted coarse fabrics (IAGR). The CR flagon fabric continued, later flagons usually having a harder fired fabric, while the PINK flagon fabric appears to have been confined to the legionary period, as does the reduced fired LEG fabric. Production of the red-slipped RDSL fabric could also have ceased at the end of the legionary period: sherds found in later contexts are usually associated with other residual 1st century pottery, and confusion between the broadly similar fabrics of RDSL and South Carlton painted wares could arise with abraded, scrappy body sherds. An increasing use of more standard grey fabrics from the later 1st century is evident, but the most notable change in the early 2nd century was the arrival of BB1 cooking pots; these were seemingly quickly copied by other potters. A range of vessel types can be dated to the early-mid 2nd century: open forms as bowls B321 (nos 1192–5), Gillam type 301, B333 (nos 1173–4), carinated jars B334 (nos 1158–9; 1161–2), and platters as Gillam type 337, D452 (nos 1326–9; all discussed in Darling 1984, 85; fiche 1:F1), which occur at kilns elsewhere in Lincolnshire, particularly at Roxby, in the early Market Rasen kilns (Darling forthcoming, b), and in the Trent Valley, but which were almost without question made in the Lincoln area, despite the absence of known kilns. A distinct regional style emerged, which spread across the Humber, only to be swamped by incoming BB1 types and their copies from the early 2nd century.

The cooking pots in the Iron Age tradition fabric IAGR certainly continued, and types evolved that are also seen on other Lincolnshire kiln sites, as for instance the jars J105/6 (nos 814–5, 817), a major product of the North Lincolnshire Roxby kilns. Rusticated ware also developed a more regional style, using linear rustication rather than the earlier types seen in legionary contexts (p. 127). By the later 2nd to early 3rd century, the copying of BB1 types had killed off the classier regional types, and fine wares, seemingly rare through most of the 2nd century, started to come in from the Nene Valley.

The local production of mortaria is dealt with below according to kiln source.

Kilns (Fig. 243)

Two early kiln sites producing mortaria are known in the Lincoln area, and there is a group of mortaria that are also identified on fabric, trituration grit and vessel type as local products. The kiln in Lincoln at the old Technical College (and probably others in that area), those at South Carlton, c. 5km to the north-west, and potters more loosely attributed to the area, all traded their wares widely in the 2nd century, as shown in Figure 244.

Technical College 'kiln', Monks Road, Lincoln

One of the earliest known kilns is the Technical College 'kiln' just outside the east wall of the Lower City (certainly a mortaria production site although the kiln 'structure' is inexplicable: Baker 1937; Taylor 1937), trading its wares widely to the north. The scale of local mortaria production in the 1st and 2nd centuries can be gauged from Figure 245, which shows the dating profile of sherds from local sources comparative to those from the major Mancetter-Hartshill industry, the primary competitor. This shows local manufacture to have taken most of the market, particularly in the 1st to later 2nd century, but competition from the major Mancetter-Hartshill group had taken over by the late 2nd century, dominating the market in the 3rd century.

Some of the 2nd century local mortaria are probably from the Technical College kilns, and of the nearly 200 sherds from local sources, only seven are definitely identified as South Carlton products. The demise of local mortaria production is a common trend (Mrs K. F. Hartley, *pers. comm.*), and does not imply that the mortaria made locally were inferior, as is indicated by the distribution of Technical College mortaria to the north and Hadrian's Wall, attested by stamps of Vitalis I, Biso, and Atepacius (Fig. 244). While Biso has been associated with this kiln site on grounds of fabric and typology, a recent excavation has located stamps of both Vitalis and Atepacius in deposits of kiln debris (Precious 2003). This is the earliest known Lincoln kiln exporting mortaria to the north and west, its products occurring on many of the same sites as those from the slightly later South Carlton kilns, although none appears on the Antonine Wall, the most northerly example being at Newstead. A stamp of Biso from Chester is not Lincoln fabric, which may suggest a second workshop perhaps in that area (K. F. Hartley 1990, 260). A number of other mortarium potters are broadly sourced to Lincolnshire, some possibly associated with the South Carlton kilns, but others may be from Lincoln itself. Their products had a

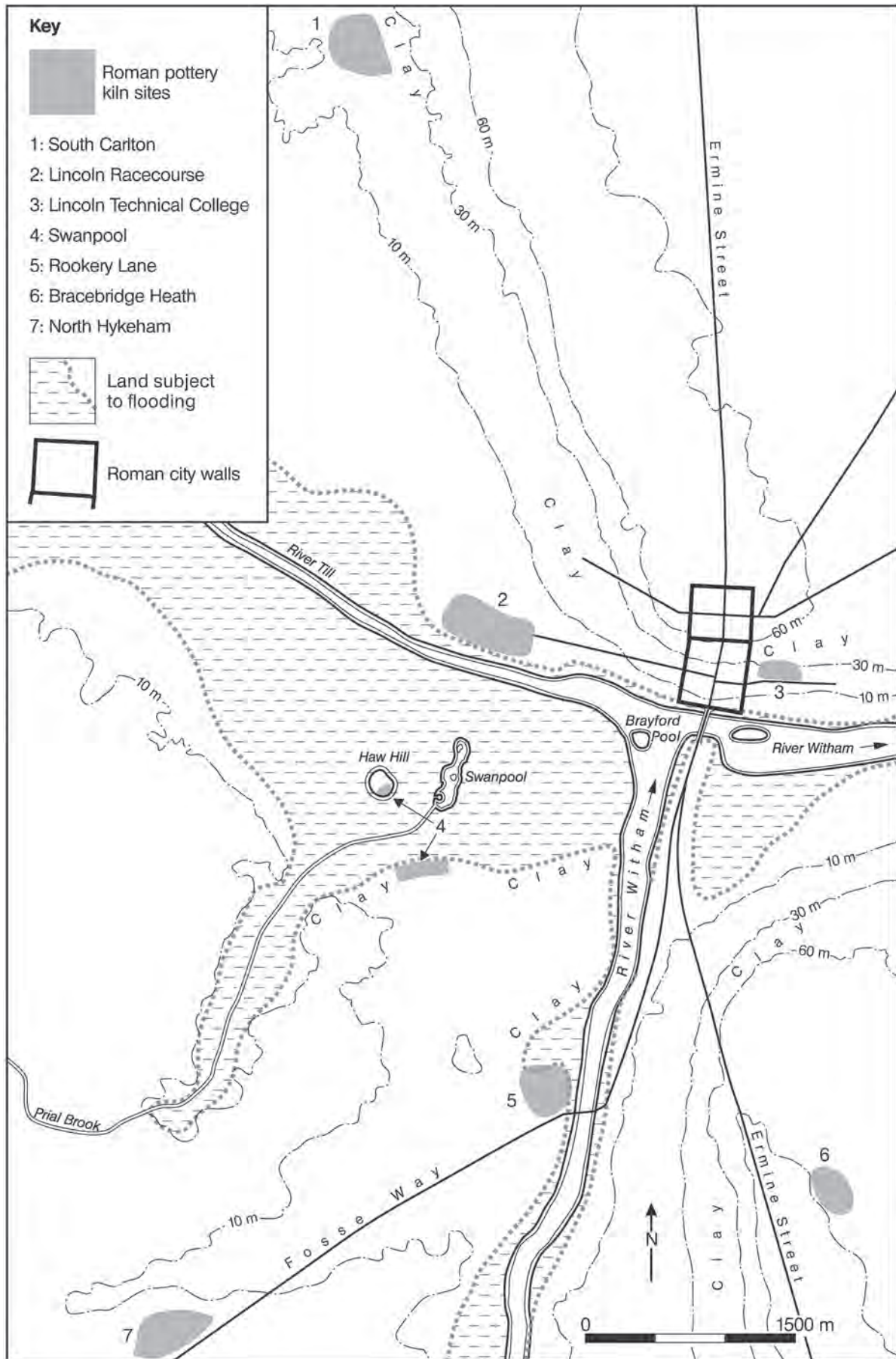


Fig. 243. Location of pottery kilns in the Lincoln area (copyright English Heritage).

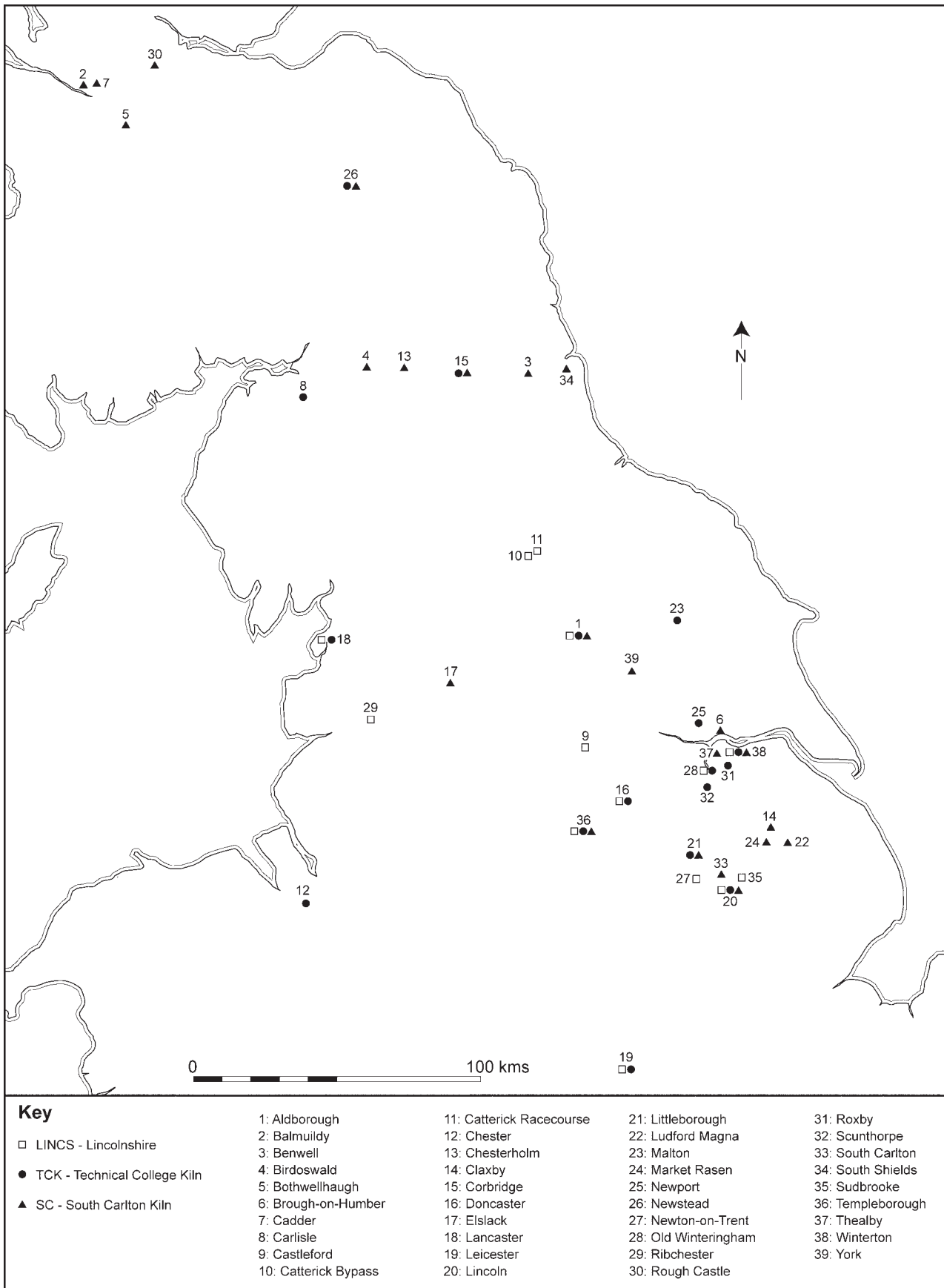


Fig. 244. Map showing distribution of 2nd century mortaria made in the Lincoln area.

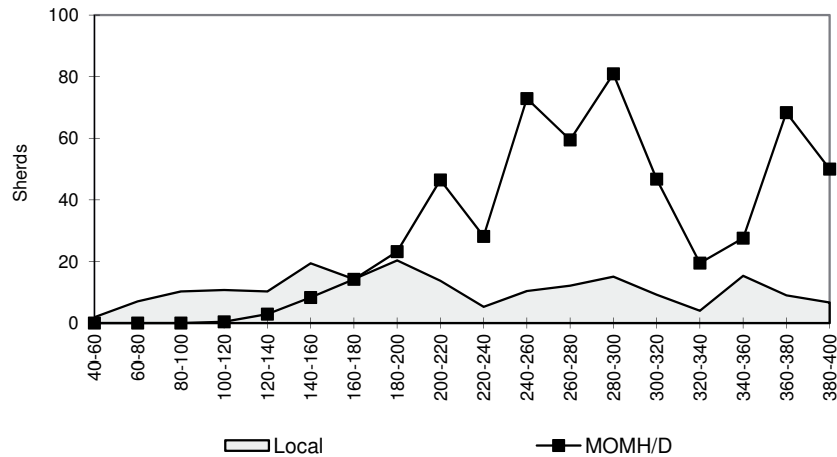


Fig. 245. Plotdate showing interaction of local with Mancetter-Hartshill mortaria, by sherd count as stratified by pottery context date.

more restricted distribution south of Hadrian's Wall. The commonest are those stamped Q IVSTIVS CRESCENS, occurring in Yorkshire, Lancashire and Leicester, apart from Lincolnshire, with more than one production site, judging from sherds in different fabrics found at Newton-on-Trent (Field and Palmer-Brown 1991, 54; Darling and Hartley, forthcoming). Future work should include examination of these fabrics to define their source where possible.

South Carlton kilns

The important kilns at South Carlton are dated to the Antonine period largely on the basis of the presence of mortaria from these kilns on the Antonine Wall and other northern sites, stamped by Crico, Vorolas, Aesico and Catto (Fig. 244). Since only seven sherds from excavations in Lincoln have been positively identified, the location of these kilns, *c.* 5km north-west of the city, may have been related more to clay sources and trade routes than to the proximity of the city. The concentration of finds in north Lincolnshire appears to indicate a probable trade route up Ermine Street to the Humber, where cargoes could have been shipped north, a route perhaps already used by the potters working in the Monks Road area of Lincoln, as suggested by the evidence from Winterton (K. F. Hartley 1976, 121). The main products were mortaria, alongside roughcast beakers, flagons, painted and slipped vessels. Quantification of the remaining pottery from the kilns in The Collection, Lincoln (bearing in mind that samples from the kilns are held in widely spaced reference collections elsewhere) showed that on the basis of estimated vessel equivalents (EVEs), 46% were cream fabrics, largely flagons, against 35% mortaria, and 19% roughcast beakers. The strong rim form of flagons leads to a bias in the EVEs measure, with many single

rims having high EVEs. At the same time, flagons may have had a higher 'wastage' rate than mortaria. It is difficult to assess clearly, but the production of mortaria and flagons may have been fairly equal, with beakers in a very secondary position. Future exploration of the trade from these kilns should include examination of the flagons and their fabrics on northern sites; some of the rarer painted wares may also occur.

While these are important kilns nationally, their impact on the neighbouring city appears to have been minimal. Without analysis, roughcast beaker sherds are difficult to source definitely as South Carlton products (only thirteen sherds are certainly identified as SCCC), many being virtually indistinguishable from beakers probably made in the Nene Valley. Equally, the cream flagon fabric is not very distinctive macroscopically. Although some sherds may have not been recognised during recording, the South Carlton kilns appear to have been located to trade northwards. No connection can be demonstrated between the potters working in the area of the Technical College kiln and those at South Carlton, and although the writer was tempted to speculate about migrating potters in the past (Darling 1981b, 408), it is more likely that the South Carlton potters were newcomers, and should be seen in the context of other contemporary kilns in various areas making roughcast wares.

North Hykeham kiln

The main product of the North Hykeham kiln (F. H. Thompson 1958) *c.* 7km south-west of the city was rusticated ware, and while assessment of kiln waste is problematical, there is no certain evidence that its products were marketed in Lincoln. Rusticated ware is a common component of Lincoln pottery

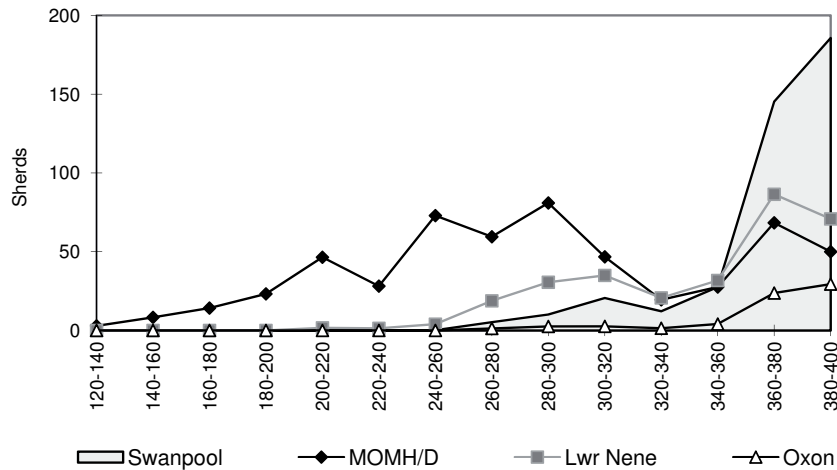


Fig. 246. Plotdate of mortaria from later sources, by sherd count as stratified by pottery context date.

well through the 2nd century, but no sherds with the linear rustication and fabric seen at the Hykeham kiln have been positively identified. The fabric is, however, unexceptional in its inclusions and character, and the lid-seated jars (*ibid.* fig. 3, 11–2) are common in a variety of fabrics in early to mid 2nd century assemblages in the city. The kiln site is distant enough to have been catering for other settlements in that area, probably in the early 2nd century.

Racecourse kiln

This kiln, fortuitously found while digging a posthole on Lincoln Racecourse (Corder 1950a) *c.* 1.5km west of the city, produced wheel-thrown BB type pottery in a grey sandy fabric in the late 2nd to early 3rd century. Clearly this supplied the city, but the small quantity of kiln waste, its condition and the undistinctive fabric all militate against its recognition among the mass of grey wares. It was probably one of many kilns set up during the 2nd century engaged in the production of copies of BB1 vessels. The wide variety of BB1 copies in Lincoln include some early examples that are extraordinarily close to the quality of the Dorset vessels and, although wheel-thrown, were made to appear handmade.

The Swanpool industry

This later Roman pottery industry has been reviewed (Darling 1977a, 33–4), and pending the recording and study of the extensive excavated kiln material, little can be added. The earliest site known may be St Helen's cemetery in Boultham, *c.* 1.5km from the main complex, from where successive public-spirited grave-diggers have recovered small quantities of pottery (now in The Collection, Lincoln). Lack of funding for the study of this material means that

its precise relationship to the other kilns cannot be established, but a general overview gave the impression that this was a slightly earlier assemblage. Whether the single Rookery Lane kiln (Webster 1960) a little further south was related is unknown, but the location of these production areas to the east of the main group could suggest that they represent the start of potting in the area, the potters moving west to exploit new clay and fuel sources. Another kiln was, however, found in 2008 comparatively close to the Rookery Lane kiln, in the area where the Fosse Way might have crossed the river Witham, and apparently producing typical Swanpool products (Darling 2008), so the spatial distribution appears less useful than originally thought. Kilns excavated by TLA in 1987 in the main kiln area (*c.* 2km south-west of the city: Camidge 1987) produced only grey wares, the vessel content of the assemblage being closely similar to material excavated in the same area by the late Ken Wood in the 1960s (unpublished). Apart from the material excavated by Webster and Booth (Webster and Booth 1947), there has been little sign of the production of colour-coated vessels (some of those published as kiln products may be atypical Nene Valley vessels), indicating that further work on the kiln area has considerable potential for revealing useful new evidence. A new kiln of the Rookery Lane-Swanpool type (Swan 1984, 123) was excavated by Lincoln Museum staff in 1991 just outside the present city boundaries at Bracebridge Heath, on the escarpment to the south of the city (Donel 1992). The pottery from this remains largely unstudied and unpublished, but a mid-late 3rd century or later date seems certain (Darling 2006a).

The main difficulty in assessing the range and date of Swanpool products in Lincoln is the undistinguished grey fabric, virtually impossible

to isolate during recording. Assessment therefore has to depend upon known Swanpool vessel types, particularly the mortaria, colour-coated and oxidised wares. These almost always occur in association with other 4th century fabrics and vessel types, although some Swanpool mortaria come from later 3rd century deposits, as shown by Figure 246. This shows the mortaria from the other main industries being overtaken by those from the local Swanpool kilns in the latest period. Given that it takes time for sturdy mortaria to get into rubbish deposits, Swanpool appears to have been the main 4th century source, and this indicates the major impact of the other products of the kilns. The only other significant pottery coming into Lincoln in the latest period, apart from Nene Valley bowls and dishes (types also made at the Swanpool kilns), would be shell-gritted jars of Dales ware and lid-seated types. One of the notable features of the Swanpool mortaria is the consistent use of slag fragments as trituration (p. 172), which suggests that, as with the Nar Valley industry and many other potteries, potting and metal-working occurred in much the same area, and perhaps the Swanpool area should be regarded as an industrial zone in the late Roman period.

Swanpool products are frequently found outside Lincoln, as far east as the coast, and also in south Lincolnshire in the later 4th century, and mortaria have been found as far afield as York, Leicester and Milton Keynes (Pauline Marney, *pers. comm.*). The recent discoveries of a Swanpool type of kiln at Bracebridge Heath in 1991 and what appears to be an outlier of the main Swanpool industry at Hykeham Road, Lincoln, noted above, emphasize the importance and spatial extent of this late industry. However, evidence from recent investigations in the area of the Wigford suburb south of St Marks Church and to the west of the High Street at Anchor Street (Michael Jarvis, *pers. comm.*), and postulated at Monson Street (Allen *et al.* 2010), suggests kilns closer to the city. None of the pottery has been studied, but the location suggests a 3rd century or later date, and these kilns are clearly of relevance to any understanding of the late Swanpool industry.

10.3 Trade from a Ceramic Perspective

Barbara Precious

Trade can be broadly summarised as the supply and exchange of commodities, but there are various mechanisms by which this can take place, for example: reciprocally through gift exchange, by redistribution perhaps via religious or military intervention, and market exchange either through markets as centres or markets as exchange rates (Peacock and Williams 1986, 55–6). Other methods

might involve entrepreneurial means or simply the occasional purchase carried from place to place in personal baggage. On a subtler level, stylistic influences of both continental and Romano-British potters on local manufacturers illustrate the exchange of ideas. No doubt trade during the Roman period involved all of these factors to some degree, but they are not often easily discernible in the archaeological record.

The presence in Lincoln of the legions – the Ninth Hispana, replaced by the Second Adiutrix – and the later foundation of the *colonia*, a settlement for military veterans, doubtless influenced ceramic supply and stimulated trade. The probability of ceramic manufacture by potters associated with the legions, in particular of RDSL (p. 20) and the strong links between this and other legionary wares, notably OXSA (p. 60), and those found at Longthorpe where detachments of the Ninth Legion are thought to have been stationed before moving to Lincoln (M. J. Jones 2002, 32–4), are discussed more appropriately above (pp. 305–6), and are mentioned only briefly here.

Figure 247 shows the wide range of continental and Romano-British sources for the variety of ceramics transported to Roman Lincoln, and demonstrates the scale and importance of the city's market. The distribution of the imported wares within the city, and the information they provide regarding specific sites and the relative development of the three city areas over time, is discussed in depth elsewhere (9.4; 10.1). This section examines the assemblage from a different perspective in order to explore the scale and patterns of ceramic supply, possible trade routes, and the types of ceramics that were traded, in order to provide information about the status and requirements of the changing populace. These aspects are explored chronologically via the main sources of supply: continental, Romano-British and local. Finally, discussion of the evidence for imported food and drink, as manifested by the amphorae, adds to the mounting evidence for the development of agriculture and viticulture within the Empire, and of the supply to the city.

Transport

The Roman fortress, *colonia*, and later provincial capital of *Lindum* was situated on Ermine Street, the main route from London to the northern frontier via York, and close to its junction with the major artery to the south-west, the Fosse Way (Fig. 243). Approximately 5km to the north of the city, a branch (now Tillbridge Lane) ran north-west from Ermine Street towards Doncaster, crossing the Trent at Marton/Littleborough (*Segelocum*), thereby avoiding the Humber crossing and providing an alternative route to York. Further north, another branch off

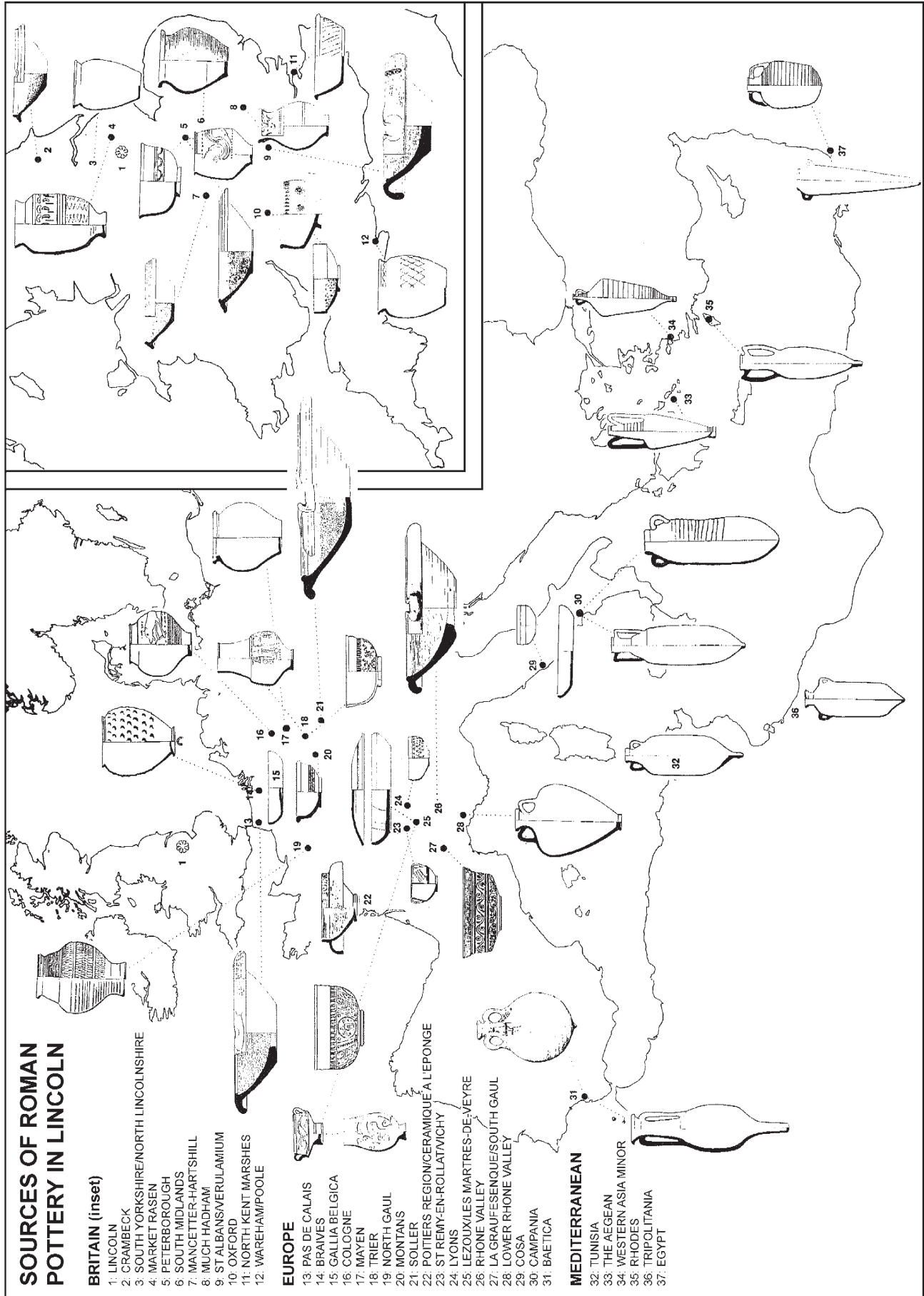


Fig. 247. Sources of Romano-British, Continental and Mediterranean imports.

Ermine Street headed eastwards towards Market Rasen. Other roads out of the city led towards the east coast, the principal one of these crossing a major north-south route across the Wolds, which ran from South Ferriby to Horncastle.

The city also had the advantage of riverine access via the Witham. Whether the Foss Dyke Canal leading to the River Trent, and the Car Dyke, which links the Witham to the River Nene near Peterborough, were also used in this way is debatable (Simmons 1979); Whitwell (1992, 57–9) notes that there is no absolute proof that either of these two systems was definitely Roman. Recent research suggests that the Foss Dyke may not have come into use until the 10th century (Stocker (ed.) 2003, 116, 267). Moreover, there is very little certain evidence in the Lincoln assemblage for wares that could have been brought to the city via this waterway: there is a notable paucity of securely identified products from the Trent Valley kilns. Apart from a small proportion of BB1 and PART, both possibly from Rossington Bridge, goods certainly from west of the Trent Valley are rare: there is only a single probable sherd of Derbyshire ware.

It is also possible that goods from larger sea-going vessels were trans-shipped into smaller craft in order to navigate the Rivers Witham and Trent; this may have been a more efficient and cost-effective method for transporting heavy goods, and vessels such as amphorae, than transference into carts for completion of the journey by road. There is no firm evidence for a Roman quay for docking and unloading goods, although possible traces in the form of dressed ashlar blocks of considerable size were found at the junction of modern Broadgate and Rumbold Street approximately 80m north of the present river channel (F. H. Thompson 1954; Whitwell 1992, 43–4). M. J. Jones (2002, 107–9) presents further evidence for waterfront use, including a possible hard-standing at St Benedict's Square on the Brayford Pool, and platforms or piers, a shelving beach, and features that could be 'occasional slipways and/or jetties' at the Waterside sites. Rubbish dumps at these sites produced artefacts, including *styli* and a fragment of writing tablet, which may be indicative of commercial activity here (*ibid.* 110).

Despite relatively high proportions of samian and other fine wares from sites adjacent to the Brayford Pool (e.g. BWE82), there is no ceramic evidence to date from Lincoln that is comparable to the large waterfront assemblages noted at the port at Pudding Lane (Milne 1985, 107–15), and the Roman quay at St Magnus House (L. Miller *et al.* 1986, 96–198) in London. However, early timber buildings at Silver Street (Trench C) are interpreted as possible stores; a quantity of burnt pottery and a number of complete but smashed, unused vessels recovered from the adjacent Drill Hall site support

this interpretation (Precious 2004), and it is suggested that a possible inlet was situated nearby (Steane *et al.* forthcoming).

As noted above (p. 238), by the late 2nd to mid 3rd century there is sufficient evidence to suggest that the East Gaulish samian is likely to have been brought by ship to the Lincoln area, rather than being transported by road from a southern port such as London, and the same may apply to the other, earlier samian. BB1, from Dorset, is generally assumed to have a westerly distribution; it does not occur in East Anglia or along the east coast from north of the Humber to South Shields (Williams 1977, 164, fig. 1). The relatively high presence of Dorset BB1 in Lincoln assemblages and from excavations on or near the east coast of Lincolnshire, in particular at Wrangle (Darling and Precious 2001) but also at Saltfleetby (unpublished), from the early to mid 2nd century is also indicative of seaborne transport.

The Ceramic Evidence

A large part of the area of the early Roman fortress and later Upper City of the *colonia* lies under the Cathedral and the Castle (Fig. 2), and because of its surviving historical and architectural monuments, excavations within this part of the city have necessarily been limited. It is not possible to determine whether this may have produced a degree of bias to the ceramic sample; although the samian assemblage from the Upper City, for example, appears very small in comparison with Lower City sites, it is probably about average (see p. 283).

Late Iron Age and Conquest periods

The earliest examples of traded wares date to the late Iron Age. Assemblages of this date are very rare or yet to be discovered, and examples occur from just two sites, Holmes Grainwarehouse and the Lawn; only the former produced evidence of Late Iron Age settlement. A single vessel is the only recognisably imported piece: an OXGR beaker of late La Tène date (Fig. 85, 871) from North Buckinghamshire or Northamptonshire, which may have arrived either as gift exchange or in personal baggage; a similarly cordoned vessel in IASA (Fig. 85, 870) may be of local origin. Another possible example is a globular burnished jar in a very fine shell-tempered fabric (IASHF: Fig. 72, 741) with incised curvilinear decoration in the style used at Dragonby and Old Sleaford. Although undecorated, almost all of the other illustrated vessels in IASHF are in the style of late La Tène pottery, being finely made and thin-walled, with a high quality burnished finish. High status vessels in a very similar fabric but with stamped and rouletted decoration occur at Old Sleaford, Ancaster and Dragonby, with the main area

of distribution between the Humber and Sapperton; Elsdon (1997, 5 and 108) suggests two centres of production, at Old Sleaford and Dragonby.

Certainly identified imports of peri-conquest date are rare, the most definitive examples from Lincoln being butt beakers, which are generally extant from the late Iron Age until *c.* AD 60/5. There are ten certain vessels from Lincoln, but only three of these are of Gallo-Belgic origin. The other seven are of Romano-British origin, in oxidised and reduced fabrics. One, in IASHF (Fig. 72, 727), can be closely paralleled in form to a group of ovoid butt beakers from Old Sleaford (*ibid.* fig. 63, 157 and 160–2). Lincoln lacks other pre-Claudian pottery such as the early Terra Nigra (TN) and Terra Rubra (TR) found at North Ferriby and Old Winteringham (Rigby 1976, 133–5) and Old Sleaford (Rigby in Elsdon 1977, 95–100).

Continental

Continental imports always formed a very small proportion of the whole assemblage. Virtually all of the early Roman imported wares are of continental origin, probably reflecting early military requirements and, to some extent, those of the population at the time. During the immediate post-conquest period, imports from Gaul were the most common. Apart from two sherds of Claudian samian, there is a scatter of pre-Flavian samian forms imported from south Gaul (p. 234) and a small but distinctive group of contemporary LYON cups, also from south Gaul. Beakers from the same source, together with glazed ware from central Gaul (CGGW), were also imported during the Neronian/Flavian period. Imports of the same date from north Gaul (IMMC, including the fine CAMARO beakers; TN; GBWW) are rare in comparison. Terra Nigra is extremely rare, the only identifiable form being a single example of the later platter, Camulodunum 16 (Fig. 8, 23), which continued in use in Belgium and Nijmegen into the 2nd century (see p. 18). There is a small quantity of BLEG from either north Gaul or north Italy; only three sherds are certainly identified as Italian (PRW1) and four are from an as yet unknown Mediterranean source (PRW2). These early examples fit well with the date suggested by the samian for the foundation of the Lincoln fortress in the early 60s AD (p. 234).

All of the early continental wares could have formed part of the accoutrements of the Ninth Legion, transported in carts with the army, although the very small amounts of some wares suggest that they were personal items. Alternatively, they may have arrived in cargoes delivering amphorae, samian and other fine wares to Lincoln via the east coast. In comparison with other large, early Roman settlements such as London, Colchester and York,

this early imported assemblage appears somewhat smaller. This may be due to a degree of bias in the sample owing to the lack of excavation within a large part of the Upper City; comparatively few stratified legionary deposits have been investigated, and much of the early pottery was found redeposited in later levels, mainly in rampart dumps.

A single wall-sided mortarium of Claudio-early Neronian date probably from a northern Gaulish source (MOIM) almost certainly arrived with the legion. Other mortaria from north Gaul (MONG) and the Rhone Valley (MORV) in central Gaul were imported from the mid-late 1st century, with some examples of the former continuing into the early 2nd. CGCC and PRW3 from the Lezoux area of central Gaul were imported at a slightly later date, late Flavian to the early 2nd century and possibly later, but in much smaller quantities.

The departure of the legions and the establishment of the *colonia* at the end of the 1st century was a period of great change in Lincoln, and it is possible that until the new regime was established, markets also faltered. The sharp drop in disposal of pottery in Lincoln, from a high *c.* AD 60–70 to a low point *c.* AD 100–140 (see Fig. 225), is a phenomenon seen elsewhere, whether caused by the disruption of samian supply, changing from south to central Gaul, or other economic factors (Marsh 1981; Going 1992). Moreover the loss of the military market may have affected the trade in other goods coming to the city from the continent.

From the mid-late 2nd century, samian from the Lezoux kilns in central Gaul dominated the fine ware market in Lincoln. During the Severan period continental fine wares came from centres in east Gaul (KOLN; MOSL), with colour-coated beakers from central Gaul (CGBL: often decorated in a similar manner to the East Gaulish products) and a small proportion of both fine (NGCR) and coarse (NGGW) wares from the north. A range of mortaria, including the large *Verecundus* types, also came from east Gaul (MORH). All of these wares were current during the main period of production for the East Gaulish samian, which is thought to have been transported by sea (see above), and could have formed parts of the same cargoes.

Late Roman continental imports are rare, and the very small quantities of fine (ARGO; EPON) and coarse wares (EIFL) from east and north Gaul are perhaps more likely to represent personal items or gifts of one sort or another.

Romano-British

It was not until the early-mid 2nd century that pottery from Romano-British, as opposed to continental, manufacturers was imported into Lincoln: fine ware vessels with compass-scribed decoration (LOND)

that were made in both London and the Nene Valley. Given its relative proximity to Lincoln, a source in the Nene Valley is probable for this ware, although a date in the mid to late 2nd century is likely. There is some evidence for roughcast beakers (RC) possibly from the same area (Corder (ed.) 1961, 50–3), and others from Colchester (COLC), while mica-dusted wares (MICA) were brought from unknown British sources (probably including Verulamium), as well as small quantities of oxidised wares (VRW) and mortaria from the Verulamium region (MOVR); a single mortarium is from Colchester (MOCO). All of these groups are very small and may have been either personal items or perhaps formed part of the stock of an entrepreneur in search of new markets.

BB1 first arrived at this time in small quantities, mainly comprising supplies of cooking jars, with a smaller quantity of bowls and dishes. This ware was produced in the Dorset area but the Lincoln assemblage probably includes more locally produced copies (which are sometimes indistinguishable from the originals) and possibly wares from Doncaster. BB2, produced at Colchester and in the Thameside/Kent region, is comparatively rare (comprising just 1.4% of the BB assemblage) unlike other sites on the eastern side of the province, such as London and South Shields, where it outweighs BB1. PART was produced at both Rossington Bridge and Market Rasen, but the latter is the more likely source as it is closer to Lincoln (Fig. 247).

By the mid 2nd to 3rd century the assemblage shows a substantial rise in ceramics from further afield, including increasing quantities of BB1. Pottery from one of the major British manufacturing centres, the Nene Valley (NVCC; NVMIC; NVGW), began to arrive in some quantity. This mainly comprised fine colour-coated beakers (some of which mirror the hunt cups and motto beakers from the east Gaulish production centres), together with occasional flagons and jars. The Nene Valley may also have supplied at least some of the PARC vessels. The bulk of the mortaria were now supplied by the Mancetter-Hartshill potteries in Warwickshire, these far outweighing all others in the late 2nd to mid 3rd century (Figs 233–4).

Whether this apparent increase in Romano-British imports reflects heightened demand is impossible to determine; however, the archaeological evidence suggests that the city was flourishing. There was major expenditure on official buildings (Stocker (ed.) 2003, fig. 7.69a), while marshy areas within the industrial and commercial suburb of Wigford were reclaimed and subsequently developed, probably to accommodate traders and others displaced from the Lower City by the re-planning of that area (*ibid.* 82), and perhaps reflecting the needs of a larger population. Alternatively, the influx of traded wares

into Lincoln was the result of the expansion of the nearby Nene Valley industries, together with those from further afield at Mancetter-Hartshill and in Dorset; all were at their height during this period. Lincoln was ideally located as a market for the Nene Valley products; the BB1 and Mancetter-Hartshill assemblages are much smaller in comparison and were transported over considerably longer distances.

In the later Roman period, fine wares from the Nene Valley dominated the market; some mortaria were also supplied (MONV: see Fig. 234). Vessels were also brought from production centres situated to the south of Peterborough, although these were insignificant in comparison with similar products from the Nene Valley kilns. The Oxfordshire kilns supplied a small quantity of mortaria (MOOX: Fig. 234); wares also came from the kilns at Much Hadham (MHAD/R) while others (HADOX) could be from either source. Lincoln was situated outside the main catchment area for these industries; this factor, together with the relatively small quantities of the wares, and the fact that they were arriving towards the end of their production period, perhaps suggests that the manufacturers were seeking wider markets during the later Roman period.

By the mid 4th century the Romano-British markets had contracted, but the wares coming into Lincoln were from a wider range of sources. A single sherd with dimples in the 'Romano-Saxon' style from the Much Hadham kilns (MHADR: Fig. 20, 118) is one of the latest imports from the southern kilns, while the Oxfordshire kilns supplied fine wares (OXRC) and later mortaria (MOOXR, MOOXW). There are small amounts of late Roman shell-tempered wares, possibly from Harrold in Bedfordshire (SMSh), and oxidised wares with similar rims and decoration (SPIR) from an unknown source; a single sherd is from a Derbyshire vessel (DERB). For the first time, pottery from the northern kilns at Crambeck (CRGR; CRPA; MOCR) and Huntcliff (HUNT) in Yorkshire were marketed in Lincoln, but they belong to the tail end of production at those sites; their paucity in the city, as with DERB, might also indicate that they were casual purchases rather than representing organised trade.

Local

As noted above (pp. 305–6), most of Lincoln's early Roman fine (RDSL), oxidised (particularly flagons in CR, PINK and OXSA) and fine grey (GRSA; LEG) wares were supplied by local potters probably associated with the legions. Native potters, most likely operating before the conquest, supplied all of the cooking wares in both shell- (IASH) and grit-tempered (IAGR) fabrics, which were handmade in a distinctive 'native-tradition' style. By the early-

mid 2nd century there was a marked change in the manufacture of these vessels, probably reflecting the tastes of an increasingly Romanised population; they were now virtually all wheel-made, with a larger quantity of sand-tempered as well as gritty and shell-tempered products.

Other grey wares mainly consisted of jars with linear rustication although, as noted above (p. 310), there is no evidence that these were supplied by the North Hykeham kilns. This period also saw the arrival of a distinctive group of reduced ware vessel types, including carinated bowls (B334), bowls with bifurcated rims (B333) and lid-seated jars (J105–7). Although no kilns have been found for these vessels in the Lincoln area, they were probably made by incoming potters for the new urban market. These types also occur at the large complex of kilns at Market Rasen (Darling forthcoming, b), at Roxby production site (Rigby and Stead 1976), and at kilns at Lea and Newton-on-Trent (Field and Palmer-Brown 1991). Mortaria and flagons were supplied to the city by the Technical College kilns, and the mortaria also exported to the north.

Soon after the advent of BB1 *c.* AD 120–30, virtually identical forms in grey wares were produced at the Lincoln Racecourse kiln (p. 311). This was the first of a number of kilns that were to become a major manufacturing base for the supply of GREY cooking vessels, both locally and further afield in Lincolnshire, that reached its peak in the 3rd and 4th centuries.

By the mid 2nd century the kilns at South Carlton began operation and although some of the mortaria occur in Lincoln assemblages, there are few of the associated fine wares. These mortaria, and those of the earlier Technical College kiln, were traded as far as the northern frontier (Fig. 244).

The middle of the 3rd century saw the reappearance, after over a century dominated by cooking vessels in BB1 ware and their imitations, of cooking pots in shell-tempered ware, in the form of Dales ware jars. The characteristic ledge-rim may suggest a function for these jars, perhaps as containers. But the Dales ware jars (whether in shell-tempered or grey ware) are consistently found burnt, sooted and with lime scaling internally, and open a period of use of lid-seated jars, culminating in the late Roman shell-gritted jars with equally characteristic double lid-seated rims (also in LCOA and grey wares), made in the latest Roman period. Their function as cooking pots is clear, unlike the Derbyshire jars, also lid-seated, but which are seldom found burnt, sooted or limescaled, and appear to be primarily containers (Ruth Leary, *pers. comm.*).

Local manufacturers at Rookery Lane and Swanpool supplied virtually all of the grey wares used in the city during the late Roman period. The

Swanpool kilns also produced a range of fine wares (SPCC; SPOX) as well as mortaria (MOSP; MOSPC), the latter displacing those from Mancetter-Hartshill and the Nene Valley (Fig. 246).

In contrast to the Oxford potteries, where the range of forms and styles of decoration stagnated from *c.* AD 350 (Young 1977, 240), the Swanpool potters extended their repertoire, albeit copying the later styles of the Oxford kilns with bosses, dimples and stamped rosettes in the 'Romano-Saxon' style. These wares, together with the double lid-seated jars in LCOA and late Roman shell-tempered ware (DWSH), found a ready market in the city.

The Amphorae

The prime function of amphorae was to serve as containers for commodities, the range of which provides evidence for the diet and tastes of the importing populace (Fig. 248). Olive oil was a staple requirement not only for cooking, cleansing, and lighting, but also for medicinal purposes and, on the ceramic evidence, was by far the most common product arriving in Lincoln during the early to mid Roman period. The DR20 amphora, made in Baetica in southern Spain, was the principal container for this product.

Based on the evidence of the stamped DR20 amphorae from the excavations (Fig. 249), Carreras and Williams (1993) conclude that:

'although there are only 15 dated DR20 stamps, it is nevertheless still possible to draw some initial conclusions from this small sample. First of all, it is interesting to note that there are no stamps that belong to the first half of the 2nd century AD, when DR20 imports reached their peak in Roman Britain, according to both the stamps ... and the stratigraphic evidence. The departure of the Legion from Lincoln in the ... 70s AD may possibly be the reason behind this apparent fall in the supply of Spanish olive-oil to the city.

'With respect to other periods, there seems to be a regular supply of DR20 from the second half of the 1st century AD to the 3rd century AD, apart from the early 2nd century mentioned above. This pattern is also puzzlingly different compared to the overall distribution of DR20 stamps in Britain. Although the slight peak during the Flavian period may well be due to the presence in Lincoln of the army, the DR20 stamp totals for the city in the later periods is at variance with those recorded for the rest of the country as a whole.'

Although Baetica continued to produce olive oil until the late 3rd century, it ceased to be the most common source of British imports by the middle of that century. The Lincoln evidence suggests that north Africa, mainly Tunisia, was one of the main

Type	Period	Source	Contents
F148	EROM	-	-
KOAN	EROM	Mediterranean	Wine; <i>defrutum</i> ; fish sauce; olive oil; dates
C189	EROM	S.E. Mediterranean	Doum palm fruit; dates
EMED24	EROM	E. Mediterranean	Wine; <i>defrutum</i> ; fish sauce; olive oil; dates
RHOD	EROM	Rhodes/Other	Wine; figs; honey
GAU28	EROM	S. Gaul	Wine
L555	EROM	S. Gaul/Spain	Olives; some in <i>defrutum</i>
BAE28	EROM	S. Spain	Fish products
C186	EROM	S. Spain	Fish sauce; salted fish; <i>garum</i>
CAT24	EROM	S. Spain	Wine; <i>defrutum</i> ; fish sauce; olive oil; dates
H70	EROM	S. Spain	<i>Defrutum</i> ; (occasional) olives in <i>defrutum</i>
SPAA	EROM	S. Spain	Fish sauce; salted fish; <i>garum</i>
IT24	EROM	Italy	Wine; <i>defrutum</i> ; fish sauce; olive oil; dates
R527	EMROM	Lipari, Sicily	Alum; capers; fish
GAU, GAU3, 4, 6	EMROM	S. Gaul	Wine
DR20	EMROM	S. Spain	Olive oil
ITAMP	MROM	Campania, Italy	Wine
MARRA	MROM	E. Mediterranean	Dates
KAP2	MLROM	Aegean?	Wine?
NAAM	MLROM	Tunisia, N. Africa	Olive oil; fish sauce
ABIV	LROM	E. Mediterranean	Olive oil; wine?
CHALK	LROM	-	-
LROM	LROM	E. Mediterranean	Olive oil; wine
LRRA	LROM	E. Mediterranean	-
EMED	ROM	E. Mediterranean	-

Fig. 248. Amphorae: sources and contents.

sources of this product during the mid to late Roman period. However, the contents of these amphorae (NAAM) were not restricted to olive oil, as fish sauce was also carried occasionally.

In common with most major settlements in Roman Britain, wine was the second most important amphora-borne commodity imported into the city. The majority came from southern Gaul (GAU3–6 and GAU28) during the early to mid Roman period. Rhodian (RHOD) and Dressel 2–4 amphorae from a variety of sources including the eastern Mediterranean (EMED24), Italy (mainly Campania: IT24), and southern Spain (CAT24), also brought wine during the early Roman period, but in much smaller quantities.

Whitwell (1992, 101) suggests possible contact between Lincoln and Bordeaux through the wine trade, on the evidence of an altar set up by Marcus Aurelius Lunaris at Bordeaux in AD 237: 'Lunaris was an official connected with the imperial cult at both Lincoln and York, and surely had business connections in these two towns, possibly through the wine trade, which would account for the altar being set up in Bordeaux, in a wine-growing area.'

Period	Britain %	Lincoln %
Flavian	28.29	34.15
1–2C	28.8	-
2–3C	19.25	34.37
3C	23.64	31.47

Fig. 249. Comparative percentages of DR20 stamps from Britain and Lincoln.

The Lincoln amphorae suggest that the importation of olive oil and wine from Gaul (GAU4) and Spain (DR20) had ceased by the mid 3rd century. It is possible that other containers, such as wooden barrels, which generally do not survive in the archaeological record, were used instead; in his discussion of the Roman port of London, Milne (1985, 107) quotes instances of barrels being found on sites in the Rhineland and London. Alternatively, the population of Lincoln and its hinterland may have become increasingly self-sufficient – growing their own vines and utilising other products such as animal fats for cooking. However, some amphorae from the

eastern Mediterranean (LROM, LRRA) were still being transported to Lincoln during the late Roman period. Their contents are uncertain, but may have included either olive oil or wine. Similar products may have been contained in the few ABIV amphorae, also from the eastern Mediterranean, but the contents and origin of the single late Roman CHALK amphora are unknown; these may have been casual purchases or gift exchanges. Peacock and Williams (1986, 59) note that 'in the later Roman period the church was a considerable redistributive force' and that the sixth century writings of Gregory of Tours show a quantity of Gaza wine was bequeathed for the eucharist to the church at Lyons. It is certainly possible that the church in Lincoln, which already had its own bishop by the early 4th century (Stocker (ed.) 2003, 124), would have required supplies of wine.

Fish products, both salted fish and fish parts rendered into sauces such as *garum* and *liquamen* were a popular ingredient of Roman cuisine, and the apparent paucity on Lincoln sites of early Roman amphorae (BAE28; C186; SPAA) containing these goods is unusual. As noted above, this could be a result of the lack of major excavations in the Upper City. The main source of these products was the coastal area of southern Spain, including Cadiz, although some may have arrived in the later Roman amphorae from North Africa (NAAM). Spanish *salazon* containers were predominantly 1st to early 2nd century in date.

Evidence of more exotic products is mainly confined to the early Roman period, and includes the fruit of the doum palm and other dried fruits such as dates (C189), olives (L555; see also Darling 1999, 115, no. 606), and *defrutum* (H70). A somewhat enigmatic amphora from Lipari (R527) may have contained alum, capers or fruit. These products came from several sources including the eastern Mediterranean (probably Egypt), southern Gaul and Spain. The only evidence for the later import of any of these commodities is provided by a small group of mid Roman ribbed amphorae (MRRA), perhaps from Palestine, which may have contained dates.

The Lincoln market

The pattern of disposal of the total pottery assemblage within the city shows a relatively consistent series of peaks and troughs from the 1st to the 3rd centuries (see Fig. 225), broadly resembling those of Going's economic curves (1992; see also Tyers 1996, fig. 25). These were based on the expansion and decline of major Romano-British and samian pottery industries, resulting in a sequence of 50–60 year cycles that peaked during the mid 1st, mid 2nd, mid-late 3rd and later 4th centuries and declined in the early-mid 3rd and early-mid 4th centuries. While Lincoln lay

outside the catchment area for many of the southern potteries used by Going, and despite the different basis of analysis used to produce the plotdate profiles, the peaks and troughs recognised by Going from the 1st to the 3rd centuries appear at Lincoln, but the later 4th century peak is absent. Going (*op. cit.* 102, fig. 1) observes that the resurgence in the nine late potteries is not reflected in all areas, and only two of these, the Nene Valley and the Dales ware producers, were significant suppliers to Lincoln; both were declining in this period. The stereotyped products of late pottery industries, such as Swanpool, and the paucity of late fine wares limit close dating in this period. Closer examination of the patterns of supply reveals different emphases that are likely to reflect Lincoln's individual development from fortress to *colonia*, and eventually to provincial capital, with its changing populace and hence demand, and its suppliers. However, these patterns are also affected by the gaps in our knowledge regarding the dating of some ceramics.

During the immediate pre-conquest period, pottery supply to Lincoln was largely insular, consisting of small quantities of well-executed pottery for a discerning populace; there is no evidence of the continental trade that is apparent at Old Sleaford and sites on the Humber estuary. The only example of a link outside the region is a single vessel from either north Buckinghamshire or Northamptonshire, and this may have arrived through gift exchange or with the army.

The criteria governing the supply of pottery on early military sites have been discussed (Darling 1976; 1977b, 58), and for Lincoln, the primary considerations were the availability of local pottery and its range and quality. The finds indicate the army's reliance on local supplies of coarse cooking pots, but it had to make its own provision for tablewares, flagons, and mortaria. As at the fortress at Longthorpe, where the same circumstances pertained, local production by potters attached to the legion was the answer, supplemented by small quantities of imports. Their range of flagons, thin-walled beakers, cups and other table wares in CR, PINK and LEG include many continental types including Italian styles, as do the red-slipped RDSL vessels (Darling 1981b, 400–3).

The relatively small quantity of early South Gaulish samian (see p. 234) is a curiosity of the Lincoln assemblage (although also seen at Longthorpe: Wild 1987, 124), but this paucity would have been lessened by the local production of RDSL, most of which directly copied Claudio-Neronian samian forms.

All the common early Roman amphorae from Spain, Italy and Gaul, containing either staple or exotic goods, together with rarer types such as CAT2–4, EMED2–4, H70 and L555, were probably

transported via the Mediterranean and either up the Rhone-Rhine or Rhone-Loire rivers (Milne 1985, 111), probably in commissioned cargoes rather than as free trade (Peacock and Williams 1986, 60).

Fine wares from Italy, south Gaul (including samian), central and north Gaul (both also supplying mortaria) as well as Gallia Belgica, probably formed parts of the same cargoes, although singletons and small groups are more likely to have been personal possessions. How these goods reached Lincoln is a matter of speculation. Although 'in the time of Diocletian, it was cheaper to send goods from one end of the Mediterranean to the other than to send goods overland...inland waterways and sometimes land transport were used to distribute amphora-borne commodities widely so that no part of the empire was totally without supplies of oil, wine and other prerequisites of the Roman way of life' (Peacock and Williams 1986, 64). M. J. Jones (in Stocker (ed.) 2003, 52) notes that 'the waterways were now the essential supply routes [for Lincoln], and at least part of the waterfront was taken over for military supply and other purposes.'

Despite the growth of the *vicus* during the military period, the departure of the army *c.* AD 78 doubtless meant that the market for ceramics was greatly reduced and it is suggested (Stocker (ed.) 2003, 58) that the *colonia* was not established until the reign of Domitian, possibly some time after AD 86. This hiatus may have contributed to the downturn in discarded pottery during the late 1st – early 2nd century (Fig. 225), noted above in relation to the diminished trade in South Gaulish samian, or economic factors (Marsh 1981; Going 1992). Fewer other continental wares were imported during this time and, on the evidence of the amphorae, apart from the staple commodities of Spanish olive oil, Gaulish wine and a little *salazon*, importation of most of the more exotic goods ceased. There is little evidence of the Flavian-Trajanic fine wares from central Gaul (CGCC and early KOLN, for example), although a small amount of north Gaulish mortaria continued to be traded. A few Romano-British mortaria were supplied to Lincoln (VRW and MOCO) but these are more likely to have been personal possessions rather than items bought from market suppliers. Unlike London, where local producers were selling their own versions of continental fine wares during this period, only small amounts of PART met the demand in Lincoln.

By the early 2nd century coarse cooking wares, which were by now almost entirely wheel-made but still of native style, were augmented by Roman forms made by incoming potters, flagons and mortaria made at the Technical College kilns, and grey wares from local as yet unlocated Lincoln kilns.

In the early-mid 2nd century, local native-tradition

cooking wares were largely superseded by the Romano-British wares from Dorset (BB1; thought originally to have been supplied under contract to the military for use on the northern frontier). These were supplied in moderately large quantities, but were soon to be copied by local grey ware producers. The Technical College potters and their associates were sending mortaria to the northern frontier; the potters at the later South Carlton kilns continued this northern trade in mortaria, and probably also in fine wares. The advent of fine wares from the Nene Valley potters started later in the 2nd century, and they became the major suppliers. Central Gaulish samian came from Lezoux but, apart from the staple commodities from Spain and Gaul, Continental imports were limited. During the Severan period, with the exception of the principal amphorae and a single Central Gaulish product (CGBL; manufactured in the Rhenish style), imports came from the Rhineland, a trend that continued into the later Roman period. The apparent decline in pottery disposal during the later 2nd to early 3rd century in Lincoln broadly coincides with the decline noted by Going (1992). This could be related to economic cycles, but equally could be due to other factors, such as the cessation of samian imports from Central Gaul.

By the middle of the 3rd century long-distance shipping, always hazardous, had become increasingly so, effectively raising costs for this type of transport. Trade with the continent may also have been affected by economic inflation during the 3rd century. However, the establishment of an eastern focus to the Empire by the early 4th century is perhaps reflected by the sources of the late Roman amphorae; these now brought olive oil and wine from the Aegean, the eastern Mediterranean and North Africa, rather than from Spain (see above).

Milne (1985, 112) discusses a similar dearth of Spanish amphorae after the mid 3rd century in London, suggesting that this could have been a result of the Severan civil wars and subsequent Spanish land confiscations. However, he also notes that amphorae in general do not seem to have been used in the later Roman period as commonly as in the 1st and 2nd centuries, and that long distance trade, in the Mediterranean at least, may have diminished after *c.* AD 200. North African olive oil also appears to have replaced Spanish oil in London assemblages, but in much smaller quantities.

The trade in Romano-British ceramics expanded during the later 2nd into the 3rd and 4th centuries, with products coming from the west of Lincoln (Mancetter-Hartshill in Warwickshire, and possibly Doncaster) for the first time. The Nene Valley kilns to the south of Lincoln substantially increased their share of the market during the 3rd century and into the 4th, providing the bulk of the fine wares.

This expansion in trade probably coincided with the promotion of the *colonia* to be the capital of *Britannia Secunda* in the early 4th century (Stocker *op. cit.* 124) and consequently an increased demand, for alongside this higher status came government and church officials, together with prospective traders and settlers.

By the mid 4th century few Romano-British products, apart from Nene Valley wares, were marketed in Lincoln. Other fine wares from the south, from Oxfordshire and Much Hadham, were less successful in Lincoln although Oxfordshire mortaria appear to have been quite popular. The arrival for the first time of pottery from north of the Humber marked a change in the pattern of supply, the Crambeck products (mostly mortaria and coarse Huntcliff ware) forming a small but cohesive group.

The later 3rd and 4th centuries saw an emphasis on local pottery production, with the cooking wares coming from north Lincolnshire (DWSH), while the major Swanpool industry took over the production of both grey and coarser wares, as well as mortaria and fine wares, the latter copying and competing with the Nene Valley potters. The local market was clearly thriving well into the late Roman period.

Coda

Several major elements that might be expected in a *colonia* such as Lincoln have yet to be discovered, for example temples and an amphitheatre, and evidence of major waterfront wharves, together with the wealth of assemblages they could yield. Nonetheless, this discussion has presented a flavour of the richness and diversity of Lincoln's Roman ceramics, and of some of the commodities imported.

Analysis of the amphorae and their likely contents suggests that the majority of the more exotic as well as a high proportion of the staple products were consumed within the area of the Upper City. Although this largely reflects the early date of much of the material it provides some indication of the tastes of the inhabitants, many of whom would have been military and administrative officials, as well as the status of the area. Delicatessens and other shops selling high quality and unusual commodities are mainly located in this part of the modern city. By the mid Roman period the focus for imported goods appears to have been located within the Lower City, where a number of large private residences, some with commercial facilities, were established (Steane *et al.* forthcoming). In contrast, only the most basic products were to be found in the Wigford area, where the main production and manufacturing took place: a curious reflection of the nature of modern Lincoln.

10.4 Future work and potential

Margaret Darling

The Archive

The pottery used for this corpus amounts to over 150,000 sherds, providing samples of acceptable size for the three major areas of the city. The records form a major urban database, arguably one of the best in Britain. The pottery can be integrated fully with both the site data and data on other finds, while the stratigraphic context and its ceramic context date for any one vessel or sherd can be identified in seconds; all the evidence for any fabric or form can be assembled in minutes. To date this has been used solely to provide evidence for the individual site reports and this corpus; limited resources precluded more detailed examination of the data and the pursuit of many of the queries that had arisen during the work towards publication, but the scope for further use of this database is enormous.

The original intention was to use the RCOD program, which automatically links the data on any specific fabric, form or vessel directly to the stratified deposit (see p. 8), in order to examine the pottery by deposition date. However, limited resources allowed the updating only of the two key fields of cg and LUB within the site stratigraphic databases; that giving the final deposition date of each context was not updated and the ceramic date of the parent group ('pottery context date') has been used instead. This is not necessarily coincident with deposition, and it would be of great value to use the deposition date and, indeed, to examine the relationship of the two dating criteria, particularly important for urban archaeology with its high level of residuality.

There has been little time to explore another avenue of analysis, namely relating the pottery more closely to other finds such as vessel glass and, more particularly, animal bone. Sufficient work has been possible to suggest that the latter is a valuable approach, relevant to any understanding of the nature of deposits and, by extension, to the use of the pottery assemblage in interpretation.

A major consideration for the future is the continued curation and extension of this database. The use of an archive of this type is not limited to the sole objective of producing a publication – it is a crucially important working tool for the future, upon which to build. Since the closure of the City of Lincoln Archaeology Unit, the Roman pottery from excavations in Lincoln has usually been archived in the same format, adding to this major resource. In order to access this resource, it is essential that similar archiving continues in future. Moreover, since Lincoln does not exist as a city in isolation, the fullest possible integration of archives with other

sites in the area would produce great benefits to the interpretation of both those sites and the city itself.

Quantification

As noted in Chapter 2 (p. 6), this material was mostly archived with sherd count as the sole measure, although some Upper City assemblages were weighed, and selected groups quantified. The residual content of some assemblages is clearly excessive, but the Plotdate program has shown that there are major groups with a lower residual content, and further work on these would be of great benefit to future studies of the pottery from Lincoln and the surrounding area. Principally this would involve adding weights and EVEs measures so that the content can be better assessed and used, particularly for instance in the relatively new field of functional analysis. This would be of value far beyond the boundaries of the city in working towards a definition of 'normal' assemblages for different chronological periods. Until this is done, the Roman pottery resource is of limited use in aiding the interpretation of sites, and the interaction of neighbouring sites, or consideration of the differing socio-economic circumstances of urban and rural communities. Such work would enable recognition of different social groupings, and perhaps tribal territories. The boundaries of this work are at present limitless.

The samian

The samian database is particularly valuable: it is a full archive with every sherd dated and all identifications of source and form verified by Brenda Dickinson and Joanna Bird. The total for sites in this corpus is over 11,000 sherds, which includes some 2,000 sherds from earlier excavations at The Park and East Bight (EB66). The work on these earlier sites was not quite as precise in terms of the individual dating of all sherds, but still provides valuable information on fabrics and sources. The fuller integration of samian with the other pottery is essential for this important type of pottery to be more fully used and understood, while there are many aspects of samian that would amply repay further analysis of archives of this standard.

Another factor limiting the interpretation of the samian evidence is the absence of any comparative material from other sites, particularly cities, beyond the standard lists of potters' stamps. Since these have been shown to give a biased view of the dating (see p. 280), future work on the samian from other sites should aim at providing the same level of archive data. When such data is available, the evidence from Lincoln can be placed in context, and it will

be feasible to explore any unusual features, site-specific problems, and to better understand the place of samian as part of a pottery assemblage rather than in isolation, long overdue. It is possible that such work would, on the one hand, improve our assessment of the dating evidence provided by samian and, on the other, enhance our understanding of the use of samian – are some of these apparently residual sherds in fact heirlooms? In addition, a better understanding of samian would aid research on site depositional processes, which is of particular relevance to work on urban sites.

Contribution to the history of Lincoln

One of the problems with the material from Lincoln presented here is that it does not provide adequate evidence for the complete Roman period. This is largely due to the derivation of the material from sites, mostly in the Lower City and Wigford areas, which produced assemblages biased towards the mid to later Roman period. Any opportunity for excavation in the Upper City has therefore an added importance. Over 25% of the Roman pottery (and over 35% of the samian) from the Upper City is from a single site, the public baths at Cottesford Place, excavated in the 1950s and without a published report or stratigraphic record. Equally, the pottery from The Park site on the western defences accounts for over 25% of all the pottery from the Lower City, and the single site of St Mark's Church produced 43% of the pottery from Wigford. These single large assemblages may well lead to a bias in the evidence for the respective areas. Thus the story of Lincoln in terms of the development from the original fortress area outwards is incomplete due to the lack of data from the Upper City, whether of the military or the later *colonia* period, and despite the higher level of excavation elsewhere, use of the evidence is problematical. Moreover, some large and important assemblages await full archiving and analysis.

Other excavations

The tasks urgently awaiting attention at present lie with the Waterside sites excavated 1987–91, excavations elsewhere in the city in recent years, and work on the very large valuable assemblage from the Cottesford Place bath-house. The Waterside sites produced large quantities of fresh rubbish dating to the 3rd and 4th centuries that are likely to have a relatively low residual content, and are thus prime groups of considerable value. The Cottesford Place material, the largest group among the comparatively meagre assemblage from the Upper City, despite the age of the excavation, would fully repay further work relating it to the stratigraphy of the site. This

was one of the major public buildings, and evidence for its history is vital.

Kilns

Work on late Roman pottery in the city is currently handicapped by our lack of understanding of the Swanpool industry, and major work on the material from the various kilns is essential in order to extract information that will be valuable in relation to the city itself and the surrounding area, let alone to later Roman pottery industries. Without this, it is impossible to clearly assess the dating and importance of this major industry, and to set it in its proper context. The work, long overdue, should include a reconsideration of the original published kiln material (Webster and Booth 1947; Webster 1960), and preparation of an archive of the pottery from the kilns excavated by Ken Wood and Ben Whitwell in the 1960s, and by TLA in 1987 (Camidge 1987), as well as the finds from St Helen's Cemetery (Darling 1977a, 32); the material from Bracebridge Heath (Donel 1992) should be included in the same programme. More recent discoveries, and the probability of finding further kilns within the Wigford suburb (see p. 312), add to the importance of future work on this

industry. Late pottery from other sites should clearly be examined in order to define the distribution; mortaria identified as Swanpool products occur fairly widely and, due to their similarity with products from the Doncaster area, a programme of fabric analysis may be essential to define such distribution. The use of slag for trituration grits on the mortaria, suggesting that potting was undertaken in proximity to iron-working, is another feature needing attention and field work is necessary.

The Neutron Activation programme funded by the British Academy on the material from the South Carlton kilns (Darling 1994b) requires further work, both to define the results more closely, and to build upon that research by analysing vessels from elsewhere, including those from the Antonine Wall. The relationship of the South Carlton potters to Lincoln is difficult to understand, due to the paucity of their products within the city. It is possible that further groups of 2nd century pottery from the city may show this paucity to be due to the bias in the current data towards the later Roman period. Work on other pottery held in The Collection, Lincoln would aid definition of the distribution of the pottery within the region.

11 The Catalogue

The catalogue lists all illustrated vessels excluding the decorated samian, which is catalogued separately (see 9.3). Each entry gives the fabric, form and decoration/manufacture codes, all as expanded in Appendices I and II. (Form codes are those entered during original archiving; amendments that became apparent during illustration work could not be undertaken owing to limitations on resources.) This is followed by the site code (for key to site codes, see Figure 3) and context; context codes denoted 'etc' indicate joins to sherds from other contexts. The date is the ceramic date of the parent context, not the stratigraphic date. The relevant context group (cg) and Land Use Block (LUB) is given for all sites included in the CLAU post-excavation publication programme, this enabling the stratified occurrence of vessels to be checked in the excavation volumes (Steane *et al.* 2001; 2006; forthcoming). The original

drawing number is given, since this cross-references to the pottery archive database and is used to locate the drawn pottery, which is stored in drawing number order at The Collection, Lincoln. Finally, details of any earlier publication are noted, with catalogue numbers prefixed by figure numbers where appropriate; bibliographic references are abbreviated here as follows: C = Coppack; D = Darling; P = Petch; T&W = Thompson and Whitwell; W = Webster. Other abbreviations are as follows:

Contam	=	contaminated
Destr	=	destruction
HAD	=	Hadrianic
PRO	=	post-Roman
Prob	=	probably
Resid	=	residual
RO	=	Roman
+	=	unstratified

No.	Fabric	Form	Decoration	Site	Context	Cxt Date	cg	LUB	D. No	Publication
1	ARGO	BHEM	ROST	H83	1165	VL4	103	17	3208	
2	BLEG	BKC120	-	CP56	A8.40?	EM2	-	-	3534	
3	CGBL	BKCR	BACC/BAD	CP56	A8.7	M3-4	-	-	3471	
4	CGBL?	BK	-	F72	BVV	ML3	r70	12	3324	
5	CGBL	CHA	-	BWE82	119	ML3?	79	-	2727	
6	CGCC	BKCOR	RCC	BE73	VI-AJ	EM2	330	609	3156	
7	CGCC?	BKFOCOR	RCC	P70	KS	ML2?	-	-	1663	D1999, 60
8	CGCC	BKEV	BAHP	BE73	VI-BC/BD	EM2?	329	608	3151	
9	CGCC	BKCOR	BAAN	EG1960	sf42	L1E2	-	-	-	
10	CGGW	BKCOR	-	EB83	25	E2+	-	-	3281	
11	IMMC	BKEV	-	SP72	DTY	M2+?	325	9	3043	
12	IMMC	BKEV	NAME	North Row	-	-	-	-	TS209	W1949, 11:19
13	KOLN	BKEV	RCC	HG72	AZ	L2E3?	96	25	191	
14	KOLN?	BKHC	BAAN	BG75/76	ED	-	-	-	1027	
15	LYON	BKEV	RCS	HG72	IR	E2 HAD?	76	20	128	D1988, 79
16	LYON?	BKEV	RCS	CP56	A8.40	L2	-	-	3529	
17	LYON	C	ASC	EB66	6/4	EM3	-	-	EB252	D1984, 16:108
18	LYON	C	AP	EB66	+16	4/PRO	-	-	EB29	D1984, 17:142
19	MOSL	BKFB	ROUL	CP56	A9.41	VL4	-	-	3583	

No.	Fabric	Form	Decoration	Site	Context	Cxt Date	cg	LUB	D. No	Publication
20	MOSL	BK	ROUL	F72	BPV etc.	L3+	r36	8	3323?	
21	MOSL	BK	ROUL BACC	Z86	+	L-VL4/PRO	999	-	3451	
22	MOSL	BKMOT	BACC ROUL	LIN73DI	144	L3-M4	D14	10	3356	
23	TN	PC16	-	HG72	JD etc.	1-E2	64	16	115	
24	WHEG?	C	ROUZ	F72	+	-	999	-	3320	
25	RDSL	FS	-	SP72	DXI	M2+?	83	9	2910	
26	RDSL	J	-	CP56	A8.32	ML1?	-	-	3524	
27	RDSL?	CLSD	-	LH84	C11	3-4/PRO	4	32	3144	
28	RDSL	BKEV	-	CP56	A8.34	ML1?	-	-	3517	
29	RDSL?	BKEV	PA	LH84	AA45	ML1	36	2	3116	
30	RDSL	BKEV	-	North Row	-	-	-	-	TS211	W1949, 11:25; D1981b, 28
31	RDSL	BK	-	M82	163	ML1	7	6	2675	
32	RDSL	BKCOR	-	EG63-66	EG248	-	-	-	-	D1981b, 29
33	RDSL	CLYON	-	LH84	K54	M1	36	2	3126	
34	RDSL	CLYON	-	EB66	6/16	L1+	-	-	EB237	D1984, 14:33
35	RDSL	CLYON	-	EG63-66	EG318	-	-	-	-	D1981b, 26
36	RDSL	C24	-	B. Palace	-	-	-	-	TS504	P1962, 6:21
37	RDSL	C24	-	WP71	III-BZ	-	-	-	-	D1981b, 25
38	RDSL	C	-	SW82	480	1	4	7	2564	
39	RDSL	C24	-	EG	-	-	-	-	TS503	T&W1973, 13:14
40	RDSL	C24	-	EB80	125	L1?	93	10	2955	
41	RDSL	C24	-	EG	-	-	-	-	TS502	T&W1973, 15:5; D1981b, 23
42	RDSL	C	-	North Row	1Y	-	-	-	TS501	W1949, 12:35; D1981b, 22
43	RDSL	C?	-	EB66	9/36	M1+	-	-	EB207	D1984, 14:4
44	RDSL	C?	-	EB80	217	M1	122	4	2949	
45	RDSL	BR12	-	CP56	F7.9	ML1	-	-	3511	
46	RDSL	BR12	-	EB80	107	EM2	114	18	2995	
47	RDSL	BR12	-	CP56	A8.31-32	ML1	-	-	3522	
48	RDSL	BR12	-	EB80	107	EM2	114	18	2994	
49	RDSL	BR12	-	EB80	108	E2 ?HAD	25	12	2974	
50	RDSL	BR12	-	L86	73	M1	79	1	2622	
51	RDSL	BR12	-	EB80	130;201	M1	999	-	2952	
52	RDSL	BR12	-	North Row	-	-	-	-	TS320	W1949, 12:36; D1981b, 12
53	RDSL	B404	-	HG72	LF	M1	27	6	117	D1988, 87
54	RDSL	BCAR	-	P70	PW;PY	ML2?	-	-	1405	D1999, 74
55	RDSL	P	-	HG72	MC	M1	24	5	116	D1988, 80
56	RDSL	P15/17 or 18	-	WP71	III BZ	-	-	-	510	D1981b, 1
57	RDSL	P15/17	-	EB66	6/18	L1+	-	-	EB32	D1984, 14:28
58	RDSL	P15/17	-	EB66	9/13	1-2?	-	-	EB30	D1984, 14:18
59	RDSL	P15/17	-	North Row	2e	-	-	-	TS453	W1949, 12:37; D1981b, 4
60	RDSL	P15/17?	-	EB66	9/4	L2+	-	-	EB27	D1984, 16:91
61	RDSL	P18	-	EB80	107	EM2	114	18	2993	
62	RDSL	P15/17-18	-	P70	QL	1-2	-	-	1598	D1999, 16
63	RDSL	P18?	-	EB66	9/5	L2E3?	-	-	EB220	D1984, 16:80
64	RDSL	P18?	-	EG59	EG1.4	-	-	-	TS462	D1981b, 6
65	RDSL	DH	-	SMG82	110	VL4/PRO	99	27	3106	
66	RDSL	PPR	-	EB80	107	EM2	114	18	2992	
67	RDSL	BPR	-	CP56	A10.6	EM2?	-	-	3420	
68	RDSL	PPR	-	CP56	F7.9	ML1	-	-	3507	
69	RDSL	P461	-	HG72	GD	1-3	100	21	119	D1988, 89
70	RDSL	P	ROUL	EB66	6/49-52	1?	-	-	EB206	D1984, 14:24
71	RDSL	P	-	North Row	1.K	-	-	-	-	D1981b, 13
72	RDSL	BD	-	P70	QL	1-2	-	-	1599	D1999, 17
73	RDSL?	-	AP	CP56	A9A.8	M2+	-	-	3504	
74	RDSL?	CLSD	AP	CP56	A9.3	VL4	-	-	3475	
75	SCCC?	BKCOR	RCC	HG72	DW	M3?-4	97	26	184	
76	SCCC	BFL	-	LIN73C	152	ML2	C12	57	2093	

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77	SPCC?	B36	PA	P70	FM	4	-	-	1321	D1999, 441
78	SPCC	B38	-	H83	1144	VL4	104	17	3224	
79	SPCC?	B31	-	MCH84	100	4?	6	3	2070	
80	SPCC	BHEM	PA	SM76	BIR	ML-?VL4	3163	40	2871	
81	SPCC	BNK	PA	CWG86	+	-	-	-	3329	
82	SPCC	BFB	-	P70	AK	VL4	-	-	P8	D1977a, 8
83	SPCC	DPR	-	P70	AD	VL4	-	-	P12	D1977a, 12
84	SPCC	DFB	-	P70	BN	L-VL4	-	-	1728	D1999, 539
85	CC	JUG	-	P70	CI	L4	-	-	P24	D1977a, 24
86	CC?	F	-	P70	GR	4	-	-	1290	D1999, 434
87	CC	BHA	-	P70	GT	4	-	-	1332	D1999, 197
88	CC	BKCOR	-	SM76	DDB	L2 OR E3?	2310	4	2752	
89	CC	BKCOR	ROST	SM76	DAQ	L2?	2284	4	2758	
90	CC	BK?	-	SM76	DFR	L2?	3190	10	2804	
91	CC	BKC13?	-	P70	FU	4	-	-	1322	D1999, 438
92	CC	BKFB	-	P70	GI	L3-4	-	-	1069	D1999, 284
93	CC	BKSF	-	P70	GR	4	-	-	1293	D1999, 437
94	CC	B?	-	SW82	54	L2E3/PRO	153	59	2256	
95	CC	Z	-	SM76	BOP	Prob 4	2319	22	2051	
96	GLAZ	BK	-	SP72	+	-	-	-	2230	
97	GFIN	BK	-	M82	69	EM3/?later	48	10	2669	
98	GFIN	BKEV	-	BE73	VI-BD	E2?	503	608	3163	
99	GFIN	BKPH	BADZ	EB80	71	E2?	62	17	3026	
100	GFIN	JBK	ROUZ	EB80	108	E2 ?HAD	25	12	2988	
101	GFIN	BSEG	-	EB80	103	ML2	26	20	3011	
102	GFIN	B38	-	L86	290	ML2	132	10	2619	
103a	GFIN	B37	STA	EB66	6/7	L2+	-	-	EB227	D1984, 16:98
103b	GFIN	B	-	LIN73BI	32	RO/PRO	B47	39	3344	
104	GFIN	B18/31	-	F72	BVT	4	r80	16	3295	
105	GFIN	BFL	-	SM76	DAE	EM3?	2029	7	2757	
106	HADOX	B31	-	SPM83	344	ML4?	180	16	2023	
107	HADOX?	B31	-	F72	BDS	VL4	r90	25	3433	
108	HADOX	B31	-	WP71	II-CB	VL4	-	-	504	D1999, 101:4
109	HADOX?	BDR	-	SMG82	2063	L4	52	25	2710	
110	HADOX	BHEM	ROUZ	BWE82	100	4	14	3	3610	
111	LOND	B37	CPS	FLAX 45-7	-	-	-	-	TS302	C1973, 1
112	LOND	B37	CPS	BE73	VI-AJ;BB	EM2	330	609	3155	
113	LOND	B37	ROUZ CPS	BE73	V-CA	3-4C	274	538	3181	
114	LOND	B37	STR	FLAX 45-7	-	-	-	-	TS302	C1973, 10
115	LOND	BD	-	WP71	III-BG	ML2	-	-	508	D1999, 101:3
116	MHAD	JB?	-	HG72	EF	3+/PRO?	126	30	207	
117	MHAD	BHEM?	-	SM76	BJE	ML4?	2245	38	2884	
118	MHADR	CLSD	ROSA	GP81	257	L-VL4/PRO	18	9	3193	
119	MICA	JUG	-	H83	1248	ML4?	49	15	2002	
120	MICA	BKFOEV	-	CP56	A9.16	ML2?	-	-	3399	
121	MICA	JNN	-	EB66	9/1	L3	-	-	EB230	D1984, 17:129
122	MICA	BM44	-	CP56	A9.4	EM3	-	-	3567	
123	MICA	B36	-	CS73	AB etc.	M3+?	13	9	2352	
124	MICA	B38	-	Z86	624 etc.	L2?	37	9	2643	
125	MICA	BCAR	-	CS73	AS	M3?	11	9	2349	
126	MICA	B31	-	Z86	646 etc.	ML2	25	7	2628	
127	MICA?	B31R	ROUZ	HG72	BH	L-VL4/PRO	130	29	205	
128	MICA	B436	-	F72	CBE	ML3?	r9	4	3287	
129	MICA	B31	-	HG72	DR	M3+/PRO?	125	29	206	
130	MICA	B?	-	SM76	CHA	M3	2098	17	2781	
131	MICA	P	-	WP71	III-BG	ML2	-	-	507	D1999, 101:2
132	MICA	PPR	-	EB66	9/5	L2E3?	-	-	EB242	D1984, 16:82
133	MICA	PPR	-	TP69	66	-	-	-	EB304	D1984, 17:141
134	MICA	DEXR	-	L86	290	ML2	132	10	2621	
135	MICA	PFL	-	M82	55 etc.	M3+	117	19	2676	
136	MICA	PFL	-	HG72	IR	E2 HAD?	76	20	127	

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137	NVCC	F255	-	SM76	BOO	L3-4	2207	22	2879	
138	NVCC	FS	ROUZ	CP56	A9.39	4	-	-	3578	
139	NVCC	FDN	-	CP56	A9.1	ML3	-	-	3558	
140	NVCC	FDN	-	CP56	Cellar 3	L3-4	-	-	3487	
141	NVCC	FDN	-	CP56	A9.1	ML3	-	-	3557A	
142	NVCC	FDN	-	P70	GJ	4	-	-	1061	D1999, 257
143	NVCC	FX2?	-	CP56	A9.1	ML3	-	-	3559	
144	NVCC	FFN	-	SM76	+	-	-	-	2933	
145	NVCC	JUG	-	Z86	567	L4	82	12	2652	
146	NVCC	JUG	-	SM76	CCI	ML3?	9998	-	2896	
147	NVCC	JUG	-	WC87	1	4	44	19	3090	
148	NVCC	JUG	-	P70	GK	L3-4	-	-	1053	D1999, 258
149	NVCC	J	-	BWE82	99	ML4	80	6	2737	
150	NVCC	JRR	-	P70	AK	VL4	-	-	P13	D1977a, 13
151	NVCC	JH	STBOS	WN87	131	VL4	-	-	3782	
152	NVCC	BKPR	-	P70	GK	L3-4	-	-	1049	D1999, 276
153	NVCC	BKPR	-	SM76	CIO	M3	2148	21	2838	
154	NVCC	BKPR	-	SM76	BYC	L3?	3117	28	2852	
155	NVCC	BKPR	BADS	SM76	CTF	EM3	4004	36	2889	
156	NVCC	BKPR	BACC	F72	CAI	VL4	r101	17	3398	
157	NVCC?	BKPR	ROUZ	CP56	A9.9A	EM3	-	-	3387	
158	NVCC	BKPR	BAS	SM76	BTH	ML3?	3115	28	2849	
159	NVCC	BKPR	BAA	BWE82	63	ML3 ?>4	7	3	2718	
160	NVCC	BKPR	BAS	P70	GJ	4	-	-	1057	D1999, 277
161	NVCC	BK247	-	P70	GK	L3-4	-	-	1051	D1999, 273
162	NVCC	BKPRG	BADS	SM76	COX	M3?	3090	25	2825	
163	NVCC	BKCOR	-	WC87	43	ML3?	32	9	3091A	
164	NVCC	BKCOR	-	P70	GK	L3-4	-	-	1044	D1999, 264
165	NVCC	BKCOR	-	P70	JO	M3+	-	-	1070	D1999, 143
166	NVCC	BKCOR	-	P70	SQ	M3+	-	-	1697	D1999, 144
167	NVCC?	BKCOR	-	P70	PK	EM3?	-	-	1458	D1999, 114
168	NVCC	BKCOR	PO	CP56	A8.2	L3	-	-	3549	
169	NVCC	BKCOR	BALA?	SM76	CQA	M3	2113	17	2783	
170	NVCC	BKCOR	BAAN	P70	GK	L3-4	-	-	1054	D1999, 267
171	NVCC	BKCOR	BAP	P70	GJ	4	-	-	1398	D1999, 268
172	NVCC?	BKCOR	BAA	BWE82	119	ML3?	79	-	2728	
173	NVCC	BK	BAD BAVE ASC	LIN73C	68	M3/PRO	C45	78	3351	
174	NVCC	BKCGCR	-	P70	JO	M3+	-	-	1071	D1999, 148
175	NVCC	BKFOCOR	-	P70	SL	L-VL4	-	-	1685	D1999, 280
176	NVCC	BKFOC	-	WC87	54	M3	18	6	3081	
177	NVCC	BKFOC	-	P70	GK	L3-4	-	-	1047	D1999, 281
178	NVCC	BKFOSC	ASC	P70	JO	M3+	-	-	1073	D1999, 147
179	NVCC	BKFOSC	ASC	P70	GK	L3-4	-	-	1048	D1999, 282
180	NVCC	BKNV52	-	HG72	BT	ML4	120	29	218	
181	NVCC	BKFOF	-	WC87	1	4	44	19	3091B	
182	NVCC	BKFOF	ROUZ	SM76	CMP	ML3	3100	25	2809	
183	NVCC	BKFOF	ROUZ	SM76	CBL etc.	ML3?	2153	21	2787A	
184	NVCC	BKFOSF	-	HG72	BX	ML3-4	97	26	200	
185	NVCC	BKFOSF	-	SM76	BXF	L3-?E4	2112	21	2785	
186	NVCC	BKFOSF	-	P70	HG	L3-4	-	-	1609	D1999, 216
187	NVCC	BKFOSF	-	HG72	CX	L3-4	120	29	199	
188	NVCC	BKFOSF	DCC	SM76	CEI	L3-4?	3107	27	2843	
189	NVCC	BKFOSFG	-	SM76	CPZ	M3	4006	36	2890	
190	NVCC	BKP	ROUL	MCH84	239	L3-4	98	24	2071	
191	NVCC	BKP	BAS	SM76	BWC	L3-4?	2144	20	2831	
192	NVCC	BKP	-	P70	GR	4	-	-	1292	D1999, 435
193	NVCC	BKFB	BASC ROUZ	HG72	BT	ML4	120	29	217	
194	NVCC	BKFG	BAVE	ZE87	787 etc.	-	150	12	4040	
195	NVCC	BKBARB	BAS/DCC/ROUL	SM76	BPU	L3-4	2188	22	2873	
196	NVCC	BKFOF	PA/ROUL	SW82	335	ML4?	53	19	2755	
197	NVCC?	BKNV52	ROUL	P70	SQ	M3+	-	-	1698	D1999, 149

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198	NVCC?	BKBARB	BACC;ROUL	SM76	BIU	4	3134	40	2860	
199	NVCC	BKG48	BAVE	SM76	BPU	L3-4	2188	22	2874	
200	NVCC	BKG43	PA	Z86	602	L-VL4	73	17	2655	
201	NVCC	BKPM	ROUZ	LIN73DI	114	ML4	D7	14	-	
202	NVCC	BKPM	ROUZ	F72	BNZ	L4	r90	25	3434	
203	NVCC	BKPM	ROUZ	P70	IF	4	-	-	1374	D1999, 476
204	NVCC?	BKMOT	PA	Z86	214	L-VL4/PRO	167	23	3282	
205	NVCC	BKMOT	BA ROUL	LIN73DI	153	EM4?	D13	10	3358	
206	NVCC	BKFN?	GRAF	SM76	CEH	L3?	3216	28	2851	
207	NVCC	BKPM	GRAF ROUZ	HG72	BR	ML4	120	29	220?	
208	NVCC?	BKFB	GRAF	HG72	AU	ML4/PRO	137	38	222	
209	NVCC	BKPM	GRAF ROUZ	HG72	BT	ML4	120	29	3343	
210	NVCC	BKFB	GRAF PB ROUL	HG72	BR	ML4	120	29	221?	
211	NVCC	BKPA	-	SM76	BAD	VL4	644	40	2920	
212	NVCC	BKFO	PA	LIN73F	23	L-VL4/PRO	F144	-	3381	
213	NVCC	BKFO	PB ROUZ STA	LIN73C	65	ML4/PRO	C45	78	3350	
214	NVCC	BKBARB	BAF	F72	BNF	L4	r90	25	2227	
215	NVCC	BKBARB	BAF	WC87	44	ML3?	37	10	3085	
216	NVCC	BKBARB	BAF	SM76	CEI	L3-4?	3107	27	2842	
217	NVCC	C33?	-	WO89	535	ML3	-	-	2590	
218	NVCC	B38	-	P70	SQ	M3+	-	-	1700	D1999, 154
219	NVCC	B38	-	SPM83	179	M4?	192	24	2029	
220	NVCC	BHEMS	PCUR	P70	AD	VL4	-	-	P17	D1977a, 17
221	NVCC	BHEM	ROUZ	WN87	73	EM4	-	-	3784	
222	NVCC	B31?	-	H83	1187	L-VL4	98	16	3198	
223	NVCC?	BTR	-	SM76	CLY etc.	M3	2059	8	2761	
224	NVCC	B	ROUZ	CP56	A8.2	L3	-	-	3550	
225	NVCC?	BFB	-	LIN73DIV	36	VL4/PRO	999	-	3370	
226	NVCC	BFB	-	SB85	101	VL4	13	7	2573	
227	NVCC	BFB	-	P70	AK	VL4	-	-	P3	D1977a, 3
228	NVCC	BFB	-	P70	AK	VL4	-	-	P2	D1977a, 2
229	NVCC	DPR	-	SM76	CVF	L3?	3111	28	2812	
230	NVCC	DPR	-	SM76	BGW	VL4	2235	38	2887	
231	NVCC	DPR	-	P70	AK	VL4	-	-	P10	D1977a, 10
232	NVCC	DPR	-	P70	AK	VL4	-	-	P11	D1977a, 11
233	NVCC?	DGR	-	P70	GH	4	-	-	1491	D1999, 241
234	NVCC	DGR	-	F72	BDS	VL4	r90	25	3431	
235	NVCC	DFB	-	SB85	81	L-VL4/PRO	28	11	2600	
236	NVCC	DFB	-	H83	1160	VL4	103	17	3206	
237	NVCC	P455	PA	P70	AD	VL4	-	-	P15	D1977a, 15
238	NVCC	PWS	ROUZ/PA	P70	AD	VL4	-	-	P16	D1977a, 16
239	NVCC	BX	-	CP56	A9.13	EM3?	-	-	3397	
240	NVCC	BX	ROUZ	F72	BHV	VL4	r101	17	3389	
241	NVCC	BX	-	SM76	CDZ	M3?	2114	18	2786	
242	NVCC	BX	-	P70	HG	L3-4	-	-	1610	D1999, 217
243	NVCC	BX	-	SM76	BWC	L3-4?	2144	20	2833	
244	NVCC	BX	-	SM76	BIA	ML4 ?later	3169	40	2862	
245	NVCC	BX	-	SM76	BWC	L3-4?	2144	20	2832	
246	NVCC	LBX	-	P70	GJ	4	-	-	1063	D1999, 425
247	NVCC	LCOF	GRAF	CP56	F2.+	L3-4	-	-	3483	
248	NVCC	LCOF	-	WC87	11	L3-4	45	11	3087	
249	NVCC	CLSD	ROUL/ROUZ/PCIR	H83	1160	VL4	103	17	3205	
250	OXRC	BHEM	ROUL/PCUR	P70	QY	VL4	-	-	P128	D1977a, 128
251	OXRC	BNK	ROUL	WF89	723	VL4	-	-	2819	
252	OXRC	BNK	ROUL	WF89	723	VL4	-	-	2818	
253	OXRC	B36	PA	H83	1024	VL4	107	21	3242	
254	PART	FDN	-	HG72	BS	M3-4/PRO?	121	29	174	
255	PART	FDN	-	HG72	JO	E2?	77	22	173	
256	PART	FS?	-	SM76	BXF	L3-?E4	2112	21	2784	
257	PART	JBK	STR	SM76	CEI etc.	L3-4?	3218	29	2840	

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258	PART	JBK	STA	BG76	EF;EH	-	-	-	1024	
259	PART	JBK	STA	P70	GK	L3-4	-	-	1400	D1999, 296
260	PART	JBK	STA	BG76	ED	-	-	-	1025	
261	PART	JBK	STA	BG76	ED	-	-	-	1026	
262	PART	BK	-	SM76	DBO	EM3?	3067	3	2798	
263	PART	BKEV	-	L86	249	ML2?	133	26	2661	
264	PART	BKEV	ROUZ	F72	BDS	VL4	t19	32	3629	
265	PART	BKPH	-	HG72	CE	ML2-E3/PRO?	121	29	182	
266	PART?	BK	-	SPM83	177	4	142	18	2032	
267	PART	BK	-	SPM83	176	L-VL4	142	18	2031	
268	PART	BK	-	CP56	A9.41	VL4	-	-	3581	
269	PART	BKROU	ROU	Z86	645	L2-3	25	7	2639	
270	PART	BK	STA	WC87	7	L3-4	40	11	3089	
271	PART	CLSD	ROUZ	SPM83	455;465	3?	58	15	3255	
272	PART	B37	ROUZ	EB66	+28	M3/PRO	-	-	EB255	D1984, 17:145
273	PART	BHEM	-	P70	IF	4	-	-	1386	D1999, 496
274	PART	BK	-	LIN73C	180	ML2	C5	53	2073	
275	PART	B38	ROUZ	P70	AD	VL4	-	-	P36	D1977a, 36
276	PART	B38	ROUZ	SM76	AYF	PRO	653	41	2903	
277	PART	PFL	ROUZ	TP69	63	-	-	-	EB308	D1984, 17:146
278	PART	BFL	-	EB80	24	ML4	-	-	3279	
279	PART?	BDEXR	-	P70	HK	4	-	-	1395	D1999, 507
280	PART	B428	-	P70	KX	L3-4	-	-	1652	D1999, 533
281	PART	CLSD	ROUL	L86	226	3?	161	27	3111	
282	PART	JBK	-	SM76	CEI	L3-4?	3107	27	2841	
283	PART	CLSD	ROUZ	SM76	CSE	M3?	3086	11	2823	
284	PART	CLSD?	STA	SM76	DBO	EM3?	3067	3	2799	
285	PART	CLSD	STR	LIN73C	71	EM3/PRO	C70	79	3352	
286	PART?	CLSD	STR;STA	F72	AVV	-	t281	36	3318	
287	PART	CLSD	STR/STCO	SMG82	345	M2+	151	18	2685	
288	PART	CLSD	STCO	SM76	CLK etc.	M3?	2069	16	2053	
289	PART	CLSD	STRO	EB80	98	L2-E3?	112	23	3029	
290	PART	BK?	STDR	BWE82	109	M3+	14	3	2730	
291	PART	-	STA	BE73	VI-AB	EM3/?later	351	612	3167	
292	PART	BK?	STA	SMG82	2099	EM3?	179	9	2698	
293	PART	J	STA	EB66	9/1	L3	-	-	EB84	D1984, 17:131
294	RC	BKFOCOR	RCC	EB81	2	M2+	-	-	3277	
295	RC	BKFOCOR	RCC?	P70	PM	EM3	-	-	1442	
296	RC	JBK	RCC	SPM83	337	ML2+?	35	4	3250	
297	MICA	BRR	-	CP56	D7.7	M2?	-	-	3542	
298	CR	FCOR	-	CP56	A9.2	ML3	-	-	3556	
299	CR	FHOF?	-	CP56	F2-4.4	EM2?	-	-	3468	
300	CR	FC	-	EB66	6/11	M2	-	-	EB19	D1984, 15:65
301	CR	FHOF	-	W73	CW	M1/L1?	11	6	3092	
302	CR	FHOF?	-	CP56	A9A.1	E3	-	-	3576	
303	CR	FHOF	-	EB80	182 etc.	M1?	9	4	2946	
304	CR	FHOF?	-	HG72	KM	1-2	31	9	123	D1988, 63
305	CR	FHOF?	-	HG72	KA	L1E2?	44	12	124	D1988, 64
306	CR	FL?	-	B. Palace	-	-	-	-	TS652	P1962, 5:15
307	CR	FL	-	CP56	A9A.13	EM2	-	-	3437	
308	CR	F	-	EB80	118	ML1?	23	10	2957	
309	CR	F4	-	EB66	9/13	1-2?	-	-	EB15	D1984, 14:12
310	CR	F5	-	CP56	A9.10A	E3+	-	-	3418	
311	CR	F	-	SPM83	501	E2 HAD+	28	4	2011	
312	CR	FR	-	P70	JO	M3+	-	-	1077	D1999, 138
313	CR	FR	-	CP56	A8.29	ML1?	-	-	3521	
314	CR	FR	PA?	EG	-	-	-	-	TS7	T&W1973, 13:17
315	CR	FR	-	SMG82	2139	EM2	162	7	2696	
316	CR	FR	-	HG72	IK	EM2	76	20	142	D1988, 66
317	CR	FR	-	EB80	118	ML1?	23	10	2956	

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318	CR	FTR	-	P70	GK	L3-4	-	-	1034	D1999, 252
319	CR	FTR	-	HG72	FF	L2+	92	24	180	
320	CR	FR	-	CP56	A8.11	Prob 3	-	-	3540	
321	CR	FCR	-	SP72	CBR	M1?	24	3	2904	
322	CR	FCR	-	BWE82	66	E3;?EM3	4	1	2713	
323	CR	FRR	-	L86	84-C31	ML1	2	3	3134	
324	CR	FDR	PA	CP56	A9.9A	EM3	-	-	3386	
325	CR	FDR	-	EB80	108	E2 ?HAD	25	12	2977	
326	CR	FG11	-	EB66	9/13	1-2?	-	-	EB202	D1984, 14:13
327	CR	F	-	MCH84	403	M2?	164	3	2068	
328	CR	FL	-	CP56	A8.40	L2	-	-	3532	
329	CR	FL	-	HG72	HB	L1E2	73	17	3338	
330	CR	FM3	-	CP56	A10.6	EM2?	-	-	3422	
331	CR	FX2	-	EB66	9/15	M1+	-	-	EB210	D1984, 14:9
332	CR	FX2	-	North Row	-	-	-	-	TS22	W1949, 12:39
333	CR	FX2?	-	HG72	MB	M1	28	5	110	D1988, 65
334	CR	F	-	CP56	A9A.13	EM2	-	-	3438	
335	CR	FX2	-	L86	84-C11	3-4/PRO	4	32	3145	
336	CR	HP	-	CP56	A9A.9?	4	-	-	3585	
337	CR	HP?	-	North Row	-	-	-	-	TS114	W1949, 11:30
338	CR	FX2?	-	EB80	103	ML2	26	20	3005	
339	CR	FX2?	-	WB80	3027	L2-3	73	6	3058	
340	CR	FX2	-	WB80	1060	M3	109	5	3062	
341	CR	FS	-	SM76	DBY	ML2?	3062	3	2795	
342	CR	FS	-	CP56	A9A.13	M1?	-	-	3443	
343	CR	F26	-	EB66	6/4	EM3	-	-	EB232	D1984, 16:105
344	CR	JUG	-	P70	GK	L3-4	-	-	1036	D1999, 255
345	CR	JUG	-	CP56	A9A.13-14	M1	-	-	3444	
346	CR	FFN	PA	P70	GT	4	-	-	1330	D1999, 195
347	CR	HP	-	CP56	A9.20A	EM3	-	-	3404	
348	CR	HP	-	CP56	A9.20B	M2?	-	-	3406	
349	CR	HP	-	LH84	K54	M1	36	2	3127	
350	CR	HP	-	CP56	A9A.13	EM2	-	-	3439	
351	CR	HP?	-	EB66	9/13	1-2?	-	-	EB60	D1984, 14:15
352	CR	HP	-	LH84	K40	2-3/PRO	59	32	4159	
353	CR	BKEV?	-	HG72	IR	E2 HAD?	76	20	132	D1988, 72
354	CR	HP?	-	F72	BDM	4?/PRO	t193	53	3319	
355	CR	JNN	-	WF89	723	VL4	-	-	2820	
356	CR	JEV	-	EB66	9/5	L2E3?	-	-	EB222	D1984, 16:77
357	CR	HP?	-	EB66	6/25	M1	-	-	EB200	D1984, 14:1
358	CR	JCUR	-	CP56	A8.31	ML1	-	-	3523	
359	CR	JTR	-	P70	NP	2	-	-	1642	D1999, 7
360	CR	JCUR	-	CP56	A9.20A/B	EM3	-	-	3403	
361	CR	JCOR	-	SP72	BSG	1	130	5	2914	
362	CR?	JNN	-	B. Palace	-	-	-	-	TS56	P1962, 5:14
363	CR	B?	FF	CP56	A8.33	L1E2	-	-	3536	
364	CR?	BKBB	ROUZ	EG	-	-	-	-	TS202	T&W1973, 13:22
365	CR	BK?	-	L86	249	ML2?	133	26	2660	
366	CR	BKPRG	-	HG72	BT	ML4	120	29	216	
367	CR	JBKEV	-	CP56	F7.8B484	ML1	-	-	3513	
368	CR	BKEV	-	LH84	CD1	ML1?	999	-	3138	
369	CR	BKEV	-	HG72	HV;KE	1-2?	190	12	155;171	D1988, 76
370	CR	BKEV	-	HG72	IR;JJ	E2 HAD?	76	20	131	D1988, 77
371	CR	BKEV	-	HG72	HV	1-2?	64	16	154	D1988, 78
372	CR	JBKEV	BACC	CL85	105	L1+	86	9	2942	
373	CR?	BKEV	-	CP56	A9.4	EM3	-	-	3568	
374	CR	BK120?	NOTC	BWE82	16	M3?	6	2	2715	
375	CR?	CLSD	-	L86	267	ML2	131	13	2612	
376	CR	CHA?	-	EB80	221	M1	4	1	2945	

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377	CR	OPEN	NAME	EB80	200	M1	5	4	2947	
378	CR	B29	ROUZ	M82	77	L1-2?	34	8	2674	
379	CR	B29	-	HG72	IQ	E2	75	18	147	D1988, 83
380	CR	B37	-	L86	267	ML2?	131	13	2611	
381	CR	B37	BA	North Row	-	-	-	-	TS303	W1949, 13:61
382	CR	BHEM	-	WC87	32	L2	11	4	3078	
383	CR	B37	ROUZ	FLAX 45-7	-	-	-	-	TS302	C1973, 3
384	CR	BCAM	-	EB80	158	M1	11	5	2951	
385	CR	BHEM?	-	M82	116	L2?-3	28	11	2667	
386	CR	B402	-	HG72	IK	EM2	76	20	103	D1988, 84
387	CR	BMR	-	EBii80	Destr	L4	-	-	3275	
388	CR	B	PB	WO89	546	EM3	-	-	2582	
389	CR	B405	PS	HG72	FW	L1E2	194	20	118	D1988, 88
390	CR	BCAR	PA	North Row	-	-	-	-	TS301	W1949, 11:23; D1981b, 16
391	CR	BCAR	PA	EG59-62	2.20A etc.	-	-	-	-	D1981b, 17
392	CR	BCAR	PCUR	EB66	+29	L4/PRO	-	-	EB253	D1984, 17:138
393	CR?	BCAR?	PWL	SMG82	378	E2 HAD	10	11	2681	
394	CR	BHA	PCUR	TP69	95	-	-	-	EB301	D1984, 17:139
395	CR	B431	PA	P70	GO	3?	-	-	1655	D1999, 537
396	CR	BTR	-	CP56	A9.42	E3+	-	-	3415	
397	CR	B	-	CL85	72	L1?	50	12	2940	
398	CR	B	-	EB80	108	E2 ?HAD	25	12	2976	
399	CR	B316?	-	EB66	9/5	L2E3?	-	-	EB97	D1984, 16:79
400	CR	B316	-	EG	-	-	-	-	TS316	T&W1973, 13:7
401	CR	BRR	-	CP56	A8.40	L2	-	-	3528	
402	CR	BRR	SWL	EB80	107	EM2	114	18	2991	
403	CR	BRR	-	WB80	3035	M2?	71	2	3055	
404	CR	BRR	-	BE73	VI-AT	E2	337	607	3164	
405	CR	BRR	-	CP56	A9.25A	L2-3	-	-	3413	
406	CR	BRR	-	HG72	IP	1-E2	59	13	145	D1988, 86
407	CR	B	-	EB80	103	ML2	26	20	3006	
408	CR	B	-	CP56	A9A.8	M2+	-	-	3462	
409	CR	BFB	-	SM76	CZC	L2-E3	2033	6	2753	
410	CR	BFB	-	SM76	CRX	E3?M3	2054	8	2760	
411	CR	DTR	-	SPM83	505	E2 HAD+	31	3	3247	
412	CR	L	-	M82	124	M1	18	4	4127	
413	CR	L	-	P70	PM	EM3	-	-	1440	D1999, 136
414	CR	L	-	P70	GK	L3-4	-	-	1040	D1999, 426
415	CR	CRUSY?	-	EB80	118	ML1?	23	10	2958	
416	CR	CRUSY	-	SMG82	231	L2	313	24	2688	
417	CR	T	-	EB66	9/11	ML2	-	-	EB112	D1984, 14:35
418	CR	F?	-	LH84	L48	E2 HAD	114	6	3133	
419	CR	-	-	CP56	A8.24	ML1	-	-	3514	
420	CR	CLSD	AP	CP56	A8.2	L3	-	-	3472	
421	CR	Z	PF	EB66	+2	L4/PRO	-	-	EB256	D1984, 18:154
422	CRSA?	JCUR	-	P70	GR	4	-	-	1284	D1999, 468
423	CRSA?	JLS	-	HG72	BT;CX	ML4	115	28	201	
424	OXSA	FHOF	-	EB66	9/11	ML2	-	-	EB211	D1984, 14:36
425	OXSA?	FHOF	-	F72	ATF	-	t75	60	1016	
426	OXSA	FHOF?	-	F72	BVM	M3+	r8	4	1015	
427	OXSA?	F	-	F72	H75	-	sp55	44	1013	
428	OXSA	FR	-	CL85	35	VL4/PRO	65	14	2943	
429	OXSA?	FDR	-	SM76	CNZ	ML2?	2328	6	2751	
430	OXSA	JUG	-	LH84	CD1	ML1?	999	-	3137	
431	OXSA	JEV	-	CP56	F7.8	ML1	-	-	3512	
432	OXSA?	BK	-	CP56	A10.4	M3+	-	-	3427	
433	OXSA	BMR	-	EB66	9/13	1-2?	-	-	EB203	D1984, 14:19
434	OXSA?	BMR	-	CP56	A8.25	M1	-	-	3518	

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435	OXSA	BRR	-	SPM83	461	L1-2	26	3	3240	
436	OXSA?	L	-	SMG82	296	EM2?	14	15	2684	
437	PINK	FHOF	-	HG72	LF	M1	27	6	122	D1988, 62
438	PINK	FC	-	EG	-	-	-	-	TS1	T&W1973, 15:3
439	PINK	F	-	CP56	A8.25	E2 HAD?	-	-	3519	
440	PINK	F?	-	EB80	229	M1	41	8	3019	
441	PINK	FR	-	B. Palace	-	-	-	-	TS6	P1962, 6:23
442	PINK	FR	PA	B. Palace	-	-	-	-	TS8	P1962, 5:6
443	PINK	FDR	-	WB80	1049	3/?PRO	22	11	3066	
444	PINK	FL	-	CP56	F5-6.3	E2 HAD	-	-	3543	
445	PINK	FX2	-	CP56	A9.10A	E3+	-	-	3417	
446	PINK	JIR	-	HG72	KP	1-2	71	14	111	D1988, 67
447	PINK	JIR	-	HG72	LL	EM2?	55	20	112	D1988, 68
448	PINK	HP	-	CP56	F7.9	ML1	-	-	3506	
449	PINK	HP	-	HG72	KA	L1E2?	44	12	113	D1988, 69
450	PINK	HP	-	SP72	DXO	1-2	79	8	2908	
451	PINK	HP?	-	CP56	A8.40	L2	-	-	3531	
452	PINK	JEV	-	EG	-	-	-	-	TS219	T&W1973, 13:1
453	PINK	J118	-	EB66	6/11	M2	-	-	EB76	D1984, 15:68
454	PINK	JRR	-	HG72	IQ	E2	75	18	146	D1988, 71
455	PINK?	BKBB	ROUZ	EG	-	-	-	-	TS203	T&W1973, 14:13
456	PINK	JBK	BAC/BAD	CP56	A8.40	L2	-	-	3469	
457	PINK?	JBKEV	-	P70	QL	1-2	-	-	1592	D1999, 8
458	PINK	JB165	-	P70	QL	1-2	-	-	1593	D1999, 19
459	PINK?	BRR	-	EB80	94	EM2	109	19	3038	
460	PINK	BRR	-	CP56	A9A.13	EM2	-	-	3435	
461	PINK	BR12	-	HG72	FQ;HK	L1?	89	22	114	D1988, 82
462	PINK	BHEM	-	EB66	6/11	M2	-	-	EB109	D1984, 15:67
463	PINK	B30?	-	CP56	A8.29	ML1?	-	-	3520	
464	PINK	BMR	PCIR	CP56	A8.33	L1E2	-	-	3537	
465	PINK	B	-	BE73	VI-AG etc.	L2-3	352	615	3157	
466	PINK	B	ROU	HG72	KA	L1E2?	44	12	125	D1988, 85
467	PINK	BCAR?	-	L86	221	L3-4	175	39	3113	
468	PINK	BCAR	-	CP56	A8.40	L2	-	-	3527	
469	PINK	BMR	-	CP56	A8.40?	EM2?	-	-	3535	
470	PINK	B333?	-	CP56	A9A.13	EM2	-	-	3436	
471	PINK	B333	-	F72	CBR	3	r2	1	3335	
472	PINK	BFL	-	CP56	F2-4.4	EM2?	-	-	3467	
473	PINK	FACE	-	CP56	A10.-	1+?	-	-	2248	
474	PINK	L	-	P70	PW	ML2?	-	-	1404	D1999, 76
475	PINK	L?	-	CP56	A9A.13	M1?	-	-	3442	
476	PINK	T	-	EB80	201;217	M1	999	-	2948	
477	PINK	CLSD	-	EB80	107;108	EM2	114	18	2996	
478	PINK	CLSD	RIB	CP56	A10.4	M3+	-	-	3428	
479	PINK?	CLSD	-	F72	BFK	-	r98	31	3321	
480	SPOX?	FS	-	CAT86	10	M3+/PRO	22	18	3337	
481	SPOX	FACE	PSC/AP	SP72	DRJ	L4?	387	16	3050	
482	SPOX	JH	-	BWE82	16	M3?	6	2	2716	
483	SPOX	JEV	-	P70	AD	VL4	-	-	P67	D1977a, 67
484	SPOX	JBKEV	-	HG72	AB;AG	4/PRO	999	-	3334	
485	SPOX	BK	PLS	H83	276	VL4	107	21	3244	
486	SPOX	BKNV60	RIB/PO	SP72	DMB etc.	ML4	387	16	3049	
487	SPOX	BKC13	-	H83	1160	VL4	103	17	3203	
488	SPOX	BKFO	-	WB80	2021	L-VL4	110	9	3064	
489	SPOX	BK	PB/PS	H83	277;1165	VL4	104	17	3212	
490	SPOX	B36?	PO	WN87	+	-	-	-	3786	
491	SPOX	B38	-	LIN73DI	133;164	4/PRO?	D29	19	3378	
492	SPOX	B38	-	H83	1144	VL4	104	17	3223	
493	SPOX	B38	PCUR	P70	AK	VL4	-	-	P33	D1977a, 33

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494	SPOX	B38	PARC	H83	1165	VL4	103	17	3211	
495	SPOX	B38	PA	WN87	72	4	-	-	3783	
496	SPOX	B38	-	SM76	BCJ	VL4	2260	38	2917	
497	SPOX	B38	PA	Z86	555	VL4	88	18	2656	
498	SPOX	B	SLIP/PA	SM76	BFP etc.	VL4?	2266	39	2915	
499	SPOX	B304	PLS+	H83	1085	VL4	104	17	3216	
500	SPOX?	BCAR	PA	FLAX 45-7	-	L4	-	-	TS304	D1977a, 126
501	SPOX	BHEM	STRO	H83	1085	VL4	104	17	2065	
502	SPOX	BNK	DIMP PS PL	H83	968	L-VL4/PRO	378	23	3261	
503	SPOX	BNK	-	H83	1153 etc.	VL4	103	17	3202	
504	SPOX	BNK	DIMP;PA	F72	APM	-	t99	71	2067	
505	SPOX?	BRS	DIMP	SM76	BCJ	L4	2260	38	2931	
506	SPOX	BFL	-	CP56	A9.5	ML3	-	-	3572	
507	SPOX?	BFB?	-	LIN73DI	92	VL4/PRO	D28	19	3355	
508	SPOX	BFB	-	P70	AK	VL4	-	-	P42	D1977a, 42
509	SPOX	BIBF	-	P70	AK	VL4	-	-	P48	D1977a, 48
510	SPOX	B428	-	F72	BDS	VL4	r90	25	3432	
511	SPOX	B438	-	SMG82	113	VL4/PRO?	97	28	3107	
512	SPOX	B438	-	SM76	BAD	VL4	644	40	2919	
513	SPOX	B	-	H83	1077	VL4	105	18	2066	
514	SPOX	DPR	-	P70	AD	VL4	-	-	P51	D1977a, 51
515	SPOX	P	-	SMG82	2034	L4/PRO?	52	25	2708	
516	SPOX	LBX	ROUZ	GP81	259	VL4	13	6	3183	
517	SPOX	CLSD	ROSA	LIN73DI	80	L-VL4/PRO	D51	23	3371	
518	TILE	JL	-	HG72	BV	4	112	28	213	
519	TILE	JL	-	LIN73F	173	L4/PRO	F69	-	3382	
520	TILE	JL	STAB	Z86	501	RO/PRO	118	41	3284	
521	TILE	CLSD	FF	SM76	CBD	ML3	2053	17	2778	
522	TILE	JL	-	F72	BIK	L-VL4	r42	8	3291	
523	TILE	Z	-	SMG82	175	L4/PRO?	92	25	3609	
524	TILE	-	-	HG72	BT	ML4	120	29	219	
525	TILE	-	-	SM76	AVO	M3?	3106	27	2894	
526	TILE	-	-	H83	1204	EM4?	91	11	3246	
527	TILE	CLSD	-	SM76	CBD	ML3	2053	17	2790	
528	TILE	-	-	SM76	CGL	3	2138	19	2789	
529	TILE	CLSD	-	SM76	CBD	ML3	2053	17	2791	
530	TILE	Z	-	SM76	CGJ etc.	ML3?	2153	21	2788	
531	TILE	-	-	CP56	F7.7	E2 HAD	-	-	3486	
532	EIFL?	B	-	F72	BLG	-	r87	36	3330	
533	NGCR?	F	-	CP56	A9.7	4	-	-	3574	
534	NGCR?	FGO415	-	SB85	121	M3	5	1	2568	
535	NGCR	BK	-	CP56	A9.38	4	-	-	3580	
536	CRPA	B36	PO	H83	1165	VL4	103	17	2001	
537	OXWS	FHOF	-	LA85	+	ML1+/PRO	999	-	3148	
538	OXWS	FX2	-	SPM83	465	L2?	39	4	2012	
539	OXWS	JUG	-	P70	GH	4	-	-	1487	D1999, 225
540	OXWS	FFN	PA	F72	AFK	-	t121	82	2064	
541	OXWS	BK253	-	P70	JO	M3+	-	-	1084	D1999, 142
542	OXWS	BNK	PL	F72	BNF	L4	r90	25	3429	
543	OXWS	B	-	SMG82	2034	L4/PRO?	52	25	2709	
544	OXWS	T	-	P70	GJ	4	-	-	1181	D1999, 430
545	PARC?	FC	PO	FLAX 45-7	-	L4	-	-	TS720	D1977a, 127
546	PARC?	F	FF/NOTC	SM76	CLE etc.	EM3	2093	17	2770	
547	PARC	JUG	PS	M82	29	ML4?/PRO?	70	18	3236	
548	PARC	FFN	PA	WNW88	314	VL4	-	-	2357	
549	PARC	FFN	PS/P+	F72	BVE	L-VL4?	r80	16	3293	
550	PARC	FFN	PA	WC87	7;11	L3-4	45	11	3086	
551	PARC	FFN	PA	F72	BNB	L4/PRO	r90	25	2063	
552	PARC	JNN	PA	WB80	1034	ML4/PRO	24	11	3072	

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553	PARC	FACE	PA	F72	AJP	-	sp36	38	3312	
554	PARC	J	PS	BWE82	13	4	27	9	2749	
555	PARC	JH	PA	F72	BDQ	L-VL4	r90	25	3426	
556	PARC	FS?	-	HG72	CX	L3-4	115	28	198	
557	PARC	FS?	PS	SB85	114	ML3	9	2	2569	
558	PARC?	J122	FF/PS	EB66	+16	4/PRO	-	-	EB234	D1984, 17:137
559	PARC	BKEV	PS	CP56	A8.1	L3?	-	-	3551	
560	PARC	B	PS	WP71	III-BF	M3+	-	-	509	D1999, 101:7
561	PARC	BK120	PS/FF	SM76	AVO	M3?	3106	27	2897	
562	PARC	BNK	PO	F72	BXN	VL4	r101	17	3395	
563	PARC	BSEG	PB	SM76	CNH	M3	2062	16	2775	
564	PARC	BSEG	PA	P70	GK	L3-4	-	-	1039	D1999, 310
565	PARC	BSEG?	PB	SM76	DAC	E3 ?M3	2019	7	2754	
566	PARC	BSEG	PA	P70	JO	M3+	-	-	1080	D1999, 156
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569	PARC	P	PA	SMG82	2063	L4/PRO	52	25	2711	
570	PARC	BPL	PA	WNW88	314	VL4	-	-	2355	
571	PARC	HEAD?	PO	F72	BVL	M3	r22	7	3288	
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573	SPIR	J	RIL	SM76	AYG	PRO	58	52	2935	
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575	SPIR	J	RIL	SM76	ALH	PRO	192	46	2934	
576	SPIR	J	RIL	SM76	AVE	PRO	6	53	2936	
577	SPIR	JLS	-	F72	BCL	L4	r104	32	2226	
578a	VRW	F	-	CP56	A8.10-12	M3+	-	-	3539	
578b	OX	F?	-	F72	BDQ	L-VL4	r90	25	3332	
579	OX	F	-	CP56	A9.10A	E3+	-	-	3419	
580	OX	FL	-	SPM83	163	ML3+?	194	24	2042	
581	OX	FDR	-	P70	CU	-	-	-	1639	D1999, 47
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591	OX	JNN	-	SM76	BWC	L3-4?	2144	20	2830	
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606	OX	B	-	CP56	A9A.8	M2+	-	-	3463	
607	OX	B?	BURN	BE73	VI-AB	EM3/?later	351	612	3168	
608	OX	BDR	-	WB80	1013	L-VL4/PRO	15	11	3069	
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613	OX	B?	-	BWE82	100	4	14	3	2732	
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615	OX	B432	-	P70	FH	L3-4?	-	-	1656	D1999, 536
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618	OX	BSEG?	-	BE73	VI-AI	EM2	337	607	3165	
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620	OX	BSEG	PB	SM76	BYN	M3?	3125	29	2853	
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626	OX	B332	-	SM76	BUT	L3	3131	29	2856	
627	OX	B332?	-	SM76	BPU	L3-4	2188	22	2875	
628	OX	BIBF	-	P70	BQ	L-VL4	-	-	P69	D1977a, 69
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630	OX	B	-	L86	270	M3+	148	21	2609	
631	OX	B439	-	F72	BCU	L-VL4	t19	32	3311	
632	OX	B438	-	F72	BDG	RO/PRO	t19	32	1005	
633	OX	B438	-	SM76	BZK	L3-4	3123	29	2854	
634	OX	BD452	-	HG72	IR	E2 HAD?	76	20	100	
635	OX	DPR	-	SM76	BPE etc.	ML3-?4	2287	21	2763	
636	OX	B567	-	WO89	535	ML3	-	-	2589	
637	OX	L	-	CP56	A9A.13	EM2	-	-	3440	
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646	OX	CLSD	PD/PS/PWL	H83	1165	VL4	103	17	3210	
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676	DWSH	DPR	-	SM76	AQL	PRO	646	40	2902	
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732	IASHF	B394	-	HG72	MG	M1	22	3	61	D1988, 24
733	IASHF	BCAR	-	HG72	MR;OD	IA-M1?	24	5	1	D1988, 8
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736	IASHF	BNK	-	HG72	NF	M1	15	4	57	D1988, 27
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739	IASHF	B396	-	HG72	JJ	E2?	43	13	17	D1988, 7
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741	IASHF	-	-	HG72	NL;NR	IA-2	37	11	4	D1988, 1
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743	SHEL	J	RIL	EB80	212	L1-E2?	92	10	3020	
744	SHEL	JCUR	-	SM76	DFN etc.	L2?	3190	10	2805	
745	SHEL	JRR	-	SM76	CEM	ML3?	3107	27	2847	
746	SHEL	JRR	-	SMG82	311;312	M3?	248	22	2693	
747	SHEL	JSQ	-	SW82	106	L3-4	162	27	2258	
748	SHEL	JB170	-	SM76	CRX	E3-M3	2054	8	2768	
749	SHEL	JLS	-	LIN73EI	179	4/PRO	E44	54	3365	
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751	SHEL	JS	-	FLAX 45-7	-	L4	-	-	P135	D1977a, 135
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753	SHEL	JL	-	CP56	A9.5	ML3	-	-	3573	
754	SHEL	BDFL	BURN	L86	290	ML2	132	10	2617	
755	SHEL	B?	-	SMG82	2098 etc.	3	186	23	2697	
756	SHEL	D	-	HG72	AK etc.	ML4/PRO?	136	30	204	
757	SHEL	DPR	SCRA	SM76	BIA	ML4 ?later	3169	40	2864	
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766	GRSA	CNIT	BA	EB83	23	EM2	-	-	3280	
767	GRSA	BRR?	-	EB80	130	ML1?	17	6	2954	
768	LEG	JUG	-	CP56	F2-4.5	M1	-	-	3488	
769	LEG	JCUR	AP	EB80	108	E2 ?HAD	25	12	2979	
770	LEG	JEV	RWEB	HG72	IR	E2 HAD?	76	20	129	D1988, 73
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772	LEG	J	RWEB	LH84	AA33	1-2	36	2	3117	
773	LEG	JLS	RWEB	EB80	116	L1?-E2	24	11	2967	
774	LEG	JEV	RWEB?	EB66	9/15	M1+	-	-	EB82	D1984, 14:10
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776	LEG	JLS?	-	P70	MB	2?	-	-	1571	D1999, 5
777	LEG	BKBARB	BAVE	EB80	198	M1?	123	4	2950	
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782	LEG	BKEV	ROUZ	EG	-	-	-	-	TS213	T&W1973, 13:13
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786	LEG	JBK	-	EB66	9/13	1-2?	-	-	EB58	D1984, 14:17
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791	LEG	CNIT	BA	CP56	F7.9	ML1	-	-	3509	
792	LEG	CNIT	BA	CP56	F7.9	ML1	-	-	3510	
793	LEG	CLYON	-	LH84	A16	2-3/PRO	39	32	3146	
794	LEG	CLYON	-	M82	116 etc.	EM2+	75	8	2663	
795	LEG	BRR	-	LH84	K50	ML1	36	2	3125	
796	LEG	BRR	-	CP56	A8.24	ML1	-	-	3515	
797	LEG	BRR	-	EB80	118	ML1?	23	10	2960	
798	LEG	BRR	ROUL	EB80	118	ML1?	23	10	2959	
799	LEG	L	-	EB80	108	E2 ?HAD	25	12	2980	
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803	LEG	CHA	-	L86	45	ML1?	83	6	2626	
804	IAGR	CPN	SLAS	M82	101	L1?	22	7	2665	
805	IAGR	CPN65	-	B. Palace	-	-	-	-	TS65	P1962, 5:4
806	IAGR	CPN67	-	LH84	L49	ML1	86	2	3132	
807	IAGR	CPN	-	CP56	A9.17	M2-3?	-	-	3401	
808	IAGR	CPN51	-	B. Palace	-	-	-	-	TS51	P1962, 6:17
809	IAGR	CPN68	-	EG	-	-	-	-	TS68	T&W1973, 14:1
810	IAGR	CPN68	-	EB80	125;130	ML1?	93	10	2953	
811	IAGR	CPN141	-	HG72	JU	1-2	44	12	98	D1988, 53
812	IAGR	CPN64	-	HG72	KV	1-E2	75	18	92	D1988, 51
813	IAGR	CPN	-	SMG82	2139	EM2	162	7	2695	
814	IAGR	J105	STA	FLAX 45-7	-	-	-	-	TS105	C1973, 17
815	IAGR	J105	SWL	CP56	A10.6	EM2?	-	-	3424	
816	IAGR	J105?	-	L86	228	M2-3/PRO	166	33	3175	
817	IAGR?	J106	SWL	B. Palace	-	-	-	-	TS106	P1962, 8:40
818	IAGR	J170	RIL	SM76	CVY etc.	ML2	3076	5	2801	
819	IAGR	JEV	RIL	North Row	-	-	-	-	TS71	W1949, 11:31
820	IAGR	JEV	-	HG72	OR	M1	15	4	88	D1988, 60
821	IAGR	JEV	-	EB66	6/11	M2	-	-	EB78	D1984, 15:71
822	IAGR	JRR	-	EB66	9/5	L2E3?	-	-	EB224	D1984, 16:89
823	IAGR?	J	-	M82	141	M2?	75	8	2666	
824	IAGR	B	-	LIN73C	105	4/PRO	C37	75	3354	
825	IAGR	JL	-	CP56	A9.5	ML3	-	-	3477	
826	IAGR	JL	-	P70	TH	EM3	-	-	1644	D1999, 185
827	IAGR	JUR	-	EB80	103	ML2	26	20	3017	
828	IAGR	JL	-	BE73	VI-AH etc.	EM2	336	610	3162	
829	IAGR	JLH?	-	CP56	A9A.15	E2-ML3?	-	-	3465	
830	IAGR	JH	-	LH84	K56	M1	86	2	3128	
831	IAGR	JS	STCO	North Row	-	-	-	-	TS52	W1949, 12:48
832	IAGR	JS	STCO/ROUZ	LH84	AA33	1-2	36	2	3115	
833	IAGR	JS	-	LH84	K57	M1?	36	2	3129	
834	IAGR	B?	-	CP56	A9.20B	M3M4	-	-	3408	
835	IAGR	BGR	-	EB66	9/11	ML2	-	-	EB89	D1984, 15:61
836	IAGR	B	-	CP56	A9A.8	M2+	-	-	3464	
837	IAGR	B	-	EB80	70;81	E2?	64	25	3027	
838	IAGR	JB	-	CP56	A9.18	EM2?	-	-	3402	
841	IAGR	BFL	LA	CY89	218	E2?/PRO	-	-	4032	
842	IAGR	JEV?	-	HG72	KV	1-E2	75	18	93A	D1988, 54
843	IAGR	BLS	SWL	EB80	116	L1?-E2	24	11	2968	
844	IAGR	BEV	-	EB66	6/7	L2+	-	-	EB93	D1984, 16:100
847	IAGR	BD	-	SP72	DXP	1-2?	79	8	2909	
848	IAGR	L?	-	SP72	DYQ	1	71	8	2907	
849	IAGR	L	-	SP72	DTU	L1?-2	330	9	3044	
850	IAGR	L	-	HG72	LL	EM2?	55	20	91	D1988, 61
851	IAGR	L	-	EB80	108	E2 ?HAD	25	12	2986	
852	IAGR	-	-	CP56	A8.22	L1E2	-	-	3541	
853	IAGR	-	-	CP56	D7.3	L2+	-	-	3544	

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854	IAGRB?	JBEV	-	HG72	LL	EM2?	55	20	9	D1988, 43
855	IAGRB?	JEV	RUST	HG72	GB	L1E2?	83	22	107	D1988, 94
856	IAGRB	-	STAB	HG72	JZ	EM2+/PRO?	139	30	94	D1988, 99
857	IAGRB	CPN67	-	HG72	IR	E2 HAD?	76	20	11	D1988, 48
858	IAGRB	CPN140	-	HG72	HZ	L1E2?	72	17	96	D1988, 55
859	IAGRB	JEV	-	HG72	IR	E2 HAD?	76	20	102	D1988, 59
860	IAGRB	CPN64	-	HG72	JX	1	65	10	95	D1988, 50
861	IAGRB	J170	-	P70	SP	M3+?	-	-	1667	D1999, 178
862	IAGRB	CPN72?	-	HG72	DJ	M2-3	96	25	109	
863	IAGRC	JS	-	HG72	IR	E2 HAD?	76	20	13	D1988, 31
864	IASA	JBKEV	STAB	LH84	AA33	1-2	36	2	3120	
865	IASA	JEV	STAB	LH84	C11	3-4/PRO	4	32	3142	
866	IASA	JBKEV	-	LH84	AA33	1-2	36	2	3122	
867	IASA	JBKEV	-	LH84	AA33	1-2	36	2	3121	
868	IASA	JBEV	BURN	LH84	AA33	1-2	36	2	2007	D1988, 9:5
869	IASA	BNK	BURN	LH84	AA33	1-2	36	2	2006	D1988, 9:6
870	IASA	BCOR	-	LH84	K50 etc.	ML1	86	2	2008	D1988, 9:2
871	OXGR	BK	-	L86	45 etc.	ML1?	83	6	2009	D1988, 9:1
872	LCOA	JNN	-	P70	AD	VL4	-	-	P89	D1977a, 89
873	LCOA	JDLS	-	F72	BXN	VL4	r101	17	3328	
874	LCOA	JDLS	-	P70	AD	VL4	-	-	P111	D1977a, 111
875	LCOA	JDLS	-	P70	AD;AK	VL4	-	-	P100	D1977a, 100
876	LCOA	BFB	-	P70	AD	VL4	-	-	P85	D1977a, 85
877	LCOA	DEXR	-	SM76	AWT	VL4	2280	39	2899	
878	LCOA	DEXR	-	P70	AD	VL4	-	-	P87	D1977a, 87
879	LCOA	DFL	-	H83	277	VL4	104	17	3265	
880	BB1	CP	-	EB66	9/11	ML2	-	-	EB42	D1984, 15:38
881	BB1	CP	-	CP56	A10.6	EM2?	-	-	3425	
882	BB1	CP	LA	P70	NF	2	-	-	1604	D1999, 46
883	BB1	CP	LA	HG72	JA	E2 HAD+	77	22	149	
884	BB1	CP	GRAF	CP56	A10.1	L3-4	-	-	3482	
885	BB1	CP	LA	Z86	650	L2-3	25	7	2634	
886	BB1	BK	-	Z86	650	L2-3	25	7	2633	
887	BB1	BKHA	-	HG72	DW	M3?-4	97	26	3340	
888	BB1	BPR	-	WO89	569	L3?	-	-	3098	
889	BB1?	BPR	BIA	SMG82	257;270	EM2?	285	16	2683	
890	BB1	BFL	LA	SM76	CJF;CJQ	L2	2151	21	2835	
891	BB1	BFL	BIA	SM76	DAQ	L2?	2284	4	2759	
892	BB1	BFL	BIAP	HG72	AZ	L2E3?	96	25	192	
893	BB1	BFL	BIA	P70	JO	M3+	-	-	1248	D1999, 160
894	BB1?	BFL	LA	P70	PM	EM3	-	-	1447	D1999, 119
895	BB1	BFBL	BIA	HG72	OO	ML2-3?	57	20	3339	
896	BB1	BFBL	BIA	P70	GJ	4	-	-	1193	D1999, 334
897	BB1	BFBH	BIA	SM76	BPB	4	2202	22	2878	
898	BB1?	D	LA	EB80	3;15	L-VL4/PRO	119	33	3041	
899	BB1?	DPR	-	SPM83	261	VL4?	180	16	2026	
900	BB1	DPR	SL	LIN73DI	61	-	999	-	3100	
901	BB1	DPR	BIA	P70	JX;SQ	M3+	-	-	1702	D1999, 169
902	BB1	DPR	BIA	P70	GJ	4	-	-	1197	D1999, 351
903	BB1	DPR	BIA	P70	GJ	4	-	-	1196	D1999, 352
904	BB1	DPR	BIA	P70	GI	L3-4	-	-	1238	D1999, 353
905	BB1?	DGR	-	SPM83	163	ML3+?	194	24	2043	
906	BB1	DGR	BIA	EB80	74	M3+	30	27	3034	
907	BB1	DPR	BIAP BS	HG72	AZ	L2E3?	96	25	193	
908	BB1	DGR	BIA	P70	GH	4	-	-	1498	D1999, 242
909	BB1	DFL	LA	HG72	LL	EM2?	55	20	121	
910	BB1	DFIS	-	F72	ALR	-	t224	95	3325	
911	BB1	DFIS	-	LIN73DI	95	4/PRO	999	-	3373	
912	BB1	DFIS	-	SM76	BBG	VL4-PRO	647	41	2925	
913	BB1?	DFIS	-	LIN73F	96	L3-4/PRO	F126	-	3368	

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914	BB1	DFIS	BIA	SM76	AQG	PRO	109	55	2901	
915	BB1	L	-	BE73	VI-AJ	EM2	330	609	3160	
916	BB1	L	-	EB80	103	ML2	26	20	3010	
917	BB1	L	-	W73	CH	L2?	28	7	3095	
918	BB2	BGR	-	BWE82	63	ML3 ?>4	7	3	2719	
919	BB2	BG225	-	BWE82	12	M4/?PRO	21	5	2740	
920	BB2	BDTR	GRAF/LA	CP56	A9.7	4	-	-	3478	
921	BB2	DPR	BWL	L86	290	ML2	132	10	2620	
922	BB2	DGR	-	GP81	259	VL4	13	6	3185	
923	CRGR	BFB	SWL	LIN73F	341	4	F23	-	4154	
924	GROG	JL	-	EB80	84	EM2	58	26	3024	
925	GROG?	B	-	Z86	650	L2-3	25	7	2638	
926	GROG	BFT	-	CP56	A10.6	EM2?	-	-	3421	
927	NVGW?	BFL	-	SMG82	315	M3	249	22	2694	
928	NVGW	JMR	-	HG72	BV	4	112	28	212	
929	NVGW	BGR	-	L86	227 etc.	L3-?4	163	27	3112	
930	NVGW?	DPR	-	SMG82	336;338	3-4/PRO	112	31	2707	
931	NVGW	B31R	-	WO89	570	ML3	-	-	2603	
932	NVGWC	JCUR	-	GLB94	437	L2-3/PRO?	-	-	4156	
933	VESIC	J	RNOD	LH84	AA33	1-2	36	2	3119	
934	GREY	F	-	SB85	49	L-VL4?/PRO	32	12	2601	
935	GREY	FC	-	P70	IF	4	-	-	1380	D1999, 486
936	GREY	FC	-	SPM83	109	L4	154	22	3271	
937	GREY	F38	-	P70	EX	4	-	-	1657	D1999, 525
938	GREY	F	-	H83	1085	VL4	104	17	3217	
939	GREY	FS?	BVL	LIN73BI	52	L-VL4/PRO	B32	35	3345	
940	GREY	F18	-	P70	AK	VL4	-	-	P52	D1977a, 52
941	GREY	FDN	-	P70	II	4	-	-	1369	D1999, 485
942	GREY	FDN	-	CP56	A9A.9?	4	-	-	3586	
943	GREY	FS?	-	H83	1126	VL4	104	17	3220	
944	GREY	JUG	-	FLAX 45-7	-	L3+	-	-	TS21	C1973, 36
945	GREY	JUG	-	SM76	CIO	M3	2148	21	2836	
946	GREY	JUG	-	BWE82	62	M3?	13	3	2724	
947	GREY	JUG	-	P70	GJ	4	-	-	1182	D1999, 260
948	GREY	FFN	AST	SM76	BAD	VL4	644	40	2922	
949	GREY	FC	-	Z86	624	M3	37	9	2646	
950	GREY	FS?	-	F72	BXN etc.	VL4	r101	17	3393	
951	GREY	F	BWL/BS	SP72	DRJ	L4?	387	16	3051	
952	GREY	JNN	BWL	Z86	646	M3	25	7	2640	
953	GREY	JNN	-	CP56	A9.1	ML3	-	-	3564	
954	GREY	JNN	-	H83	1149	L4/PRO	124	24	3252	
955	GREY	JNN?	-	P70	GK	L3-4	-	-	1136	D1999, 384
956	GREY	JEV	-	P70	GT;HY	4	-	-	1319	D1999, 199
957	GREY	JNN	-	P70	FM	4	-	-	1327	D1999, 470
958	GREY	JL	-	P70	GK	L3-4	-	-	1133	D1999, 383
959	GREY	JNN	ROUZ	WB80	3035	M2?	71	2	3056	
960	GREY	JNN	-	H83	1179	4	63	15	3232	
961	GREY	JNN	ROUZ	SMG82	2097	ML3?	181	21	2700	
962	GREY	JNN	BOS?	SM76	AHI	PRO	195	51	2932	
963	GREY	JNN	BWL	Z86	650	L2-3	25	7	2635	
964	GREY	JNN	-	HG72	HX	EM2?	55	20	133	D1988, 104
965	GREY	JNN	-	BWE82	119	ML3?	79	-	2729	
966	GREY	JNN	-	SM76	CRU	EM3?	2055	16	2769	
967	GREY	JNN	NOTC	M82	45	M3-4	67	14	2678	
968	GREY	J162	-	P70	IE	4	-	-	1397	D1999, 489
969	GREY	JNN?	-	F72	CAI	VL4	r101	17	3391	
970	GREY	JNN	-	CP56	A9.1	ML3	-	-	3563	
971	GREY	J	-	H83	1148	L-VL4	64	17	3234	
972	GREY	JUP	-	CP56	A9.25	ML2-4	-	-	3412	

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973	GREY	J	STAB	EB80	108	E2 ?HAD	25	12	2987	
974	GREY	JEV	ROUZ	EB80	104	L1-2?	107	14	3037	
975	GREY?	JEV?	-	B. Palace	-	-	-	-	TS72	P1962, 6:33
976	GREY	JEV	-	M82	114	M3 ?>4	40	17	2670	
977	GREY	JEV	-	P70	AD;AK	VL4	-	-	P61	D1977a, 61
978	GREY	JEV	-	P70	AK	VL4	-	-	P60	D1977a, 60
979	GREY	JEV	BZZ	EB80	103;108	ML2	26	20	2985	
980	GREY	JEV	-	M82	117	M3	38	13	2671	
981	GREY	JEV	-	BE73	VI-AH etc.	EM2	336	610	3158	
982	GREY	JEV	BVL	M82	61	3-4	65	14	2677	
983	GREY	JEV	RIL	EB80	130	ML1?	17	6	2955A	
984	GREY	JEV	RIL?	BWE82	117	ML4	23	6	2738	
985	GREY	JCUR	-	P70	GK	L3-4	-	-	1145	D1999, 390
986	GREY	JCUR	-	SMG82	317	L2-3?	130	17	2690	
987	GREY	JCUR	BVL	SPM83	329	L4	180	16	2021	
988	GREY	JCUR	-	P70	PS	2	-	-	1603	D1999, 45
989	GREY?	JCUR	BURN	SM76	CSE	M3?	3086	11	2824	
990	GREY	JCOR	BWL/NOTC	SM76	AVO	M3?	3106	27	2898	
991	GREY	JUR	-	FLAX 45-7	-	-	-	-	TS104	C1973, 42
992	GREY	JCUR	-	P70	JO	M3+	-	-	1268	D1999, 180
993	GREY	JUR	-	CP56	A9.36	L1E2?	-	-	3414	
994	GREY	JRR	-	HG72	GQ	1-E2	78	20	135	
995	GREY	JFO	-	SPM83	161	ML4?	194	24	2041	
996	GREY	CPN144	-	HG72	FQ	L1?	83	22	108	D1988, 95
997	GREY	JFT	-	BWE82	55	ML4?	19	5	2735	
998	GREY	JDW	-	CS73	AS	M3?	11	9	2351	
999	GREY	JDW	-	FLAX 45-7	-	-	-	-	TS108	C1973, 38
1000	GREY	JDW	-	SPM83	179	M4?	192	24	3270	
1001	GREY	BKEV	-	HG72	JD	1-2	59	13	151	
1002	GREY	JEV?	STAB?	HG72	IM	E2 HAD	76	20	144	D1988, 98
1003	GREY	JLS?	-	SM76	CNH	M3	2062	16	2777	
1004	GREY	J	STAB	BE73	VI-AG;AJ	L2-3	352	615	3159	
1005	GREY	J107	-	CS73	AS	M3?	11	9	2350	
1006	GREY	JLS	LI	LH84	L49	ML1	86	2	2005	D1988, 9:3
1007	GREY	JLS	ROUZ LA	EG	2.23	-	-	-	2004	D1988, 9:4
1008	GREY	JLS	-	CP56	A9.1	ML3	-	-	3566	
1009	GREY	JLS	-	SPM83	170	M3-4	121	19	2028	
1010	GREY	JLS	-	SM76	CEI	L3-4?	3107	27	2844	
1011	GREY	JLS	-	HG72	BV	4	112	28	211	
1012	GREY	JLS	-	F72	G56	-	sp62	44	-	
1013	GREY	J107	-	FLAX 45-7	-	-	-	-	TS107	C1973, 48
1014	GREY	J152	RIL	P70	FM;GJ	4	-	-	1186	D1999, 398
1015	GREY	JLS	-	CP56	A9.1	ML3	-	-	3565	
1016	GREY	JLS	-	P70	FM	4	-	-	1325	D1999, 474
1017	GREY	JLS	-	SM76	CNH	M3	2062	16	2776	
1018	GREY	J105	-	HG72	IC;IM	E2 HAD	76	20	138	
1019	GREY	J151	-	P70	GK	L3-4	-	-	1146	D1999, 402
1020	GREY	JLS	-	BWE82	15	EM4?	77	-	2748	
1021	GREY	JLS	-	BWE82	101	ML4?	78	-	2745	
1022	GREY	JCR	-	P70	GR	4	-	-	1309	D1999, 469
1023	GREY	JCR	NOTC	SB85	110	EM4	12	5	2571	
1024	GREY	JLS	NOTC	CP56	A9.41	VL4	-	-	3582	
1025	GREY	JCR	-	P70	II	4	-	-	1368	D1999, 490
1026	GREY	JCR	NOTC	P70	CK	VL4	-	-	1650	D1999, 547
1027	GREY	J168	-	P70	DS	L-VL4	-	-	1647	D1999, 548
1028	GREY	J	-	P70	CP	4?	-	-	1737	D1999, 543
1029	GREY	J	-	LH84	C31	ML1	2	3	3135	
1030	GREY	J152?	-	Z86	565	L4?	87	18	2653	
1031	GREY?	J	-	SMG82	336	3-4/PRO?	91	25	2706	

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1032	GREY	CP	LA	P70	GK	L3-4	-	-	1137	D1999, 406
1033	GREY	JBK	LA	EB66	9/1	L3	-	-	EB59	D1984, 17:133
1034	GREY	CP	LA	Z86	657	L2?M3	25	7	2632	
1035	GREY	CP	LA	M82	215	M3	45	18	2672	
1036	GREY	CP	BL LA	SM76	CSI	-	3087	25	4035	
1037	GREY	JCAV	LML	Z86	230	M3-4	165	23	2658	
1038	GREY	JWM	LA	SM76	CLY etc.	M3	2062	16	2773	
1039	GREY	JRR	LA	HG72	FF	L2+	92	24	181	
1040	GREY	JEV	RNOD	BE73	VI-BC etc.	EM2?	329	608	3150	
1041	GREY	JEV	RNOD	CL85	164;170	ML1	13	7	2939	
1042	GREY?	JEV	RNOD	EB80	107	EM2	114	18	2998	
1043	GREY?	JEV	RNOD	EB80	107	EM2	114	18	2999	
1044	GREY	JEV	RNOD	HG72	IR	E2 HAD?	76	20	130	D1988, 102
1045	GREY	JEV?	RLIN	HG72	KU	1-E2	75	18	152	D1988, 103
1046	GREY?	JEV	RWEB	North Row	-	-	-	-	TS95	W1949, 11:20
1047	GREY	JEV	RUST	B. Palace	-	-	-	-	TS97	P1962, 6:30
1048	GREY	J	RLIN	CP56	A8.40	L2	-	-	3533	
1049	GREY	JLS	RLIN	H83	1419	ML2	10	3	3195	
1050	GREY	JRR	RLIN	EB66	9/11	ML2	-	-	EB39A	D1984, 15:51
1051	GREY	J	AST	LH84	L48 etc.	ML1-E2 HAD	114	6	3131	
1052	GREY	J	BOS	SM76	CLY	M3	2059	8	2774	
1053	GREY	JH	-	FLAX 45-7	-	VL4	-	-	P131	D1977a, 131
1054	GREY	JH	-	P70	GR;GT	4	-	-	1310	D1999, 198
1055	GREY	JLH	BDL	Z86	198	ML4/PRO	170	33	3283	
1056	GREY	JLH	-	SMG82	226	2-4/PRO?	107	31	3140	
1057	GREY	JH	SWL	Z86	661	L2-3?	19	6	2629	
1058	GREY	JH	-	SM76	CJD	M3+	2096	17	2779	
1059	GREY	JH	BWL?	CP56	A9.1	ML3	-	-	3562	
1060	GREY	JH	BVL	F72	BDY	4	r79	13	3306	
1061	GREY	JH	NOTC	Swanpool	-	-	-	-	P129	D1977a, 129
1062	GREY	-	NOTC/BWL/APD	P70	AD	VL4	-	-	P53	D1977a, 53
1063	GREY	JL	-	EBii80	Destr2	L4/PRO	-	-	3276	
1064	GREY	JL?	-	SW82	183	3?	118	11	2259	
1065	GREY	JL	SWL	SM76	CWF	E3?	2028	7	2756	
1066	GREY	JL	BS	SP72	DPQ etc.	3/?later	94	14	2912	
1067	GREY	JL	LA	WC87	20	L3+?	31	9	3083	
1068	GREY	JL	COWL	WB80	2019	L-VL4/PRO	52	14	3077	
1069	GREY	JL	-	F72	CAI	VL4	r101	17	3390	
1070	GREY	JS	BS LA	HG72	BT	ML4	120	29	215	
1071	GREY	JS	BWL	SM76	BIA	ML4 ?later	3169	40	2868	
1072	GREY	JS	-	SM76	BJS	L3-E4	2216	22	2880	
1073	GREY	JS	NOTC	SM76	BOA	ML4?	2200	22	2877	
1074	GREY	BKBB	-	HG72	IR	E2 HAD?	76	20	101	D1988, 96
1075	GREY	BKBB	-	HG72	JX	1	65	10	74	D1988, 92
1076	GREY	BK120	LA	SM76	CEP	M3+	2267	14	2793	
1077	GREY	BK120	NOTC	EB66	9/4	L2+	-	-	EB37	D1984, 16:93
1078	GREY	BK120?	NOTC	HG72	ET	M3+	119	28	202	
1079	GREY	BK120	NOTC	SM76	CVF	L3?	3093	25	2813	
1080	GREY	BK120	NOTC	SM76	CIO	M3	2148	21	2837	
1081	GREY	BK120	APR/NOTC/BWL	CP56	A9.8	M3+	-	-	3480	
1082	GREY	BK120	NOTC/APR	Z86	613	EM4?	45	10	2648	
1083	GREY	BK120	APR	SM76	BXW etc.	M3	2053	17	2046	
1084	GREY	JBKEV	STAB	LH84	AA33	1-2	36	2	3118	
1085	GREY	JBKEV	ROUZ	EB80	168	L1-E2?	46	15	3021	
1086	GREY	BK263	-	P70	GT	4	-	-	1337	D1999, 205
1087	GREY	BK250	STAB	P70	GJ	4	-	-	1183	D1999, 299
1088	GREY	JBK	-	BE73	VI+	-	-	-	3179	
1089	GREY	JBKEV?	-	HG72	IC	E2 HAD	76	20	105	D1988, 97
1090	GREY	JBKEV?	-	HG72	OO	ML2-3?	57	20	90	D1988, 101

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1091	GREY	JBKEV	-	HG72	IN	L1E2	69	14	104	
1092	GREY	BK	BVL	SM76	DBR	L2 OR 3	3066	3	2797	
1093	GREY	BK	-	WC87	54	M3	18	6	3082A	
1094	GREY	BKEV	ROUZ	SMG82	324	E2 Prob	7	11	2680	
1095	GREY	JBK	-	SP72	DSL	L2+?	349	9	3048	
1096	GREY	BK254	-	P70	GK	L3-4	-	-	1124	D1999, 300
1097	GREY	JBKEV	BZ	BE73	VI+	-	-	-	3178	
1098	GREY	BKEV	-	SB85	80	VL4-10	23	10	2593	
1099	GREY	BK261	-	P70	FM	4	-	-	1329	D1999, 471
1100	GREY	BK?	-	SM76	BGS	L4	2266	39	2918	
1101	GREY	BKEV	BL	H83	1165	VL4	103	17	3213	
1102	GREY	JBKEV	-	SPM83	176	L-VL4	142	18	2033	
1103	GREY	BKEV	-	HG72	ER	L2E3	90	24	197	D1988, 106
1104	GREY	BK?	-	HG72	IK	EM2	76	20	143	D1988, 107
1105	GREY	JBKEV	BVL?	SPM83	177	4	142	18	2034	
1106	GREY	BK265	-	P70	FU	4	-	-	1356	D1999, 484
1107	GREY	BK?	-	DM72	I-CK	4?	1	0	2353	
1108	GREY	BKFN?	SL	SM76	BAD	VL4	644	40	2923	
1109	GREY	BKCG	-	SM76	CHA etc.	M3	2098	17	2780	
1110	GREY	BKFG	-	HG72	BV	4	112	28	209	
1111	GREY	BKPR	-	HG72	BV	4	112	28	210	
1112	GREY	BK271	BL	P70	CK	VL4	-	-	1649	D1999, 526
1113	GREY	JBK	BL	SM76	BJP	3-4	2245	38	2883	
1114	GREY	BKC12	-	SM76	BCG etc.	VL4	2248	38	2882	
1115	GREY	BK266	-	P70	FL	4?	-	-	1361	D1999, 488
1116	GREY	BKC13?	NOTC	SPM83	344	ML4?	180	16	3268	
1117	GREY	BK	BVL	SM76	BPU	L3-4	2188	22	2876	
1118	GREY	BKG177	-	North Row	-	-	-	-	TS205	W1949, 14:81
1119	GREY	BKFB	-	SM76	BIA etc.	ML4 ?later	3202	30	2858	
1120	GREY	BK264	-	P70	GC	M3+	-	-	1353	D1999, 483
1121	GREY	BKHA	BV DIMP	F72	BPM	-	r104	32	3315	
1122	GREY	BKPM	-	HG72	BT	ML4	120	29	3342	
1123	GREY	BKFOC	-	P70	GK	L3-4	-	-	1125	D1999, 302
1124	GREY	BKFOC	-	WC87	37	ML3	34	10	3084	
1125	GREY	BKFOC	-	SM76	CES	M3	3175	26	2827	
1126	GREY	BKFOC	-	SM76	CLY etc.	M3	2062	16	2772	
1127	GREY	BKFOC	-	SM76	CVX etc.	L2-3	3203	10	2803	
1128	GREY	BKFOF	-	SM76	CBQ etc.	M3	2275	17	2764	
1129	GREY	BKFOF	-	HG72	BV	4	112	28	208	
1130	GREY	BKSC	BASC	SM76	CEP	M3+	2267	14	2792	
1131	GREY	C33	-	FLAX 45-7	-	-	-	-	TS505	C1973, 49
1132	GREY	C?	-	EB66	9/16	1	-	-	EB209	D1984, 14:8
1133	GREY	C508	-	P70	AD	VL4	-	-	P71	D1977a, 71
1134	GREY	B	-	H83	1378	2?	43	8	2003	
1136	GREY	BDG	-	BWE82	70	M3-4?	78	-	2747	
1137	GREY	B	-	WB80	1034	ML4/PRO	24	11	3073	
1138	GREY	BEV	-	SM76	BHX	L-VL4	2253	38	2885	
1139	GREY	B335	-	EG	-	-	-	-	TS335	T&W1973, 16:12
1140	GREY	BDW	-	HG72	IQ	E2	75	18	70	D1988, 112
1141	GREY	BNK	BWL	SM76	CEI	L3-4?	3107	27	2845	
1142	GREY	JB	BVL/AST	CP56	F7.6	L1E2	-	-	3485	
1143	GREY	JBEV	-	SP72	DXI	>M2?	83	9	2911	
1144	GREY	B	BURN	M82	149	EM2?	15	7	2664	
1145	GREY	BNK	-	HG72	MD	M1	25	6	60	D1988, 28
1146	GREY	BNK	-	CP56	A9.9A	EM3	-	-	3385	
1147	GREY	B334	-	HG72	HI	L1E2	76	20	137	D1988, 108
1148	GREY	BCAR	BWL	CP56	A9.4	EM3	-	-	3570	
1149	GREY	BNK	-	EB80	107;108	EM2	114	18	2984	
1150	GREY	BCAR	BWL	CP56	A10.6	EM2?	-	-	3423	

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1151	GREY	BNK	-	CP56	A8.24-31	ML1-EM2?	-	-	3516	
1152	GREY	BCAR?	-	P70	GK	L3-4	-	-	1129	D1999, 313
1153	GREY	BNK	-	P70	NZ	4	-	-	1626	D1999, 231
1154	GREY	BTR	-	EB66	9/11	ML2	-	-	EB94	D1984, 15:48
1155	GREY	BCAR	BIWL	SPM83	261	VL4?	180	16	3267	
1156	GREY	BKCAR	-	SMG82	2034	L4-PRO?	52	25	3103	
1157	GREY	B334	-	WO89	570	ML3	-	-	2605	
1158	GREY	B334	-	EB80	107	EM2	114	18	3001	
1159	GREY	B334	-	P70	PQ;PR	L2?	-	-	1432	D1999, 98
1160	GREY	BCAR	-	SM76	BNV	ML4?	3170	35	2869	
1161	GREY	B334	-	WC87	32	L2	11	4	3079	
1162	GREY	B334	-	F72	CAI	VL4	r101	17	3394	
1163	GREY	BHA	BV	H83	1179	4	63	15	3231	
1164	GREY	B	-	CP56	A8.40	L2	-	-	3530	
1165	GREY	B430	-	P70	IB	3-4	-	-	1654	D1999, 535
1166	GREY	B36	-	H83	1144	VL4	104	17	3226	
1167	GREY	BSEG	-	BE73	VI+	-	-	-	3176	
1168	GREY?	BFL	-	HG72	HL	E-ML2	79	23	190	D1988, 111
1169	GREY	B318	-	B. Palace	-	-	-	-	TS318	P1962, 7:23
1170	GREY	B318	-	SMG82	317	L2-3?	130	17	2689	
1171	GREY	B316	BWL	P70	GH	4	-	-	1492	D1999, 232
1172	GREY	B316	-	HG72	KV	1-E2	75	18	153	D1988, 109
1173	GREY	B333	NAME	CP56	A9.20B	M3M4	-	-	3407	
1174	GREY	B333	-	BE73	VI-BB;BC	EM2?	329	608	3152	
1175	GREY	BCAR	-	CP56	F5-6.8	L1E2	-	-	3546	
1176	GREY	B333	-	EB80	116	L1?-E2	24	11	2970	
1177	GREY	B333	BWL	L86	290	ML2	132	10	2618	
1178	GREY	B	BWL?	EB80	94	EM2	109	19	3039	
1179	GREY	BHF	BL	EB80	116	L1?-E2	24	11	2973B	
1180	GREY	BFL	-	L86	248	3	158	18	3110	
1181	GREY	BFL	LA	CP56	A9.41	VL4	-	-	3481	
1182	GREY	B321V	-	EB80	116	L1?-E2	24	11	2972	
1183	GREY	BSEG?	-	CP56	A9.4	EM3	-	-	3569	
1184	GREY	B321V	-	EB80	116	L1?-E2	24	11	2971	
1185	GREY	BSEG	-	SP72	DTG	1-2 Contam	338	9	3047	
1186	GREY	BR12?	-	EB66	9/11	ML2	-	-	EB101	D1984, 15:46
1187	GREY	BSEG	-	SM76	DEX	ML2?	3063	2	2794	
1188	GREY	B321?	-	SP72	DON	M3??	108	15	2913	
1189	GREY	BSEG	-	SM76	CRX	E3?M3	2054	8	2767	
1190	GREY	BSEG	-	BE73	VI+	-	-	-	3177	
1191	GREY	B321	-	CP56	A9.24	ML2?-4	-	-	3411	
1192a	GREY	B321	-	EB66	9/11	ML2	-	-	EB90	D1984, 15:45
1192b	GREY	B321	-	CP56	A9A.12A	E2	-	-	3466	
1193	GREY	B321	SWL	North Row	-	-	-	-	TS321	W1949, 14:72
1194	GREY	B321	-	FLAX 45-7	-	-	-	-	TS321	C1973, 11
1195	GREY	B321	-	EB80	85	E2 HAD+	58	26	3023	
1196	GREY	BPR	BV	BWE82	12	M4/?PRO	21	5	2741	
1197	GREY	BFB?	NOTC	Z86	577	ML4?	71	11	2651	
1198	GREY	B38	-	P70	QY	VL4	-	-	P123	D1977a, 123
1199	GREY	B439	-	F72	BDQ	-	r90	25	1004	
1200	GREY	B	-	F72	CAS	M3+	r24	7	3290	
1201	GREY	B?	-	CP56	A8.39	ML2?	-	-	3526	
1202	GREY	B	-	EB80	98	L2-E3?	112	23	3033	
1203a	GREY	B37	CPS	EB66	9/11	ML2	-	-	EB105	D1984, 15:41
1203b	GREY	BHEM	-	SMG82	2099	EM3?	179	9	2699	
1204	GREY	BTR	-	HG72	CD	4?	114	28	3341	
1205	GREY	BHEM	-	FLAX 45-7	-	L3+	-	-	TS346	C1973, 51
1206	GREY	BDR	-	HG72	BR	ML4	120	29	185	
1208	GREY	BRR	-	P70	JO	M3+	-	-	1269	D1999, 159

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1209	GREY	BBIF	SWL	BE73	VI-AA	VL4/PRO	353	615	3174	
1209a	GREY	BFL	BWL	HG72	GB	L1E2?	83	22	189	
1210	GREY	BJ	-	SM76	CXL	L2-E3?	3191	9	2807	
1211	GREY	B	-	EB80	103	ML2	26	20	3013	
1212	GREY	BEV	-	SPM83	114	L4	176	27	3273	
1213	GREY	B	-	SMG82	296	EM2?	12	13	2682	
1214	GREY	BWM	-	F72	BHV	VL4	r101	17	3383	
1215	GREY	B411	-	P70	GK	L3-4	-	-	1172	D1999, 370
1216	GREY	B411	-	P70	PW	ML2?	-	-	1409	D1999, 83
1217	GREY	B411AS	BWL	Z86	650	L2-3	25	7	2637	
1218	GREY	BWM	-	HG72	AZ;EB	L2E3?	96	25	194	
1219	GREY	BFL	BWL	P70	PK	EM3?	-	-	1465	D1999, 135
1220	GREY	BWM	-	F72	CAI	VL4	r101	17	3392	
1221	GREY	BWM	-	SPM83	179	M4?	192	24	2030	
1222	GREY	BWM	-	SMG82	317	L2-3?	130	17	2691	
1223	GREY	BWM	-	Z86	646	M3	25	7	2641	
1224	GREY	BEV	BIWL	P70	IF	4	-	-	1383	D1999, 511
1225	GREY	BWM	BZZ	SM76	CMP etc.	ML3	3100	25	2810	
1226	GREY	BWM	BS	SM76	BWC	L3-4?	2144	20	2834	
1227	GREY	BWM	-	P70	GK	L3-4	-	-	1168	D1999, 377
1228	GREY	BWM	-	HG72	CJ	M3+	116	28	183	
1229	GREY	BWM	-	SPM83	261	VL4?	180	16	2024	
1230	GREY	BWM	-	P70	EP	L4	-	-	P133	D1977a, 133
1231	GREY	BWM?	-	LIN73EI	184	L-VL4/PRO	E45	54	3367	
1232	GREY	BPR	-	H83	1223	3-4?	63	15	3233	
1233	GREY	BPR	LML	SMG82	262	L2-3	204	18	2686	
1234	GREY	BEXR	BIA	BWE82	62	M3?	13	3	2725	
1235	GREY	BGR	?	P70	GJ	4	-	-	1194	D1999, 336
1236	GREY	BEXR	-	P70	HY	M3+	-	-	1317	D1999, 458
1237	GREY	BGR	-	P70	JO	M3+	-	-	1255	D1999, 165
1238	GREY	BEXR	BIA	P70	SL	L-VL4	-	-	1692	D1999, 368
1239	GREY	BEXR	-	P70	GJ	4	-	-	1192	D1999, 335
1240	GREY	BDR	-	WNW88	314	VL4	-	-	2358	
1241	GREY	B	-	CP56	A9.1	ML3	-	-	3560	
1242	GREY	JBEV	BL	EB78	Destr	E2+	-	-	3274	
1243	GREY	BTR?	-	SM76	CDZ	M3?	2114	18	2787B	
1244	GREY	BG225	-	P70	HK	4	-	-	1394	D1999, 497
1245	GREY	BG225	-	P70	GI	L3-4	-	-	1237	D1999, 332
1246	GREY	BTR	-	F72	BNF	L4	r90	25	3430	
1247	GREY	B	LA	W73	CH	L2?	28	7	3096	
1248	GREY	BFL	LA	EB80	98	L2-E3?	112	23	3031	
1249	GREY	BFL	LA/BL	Z86	644	L2-3?	26	7	2642	
1250	GREY	BFL	BIWL	EB80	98	L2-E3?	112	23	3032	
1251	GREY	BFL	BWL	P70	PK	EM3?	-	-	1463	D1999, 122
1252	GREY	BTR	BWL	P70	KI	ML2?	-	-	1720	D1999, 42
1253	GREY	BFL	BWL	P70	HG	L3-4	-	-	1611	D1999, 218
1254	GREY	BFL	BIA	P70	GK	L3-4	-	-	1088	D1999, 238
1255	GREY	BFL	BIA	P70	PQ	L2?	-	-	1419	D1999, 99
1256	GREY	BFL	BIA	P70	GK	L3-4	-	-	1097	D1999, 321
1257	GREY	BFL	BIA	P70	GK	L3-4	-	-	1093	D1999, 326
1258	GREY	BFL	LA	P70	GK	L3-4	-	-	1090	D1999, 329
1259	GREY	BFL	BIA	P70	GJ	4	-	-	1188	D1999, 330
1260	GREY	BFL	BIA	P70	GK	L3-4	-	-	1100	D1999, 320
1261	GREY	BFL	BIA	P70	GI	L3-4	-	-	1235	D1999, 327
1262	GREY	BFL	-	SPM83	324	E3?	33	4	3249	
1263	GREY	BFL	-	P70	JO	M3+	-	-	1247	D1999, 162
1264	GREY	BFL	-	P70	GK	L3-4	-	-	1096	D1999, 322
1265	GREY	BBIF	-	GL91	319	3?	-	-	3299	
1266	GREY	BFBL	LA	HG72	HC	M2-E3	79	23	4034	

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1267	GREY	BFB	-	P70	AP	VL4	-	-	P86	D1977a, 86
1268	GREY	LPL?	-	Z86	659	L2?	19	6	2630	
1269	GREY	BFB	-	SM76	BHX	L-VL4	2253	38	2886	
1270	GREY	BFB	BWL	WC87	11	L3-4	45	11	3088	
1271	GREY	BFBL	-	SPM83	114	L4	176	27	3272	
1272	GREY	BFL	LA	EB80	98	L2-E3?	112	23	3030	
1273	GREY	BFB	-	SB85	80	VL4-10	23	10	2592	
1274	GREY	BFBL	-	P70	GH	4	-	-	1495	D1999, 233
1275	GREY	BFBL	-	P70	KV	L3-4	-	-	1707	D1999, 519
1276	GREY	BFBL	-	P70	HK	4	-	-	1392	D1999, 502
1277	GREY	BFBH	BIWL	SPM83	329	L4	180	16	2022	
1278	GREY	BFBH	-	SPM83	261;329	VL4?	180	16	2020	
1279	GREY	BFBL	-	P70	IF	4	-	-	1378	D1999, 504
1280	GREY	BFBL	-	P70	IF	4	-	-	1377	D1999, 501
1281	GREY	BFB	LA	P70	GJ	4	-	-	1195	D1999, 379
1282	GREY	BFB	-	P70	GK	L3-4	-	-	1173	D1999, 369
1283	GREY	BIBF	-	P70	AD	VL4	-	-	P45	D1977a, 45
1284	GREY	BIBF	-	H83	277	VL4	104	17	3264	
1285	GREY	BIBF	NOTC	SM76	BIA	ML4 ?later	3169	40	2865	
1286	GREY	BIBF	-	P70	AD	L4	-	-	P70	D1977a, 70
1287	GREY	BIBF	-	SPM83	168	L-VL4	61	19	2036	
1288	GREY	B	SWL	EB80	103	ML2	26	20	3014	
1289	GREY	BL	-	WO89	570	ML3	-	-	2604	
1290	GREY	BL	-	BE73	VI-BB;BC	EM2?	329	608	3153	
1291	GREY	BL	-	SMG82	96	VL4/PRO	104	29	3105	
1292	GREY	BGR	BIAP	GLB94	534	M3-E4/PRO	-	-	4155	
1293	GREY	BL	-	WO89	535	ML3	-	-	2588	
1294	GREY	BL	FF	WN87	73	EM4	-	-	3785	
1295	GREY	BL	NOTC	LIN73DI	92	VL4/PRO	D28	19	3375	
1296	GREY	BL	FF	SM76	BAD	VL4	644	40	2921	
1297	GREY	BHA	NOTC	SMG82	385	L4?-PRO	120	38	3108	
1298	GREY	BHA	-	DM72	I-BK	3-4	4	1	2567	
1299	GREY	BDR?	-	WNW88	314	VL4	-	-	2359	
1300	GREY	BL?	BWL	H83	1144	VL4	104	17	3227	
1301	GREY	B?	-	EB80	14	ML4?/PRO	76	30	3042	
1303	GREY	BRS	-	P70	AJ	VL4	-	-	1725	D1999, 530
1304	GREY	BRS	DIMP	WB80	1024 etc.	L-VL4/?PRO	110	9	1009	
1305	GREY	BRS	DIMP	Z86	+	L-VL4/PRO	999	-	3296	
1306	GREY	BRS	DIMP	WB80	1048	L-VL4/PRO	8	11	3075	
1307	GREY	BRS	DIMP	SM76	BCJ	VL4	2260	38	2930	
1308	GREY	BRS	ROSA	GP81	256	VL4/PRO	19	10	3192	
1309	GREY	BRS	DIMP	H83	257	L4/PRO	264	39	3263	
1310	GREY	BRS	-	WB80	2021	L-VL4	110	9	1012	
1311	GREY	BRS	DIMP	F72	1173	PRO	sp8	38	3316	
1312	GREY	BRS	ROSA	HG72	DG	L-VL4/PRO	168	42	186	
1313	GREY	BRS	DIMP	Z86	555	VL4	88	18	2657	
1314	GREY	BRS	DIMP	SM76	AFK	PRO	231	50	2929	
1315	GREY	BRS	DIMP	SM76	AQL	PRO	646	40	2927	
1316	GREY	BRS	ROSA	HG72	CO	4/PRO	146	37	187	
1317	GREY	BRS	DIMP	SM76	AXD	PRO	3026	40	2926	
1318	GREY	BRS	DIMP	F72	BNG	PRO	t259	44	3326	
1319	GREY	BRS	DIMP	F72	APM	PRO	t99	71	3317	
1320	GREY	BRS	ROSA	F72	ASO	PRO	t66	36	3327	
1321	GREY	BRS?	STR	SM76	AQL	PRO	646	40	2928	
1322	GREY	DFL	-	WB80	2023	M3+	48	10	3068	
1323	GREY	PL?	-	SMG82	2050	L4	55	37	2712	
1324	GREY	BDCUR	-	P70	GT	4	-	-	1334	D1999, 207
1325	GREY	PGB	-	EB66	9/11	ML2	-	-	EB113	D1984, 15:42
1326	GREY	BD452	-	P70	OI	2?	-	-	1718	D1999, 35

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1327	GREY	BD452	-	HG72	IC	E2 HAD	76	20	139	
1328	GREY	BD452	-	EB66	9/11	ML2	-	-	EB100	D1984, 15:43
1329	GREY	P452	GRAF	CP56	F5-6.8	L1E2	-	-	3484	
1330	GREY	B332	-	P70	AK	VL4	-	-	P37	D1977a, 37
1331	GREY	B332	-	GP81	259	VL4	13	6	3185A	
1332	GREY	DPR	-	P70	AQ	L4	-	-	1735	D1999, 540
1333	GREY	DPR	-	HG72	IE	2	63	16	140	
1334	GREY	DPR	-	P70	GK	L3-4	-	-	1118	D1999, 355
1335	GREY	DPR	-	P70	GR	4	-	-	1299	D1999, 464
1336	GREY	DPR	-	P70	GH	4	-	-	1496	D1999, 244
1337	GREY	D	-	CP56	D7.9	L1E2	-	-	3545	
1338	GREY	DPR	-	SM76	BIA	ML4 ?later	3169	40	2944	
1339	GREY	DPR	-	EB66	6/7	L2+	-	-	EB229	D1984, 16:99
1340	GREY	DEXR?	SWL	SMG82	401	L2-3	14	15	3099	
1341	GREY	DPR	-	P70	GK	L3-4	-	-	1117	D1999, 354
1342	GREY	DPR	BIA	P70	GK	L3-4	-	-	1119	D1999, 356
1343	GREY	DPR	BIA	P70	JT	3?	-	-	1483	D1999, 56
1344	GREY	DPR	BIA	P70	TH	EM3	-	-	1674	D1999, 171
1345	GREY	DPRS	-	P70	GJ	4	-	-	1199	D1999, 360
1346	GREY	DPRS	BIA	P70	GK	L3-4	-	-	1116	D1999, 357
1347	GREY	DPRS	BWL	P70	GJ	4	-	-	1200	D1999, 359
1348	GREY	DPRS	BIA	P70	GJ	4	-	-	1198	D1999, 358
1349	GREY	DPRA	LA?	P70	GJ	4	-	-	1207	D1999, 363
1350	GREY	DPRA	-	BWE82	21	E3?EM3	4	1	2714	
1351	GREY	DPRA	BIA	P70	GJ	4	-	-	1208	D1999, 361
1352	GREY	DPRA	BIA	P70	GJ	4	-	-	1209	D1999, 362
1353	GREY	DTR	-	SPM83	161	ML4?	194	24	3269	
1354	GREY	DPRA	-	P70	GK	L3-4	-	-	1108	D1999, 365
1355	GREY	DPRA	-	P70	GK	L3-4	-	-	1109	D1999, 364
1356	GREY	DPRA	-	P70	GH	4	-	-	1497	D1999, 239
1357	GREY	DPRA	BIA	P70	GK	L3-4	-	-	1111	D1999, 367
1358	GREY	DPRA	BIA	P70	IU;NZ	4	-	-	1468	D1999, 243
1359	GREY	DPRA	BIA	P70	JO	M3+	-	-	1263	D1999, 174
1360	GREY	DPRA	BIA	P70	GK	L3-4	-	-	1110	D1999, 366
1361	GREY	DPRA	BIA	P70	JO	M3+	-	-	1264	D1999, 173
1362	GREY	DGR	-	P70	GJ	4	-	-	1201	D1999, 343
1363	GREY	DGR	-	P70	GK	L3-4	-	-	1114	D1999, 349
1364	GREY	DGR	-	P70	HY	M3+	-	-	1318	D1999, 457
1365	GREY?	DGR	-	M82	29;201	ML3+/PRO?	105	18	3235	
1366	GREY	DGR	-	P70	GK	L3-4	-	-	1113	D1999, 346
1367	GREY	DGR	BIA	P70	GJ	4	-	-	1202	D1999, 350
1368	GREY	DGR?	-	SPM83	171	4	123	20	3266	
1369	GREY	DGR	BIA	P70	PK	EM3?	-	-	1464	D1999, 124
1370	GREY	DTR	BS	Z86	646	M3	25	7	2636	
1371	GREY	DG225	-	SMG82	2089	M3	187	23	2701	
1372	GREY	DG225	-	SMG82	2072 etc.	M3+	298	23	2703	
1373	GREY	DG225	-	P70	GJ	4	-	-	1210	D1999, 340
1374	GREY	DFL	LA	LIN73C	105	4/PRO	C37	75	3353	
1375	GREY	DFL	-	H83	266	L-VL4/PRO	259	24	3259	
1376	GREY	DTR	BWL	F72	BRW	M3	r5	4	3285	
1377	GREY	DFB	-	P70	HG	L3-4	-	-	1614	D1999, 221
1378	GREY	DFB	-	CP56	A10.+	4	-	-	3577	
1379	GREY	DFB	-	WNW88	441	ML4?	-	-	2578	
1380	GREY	DH	-	SMG82	2063	L4/PRO	52	25	3102	
1381	GREY	DH	STA LA	EG	-	-	-	-	TS384	T&W1973, 16:29
1382	GREY	D	-	P70	FM	4	-	-	1324	D1999, 459
1383	GREY	DPR	-	SM76	CPS	3?	4007	36	2893	
1384	GREY	BD	ROUZ	LIN73C	65	ML4/PRO	C45	78	3349	
1385	GREY	P	NAME/ROUZ	LH84	E13	2?/PRO	34	54	2229	

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1386	GREY	L	-	SPM83	351	M3+	44	12	2018	
1387	GREY	L	-	HG72	HN;KZ	EM2	188	23	22	D1988, 188
1388	GREY	L	-	CP56	A9.20A	EM3	-	-	3405	
1389	GREY	L?	-	H83	1007	VL4	107	21	3241	
1390	GREY	L	-	H83	266	L-VL4/PRO	259	24	3260	
1391	GREY	LBR	-	CP56	A9.17	M2-3?	-	-	3400	
1392	GREY	LBR	-	EB80	103;108	ML2	26	20	2983	
1393	GREY	LBR	-	EB66	9/5	L2E3?	-	-	EB223	D1984, 16:85
1394	GREY	L	-	CP56	F5-6.2	M3+	-	-	3547	
1395	GREY	L	-	HG72	IG	EM2?	76	20	141	
1396	GREY	L	BWL	WC87	25	ML3	28	9	3082B	
1397	GREY	L?	-	EB80	108	E2 ?HAD	25	12	2981	
1398	GREY	LBTR	-	P70	SP;SQ	M3+	-	-	1643	D1999, 177
1399	GREY	FACE	AP/LA	SM76	AHW	L3/PRO	207	60	2924	
1400	GREY	FACE?	NOTC	F72	AHA	PRO	s1	108	3314	
1401	GREY	FACE	-	F72	BVD	L-VL4	r80	16	2056	
1402	GREY	FACE	FF	HG72	BH	L-VL4/PRO	130	29	214	
1403	GREY	FACE	-	SM76	BKX	M3?	1025	32	2055	
1404	GREY	FACE?	AP	F72	AHA	PRO	t296	70	3313	
1405	GREY	HEAD?	AST	SM76	BNS etc.	ML3	2327	23	2881	
1406	GREY	HEAD	AST+	F72	BCL etc.	L4	t19	32	2045	
1407	OX	SMIT	AP NOTC	Z86	622 etc.	M3	38	9	2644	
1408	GREY	SMIT	BVL/AP/NOTC	SM76	CHA	M3	2098	17	2054	
1409	GREY	SMIT	NOTC	SM76	CBD etc.	ML3	2053	17	2047	
1410	GREY	CLSD	AP	SM76	CGL	3	2138	19	2049	
1411	GREY	SMIT	AP	SM76	CBL	ML3?	2120	19	2048	
1412	GREY	CLSD	AP	SM76	BNV	ML4?	3170	35	2050	
1413	GREY	SMIT	LA? AP	SM76	BPY	L3	2210	22	2872	
1414	GREY	CLSD	STA	CP56	A9.1	ML3	-	-	3474	
1415	GREY	CLSD	STA	F72	AQQ	PRO	t81	63	3331	
1416	GREY	-	INC?	HG72	IY	L1E2	74	14	99	D1988, 113
1417	GREY	CLSD	APF	GP81	259	VL4	13	6	3190	
1418	GREY	CLSD	APF	LIN73F	341	4	F23	-	3361	
1419	GREY	COL	BWL	EB80	103	ML2	26	20	3015	
1420	GREY	FUNNEL	-	WB80	1024	L-VL4/?PRO	14	8	3065	
1421	GREY	CRUC	-	SM76	CDM	M3	2080	17	4036	
1422	GREY	CRUC?	-	GP81	259	VL4	13	6	3184	
1423	GREY	CRUC	-	BWE82	12	M4/?PRO	21	5	2742	
1424	GREY	CHP	-	WB80	1013	L-VL4/PRO	15	11	3070	
1425	GREY	CHP	-	FLAX 45-7	-	-	-	-	TS373	C1973, 56
1426	GREY	CHP	-	GL91	+	-	-	-	3301	
1427	GREY	CHP	-	H83	1126	VL4	104	17	3219	
1428	GREY	D	-	CP56	A8.16-17	3	-	-	3538	
1429	GREY	TV	-	P70	GH	4	-	-	1506	D1999, 251
1430	GREY	TV	-	SMG82	389	ROMAN	27	24	2687	
1431	GREY	Z	-	BG74	-	-	-	-	1030	
1432	MOIM	MWS	-	EB80	116	L1?-E2	24	11	2964	
1433	MONG	MHK	-	SH74	NB	-	231	19	SH47	
1434	MONG	MHK?	-	CP56	A8.40	L2	-	-	3589	
1435	MONG	MHK	NAME	EB66	6/19	L1+	-	-	EB7	D1984, 14:27
1436	MONG	MHK	NAME	ON173	-	-	-	-	3101	
1437	MONG?	MHK	-	EB80	103	ML2	26	20	4051	
1438	MORV	MHK	-	W73	BK;CM	ML1	19	13	3097	
1439	MORV	MHK	-	TP69	76	ML1	-	-	EB319	D1984, 18:156
1440	MORV?	MHK	-	L86	213	3-M4/PRO	170	33	4052	
1441	MORH	MCO	-	L86	213	3-M4/PRO	170	33	3173	
1442	MORH	MCO	-	F72	AWX	-	t296	70	3628	
1443	MORH	MCO	-	CP56	A9.5	ML3	-	-	3571	
1444	MORH	MCO	-	CP56	A9.7?	4	-	-	3626	

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1446	MORH	MHK	-	EB70	F1	M2-M3+	-	-	3630	
1447	MORH	MHK	-	WO89	524	ML4	-	-	2602	
1448	MORH	MHK	-	F72	BVN	L3+	r78	13	3302	
1449	MORH	MHK	-	EB80	98	L2-E3?	112	23	3028	
1450	MORH	MHK	STR	LIN73DI	102;153	EM4?	D59	22	3357	
1451	MORH	MHK	-	CP56	A9.1	ML3	-	-	3553	
1452	MORH	MHK	-	LCL69	4	-	-	-	EB320	D1984, 18:158
1453	MORH	MHK	-	MCH84	72	EM4/PRO	8	6	3555	
1454	MOLO	MHK	-	EB66	+32	RO/PRO	-	-	EB8	D1984, 18:155
1455	MOLO	MHK	-	CP56	A8.17	140-160	-	-	4134	
1456	MOLO	MHK	-	LA85	1	M1?	36	2	4147	
1457	MOLO	MHK	-	L86	206	L1/PRO	178	48	4151	
1458	MOLO?	MHK	-	EB80	103;108	E2 ?HAD	26	20	2973A	
1459	MOLO	MHK	-	SP72	DSN etc.	1	71	8	2905	
1460	MOLO?	MHK	-	SH74	TT	L2-M3?	26	13	4150	
1461	MOLO?	MHK	-	F72	CCR	L3+?	r71	12	3307	
1462	MOLO	MHK	-	LIN73C	88	ML2?	C25	64	2182	
1463	MOLO	MHK	-	BE73	VI-AB	EM3/?later	351	612	3166	
1464	MOLO	MHK	-	EB80	34	E2?	60	15	3025	
1465	MOLO?	MHK	-	CP56	A8.32	ML1?	-	-	3672	
1466	MOLO?	MHK	-	EB80	103	ML2	26	20	4145	
1467	MOLO?	MHK	-	L86	227	L3-74	163	27	4141	
1468	MOLO?	MHK	-	SH74	RE	2?	6	3	4149	
1469	MOLO	MHK	-	SW82	500	E2;HAD	2	3	4146	
1470	MOLO?	MHK	-	LIN73C	116	ML3?	C64	70	4143	
1471	MOLO	MHK	NAME	CP56	A9.Pit rm1	1-2?	-	-	3494	
1472	MOLO	MHK	-	CP56	A9.20B	M3M4	-	-	4152	
1473	MOLO	MHK	-	GLB94	1159	ML2/PRO?	-	-	4157	
1474	MOLO	MHK	-	WB80	2028	M3-4	47	10	4153	
1475	MOLO?	MHK	-	CP56	A10.12	M2	-	-	4148	
1476	MOLO?	MHK	-	CP56	A8.9	4	-	-	4140	
1477	MOLO?	MHK	-	EB80	98	L2-E3?	112	23	4131	
1478	MOLO	MHK	NAME	LIN73C	89	EM4?	C50	69	4142	
1479	MOLO?	MHK	-	LIN73C	118	ML3	C67	68	2185	
1480	MOLO	MHK	-	HG72	IR	E2 HAD?	76	20	156	
1481	MOSC	MHK	NAME	L86	290	ML2	132	10	2616	
1482	MOLO?	MHK	-	LIN73C	124	3?	C31	69	2191	
1483	MOLO	MHK	-	GLB94	+	-	-	-	4158	
1484	MOMH	MHK	NAME	CP56	A9.37	1-2?	-	-	3496	
1485	MOLO	MHK	NAME	LIN73C	173	L2-E3?	C25	64	2075	
1486	MOLO?	MFL	-	EB66	9/13	1-2?	-	-	EB12	D1984, 14:22
1487	MOLO?	MBF	-	SPM83	182	3-4?	140	18	2061	
1489	MOLO?	MCO	GRAF	LIN73C	81	EM4	C30	71	2222	
1490	MOLO	MHK	NAME	F72	BVA	L3-4	r80	16	2253	
1491a	MOLO	MHK	NAME	CP56	A10.6	EM2?	-	-	3498	
1491b	MOLO	MHK	NAME	EB80	103	ML2	26	20	3003	
1492a	MOLO	MHK	NAME	CP56	A9.4	EM3	-	-	3495	
1492b	MOLO	MHK	NAME	LIN73C	165	L2	C84	60	2132	
1493a	MOLO	MHK	NAME/PA	LCL69	3	-	-	-	EB322	D1984, 19:9
1493b	MOLO	MHK	NAME	SM76	DAC	E3?M3	2019	7	2251	
1494a	MOLO	M	NAME	EB66	9/5	L2E3?	-	-	EB218	D1984, 19:3
1494b	MOLO	MHK	NAME	EB66	9/2	ML3	-	-	EB238	D1984, 19:4
1495	MOSC	MHK	NAME	LIN73A	61	L4	A66	-	2289	
1496	MOSP	MFL	-	GP81	259	VL4	13	6	3698	
1497	MOSP	MBF	-	LIN73DIV	55	L4-VL4	999	-	3699	
1498	MOSP	MBF	-	SH74	DC	-	120	48	SH282	
1499	MOSP	MBF	-	F72	G105	-	sp4	43	3701	
1500	MOSP	MBF	-	SMG82	107 etc.	VL4/PRO	205	38	3700	
1501	MOSP	MBF	-	F72	ASP	-	r29	8	3702	

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1502	MOSP	MBF	-	P70	NI	4	-	-	1537	D1999, 581
1503	MOSP	MBF	-	P70	CB	4	-	-	1510	D1999, 584
1504	MOSP	MBF	-	LIN73EI	155	L-VL4/PRO	E42	52	3379	
1505	MOSP	MBF	-	P70	EP	4	-	-	1512	D1999, 582
1506	MOSP	MBF	-	F72	BXN	VL4	r101	17	3703	
1507	MOSP	MBF	PA	P70	EQ	4	-	-	1514	D1999, 583
1508	MOSP	MBF	PA	LIN73DIV	S+	L3-4/PRO	999	-	3653	
1509	MOSP	MBF	PSC	Z86	214	L-VL4/PRO	167	23	3652	
1510	MOSP	MBF	PARC	SM76	BK	PRO	646	40	3651	
1511	MOSP?	MBF	-	P70	+	VL4	-	-	1679	D1999, 580
1512	MOSP	MBF	PS	SW82	872	-	162	27	3654	-
1513	MOSP	MBF	-	SPM83	171	4	123	20	2027	
1514	MOSP	MBF	-	LIN73F	133	L-VL4/PRO	F104	-	3705	
1515	MOSP	MBF	-	LIN73DI	105	VL4/PRO	D10	18	3710	
1516	MOSP	MBF	-	F72	BCU	L-VL4	t19	32	3706	
1517	MOSP	MBF	-	SPM83	302	L4/PRO	210	27	3709	
1518	MOSP	MBF	-	SM76	AFY	PRO	29	52	1000	
1519	MOSP	MBF	-	F72	AVV etc.	-	t281	36	3711	
1520	MOSP	MBF	-	F72	AVV	-	t281	36	3713	
1521	MOSP	MBF	-	WF89	723	VL4	-	-	2815	
1522	MOSP	MBF	-	HG72	BC	L-VL4/PRO?	130	29	166	
1523	MOSP	MBF	-	H83	679	L3+/PRO	181	43	3646	
1524	MOSP	MBF	-	LIN73F	44	L4/PRO	F140	-	3712	
1525	MOSP	MBF	-	SM76	APX	PRO	10	58	3723	
1526	MOSP	MBF	-	LIN73DI	94	VL4/PRO	D33	20	3714	
1527	MOSP	MBF	-	F72	IG	-	t99	71	3647	
1528	MOSP	MBF	-	LIN73F	225	VL4/PRO	F29	-	3716	
1529	MOSP	MBF	-	H83	1153	VL4	103	17	3715	
1530	MOSP	MBF	-	SW82	511	-	171	43	3708B	
1531	MOSP	MBF	-	LIN73EI;F	155;44	L-VL4/PRO	42	52	3708A	
1532	MOSP	MBF	-	H83	1085 etc.	VL4	107	21	3245	
1533	MOSP	MBF	-	F72	BCU	L-VL4	t19	32	3707	
1534	MOSP	MBF	-	H83	883;1144	VL4	131	31	3221	
1535	MOSP	MRR	-	P70	HK	4	-	-	1529	D1999, 585
1536	MOSP	MRR	-	WB80	1015 etc.	L-VL4/PRO	29	11	3734	
1537	MOSP	MRR	-	SW82	+	-	-	-	3720	
1538	MOSP	MRR	-	GP81	258	VL4	14	6	3721	
1539	MOSP	MRR	-	H83	1144	VL4	104	17	3717	
1540	MOSP	MRR	-	SP72	DKA	M-VL4/PRO	467	50	3726	
1541	MOSP	MRR	-	F72	AWR	-	t68	58	3727	
1542	MOSP	MRR	-	CP56	F2.B25	-	-	-	3729A	
1543	MOSP	MRR	-	SPM83	158	VL4	201	27	2060	
1544	MOSP	MRR	-	SM76	YP	PRO	252	43	3729B	
1545	MOSP	MRR	-	SM76	BIA	ML4 ?later	3169	40	2863	
1546	MOSP	MRR	-	H83	1085	VL4	104	17	3722	
1547	MOSP	MRR	-	SM76	BCU	L-VL4	1036	34	3725	
1548	MOSP	MRR	-	F72	BEX	-	t19	32	3732	
1549	MOSP	MRR	-	SM76	AXI	PRO	3027	40	3724	
1550	MOSP	MRR	-	SB85	80	VL4-10	23	10	3719	
1551	MOSP	MRR	-	LIN73DI	22/23	L4/PRO	999	-	3733	
1552	MOSP	MRR	-	SW82	386	VL4?	51	17	3728	
1553	MOSP	MRR	-	H83	1165	VL4	103	17	3209	
1554	MOSP	MRR	-	H83	266	L-VL4/PRO	259	24	3731	
1555	MOSP	MRR	-	Z86	214	L-VL4/PRO	167	23	3735	
1556	MOSP	MHH	PS	F72	DA;XG	-	t241	95	3650	
1557	MOSP	MHH	-	F72	AVV	-	t281	36	3690	
1558	MOSP	MHH	-	F72	AVV	-	t281	36	3685	
1559	MOSP	MHH	-	SP72	+	-	-	-	1003	
1560	MOSP	MHH	-	H83	991	L-VL4/PRO	208	21	3262	

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1561	MOSP	MHH	-	LIN73F	107	L4/PRO	F107	-	3686	
1562	MOSP	MHH	-	CP56	A9.38	4	-	-	3694	
1563	MOSP	MHH	-	LIN73F	118	-	F113	-	3691	
1564	MOSP	MHH	-	LIN73F	356	L4	F2	-	3684	
1565	MOSP	MHH	-	LIN73F	59	-	F96	-	3687	
1566	MOSP	MHH	-	SW82	245	-	79	30	3693	
1567	MOSP	MHH	-	F72	AGG	-	t99	71	3695	
1568	MOSP	MHH	-	P70	AD	VL4	-	-	1508	D1999, 589
1569	MOSP	MHH	-	CP56	A10.+	4	-	-	3696	
1570	MOSP	MHH	-	F72	BBI	-	t70	59	3730	
1571	MOSP	MHH	-	H83	1085	VL4	104	17	3214	
1572	MOSP	MHH	-	P70	SG	4	-	-	1542	
1573	MOSP	MHH	-	SM76	AEE	-	123	57	1001	
1574	MOSP	MBF	-	LIN73DI	93	L4/PRO	D58	24	3718	
1575	MOSP	MTR	-	P70	SA	4	-	-	1541	D1999, 592
1576	MOSP	MWS	PO	F72	AEG	-	t118	80	3649	
1577	MOSP	MBF	PS	F72	AGG	-	t99	71	3704	
1578	MOSP	MHH	PCIR	SM76	+	-	-	-	3648	
1579	MOSP	MHH	PA	LIN73DI	155	L4-VL4?	D18	7	3655	
1580	MOSP	MHH	-	DM72	I-CB	M4	5	2	2574	
1581	MOSP	MHH	-	H83	1136	4	64	17	3689	
1582	MOSP	MWS	-	SB85	84	L-VL4	21	11	2597	
1583	MOSP	MWS	-	CP56	A8.9	4	-	-	3692	
1584	MOSP	MWS	-	SM76	BAD	VL4	644	40	3683	
1585	MOSP	MWS	-	P70	OA	4	-	-	1538	D1999, 591
1586	MOSPC	MBF	-	WP71	II-CU	M3+	-	-	500	
1587	MOSPC	MHH	-	WF89	723	VL4	-	-	2816	
1588	MOSPC	MWS	-	SM76	BCJ	VL4	2260	38	2916	
1589	MOSPC	MHH	-	P70	EM	4	-	-	1511	D1999, 593
1590	MOCO	MCO	-	WO89	546	EM3	-	-	2581	
1591	MOCO?	MCO	-	P70	SL	L-VL4	-	-	1550	D1999, 579
1592	MOCR	MWS	-	Z86	214	L-VL4/PRO	167	23	3636	
1593	MOCR	MWS	-	LIN73EI	155 etc.	L-VL4/PRO	E55	53	3362	
1594	MOCR	MWS	PZZ	LIN73DIV	73	VL4?	-	-	3635	
1595	MOCR	MWS	PA	SM76	APP	PRO	129	49	2900	
1596	MOCR	M	NOTC	BWE82	54	ML3?/4	76	-	2734	
1597	MOG	MBF	-	HG72	AV	M3+/PRO	127	30	3637	
1598	MOG	MRR	-	EB80	30	3-4/?4	38	28	3035	
1599	MOG	MHH	-	H83	1126	VL4	36	2	3218	
1600	MOG	MWS	-	H83	1087	L-VL4/PRO	116	20	3638	
1601	MOHA	MWS	-	GP81	258	VL4	14	6	3633	
1602	MOMD	MHK	-	TP69	72	-	-	-	EB314	D1984, 18:157
1603	MOMH?	MHK	-	LIN73C	173	L2E3?	C30	71	2074	
1604	MOMH?	MHK	-	Z86	657	L2?M3	25	7	2631	
1605	MOMH	MHK	NAME	LIN73C	146	M3	C22	64	2224	
1606	MOMH	MHK	NAME	LIN73A	143	M3?	A94	5	2304	
1607	MOMH?	MHK	-	SMG82	97	3C+	101	28	3668	
1608	MOMH	MHK	NAME	P70	PK	EM3?	-	-	1540	D1999, 552
1609	MOMH	MHK	NAME	LIN73C	118	ML3	C67	68	2183	
1610	MOMH	MHK	-	SPM83	334	ML2-3	33	4	2013	
1611	MOMH?	MHK	-	LIN73C	81	2-3C	C30	71	2221	
1612	MOMD	MHK	-	EB66	9/1	L3	-	-	EB2	D1984, 17:135
1614	MOMH	MHK	-	SM76	DBQ etc.	L2-3	3066	3	2796	
1615	MOMH	MHK	NAME	P70	GK	L3-4	-	-	1525	D1999, 549
1616	MOMH	MHK	NAME	P70	GT	4C	-	-	1528	D1999, 550
1617	MOMH	MHK	-	Z86	+	-	999	-	3667	
1618	MOMH	MHK	NAME	SPM83	161	ML4	194	24	2037	
1619	MOMD	MHK	NAME	P70	SQ	M3+	-	-	1545	
1620a	MOMH	MHK	-	LIN73C	107	EM4	C65	70	2220	

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1620b	MOMD	MHK	-	CS73	AS	M3?	11	9	2576	
1621a	MOMH	MHK	-	LIN73C	118	ML3	C67	68	2184	
1621b	MOMH	MHK	-	LIN73C	144	L2E3?	C66	67	2131	
1621c	MOMH	MHK	-	CP56	A9.1;39	ML3	-	-	3671	
1622	MOMD?	MHK	-	CP56	A8.11	Prob 3C	-	-	3669	
1623	MOMH	MHK	-	EB66	9/4	L2+	-	-	EB225	D1984, 16:95
1624	MOMH	MHK	NAME	P70	GK	L3-4	-	-	1547	D1999, 551
1625	MOMH	MHK	-	P70	GK	L3-4	-	-	1522	D1999, 559
1626	MOMH	MHK	-	TP69	1	-	-	-	EB316	D1984, 18:160
1627	MOMH	MHK	-	LIN73F	106	4C/PRO	F129	-	3674	
1628	MOMD?	MHK	-	SM76	CEI	L3-4?	3107	27	2839	
1629	MOMH	MHK	-	SM76	CMP	ML3	3100	25	2808	
1630	MOMD?	MHK	-	SM76	CWV	EM3	2036	6	2762	
1631	MOMH	MHK	-	WB80	3027	L2-3	73	6	3057	
1632	MOMH?	MHK	-	P70	IG	L3-4	-	-	1532	D1999, 554
1633	MOMH	MHK	NAME	SM76	DBA	L2+	3190	10	2249	
1634	MOMH	MHK	-	HG72	BV	4C	112	28	161	
1635	MOMH	MHK	PS	F72	XV	-	t154	95	4122	
1636	MOMH	MHK	PA	P70	GK	L3-4	-	-	1521	D1999, 555
1637	MOMH	MHK	-	HG72	GK	ML2	79	23	157	
1638	MOMH	MHK	PA	SM76	CBF	M3	2053	17	2765	
1639	MOMH	MHK	-	CP56	A9.41	VL4	-	-	3673	
1640	MOMH	MFL	-	SM76	COI	M3	3212	25	2826	
1641a	MOMH	MFL	-	LCL69	3	-	-	-	EB318	D1984, 18:161
1641b	MOMH	MFL	-	P70	UO	L2-3	-	-	1546	
1641c	MOMH	MFL	-	LIN73BI	48	ML4?	B17	33	2325	
1642	MOMH	MFL	-	BWE82	62	M3?	13	3	2721	
1643	MOMH	MFL	-	SM76	CPP	3C	4007	36	2892	
1644	MOMH	MFL	-	P70	AT	ML2?	-	-	1509	
1645	MOMH	MFL	-	P70	JO	M3+	-	-	1534	D1999, 560
1646	MOMH	MFL	-	P70	GJ	4C	-	-	1517	
1647	MOMH	MFL	-	EB66	+32	-	-	-	EB6	D1984, 18:159
1648	MOMH	MFL	-	SM76	CEM	ML3	3107	27	2846	
1649	MOMH	MFL	-	P70	IH;IS;IU	4C	-	-	1533	
1650	MOMH	MFL	-	CP56	A9A.9?	4C	-	-	3670	
1651	MOMH	MFL	-	P70	GJ	4C	-	-	1520	
1652	MOMH	MFL	-	P70	HX	ML3	-	-	1531	
1653	MOMH	MFL	-	BWE82	12	M4	21	5	2739	
1654	MOMH	MFL	-	P70	GJ	4C	-	-	1516	
1655	MOMH	MFL	-	EB66	+32	-	-	-	EB4	D1984, 18:166
1656	MOMH	MTRB	-	SPM83	163	ML3+	194	24	2044	
1657	MOMH	MTRB	PS	LIN73F	356	L4	F2	-	3359	
1658	MOMH	MTRB	-	CP56	A5.B680	-	-	-	4111	
1659	MOMH	MTRB	-	CP56	A9.1	ML3	-	-	4113	
1660	MOMH?	MTRB	-	BWE82	62	M3?	13	3	2722	
1661	MOMH	MTRB	-	LCL69	4	-	-	-	EB315	D1984, 18:162
1662	MOMH	MTRB	-	CP56	A8.2	L3	-	-	4110	
1663	MOMH	MTRB	-	WO89	535	ML3	-	-	2586	
1664	MOMH	MTRB	-	F72	G32	-	sp58	45	4121	
1665	MOMH?	MTRB	-	WO89	546	EM3	-	-	2579	
1666	MOMH	MTRB	-	WO89	535	ML3	-	-	2583	
1667	MOMH	MTRB	-	LIN73DI	121	L-VL4	999	-	4112	
1668	MOMH	MTRB	-	P70	GK	L3-4	-	-	1523	
1669	MOMH	MTRB	-	SMG82	312	M3	248	22	2692	
1670	MOMH	MTRB	-	WB80	2023	M3+	48	10	4114	
1671	MOMH	MTRB	-	F72	BCU	-	t19	32	4115	
1672	MOMH?	MTRB	-	CP56	A9.1	ML3	-	-	3554	
1673	MOMH	MTRB	-	CP56	F5.B684	-	-	-	4116	
1674	MOMH	MTRB	-	H83	1348	L2M3	43	8	4118	

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1675	MOMH	MTRB	PS	F72	H71	-	sp23	38	3660	
1676	MOMH	MTRB	PA	SPM83	161	ML4	194	24	2038	
1677	MOMH	MCO?	-	P70	PK	EM3?	-	-	1539	D1999, 566
1678	MOMH?	MCO?	-	P70	JO	M3+	-	-	1535	D1999, 565
1679	MOMH	MBF	PA	EB66	+32	-	-	-	EB1	D1984, 18:164
1680	MOMH	MBF	PA	LIN73DI	29	L4	999	-	3656	
1681	MOMH	MBF	PA	SM76	BHB	4C	1040	35	3666	
1682	MOMH	MBF	-	WO89	535	ML3	-	-	2585	
1683	MOMH	MBF	-	EB66	6/4	EM3	-	-	EB10	D1984, 17:120
1684	MOMH?	MBF	-	CP56	F2-4.B101	L3-4	-	-	4117	
1685	MOMH	MBF	-	CP56	A9.3	VL4	-	-	4106	
1686	MOMH	MHH	-	CP56	A8.5	L3-4	-	-	4119	
1687	MOMH	MHH	-	WC87	1	4C	44	19	4120	
1688	MOMH	MHH	-	LIN73F	106	4C	F129	-	4093	
1689	MOMH	MHH	-	LCL69	3	-	-	-	EB317	D1984, 18:163
1690	MOMH?	MHH	-	SB85	101	VL4	13	7	4104	
1691	MOMH	MHH	-	EB66	+32	-	-	-	EB5	D1984, 18:165
1692	MOMH	MHH	-	SM76	CIC etc.	M3	2091	17	4087	
1693	MOMH	MHH	-	SPM83	161	ML4	194	24	2039	
1694	MOMH	MHH	-	HG72	CX	L3-4	115	28	162	
1695	MOMH	MHH	-	P70	GJ;SL	4C	-	-	1519	
1696	MOMH	MHH	-	CP56	A10.1	L3-4	-	-	4089	
1697	MOMH	MHH	-	H83	+	-	-	-	4101	
1698	MOMH	MHH	-	LIN73A	61	L4	A66	-	3347	
1699	MOMH	MHH	-	P70	GH	4C	-	-	1515	
1700	MOMH	MHH	-	WO89	569	L3?	-	-	2606	
1701	MOMH	MHH	-	F72	BJJ	L-VL4	r42	8	4105	
1702	MOMH	MHH	-	BWE82	63	M3?4	7	3	2717	
1703	MOMH	MHH	-	LIN73DI	121	L-VL4	999	-	4086	
1704	MOMH	MHH	-	F72	BVT	4C	r80	16	4100	
1705	MOMH	MHH	-	LIN73F	356	L4	F2	-	4123	
1706	MOMH	MHH	-	CP56	A9.3	VL4	-	-	4098	
1707	MOMH	MHH	-	WO89	569	L3?	-	-	2607	
1708	MOMH	MHH	-	LIN73BI	48	ML4?	B17	33	2324	
1709	MOMH	MHH	-	LIN73A	61	L4	A66	-	3348	
1710	MOMH	MHH	-	CP56	A9.1	ML3	-	-	4094	
1711	MOMH	MHH	-	CP56	A8.2	L3	-	-	4095	
1712	MOMH	MHH	-	F72	BWM	M3?	r36	8	4096	
1713	MOMH	MHH	-	P70	RK	3C	-	-	1549	
1714	MOMH	MHH	-	SM76	CPV	M3E4	4006	36	2891	
1715	MOMH	MHH	-	CP56	A9.6	L3-4	-	-	4097	
1716	MOMH	MHH	-	SPM83	101	L-VL4	2	29	3680	
1717	MOMH	MHH	-	CP56	A8.2	L3	-	-	4092	
1718	MOMH	MHH	-	LIN73F	356	L4	F2	-	3681	
1719	MOMH	MHH	-	CP56	A9.1	ML3	-	-	4091	
1720	MOMH	MHH	-	CP56	A8.1	L3+	-	-	4088	
1721	MOMH	MHH	-	P70	SL	4C	-	-	1543	
1722	MOMH	MHH	-	WO89	569	L3?	-	-	2608	
1723	MOMH	MHH	-	HG72	AM	4C	125	29	163	
1724	MOMH	MHH	-	CP56	A9.6	L3-4	-	-	4107	
1725	MOMH	MHH	-	WC87	7	L3-4	40	11	3678	
1726	MOMH?	MHH	-	LIN73DI	89	L-VL4	999	-	4103	
1727	MOMH	MHH	-	CP56	A8.2	L3	-	-	4108	
1728	MOMH	MHH	-	P70	GJ	4C	-	-	1518	
1729	MOMH	MHH	-	F72	BVU	4C	r80	16	4099	
1730	MOMH	MHH	-	LIN73DI	121	L-VL4	999	-	4102	
1731	MOMH	MHH	PA	F72	BIU?	-	t83	65	3659	
1732	MOMH	MHH	PS	CP56	A8.2	L3	-	-	3658	
1733	MOMH	MHH	-	L86	227	L3-?4	163	27	4109	

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1734a	MOMH	MHH	-	F72	BNH	ML4	r91	23	3679	
1734b	MOMH	MHH	-	CP56	A9.20B	M3M4	-	-	4090	
1735	MOMH	MHH	PA	HG72	BR	ML4	120	29	159	
1736	MOMH	MHH	PA	P70	SI	4C	-	-	1645	
1737a	MOMH	MHH	PZZ	SPM83	364	4C	56	9	2019	
1737b	MOMH	MHH	PS	F72	BRK etc.	VL4	r112	32	3664	
1738	MOMH?	MHH?	-	H83	1204	EM4?	91	11	3675	
1739	MOMH?	MWS	-	WO89	546	EM3	-	-	2580	
1740a	MOMH	MWS?	PS	F72	BCU	-	t19	32	3665	
1740b	MOMH	MWS	PS	LIN73DI	116	L4	D53	24	3662	
1740c	MOMH	MWS	PS;PO	F72	BFB	4?	t19	32	3663	
1740d	MOMH	MWS	PS	SM76	AQL	PRO	646	40	3661	
1741	MONV	MBF	-	CP56	A3.2	-	-	-	3606	
1742	MONV	MBF	-	WF89	723	VL4	-	-	2814	
1743	MONV	MBF	-	BWE82	100	4	14	3	2731	
1744	MONV	MBF	-	CP56	A8.2	L3	-	-	3625	
1745	MONV	MBF	-	HG72	AM etc.	4/PRO?	130	29	168	
1746	MONV	MRR	-	F72	BVT	4	r80	16	3608	
1747	MONV	MRR	-	CP56	A9A.9?	4	-	-	3624	
1748	MONV	MRR	-	CP56	A8.9	4	-	-	4135	
1749	MONV	MRR	-	F72	XV	-	t149	105	3623	
1750	MONV	MRR	-	SM76	BWI	L3-4/?4	2177	22	2829	
1751	MONV	MRR	-	SPM83	126	4 Prob	150	14	2059	
1752	MONV	MRR	-	SPM83	343	4	56	9	2017	
1753	MONV	MRR	-	Z86	608	3-4/?4	49	10	2650	
1754	MONV	MRR	-	CP56	A9.41	VL4	-	-	3614	
1755	MONV	MRR	-	CP56	A9.7	4	-	-	3622	
1756	MONV	MRR	-	CP56	F5	-	-	-	3621	
1757	MONV	MRR	-	F72	BVD	L-VL4	r80	16	3294	
1758	MONV	MRR	-	Z86	609	3-4/?4	48	10	2649	
1759	MONV	MRR	-	SMG82	2034	L4/PRO?	52	25	3619	
1760	MONV	MRR	-	H83	1144	VL4	104	17	3618	
1761	MONV	MRR	-	MCH84	100	4?	6	3	3617	
1762	MONV	MRR	-	P70	EQ	4	-	-	1513	D1999, 575
1763	MONV	MRR	-	HG72	BR	ML4	120	29	160	
1764	MONV	MRR	-	SPM83	128	ML4	148	14	3634	
1765	MONV	MRR	-	SMG82	2034	L4/PRO?	52	25	3600	
1766	MONV	MRR	-	HG72	BH	L-VL4/PRO	130	29	169	
1767	MONV	MRR	-	SM76	BWT	L3-4	2172	22	2828	
1768	MONV	MRR	-	WO89	535	ML3	-	-	2587	
1769	MONV	MRR	-	SPM83	161	ML4?	194	24	2040	
1770	MONV	MRR	-	P70	GR	4	-	-	1527	
1771	MONV	MRR	-	SM76	BKD	ML3?	1029	33	2750	
1772	MONV?	MRR	-	F72	YX	-	t143	105	3627	
1773	MONV	MRR	-	F72	J70	-	sp8	38	3620	
1774	MONV	MRR	-	LIN73DIV	73	VL4?	-	-	3616	
1775	MONV	MRR	-	CP56	A9A.9?	4	-	-	3613	
1776	MONV	MRR	-	HG72	BR	ML4	120	29	158	
1777	MONV	MRR	-	F72	BCU	-	t19	32	3607	
1778	MONV	MRR	-	SM76	AHS	PRO	236	51	3615	
1779	MONV	MRR	-	HG72	BS	M3-4/PRO?	121	29	167	
1780	MONV	MRR	-	HG72	CD	4?	114	28	165	
1781	MONV	MHH	-	LIN73F	358	L3-M4?	F25	-	3612	
1782	MONV	MHH	-	SMG82	2077	ML4?	48	25	2705	
1783	MONV	MHH	-	SMG82	2059	L3-4?	300	25	2702	
1784	MONV	MHH	-	SB85	107	L-VL4?	15	6	3611	
1785a	MONV	MCO	-	F72	CCR	L3+?	r71	12	3632	
1785b	MONV	MBF	NAME	SM76	CRX etc.	E3 ?M3	2054	8	2250	
1786	MONV?	MHH	-	BWE82	119	ML3?	79	-	2726	

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1787	MONV	MWS	-	F72	BXN	VL4	r101	17	3676	
1788	MONV	MWS	-	SB85	84;85	L-VL4	21	11	2596	
1789	MONVC	MWS	-	LIN73DIV	34	4/PRO	999	-	3604	
1790	MONVC	MWS	-	F72	WQ	-	s16	112	3605	
1791	MONVC	MWS	-	F72	BXN	VL4	r101	17	3602	
1792	MONVC	MWS	-	LIN73EI	183	4/PRO	E31	36	3603	
1793	MONVC	MWS	-	SP72	APP	EM4/PRO	564	65	3601	
1794	MONVC	MWS	-	WNW88	314	VL4	-	-	2354	
1795	MOOX	MBF	-	F72	AVV	-	t281	36	3598	
1796	MOOX	MBF	-	F72	BCU	-	t19	32	3548	
1797	MOOX	MBF	-	F72	BXN	VL4	r101	17	3599	
1798	MOOX	MBF	-	F72	AGG	-	t99	71	3597	
1799	MOOX	MBF	-	H83	962;1160	VL4/PRO	209	24	3200	
1800	MOOX	MBF	-	WNW88	441	ML4?	-	-	2577	
1801	MOOX	MBF	-	SB85	80	VL4-10	23	10	2595	
1802	MOOXW	MBF	-	F72	BLL	-	t285	36	3595	
1803	MOOXW	MBF	-	H83	898	L-VL4/PRO	129	26	3596	
1804	MOOXW	MBF	-	LIN73DI	92	VL4/PRO	D28	19	3380	
1805	MOOXW	MBF?	-	F72	BEV	-	t19	32	3594	
1806	MOOXR	MBF	-	F72	BCU	L-VL4	t19	32	3592	
1807	MOOXR	MBF	-	WF89	723	VL4	-	-	2817	
1808	MOOXR	MWS	-	SB85	80	VL4-10	23	10	2591	
1809	MOOXR	MWS	-	GP81	261	VL4	10	4	2015	
1810	MOOXR	MWS	-	GP81	258	VL4	14	6	3593	
1811	MOVR	MHK	-	CAT86	71	L1E2/PRO	22	18	4053	
1812	MOVR	MHK	-	CP56	A9.9	M3+	-	-	3591	
1813	MOVR	MHK	-	SPM83	488	3	52	6	2016	
1814	MOVR	MHK	NAME	CP56	A9.5	ML3	-	-	3493	
1815	MOVR	MHK	-	W73	CV	ML1?	11	6	3093	
1816	MOVR	MHK	NAME	EB80	103	ML2	26	20	3002	
1817	MOVR	MHK	NAME	CP56	F7.7	E2 HAD	-	-	3500	
1818	MOVR	MHK	-	CP56	A10.B388	L3-4	-	-	3590	
1819	MOVR	MCO	-	WO89	535	ML3	-	-	2584	
1820	MOVR	MHK	NAME	CP56	F5-6.3	E2 HAD	-	-	3499	
1821	MOVR	MHK	NAME	EB80	107;116	EM2	114	18	2965	
1822	MOTILE	MHK	-	EB80	125	L1?	93	10	3631	
1823	MORT	MHK	-	CP56	A9.+	L3?	-	-	3473	
1824	MORT	MHK	-	SM76	CSE	M3?	3086	11	4133	
1825	MORT	MHK	-	GP81	259	VL4	13	6	4137	
1826	MORT	MHK?	-	SPM83	450	E3?	35	4	2014	
1827	MORT	MFL	-	F72	BVM	M3+	r8	4	4144	
1828	MORT	MFL	PA	HG72	AZ	L2E3?	96	25	164	
1829	MORT	MFL	PA	SB85	99	VL4-10	26	11	2598	
1830	MORT	MRR	PS	SMG82	110	VL4/PRO	99	27	4136	
1831	MORT	MFL	SWL	SM76	BEO	PRO	647	41	4129	
1832	MORT	MRR	-	LIN73EII	10	M3-4/PRO	E317	58	4138	
1833	MORT	MHH	-	H83	1024 etc.	VL4	107	21	4128	
1834	MORT	MG259	-	CP56	A8.3	M3+	-	-	4130	
1835	MORT	MHH	-	H83	1127	L4/PRO	118	20	4132	
1836	C186	A651?	-	HG72	NF	M1	15	4	120	D1988, 91
1837	C186	A	-	H83	905	L-VL4/PRO	125	26	3254	
1838	C186	A	-	HG72	JV	L1E2	69	14	3452	
1839	C189?	A	-	LIN73A	112	3+/PRO	A51	11	3505	
1840	CHALK	A	-	SM76	BCJ etc.	VL4	2260	38	2888	
1841	DR20	A	-	SW82	486;500	E2-HAD	13	8	3458	
1842	DR20	A	NAME	EB80	116	L1?-E2	24	11	2963	
1843	DR20	A	NAME	BWE82	70	M3-4?	78	-	2746	
1844	DR20	A	-	SM76	CEQ	ML3?	3093	25	2822	
1845	DR20	A	GRAF	LIN73C	81	EM4	C30	71	2223	

No.	Fabric	Form	Decoration	Site	Context	Cxt Date	cg	LUB	D. No	Publication
1846	DR20	A	NAME	WO89	524	ML4	-	-	2560	
1847	DR20	A	NAME	SH74	+	-	-	-	3450	
1848	DR20	A	NAME	CP56	A9.1	ML3	-	-	3491	
1849	DR20	A	NAME	COW92	+	-	-	-	3445	
1850	DR20	A	NAME	SPM83	461	L1-2	26	3	3239	
1851	DR20	A	NAME	CP56	A9.3	VL4	-	-	3490	
1852	DR20	A	NAME	F72	BVT	4	r80	16	2255	
1853	DR20	A	NAME	SM76	DBO	EM3?	3067	3	2252	
1854	DR20	A	NAME	F72	BNB	-	r90	25	2254	
1855	DR20	A	NAME	SH74	PI?	-	192	20	3447	
1856	DR20	A	NAME	LCL69	6	-	-	-	1029	D1984, fig. 21
1857	DR20	A	NAME	EB83	10	L1E2+	-	-	3448	
1858	DR20	A	NAME	HG72	HF	L1E2	48	19	172	
1859	DR20	A	NAME	CP56	A9.42	E3+	-	-	3489	
1860	DR20	A	NAME	F72	BDQ	L-VL4	r90	25	3446	
1861	DR20	A	GRAF	CP56	A9.1	ML3	-	-	3492	
1862a	EMED24	A	-	EB66	6/18	L1+	-	-	EB24	D1984, 14:32
1862b	EMED24	A	-	EB66	9/27-9	M1?	-	-	4048	
1862c	EMED24	A	-	SP72	CQJ	L-VL4/PRO	1234	105	4042	
1862d	EMED24	A	-	L86	263	L2-E3	135	14	2613	
1863	F148	A	-	WB80	3035	M2?	71	2	3054	
1864	F148?	A656	-	SP72	DTG	1-2 Contam	338	9	3457	
1865a	F148?	A	-	WB80	3017 etc.	E3?	77	7	3059	
1865b	F148?	A	-	L86	249	ML2?	133	26	2659	
1866	F148?	A	-	LH84	A7	2-3?/PRO	41	51	3459	
1867	GAU3?	A	-	LIN73BI	64	ML3	B100	31	2320	
1868	GAU4	A	-	P70	GJ	4	-	-	1551	D1999, 597
1869	GAU4	A	-	SP72	DXW	1?	70	8	2906	
1870	GAU6	A	-	BE73	VI-AH	M2?	336	610	3161	
1871	GAU28	A	-	LH84	DT	2?/PRO	999	-	3147	
1872	H70	A	-	EB66	6/7	L2+	-	-	EB228	D1984, 16:102
1873	IT24	A	-	W73	CV	ML1?	11	6	3094	
1874	KOAN	A	-	CP56	A9.23	ML2?	-	-	3409	
1875	LROM	A	-	F72	CAI	VL4	r101	17	3501	
1876	LROM	A	-	WB80	3014	M3	82	7	3060	
1877	LROM	A	-	F72	BCX	L-VL4	r82	19	3454	
1878	LROM	A	RIB	F72	BDM	4?/PRO	r100	32	3460	
1879	LRRA	A	-	LC84	75	L4+/PRO	210	28	3456	
1880	MARRA	A	-	P70	HV	M3+	-	-	1561	D1999, 602
1881	MARRA	A	RIB	P70	GJ	4	-	-	1552	D1999, 603
1882	MARRA	A	RIB	P70	GJ	4	-	-	1553	D1999, 605
1883	MARRA	A	-	P70	GJ	4	-	-	1554	D1999, 604
1884	NA1	A	-	P70	GK	L3-4	-	-	1556	D1999, 600
1885	NA1	A	-	SW82	287 etc.	-	162	27	3453	
1886	NA3	A	-	P70	IG	L3-4	-	-	1563	D1999, 601
1887a	NA4	A	-	F72	BLC	M3+/PRO	t66	36	3309	
1887b	NA7	A	-	H83	931	L4/PRO	178	43	4046	
1888	NAAM?	A	-	F72	BCU	L-VL4	t19	32	3310	
1889	AMPH	A	RIB	CP56	A9.24	ML2?-4	-	-	3410	
1890	AMPH	A	-	F72	BCU	L-VL4	t19	32	3308	
1891	AMPH?	A?	-	SM76	CCI	ML3?	9998	-	2895	
1893	AMPH	A	-	LIN73DI	105	VL4/PRO	D10	18	3377	
1894	AMPH	A	-	L86	72	M1	86	2	2623	
1895	SEAL	AML	-	P70	QL	1-2	-	-	1601	D1999, 26
1896	SEAL	AML	-	P70	GK	L3-4	-	-	1569	D1999, 607
1897	SEAL	AML	-	P70	PK	EM3?	-	-	1570	D1999, 609
1898	SEAL	AML	-	P70	GJ	4	-	-	1566	D1999, 608
1899	SEAL	AML	-	P70	GJ	4	-	-	1567	D1999, 610
1900	SEAL	AML	-	P70	GJ	4	-	-	1568	D1999, 611

Appendices

Appendix I

CLAU Fabric codes

Code	Category	Analysis Group	Detail	NRFRC code
ABIV	Amph	AMPH	Biv amphorae	ASM AM
AMPH	Amph	AMPH	Miscellaneous amphorae	-
ARGO	Imp.Fine	FINE	Argonne ware	ARG SA
ARS	Imp.Fine	FINE	African red slip	NAF RS
BAE24	Amph	AMPH	Baetican Dressel 2-4 amphorae	BAT AM 1
BAE28	Amph	AMPH	Baetican Dressel 28 amphorae	BAT AM
BB1	RB Reduced	REDU	Black burnished 1	DOR BB 1
BB1G	RB Reduced	REDU	Grey sandy BB1	-
BB2	RB Reduced	REDU	Black burnished 2	BB 2
BLEG	Imp. Fine	EFINE	Black eggshell wares; North Italian or Gallic	-
C185	Amph	AMPH	Camulodunum 185 amphorae	BAT AM 1
C186	Amph	AMPH	Camulodunum 186 amphorae	CAD AM
C189	Amph	AMPH	Camulodunum 189 carrot amphorae	P&W AM 12
CALG	Shell	CASH	Calcite-tempered	-
CASH	RB Shell	CASH	Calcite/shell-tempered wares	-
CAT24	Amph	AMPH	Catalan Dressel 2-4 amphorae	CAT AM
CC	RB Fine	FINE	Other colour-coated wares	-
CGBL	Imp. Fine	FINE	Central Gaulish black slip	CNG BS
CGCC	Imp. Fine	FINE	Central Gaulish colour-coated; Lezoux etc.	CNG CC
CGGW	Imp. Fine	FINE	Central Gaulish glazed wares	CNG GL
CHALK	Amph	AMPH	Chalk type amphorae	P&W AM 50
COAR	Reduced	REDU	Miscellaneous coarse wares	-
COLC	RB Fine	FINE	Colchester colour-coated	COL CC 1; CC 2
CR	Loc. Oxid	EROX	Cream flagon type	-
CRGR	RB Reduced	MLCO	Crambeck grey wares	CRA RE
CRGS	Loc. Oxid	OXID	Cream ware with grey slip	-
CRPA	RB Oxid	OXID	Crambeck parchment ware	CRA PA
CRSA	Loc. Oxid	OXID	Sandy creamish to light red-brown	-
DERB	RB Oxid	OXID	Derbyshire ware	DER CO
DR20	Amph	AMPH	Dressel 20 amphorae	BAT AM 1; AM 2
DR28	Amph	AMPH	Dressel 28 amphorae	BAT AM 1
DWSH	Loc. Shell	MLCO	Late shell-tempered; Dales ware; lid-seated jars etc.	DAL SH
EGGS	Import?	FINE	Miscellaneous eggshell wares	-
EIFL	Imp. Oxid	OXID	Mayen ware; Eifelkeramik	MAY CO
EMED	Amph	AMPH	East Mediterranean amphorae; undifferentiated	-
EMED24	Amph	AMPH	East Mediterranean Dressel 2-4 amphorae	-
EPON	Imp. Fine	FINE	A l'éponge ware	EPO MA

Code	Category	Analysis Group	Detail	NRFC code
F148	Amph	AMPH	As Fishbourne 148.3 amphorae	-
GAU	Amph	AMPH	Gaulish amphorae; undifferentiated	GAL AM 1
GAU3	Amph	AMPH	Gauloise 3 amphorae	GAL AM 1
GAU4	Amph	AMPH	Gauloise 4 amphorae	GAL AM 1
GAU6	Amph	AMPH	Gauloise 6 amphorae	GAL AM 1
GAU28	Amph	AMPH	Gaulish Dressel 28 amphorae	GAL AM 1
GBWW	Imp. Fine	EFINE	Gallo-Belgic white wares	NOG WH 3
GFIN	RB Fine	FINE	Miscellaneous fine grey wares	-
GLAZ	RB? Fine	FINE	Other glazed wares	-
GMIC	RB Fine	FINE	Grey fine micaceous wares	-
GREY	RB Reduced	REDU	Miscellaneous grey wares	-
GROG	RB Reduced	REDU	Grog-tempered wares	-
GRSA	Loc. Reduced	EGRY	Sandy grey wares (reduced version of OXSA)	-
GYMS	Reduced	IASH	Grey wheel-made with minimal fine shell	-
H70	Amph	AMPH	Haltern 70 amphorae	BAT AM 1
HADOX	RB Fine	LFINE	Oxidised Oxfordshire/Much Hadham variants	-
HUNT	RB Shell	MLCO	Huntcliff shell-tempered wares	HUN CG
IAGR	Loc. Reduced	IAGR	Native tradition grit-tempered wares	-
IAGRB	Loc. Reduced	IAGR	Native tradition grit-tempered variant	-
IAGRC	Loc. Reduced	IAGR	Native tradition grit-tempered variant	-
IAMSH	Shell	IASH	Native tradition hand-made with minimal fine shell	-
IASA	Loc. Reduced	EGRY	Native tradition sandy wares	-
IASH	Loc. Shell	IASH	Native tradition shell-tempered	-
IASHC	Loc. Shell	IASH	Native tradition coarse shell-tempered	-
IASHD	Loc. Shell	IASH	Shell-tempered harder ?Romanised	-
IASHF	Loc. Shell	IASH	Native tradition fine shell-tempered	-
IMMC	Imp. Fine	EFINE	Imported mica-dusted; beakers etc.	BRA MD?
IT24	Amph	AMPH	Italian Dressel 2-4 amphorae	CAM AM 1
ITAMP	Amph	AMPH	Italian amphorae; undifferentiated	CAM AM 1
K117	Amph	AMPH	Sandy ribbed amphorae as Kingsholm 117	P&W AM 66
KAP2	Amph	AMPH	Kapitan II amphorae	P&W AM 47
KOAN	Amph	AMPH	Koan/Dressel 2-4 amphorae	-
KOLN	Imp. Fine	FINE	Cologne colour-coated wares	KOL CC
L555	Amph	AMPH	London 555 amphorae	-
LCOA	Loc. Reduced	MLCO	Late coarse pebbly fabric; double lid-seated jars etc.	-
LEG	Loc. Reduced	EGRY	'Legionary' very light grey; darker surfaces	-
LOND	RB Fine	FINE	London wares	LON FR
LROM	Amph	AMPH	Late Roman amphorae; undifferentiated	-
LRRA	Amph	AMPH	Later Roman ribbed amphorae	-
LRRB	Amph	AMPH	Later Roman red-brown amphorae	-
LYON	Imp. Fine	EFINE	Lyon pre-Flavian colour-coats	LYO CC
MARB	Imp. Fine	FINE	Miscellaneous marbled wares	-
MHAD	RB Fine	LFINE	Much Hadham wares	HAD OX
MHADR	RB Fine	LFINE	Much Hadham reduced wares	HAD RE 1; RE 2
MICA	RB Fine	FINE	Mica-dusted (excl. imported beakers)	-
MLEZ	Samian	SAM	Micaceous Lezoux ware	LEZ SA 1
MOCO	RB Mort	MORT	Colchester mortaria	COL WH
MOCR	RB Mort	MORT	Crambeck mortaria	CRA WH
MOG	RB Mort	MORT	Grey mortaria	-
MOGA	Imp. Mort	MORT	Imported Gallic mortaria	-
MOHA	RB Mort	MORT	Much Hadham mortaria	HAD OX
MOHX	RB Mort	MORT	Much Hadham/Oxfordshire mortaria	-
MOIM	Imp. Mort	MORT	Imported mortaria; precise source unknown	-
MOLO	Loc. Mort	MORT	Local mortaria	-
MOMD	RB Mort	MORT	Midlands mortaria; precise source unknown	-
MOMH	RB Mort	MORT	Mancetter-Hartshill mortaria	MAH WH
MONG	Imp. Mort	MORT	Gallic mortaria, North Gaul	NOG WH 4
MONV	RB Mort	MORT	Nene Valley mortaria	LNV WH
MONVC	RB Mort	MORT	Nene Valley colour-coated mortaria	LNV CC
MOOX	RB Mort	MORT	Oxfordshire parchment ware mortaria	OXF WH
MOOXR	RB Mort	MORT	Oxfordshire red-slipped mortaria	OXF RS

Code	Category	Analysis Group	Detail	NRFC code
MOOXW	RB Mort	MORT	Oxfordshire white-slipped mortaria	OXF WS
MORH	Imp. Mort	MORT	Rhenish mortaria	RHL WH
MORT	RB Mort	MORT	Mortaria; undifferentiated	-
MORV	Imp. Mort	MORT	Gallic mortaria, Rhone Valley	CNG OX
MOSC	Loc. Mort	MORT	South Carlton mortaria	SOC WH
MOSL	Imp. Fine	FINE	Rhenish; from Trier	MOS BS
MOSP	Loc. Mort	MORT	Swanpool mortaria	SWN WS
MOSPC	Loc. Mort	MORT	Swanpool colour-coated mortaria	SWN CC
MOTILE	RB Mort	MORT	Tile fabric mortaria	-
MOVR	RB Mort	MORT	Verulamium region mortaria	VER WH
MRRA	Amph	AMPH	Mid-Roman ribbed amphorae	-
NA1	Amph	AMPH	North African amphorae, fabric 1	NAF AM
NA2	Amph	AMPH	North African amphorae, fabric 2	-
NA3	Amph	AMPH	North African amphorae, fabric 3	-
NA4	Amph	AMPH	North African amphorae, fabric 4	-
NA5	Amph	AMPH	North African amphorae, fabric 5	-
NA6	Amph	AMPH	North African amphorae, fabric 6	-
NA7	Amph	AMPH	North African amphorae, fabric 7	-
NA8	Amph	AMPH	North African amphorae, fabric 8	-
NAAM	Amph	AMPH	North African amphorae; undifferentiated	NAF AM 1; AM 2
NAT	RB Reduced	REDU	Native miscellaneous	-
NFCC	RB Fine	LFINE	New Forest colour-coated	NFO CC
NGCR	Imp. Oxid	FINE	North Gaulish cream; butt beakers etc.	NOG WH 5
NGGW	Imp. Reduced	REDU	North Gaulish grey wares	NOG RE
NVCC	RB Fine	FINE	Nene Valley colour-coated	LNV CC
NVGCC	RB Fine	FINE	Nene Valley grey colour-coated	-
NVGW	RB Reduced	REDU	Nene Valley grey ware	-
NVGWC	RB Reduced	REDU	Nene Valley coarse grey ware	-
NVMIC	RB Fine	FINE	Nene Valley colour-coated with mica overslip	LNV CC
NVPA	RB Oxid	OXID	Nene Valley parchment ware	LNV PA
OX	RB Oxid	OXID	Miscellaneous oxidized wares	-
OXGR	RB Oxid	EROX	Oxidized grog-tempered	-
OXPA	RB Oxid	OXID	Oxfordshire parchment ware	OXF PA
OXRC	RB Fine	LFINE	Oxfordshire red colour-coated	OXF RS
OXSA	Loc. Oxid	EROX	Early oxidized sandy	-
OXWS	RB Oxid	OXID	Oxidized with white slip	-
PARC	RB Oxid	OXID	Parchment; cream painted red; unknown source/s	-
PART	RB Fine	FINE	Parisian type wares	LMR FR
PE47	Amph	AMPH	Pelichet 47/Dr 30 amphorae (superseded by GAU4)	GAL AM 1
PINK	Loc. Oxid	EROX	Pink micaceous flagons etc.	-
PRW	Imp. Fine	EFINE	Pompeian red ware; undifferentiated	-
PRW1	Imp. Fine	EFINE	Pompeian red ware, Peacock fabric 1	CAM PR 1
PRW2	Imp. Fine	EFINE	Pompeian red ware, Peacock fabric 2	-
PRW3	Imp. Fine	EFINE	Pompeian red ware, Peacock fabric 3	CAM PR 3
R527	Amph	AMPH	Richborough 527 amphorae	LIP AM
RC	RB Fine	FINE	Miscellaneous roughcast colour-coated beakers	-
RDSL	Local fine	EFINE	Early red-slipped	-
RHOD	Amph	AMPH	Rhodian amphorae	RHO AM
ROSAX	Reduced	MLCO	Indeterminate Roman or Saxon	-
SACR	Imp. Oxid	OXID	Sandy cream; flagons, probably import	-
SAM	Samian	SAM	Samian; undifferentiated	-
SAMCG	Samian	SAM	Central Gaulish samian	LEZ SA 2
SAMCG-EG	Samian	SAM	Central or East Gaulish samian	-
SAMEG	Samian	SAM	East Gaulish samian	-
SAMLM	Samian	SAM	Les Martres-de-Veyre samian	LMV SA
SAMMT	Samian	SAM	Montans ware	MON SA
SAMSG	Samian	SAM	South Gaulish samian	LGF SA
SC	Loc. Oxid	EROX	South Carlton cream	SOC WH
SCCC	Local fine	FINE	South Carlton colour-coated	SOC CC
SEAL	Amph	AMPH	Amphora seals; stoppers	-
SHEL	RB Shell	SHEL	Miscellaneous undifferentiated shell-tempered	-

Code	Category	Analysis Group	Detail	NRFC code
SMSH	RB Shell	MLCO	South Midlands shell-tempered wares	HAR SH
SPAA	Amph	AMPH	Spanish amphorae; undifferentiated	-
SPCC	Local fine	LFINE	Swanpool colour-coated	SWN CC
SPIR	RB Oxid	MLCO	Grooved jars as Alice Holt/Farnham Class 3C; unknown source	-
SPOX	Loc. Oxid	OXID	Swanpool oxidized wares	-
TILE	Loc. Oxid	OXID	Tile fabric vessels	-
TN	Imp. Fine	EFINE	Terra nigra	GAB TN
TR	Imp. Fine	EFINE	Terra rubra	GAB TR
VESIC	RB Shell?	REDU	Vesicular fabric	-
VRMI	RB Oxid	FINE	Verulamium region mica-dusted	-
VRW	RB Oxid	EROX	Verulamium region white wares	VER WH
WHEG	Imp. Fine	FINE	White eggshell wares	-
WSTO	Reduced	FINE	West Stow fine grey	WES FR

Alice Holt = type in Lyne and Jefferies 1979.

Camulodunum = type in Hawkes and Hull 1947.

Fishbourne = type in Cunliffe 1971.

Kingsholm = type in Hurst 1985.

NRFC code = code in Tomber and Dore 1998.

Appendix II

CLAU Archive codes for vessel types and decoration

This includes both current and original numerical codes.

Code	Form	Type	Code	Form	Type
*A651	Amph	= C185	B439	Bowl	Corpus no. 1199
*A653	Amph	= DR20	B451	Bowl	Petch 1962, fig. 7:8; PPR
*A656	Amph	= F148	B452	Dish	Thompson & Whitwell 1973, fig. 13:12
A	Amph	Unclassified	B453	Bowl	Webster 1949, fig. 12:37; P18
AML	Amph	Amphora lid/stopper	B458	Bowl	Petch 1962, fig. 7:22; DBIF
B	Bowl	Unclassified	B567	Bowl	Darling 1999, fig. 32:177; LBTR
B18/31	Bowl	Imitation samian 18/31	BBIF	Bowl	Bifurcated rim
B29	Bowl	Carinated possibly imitating samian 29	BBR	Bowl	Bead-rimmed
B30	Bowl	Imitation samian 30	BC11	Bowl	Imitation samian Curle 11
B31	Bowl	Imitation samian 31	BCAM	Bowl	Campanulate
B31R	Bowl	Imitation samian 31R	BCAR	Bowl	Carinated
B35/36	Bowl	Imitation samian 35 or 36	BCFL	Bowl	Curved flange rim
B36	Bowl	Imitation samian 36	BCOR	Bowl	Cordoned
B37	Bowl	Hemispherical possibly imitating samian 37	BCUR	Bowl	Curved rim
B38	Bowl	Imitation samian 38	BD	Bowl/dish	-
B205	Bowl/ beaker	Webster 1949, fig. 14:81; BKG177	BD452	Bowl/dish	Thompson & Whitwell 1973, fig. 13:12
B301	Bowl	Webster 1949, fig. 11:23; BCAR	BDBIF	Bowl/dish	Bifurcated rim
B304	Bowl	Darling 1977, fig. 7:126; BCAR	BDCUR	Bowl/dish	Curved rim
B308	Bowl	Darling 1977, fig. 1:21	BDEXR	Bowl/dish	Expanded rim
B316	Bowl	Petch 1962, fig. 7:24	BDFL	Bowl/dish	Flat rim
B318	Bowl	Petch 1962, fig. 7:23	BDG	Bowl	Double-grooved rim
B321	Bowl	Coppack 1973, fig. 5:11	BDG225	Bowl/dish	Rounded rim as Gillam 225
B321V	Bowl	Original type series variant	BDGR	Bowl/dish	Grooved rim
B332	Bowl	Darling 1977, fig. 2:36, 38	BDPR	Bowl/dish	Plain rim
B333	Bowl	Petch 1962, fig. 7:19–21	BDR	Bowl	D-rimmed
B334	Bowl	Petch 1962, fig. 5:8–10	BDTR	Bowl/dish	Triangular rim
B335	Bowl	Thompson & Whitwell 1973, fig. 16:12	BDW	Bowl	Dales ware type rim
B337	Bowl	Darling 1977, fig. 4:75 BEV	BEV	Bowl	Everted rim as Swanpool type C16–18
B342	Bowl	Darling 1977, fig. 4:78 BWM	BEXR	Bowl	Expanded rim
B357	Bowl	Darling 1977, fig. 5:90; BG225	BFB	Bowl	Bead-and-flange
B392	Bowl	Darling & Jones 1988, fig. 5:17	BFBH	Bowl	Bead-and-flange, high bead
B393	Bowl	Darling & Jones 1988, fig. 5:16	BFBL	Bowl	Bead-and-flange, low bead
B394	Bowl	Darling & Jones 1988, fig. 5:12	BFBS	Bowl	Bead-and-flange, small
B396	Bowl	Darling & Jones 1988, fig. 5:7	BFL	Bowl	Flat/flange rim
B401	Bowl	Darling & Jones 1988, fig. 9:112; BDW	BFT	Bowl	With feet
B402	Bowl	Darling & Jones 1988, fig. 8:84	BG225	Bowl	Rounded rim (Gillam 225)
B404	Bowl	Darling & Jones 1988, fig. 8:87	BGF	Bowl	Grooved flange
B405	Bowl	Darling & Jones 1988, fig. 8:88	BGO260	Bowl	Hooked rim as Gose 260
B411	Bowl	Darling 1999, fig. 36:370	BGR	Bowl	Grooved rim
B411AS	Bowl	Variant of B411	BHA	Bowl	Handled
B418	Bowl	Darling 1999, fig. 31:159; BRR	BHEM	Bowl	Hemispherical
B428	Bowl	Darling 1999, fig. 41:533	BHEMS	Bowl	Hemispherical small
B430	Bowl	Darling 1999, fig. 41:535	BHF	Bowl	Hooked flange
B431	Bowl	Darling 1999, fig. 41:537	BIBF	Bowl	Inturned bead-and-flange
B432	Bowl	Darling 1999, fig. 41:536	BJ	Bowl/jar	-
B436	Bowl	Darling 1999, fig. 101:4; B31R	BK	Beaker	Unclassified
B438	Bowl	Corpus no. 632 as N. African type; Tyers 1996, fig. 177:99A	BK120	Beaker	Darling 1984, fig. 16:93
			BK204	Beaker	Webster 1949, fig. 11:21; BKC120

Code	Form	Type	Code	Form	Type
BK205	Beaker	Webster 1949, fig. 14:81; BKG177	BKPA	Beaker	Painted
BK234	Beaker	Darling & Jones 1988, fig. 5:2	BKPH	Beaker	Poppy-head
BK235	Beaker	Darling & Jones 1988, fig. 5:14	BKPM	Beaker	Pentice-moulded
BK247	Beaker	Darling 1999, fig. 34:273	BKPR	Beaker	Plain upright rim
BK250	Beaker	Darling 1999, fig. 34:299	BKPRG	Beaker	Plain upright grooved rim
BK253	Beaker	Darling 1999, fig. 31:142	BKRC	Beaker	Roughcast
BK254	Beaker	Darling 1999, fig. 34:300	BKRD	Beaker	Ring-and-dot decorated
BK261	Beaker	Darling 1999, fig. 39:471	BKROU	Beaker	Rouletted
BK263	Beaker	Darling 1999, fig. 32:205	BKSC	Beaker	Scaled decoration (not folded)
BK264	Beaker	Darling 1999, fig. 40:483	BKSF	Beaker	Slit-folded
BK265	Beaker	Darling 1999, fig. 40:484	BL	Bowl	Large
BK266	Beaker	Darling 1999, fig. 40:488	BLS	Bowl	Lid-seated
BK270	Beaker	Darling 1999, fig. 27:30	BM37	Bowl	As Marsh 37
BK271	Beaker	Darling 1999, fig. 41:526	BM44	Bowl	As Marsh 44
BKBAG	Beaker	Baggy	BMR	Bowl	Moulded rim
BKBARB	Beaker	Barbotine; form unknown	BNK	Bowl	Necked
BKBB	Beaker	Butt beaker	BPL	Bowl/plate	Late plate/bowl, Gillam 297-8
BKBR	Beaker	Bead rim (as BB1 types)	BPR	Bowl	Plain rim
BKC12	Beaker	Bulbous as Swanpool type C12	BR12	Bowl	Imitation samian Ritterling 12
BKC13	Beaker	As Swanpool type C13	BRR	Bowl	Reeded-rimmed
BKC15	Beaker	As Swanpool type C15	BRS	Bowl	Romano-Saxon type
BKC120	Beaker	Camulodunum form 120	BSEG	Bowl	Segmental
BKCAR	Beaker	Carinated	BSM	Bowl	Small
BKCG	Beaker	Constricted girth; rim unknown	BTR	Bowl	Triangular-rimmed
BKCGCR	Beaker	Constricted girth; curved rim	BW266	Bowl	As Wachter 1969, Brough 266
BKCGF	Beaker	Constricted girth; funnel neck	BWM	Bowl	Wide-mouthed
BKCOR	Beaker	Cornice rim	BWM341	Bowl	Darling 1977, fig. 7:134; BWM
BKCR	Beaker	Curved rim	BWM342	Bowl	Darling 1977, fig. 4:78; BWM
BKEV	Beaker	Everted rim	BWM343	Bowl	Darling 1977, fig. 7:133; BWM
BK-F	Beaker/ flagon	Unclassified	BWM344	Bowl	Darling 1977, fig. 4:80; BWM
BKFB	Beaker	Funnel-necked, bead-rimmed	BX	Misc	Castor box
BKFG	Beaker	Funnel-necked, groove-rimmed	BX308	Misc	Curved wall box as Colchester type 308A
BKFN	Beaker	Funnel necked; form unknown	C	Cup	Unclassified
BKFO	Beaker	Folded; indeterminate type	C24	Cup	Imitation samian 24/25
BKFOC	Beaker	Folded, with curved rim	C27	Cup	Imitation samian 27
BKFOCOR	Beaker	Folded, cornice rim	C33	Cup	Imitation samian 33
BKFOEV	Beaker	Folded, everted rim	C507	Cup	Thompson & Whitwell 1973, fig. 13:16; CHEM
BKFOF	Beaker	Folded, with funnel rim	C508	Cup	Darling 1977, fig. 4:71
BKFOFB	Beaker	Folded; funnel neck, beaded	CAND	Misc	Candlestick
BKFOFG	Beaker	Folded; funnel neck, grooved	CCUR	Cup	Curved rim
BKFOS	Beaker	Folded scaled	CHA	Cup	Handled
BKFOSC	Beaker	Folded scaled, curved rim	CHEM	Cup	Hemispherical as Rhenish Gillam 210 etc.
BKFOSF	Beaker	Folded scaled, funnel neck	CHP	Misc	Cheese press
BKFOSFG	Beaker	Folded scaled; funnel neck, grooved	CLSD	Closed	-
BKG	Beaker	Girth beaker	CLYON	Cup	Imitating usual Lyon ware form
BKG43	Beaker	Late rim form as Gillam 43	CNIT	Cup	Imitation closer to North Italian form
BKG48	Beaker	Rhenish barbotine form	COL	Misc	Colander
BKG177	Beaker	Carinated as Gillam 177	COST	Misc	Costrel
BKGR	Beaker	Grooved rim	CP	Cook pot	BB type
BKHA	Beaker	Handled	CPBR	Cook pot	Bead-rimmed
BKHC	Beaker	Hunt cup	CPL	Cook pot	BB1 or type of late date
BKMOT	Beaker	Motto	CPN	Cook pot	Native tradition
BKNV52	Beaker	Round indents as RPNV 52	CPN51	Cook pot	Petch 1962, fig. 6:17
BKNV58	Beaker	As RPNV 58	CPN64	Cook pot	Thompson & Whitwell 1973, fig. 14:7; CPN
BKNV60	Beaker	As RPNV 60	CPN65	Cook pot	Petch 1962, fig. 5:4; CPN
BKNV61	Beaker	As RPNV 61			
BKNV63	Beaker	Handled as RPNV 63			
BKP	Beaker	Pear-shaped (as RPNV 27)			

Code	Form	Type	Code	Form	Type
CPN66	Cook pot	Thompson & Whitwell 1973, fig. 14:8; CPN	FJ	Flagon/jar	Unclassified
CPN67	Cook pot	Coppack 1973, fig. 5:5; CPN	FL	Flagon	Large
CPN68	Cook pot	Thompson & Whitwell 1973, fig. 14:1; CPN	FM3	Flagon	Marsh type 3
CPN69	Cook pot	Thompson 1956, fig. 6:7; CPN	FR	Flagon	Ringed
CPN71	Cook pot	Webster 1949, fig. 12:42; JEV	FRR	Flagon	Rounded rim
CPN72	Cook pot	Petch 1962, fig. 6:33; JEV	FS	Flask	Or exceptionally small flagon
CPN73	Cook pot	Petch 1962, fig. 6:20; CPN	FSPB1	Flagon	As Swanpool B1
CPN74	Cook pot	Thompson & Whitwell 1973, fig. 13:9; JRR	FSPB2	Flagon	As Swanpool B2
CPN140	Cook pot	Darling & Jones 1988, fig. 7:55	FTR	Flagon	Ringed; dominant top ring
CPN141	Cook pot	Darling & Jones 1988, fig. 7:53	FX2	Flagon	Two-handed
CPN142	Cook pot	Darling & Jones 1988, fig. 6:32	HEAD	Misc	Head pot
CPN144	Cook pot	Darling & Jones 1988, fig. 8:95	HP	Jar	Honey pot
CRUC	Misc	Crucible	J	Jar	Unclassified
CRUSY	Misc	Crusy	J105	Jar	Coppack 1973, fig. 5:17
D	Dish	Unclassified	J106	Jar	Petch 1962, fig. 8:40
D452	Dish	Thompson & Whitwell 1973, fig. 13:12	J107	Jar	Coppack 1973, fig. 7:48
DEXR	Dish	Expanded rim	J108	Jar	Coppack 1973, fig. 6:38; JDW
DFB	Dish	Bead-and-flange rim	J118	Jar	Darling 1984, fig. 15:68
DFIS	Dish	Fish-dish	J120	Jar	Darling 1984, fig. 16:93; <i>cf.</i> BK120
DFL	Dish	Flat/flange-rimmed	J122	Jar	Darling 1984, fig. 17:137
DG225	Dish	Rounded rim	J127	Jar	Darling & Jones 1988, fig. 6:33; JLS
DGF	Dish	With grooved flange/flat rim	J151	Jar	Darling 1999, fig. 37:402
DGR	Dish	Grooved rim	J152	Jar	Darling 1999, fig. 37:398
DH	Dish	Handled (not fish dish)	J160	Jar	Darling 1999, fig. 39:470; JNN
DPR	Dish	Plain rim	J162	Jar	Darling 1999, fig. 40:489
DPRA	Dish	Plain rim, angular rim form	J168	Jar	Darling 1999, fig. 41:548
DPRS	Dish	Plain rim straight sided	J170	Jar	Darling 1999, fig. 32:178
DRER	Dish	Reeded rim (mica)	J205	Jar	Webster 1949, fig. 14:81; <i>cf.</i> BKG177
DRR	Dish	Round rim	JB	Jar/bowl	Unclassified
DTR	Dish	Triangular rim	JB165	Jar/bowl	Darling 1999, fig. 27:19
F	Flagon	Unclassified	JB170	Jar/bowl	Darling 1999, fig. 32:178
F4	Flagon	Webster 1949, fig. 12:45	JBBR	Jar/bowl	Bead rim
F4AS	Flagon	Variant on F4	JBCAR	Jar/bowl	Carinated
F5	Flagon	Webster 1949; fig. 12:46	JBCUR	Jar/bowl	Curved rim
F11	Flagon	Webster 1949; fig. 13:64; FTR	JBEV	Jar/bowl	Everted rim
F13	Flagon	Thompson 1958; fig. 6:13; FTR	JBF	Jar	Bead-and-flange
F14	Flagon	Petch 1962, fig. 8:49	JBH	Jar/bowl	Handled
F16	Flagon	Thompson & Whitwell 1973, fig. 15:34; FDN	JBK	Jar/beaker	Small jar or beaker
F17	Flagon	Thompson & Whitwell 1973, fig. 16:7; FDN	JBKCUR	Jar/beaker	Curved rim
F18	Flagon	Darling 1977, fig. 3:52	JBKEV	Jar/beaker	Everted rim
F25	Flagon	Darling 1984, fig. 14:36; FHOF	JBKFO	Jar/beaker	Folded
F26	Flagon	Darling 1984, fig. 16:105	JBKLS	Jar/beaker	Lid-seated rim
F34	Flagon	Darling 1999, fig. 40:486; FC	JBL	Jar/bowl	Large
F38	Flagon	Darling 1999, fig. 41:525	JBLS	Jar/bowl	Lid-seated rim
F255	Flagon	Darling 1999, fig. 39:434	JBR	Jar	Bead rim
FACE	Misc	Face pot	JBWM	Jar/bowl	Wide-mouthed
FBF	Flagon	Bead-and-flange	JCAR	Jar	Carinated
FC	Flagon	Cup-mouthed	JCAV	Jar	Cavetto rim
FCOR	Flagon	Cordoned	JCOR	Jar	Cordoned
FCR	Flagon	Cup-mouth ringed	JCR	Jar	Collared rim (Swanpool types C40–46; Rookery Lane 14–15)
FDN	Flagon	Disc neck	JCUR	Jar	Curved rim (not clearly cooking pot)
FDR	Flagon	Disc rim	JDLS	Jar	Double lid-seated
FFN	Flagon	Face-neck	JDW	Jar	Dales ware
FG11	Flagon	Gillam 11	JEV	Jar	Everted rim
FGO415	Flagon	Gose 415	JFO	Jar	Folded
FHOF	Flagon	Hofheim collar type	JFT	Jar	Flat-topped rim
			JH	Jar	Handled

Code	Form	Type	Code	Form	Type
JHUN	Jar	Huntcliff	PPR	Plate	Pompeian red ware type
JIR	Jar	Inturned rim			platter
JL	Jar	Large	PWS	Plate	Late wall-sided type
JLH	Jar	Lug-handled	SMIT	Misc	Smith god vessel
JLS	Jar	Lid-seated	ST	Misc	Strainer
JMR	Jar	Moulded rim	T	Misc	Tazza
JNN	Jar	Narrow-necked	TV	Misc	Triple vase
JNV70	Jar	As RPNV 69-70	UJ	Misc	Unguent jar or flask
JRR	Jar	Rounded rim	Z	Misc	Unusual form; unclassified
JS	Jar	Storage	ZBIB	Misc	Biberon
JSM	Jar	South Midlands shell-tempered	* = Code superseded in recent archiving.		
JSML	Jar	Small	Decoration codes		
JSQ	Jar	Squared rim	Code	Type	Details
JSR	Jar	Squashed over rim	AP	applied	Miscellaneous
JTR	Jar	Triangular rim	APD	applied	Pellets/discs
JUG	Flagon/jug	Pinched neck	APF	applied	Figures
JUP	Jar	Upright rim	APFA	applied	Complete face
JUR	Jar	Undercut rim	APR	applied	Ring
JWM	Jar	Wide-mouthed as Gillam 174-5	ASC	applied	Scales
L	Lid	Unclassified	AST	applied	Strips
L557	Lid	Coppack 1973, fig. 7:46	BA	barbotine	Unknown type
LAMP	Misc	Lamp	BAA	barbotine	Abstract
LBR	Lid	Bifurcated rim	BAAN	barbotine	Animals/fish
LBTR	Misc	Lid/bowl, triangular rim	BAB	barbotine	Blobs
LBX	Lid	Castor box lid	BAC	barbotine	Circles
LCOF	Lid	Coffee pot lid	BACC	barbotine	Contrasting colour
LCUR	Lid	Curved rim	BAD	barbotine	Dots; unknown design
LEXR	Lid	Expanded rim	BADR	barbotine	Dots; random
LPCH	Misc	Lamp chimney/finial	BADS	barbotine	Diagonal stripes
LPL	Lid/plate	-	BADZ	barbotine	Dots; zoned
LPRW	Lid	Pompeian red ware	BAF	barbotine	Figures
LSQ	Lid	Squared rim	BAHP	barbotine	Hairpins (Lezoux)
M	Mortaria	Unclassified	BALA	barbotine	Lattice
MBF	Mortaria	Bead-and-flange rimmed	BAP	barbotine	Phalli
MCO	Mortaria	Collared rim <i>cf.</i> Colchester types	BARC	barbotine	Arcs
MFL	Mortaria	Flange-rimmed	BARD	barbotine	Rings and dots
MG259	Mortaria	Collared as Gillam 259	BAS	barbotine	Scrolls
MHH	Mortaria	Hammerhead	BASB	barbotine	'S' barbotine as RPNV 36
MHK	Mortaria	Hook-rimmed	BASC	barbotine	Scales
MRF	Mortaria	Reeded flange	BAVE	barbotine	Vegetable
MRR	Mortaria	Reeded rim	BAVS	barbotine	Vertical stripes
MTR	Mortaria	Triangular rim	BDL	burnished	Diagonal lines
MTRB	Mortaria	Triple-ribbed rim	BHL	burnished	Horizontal lines
MWS	Mortaria	Wall-sided	BIA	burnished	Intersecting arcs
OPEN	Open	-	BIAF	burnished	Flat intersecting arcs
P	Plate	Unclassified	BIAP	burnished	Pointed intersecting arcs
P15/17	Plate	Imitation samian 15/17	BIWL	burnished	Intersecting horizontal wavy lines
P15/17-18	Plate	Imitation samian 15/17 or 18	BL	burnished	Lines
P18	Plate	Imitation samian 18	BO	burnished	Others
P18R	Plate	Imitation samian 18R	BOS	bosses	-
P452	Plate	Thompson & Whitwell 1973, fig. 13:12; <i>cf.</i> D452	BOSR	bosses	Pushed into tube/ring
P455	Plate	Darling 1977, fig. 1:15	BRUS	IA	-
P461	Plate	Darling & Jones 1988, fig. 8:89		brushing	
PB	Plate/bowl	Unclassified	BS	burnished	Scroll
PC16	Plate	Camulodunum 16	BSP	burnished	Spiral
PC16X	Plate	As PC16 but thickened rim	BSQ	burnished	Squares
PFL	Plate	Flanged rim as Marsh 31	BURN	burnished	Unknown type
PGB	Plate	Gallo-Belgic imitation			
PL	Plate/lid	-			

Code	Type	Details	Code	Type	Details
BV	burnished	Vertical area (as on MHAD flasks)	ROSA	Romano-Saxon	Complex
BVL	burnished	Vertical lines	ROST	roller-stamped	-
BWL	burnished	Wavy lines	ROU	rouletted	Unknown extent
BZ	burnished	Zones	ROUL	rouletted	Separate lines
BZZ	burnished	Zig-zag	ROUZ	rouletted	Zones
CC	colour-coated	Not typical of fabric	RUST	rusticated	Unknown type
COL	combed	Straight lines	RWEB	rusticated	Heavy web/cage (early Lincoln)
COST	combed	Vertical comb stabs	SALT	salt slip	As on amphorae
COWL	combed	Wavy lines	SCR	IA scoring	Unknown pattern
CPS	compass scribing	-	SCRA	scratched dec	-
DCC	double colour-coat	Under and over barbotine	SCRD	IA scoring	Diagonal
DIMP	dimpled	-	SCRH	IA scoring	Haphazard
FET	fettling	Late BB1 cups	SCRL	IA scoring	Lattice
FF	frilled	With fingers	SCRV	IA scoring	Vertical
FT	finger-tipping	-	SHG	scored	Horizontal grooves
GRAF	graffiti	-	SL	scored	Lines
HMAD	handmade	-	SLA	scored	Lattice
INC	incised	As cut-glass samian	SLAS	slashed	As Romano-Saxon
L	latticed	Unknown type	SLIP	colour-slipped	-
LA	latticed	Acute	SNI	stabbed	Nail impressions
LI	latticed	Incised cut	SSLIP	Self-slip	Slip of fabric colour
LML	latticed	Multiple line	STA	stamped	Angular
LO	latticed	Obtuse	STAB	stabbed	-
MARB	marbled	Samian	STBOS	stamped	On boss
MICD	mica-dusted	-	STCO	stamped	Comb
NAME	name stamp	-	STDR	stamped	Demi-rosette
NOTC	notched	With implement	STF	stamped	Figures
PA	painted	Unknown design	STO	stamped	Oval
PAL	painted	Lattice	STR	stamped	Round
PARC	painted	Arcs	STRO	stamped	Rosette
PB	painted	Blobs	SWL	scored	Wavy lines
PCIR	painted	Circles	SWLZ	scored	Wavy lines; zonal
PCUR	painted	Curvilinear	WIP	wiped	-
PD	painted	Dots			
PF	painted	Figures			
PL	painted	Letters as MOTTO beakers			
PLS	painted	Lazy S design			
PO	painted	Others			
PS	painted	Stripes			
PSC	painted	Scroll			
PWL	painted	Wavy line			
PZZ	painted	Zig-zag			
RCC	roughcast	Clay pellets			
RCS	roughcast	Sand			
RIB	ribbed/ridged	-			
RICE	rusticated	Icenian			
RIL	rilled	Fine			
RIV	rivet	-			
RLIN	rusticated	Linear			
RNGD	ring-and-dot	-			
RNOD	rusticated	Nodular			

Camulodunum = type in Hawkes and Hull 1947.

Colchester = type in Hull 1963.

Darling 1977 = Darling 1977a.

Gillam = type in Gillam 1957.

Gose = type in Gose 1984.

Marsh = type in Marsh 1978.

Rookery Lane = Webster 1960.

RPNV = Howe *et al.* 1980.

Swanpool = type in Webster and Booth 1947.

Wacher = Wacher 1969.

Appendix III

Quantification of wares by analysis group

Site	SAMIAN	MORT	AMPH	EFINE	FINE	LFINE	EROX	OXID	IASH	IAGR	EGRY	BB1	BB2	REDUCED	MICO	SHELL	CASH	Total
Upper city																		
CAT86	46	5	7	0	39	3	18	9	5	6	1	25	3	273	15	3	0	458
CE75*	1	1	0	0	1	1	4	1	1	3	5	0	0	21	1	2	0	42
CH83*	1	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	6
CL85	62	5	9	4	48	0	98	20	16	75	8	0	0	379	20	5	0	749
CP56	1297	241	289	94	1473	21	1674	249	99	381	159	462	19	5488	280	49	2	12637
DG83	14	0	0	0	11	1	4	2	1	0	0	1	1	17	1	0	0	53
EB66str	455	28	140	23	240	0	796	87	132	185	82	417	0	1346	22	3	0	3956
EB80	444	44	125	58	194	4	470	49	67	265	186	204	1	1391	132	24	0	3658
EBS	269	17	82	47	339	9	464	93	61	270	112	106	6	1471	150	16	0	3512
EH71*	15	1	1	0	3	0	14	1	0	2	0	8	0	48	1	1	0	95
L86	412	40	358	45	290	4	1107	109	261	446	470	478	22	2397	123	33	0	6595
LC84	22	0	2	0	30	0	5	7	1	0	0	12	2	75	4	0	0	160
MW79*	4	0	2	1	5	3	8	0	0	4	1	0	0	21	4	2	0	55
MWS83*	1	0	0	0	2	0	0	0	0	0	0	0	0	9	0	0	0	12
NY87	16	0	5	0	16	1	0	2	0	0	0	24	0	47	3	0	0	114
SP72	282	35	189	32	346	24	456	143	203	156	239	21	0	3876	632	152	5	6791
W73	100	19	31	6	81	3	95	16	17	31	4	34	2	475	52	19	1	986
WB76*	8	2	22	3	1	0	25	2	13	6	12	0	0	5	0	0	0	99
WB80	131	27	57	1	165	15	84	61	8	35	6	104	8	1400	204	4	0	2310
WC87	149	10	63	0	255	3	36	26	0	0	0	132	0	1319	49	12	0	2055
Sub-total	3729	475	1382	314	3537	92	5358	879	885	1865	1285	2028	64	20063	1693	325	8	44343
Lower City																		
BE73	307	16	41	6	337	7	338	105	14	157	16	338	0	2004	121	8	3	3818
DT74	97	3	13	2	56	2	35	20	5	4	10	21	5	430	23	7	0	733
F72	459	328	173	17	1763	44	155	311	14	8	47	459	2	5304	812	9	1	9906
GP81	43	34	27	0	133	10	4	61	2	0	1	20	6	940	199	4	0	1484
H83	196	106	125	2	644	78	83	259	2	16	10	132	1	2844	993	16	4	5511

LIN73A	123	10	11	4	104	2	41	18	3	11	11	19	1	180	67	5	0	0	610
LIN73B	193	18	3	1	191	7	38	30	3	1	1	22	1	290	52	2	0	0	853
LIN73C	557	52	52	0	514	3	264	83	27	55	5	477	7	1749	88	20	7	0	3960
LIN73D	298	72	50	0	914	42	34	170	0	3	0	185	1	4487	1026	10	2	0	7294
LIN73E	43	29	20	0	129	14	1	41	0	0	0	4	0	640	92	40	1	148	1202
LIN73F	225	56	53	0	462	12	20	86	0	0	1	50	0	1752	228	3	8	0	2956
MCH84	67	11	28	0	148	7	49	29	4	4	1	55	1	578	56	11	0	0	1049
MG78*	3	0	1	0	3	0	1	0	0	1	0	1	0	25	0	0	0	0	35
MH77*	1	0	0	0	3	0	0	4	0	0	0	2	0	31	1	0	0	135	177
P70	1642	149	498	39	2620	57	884	339	100	64	73	609	0	7737	953	1	9	0	15774
SH74	106	15	19	5	9	1	10	3	3	6	4	3	0	125	2	6	0	0	317
SPM83	272	68	256	5	410	19	233	105	29	76	21	312	24	2353	438	13	0	0	4634
SW82	180	26	45	13	249	1	131	89	7	16	30	92	0	1003	60	19	2	0	1963
Sub-total	4812	993	1415	94	8689	306	2321	1753	213	422	231	2801	49	32472	5211	174	37	283	62276
Wigford																			
BWE82	400	20	42	0	611	6	18	53	0	0	1	74	10	832	66	11	0	0	2144
CS73*	44	2	4	0	33	0	5	8	0	0	0	6	0	234	7	5	0	0	348
DM72*	8	6	1	0	34	5	1	5	0	0	0	0	0	197	25	3	0	0	285
HG72	714	62	281	46	1322	44	943	271	898	245	87	456	1	3409	405	27	4	0	9215
LT72*	7	0	0	0	7	0	0	3	1	0	0	1	0	27	1	0	0	0	47
M82	110	9	51	3	305	4	98	98	44	34	19	152	9	1539	188	11	0	0	2674
SB85	63	27	17	0	184	15	6	34	0	0	0	19	0	783	226	0	0	148	1522
SM76	1127	199	146	0	3670	54	246	680	0	16	0	860	5	10340	1563	42	0	0	18948
SMG82	144	67	42	2	400	11	87	119	7	55	2	110	0	2610	294	18	0	0	3968
WS82*	2	1	0	0	2	0	0	1	0	0	0	0	0	13	1	2	0	0	22
Z86	158	46	186	0	616	19	38	158	0	4	0	145	0	2577	395	12	0	0	4354
Sub-total	2777	439	770	51	7184	158	1442	1430	950	354	109	1823	25	22561	3171	131	4	148	43527
Total	11318	1903	3564	458	19402	555	9101	4060	2047	2636	1620	6644	138	74999	10073	627	49	833	150146
Average %																			
Upper City	8.4	1.1	3.1	0.7	8.0	0.2	12.1	2.0	2.0	4.2	2.9	4.6	0.1	45.2	3.8	0.7	0	0.8	100
Lower City	7.7	1.6	2.3	0.2	14.0	0.5	3.7	2.8	0.3	0.7	0.4	4.5	0.1	52.1	8.4	0.3	0.1	0.5	100
Wigford	6.4	1.0	1.8	0.1	16.5	0.4	3.3	3.3	2.2	0.8	0.3	4.2	0.1	51.8	7.3	0.3	0	0.3	100
City	7.5	1.3	2.4	0.3	12.9	0.4	6.1	2.7	1.4	1.8	1.1	4.4	0.1	50.0	6.7	0.4	0	0.6	100

For the analysis group to which individual fabrics are assigned, see Appendix I.

CAT86, DG83, LC84 and NY87 combined for analysis as Cathedral sites; EB66str = stratified pottery only; L86 includes LH84 and LA85.

* = site excluded from analyses.

Appendix IV

Quantification of forms by city area and site

Site	Amph	Flagon	Jar	Jar narrow-necked	Jar handled	Jar large	Jar storage	Jar/ Beaker	Beaker	Closed	Jar/Bowl	Bowl	Box	Bowl/dish	Dish	Cup	Mort.	Lid	Unusual	Sub-total	Untyped	Total
Upper City																						
CAT86	7	13	38	3	0	0	1	0	11	79	0	55	1	61	19	13	7	4	0	312	146	458
CL85	9	24	130	0	0	1	0	10	42	102	1	46	0	20	25	12	6	3	0	431	318	749
CP56	289	737	1471	38	78	40	3	49	1110	1296	23	1194	43	321	729	316	277	146	33	8193	4444	12637
DG83	0	0	0	0	0	0	0	0	1	16	0	7	0	5	6	2	0	1	0	38	15	53
EB66str	140	254	363	9	7	3	11	11	239	139	6	211	1	33	229	137	28	19	3	1843	2113	3956
EB80	125	167	575	3	4	49	1	21	145	429	4	372	11	182	275	109	44	30	21	2567	1091	3658
EBS	82	56	333	5	3	8	0	19	126	253	24	203	4	144	97	75	19	24	2	1477	2035	3512
L86	357	289	885	12	112	23	41	160	232	991	21	386	23	333	277	125	41	37	5	4350	2244	6594
LC84	2	0	13	1	0	0	0	0	9	28	1	14	0	27	9	7	0	1	0	112	48	160
MW79*	2	0	2	1	0	0	0	2	2	14	0	8	0	3	3	1	0	1	0	39	16	55
NY87	5	1	3	1	0	0	0	0	3	26	0	10	0	29	10	4	1	1	0	94	20	114
SP72	189	176	516	124	2	46	22	63	101	678	19	299	6	86	172	67	39	16	33	2654	4137	6791
W73	31	69	79	2	1	0	0	5	56	58	7	86	2	48	52	29	23	13	0	561	425	986
WB76*	21	4	6	0	0	0	0	0	3	37	0	6	0	1	4	1	2	0	0	85	14	99
WB80	57	40	214	36	16	18	0	9	134	129	7	314	5	112	98	38	34	16	6	1283	1027	2310
WC87	61	52	165	27	15	61	0	8	202	51	4	167	7	97	169	23	14	12	0	1135	902	2037
Sub-total	1370	1869	4755	259	238	249	78	357	2405	4247	117	3323	102	1441	2155	946	528	320	103	24862	18849	43711
Lower City																						
BE73	41	72	551	14	1	44	0	19	189	330	10	262	8	137	147	84	18	31	6	1964	1854	3818
DT74	13	8	61	4	1	7	0	2	18	118	6	69	1	51	50	26	3	4	1	443	290	733
F72	173	162	633	49	24	122	1	41	1221	689	12	1004	16	459	340	72	374	26	45	5463	4443	9906
GP81	27	12	127	30	10	8	6	26	56	93	10	171	2	68	58	7	36	11	2	760	724	1484
H83	125	72	623	34	39	30	0	38	198	418	23	571	8	255	218	36	108	31	5	2832	2679	5511
LIN73A	11	23	112	2	2	0	0	2	92	47	1	83	1	35	59	35	10	6	3	524	86	610
LIN73B	3	24	100	0	0	5	0	5	127	108	2	160	0	38	82	35	29	16	1	735	118	853
LIN73C	52	252	916	30	10	26	2	8	466	158	2	560	7	167	322	139	54	63	12	3246	714	3960

LIN73D	50	48	569	30	12	30	5	4	314	53	2	828	13	126	283	54	91	22	5	2539	4755	7294
LIN73E	20	17	51	1	2	61	0	0	58	32	1	91	8	17	40	8	30	3	0	440	762	1202
LIN73F	53	23	201	18	3	5	0	2	193	58	0	275	5	80	132	34	85	9	1	1177	1779	2956
MCH84	28	27	88	1	1	2	2	2	68	104	6	100	3	38	34	15	12	2	2	535	514	1049
MG78*	1	0	0	1	0	0	0	0	3	5	0	3	0	0	2	3	0	0	0	18	17	35
MH77*	0	1	2	0	0	0	0	0	2	2	1	6	0	0	2	0	0	0	0	16	161	177
P70	498	907	1593	59	16	25	12	7	2336	130	20	1285	47	1054	1047	409	203	185	15	9848	5926	15774
SH74*	19	6	16	2	0	16	0	0	8	11	1	61	0	4	30	29	21	1	0	225	92	317
SFM83	256	72	517	12	25	13	0	80	241	873	14	332	14	389	213	69	78	21	5	3224	1410	4634
SW82	45	81	282	7	0	10	15	6	258	45	0	143	6	46	112	54	29	10	4	1153	810	1963
Sub-total	1415	1807	6442	294	146	404	43	242	5848	3274	111	6004	139	2964	3171	1109	1181	441	107	35142	27134	62276
Wigford																						
BWE82	42	67	166	10	4	22	0	1	497	107	0	253	16	152	181	58	58	17	5	1656	488	2144
CS73*	4	7	59	0	0	0	0	0	25	17	1	48	1	34	41	6	2	1	1	247	101	348
DM72*	1	4	29	1	0	3	0	1	15	8	0	39	2	5	4	1	7	4	0	124	161	285
HG72	281	790	1170	32	8	70	101	90	902	937	46	802	24	307	334	126	91	38	6	6155	3060	9215
LI72*	0	0	4	0	1	0	1	0	1	13	0	8	0	4	1	2	0	0	0	35	12	47
M82	51	61	459	8	1	1	8	8	230	188	6	186	22	118	119	28	17	13	0	1524	1150	2674
SB85	18	25	132	7	9	22	0	1	94	40	0	153	3	69	61	8	41	4	1	688	834	1522
SM76	146	236	1797	135	43	194	94	52	3250	779	32	1538	101	1050	849	215	254	99	139	11003	7945	18948
SMG82	42	53	487	23	19	19	2	18	258	209	20	362	29	137	161	23	71	16	9	1958	2010	3968
WS82*	0	0	1	0	0	0	0	0	0	3	0	0	0	1	2	0	1	0	0	8	14	22
Z86	186	42	427	36	22	11	10	21	258	621	25	398	6	238	135	34	57	18	42	2587	1767	4354
Sub-total	771	1285	4731	252	107	342	216	192	5530	2922	130	3787	204	2115	1888	501	599	210	203	25985	17542	43527
Total	3563	4973	15966	808	491	995	338	791	13794	10522	358	13167	446	6581	7234	2567	2315	975	413	86297	63723	149514

Average %

Upper City	5.5	7.5	19.1	1.0	1.0	1.0	1.0	0.3	1.4	9.7	17.1	0.5	13.4	0.4	5.8	8.7	3.8	2.1	1.3	0.4	0.4	0.4
Lower City	4.0	5.1	18.3	0.8	0.4	1.1	0.1	0.7	16.6	9.3	0.3	17.1	0.4	8.4	9.0	3.2	3.4	1.3	0.3	0.3	0.3	0.3
Wigford	3.0	4.9	18.2	1.0	0.4	1.3	0.8	0.7	21.3	11.2	0.5	14.6	0.8	8.1	7.3	1.9	2.3	0.8	0.8	0.8	0.8	0.8
City	4.1	5.8	18.5	0.9	0.6	1.2	0.4	0.9	16.0	12.2	0.4	15.3	0.5	7.6	8.4	3.0	2.7	1.1	1.1	0.5	0.5	0.5

Table excludes minor sites.

CAT86, DG83, LC84 and NY87 combined for analysis as Cathedral sites.

EB66str = stratified pottery only.

L86 includes LH84 and LA85.

* = site excluded from analysis.

Appendix V

Mancetter-Hartshill mortaria, dated vessels

Corpus no.	Form	Date	Corpus no.	Form	Date	Corpus no.	Form	Date
1602	MHK	100–130	1647	MFL	170–220	1697	MHH	200–260?
1603	MHK	110–160	1648	MFL	180–220	1698	MHH	210–270
1604	MHK	120–160	1649	MFL	180–230	1699	MHH	200–260
1605	MHK	135–170	1650	MFL	180–220+	1700	MHH	200–260?
1606	MHK	130–160	1651	MFL	190–240	1701	MHH	200–260?
1607	MHK	130–180	1652	MFL	190–230	1702	MHH	200–260?
1608	MHK	135–170	1653	MFL	-	1703	MHH	200–260?
1609	MHK	130–155	1654	MFL	190–230	1704	MHH	230–300
1610	MHK	130–180	1655	MFL	180–250	1705	MHH	-
1611	MHK	130–180	1656	MTRB	150–200+	1706	MHH	220–280
1612	MHK	M2	1657	MTRB	170–220	1707	MHH	220–280
1613	MHK	130–170	1658	MTRB	150–200+	1708	MHH	220–280
1614	MHK	130–170	1659	MTRB	150–200+	1709	MHH	220–280
1615	MHK	110–135	1660	MTRB	170–220	1710	MHH	220–280
1616	MHK	130–155	1661	MTRB	180–230	1711	MHH	220–280
1617	MHK	140–180	1662	MTRB	180–230	1712	MHH	220–280
1618	MHK	150–170+	1663	MTRB	180–230	1713	MHH	-
1619	MHK	M2	1664	MTRB	170–220	1714	MHH	220–280
1620a	MHK	140–180	1665	MTRB	180–230	1715	MHH	220–280
1620b	MHK	130–180	1666	MTRB	180–230	1716	MHH	220–280
1621a	MHK	150–210	1667	MTRB	180–230	1717	MHH	220–280
1621b	MHK	140–180	1668	MTRB	190–250	1718	MHH	220–280
1621c	MHK	150–180	1669	MTRB	-	1719	MHH	220–300
1622	MHK	150–180	1670	MTRB	170–260	1720	MHH	220–300
1623	MHK	150–220	1671	MTRB	180–230	1721	MHH	220–300
1624	MHK	150–180	1672	MTRB	-	1722	MHH	250–350
1625	MHK	170/180–210	1673	MTRB	-	1723	MHH	250–350
1626	MHK	170–230	1674	MTRB	-	1724	MHH	250–350
1627	MHK	150–180	1675	MTRB	-	1725	MHH	250–350
1628	MHK	150–210?	1676	MTRB	-	1726	MHH	250–350
1629	MHK	-	1677	MCO?	150–200	1727	MHH	250–350
1630	MHK	150–180	1678	MCO?	150–200	1728	MHH	250–350
1631	MHK	150–180	1679	MBF	-	1729	MHH	250–350
1632	MHK	150–250	1680	MBF	-	1730	MHH	250–350
1633	MHK	150–180	1681	MBF	-	1731	MHH	-
1634	MHK	-	1682	MBF	180–250	1732	MHH	-
1635	MHK	-	1683	MBF	180–250	1733	MHH	3?
1636	MHK	-	1684	MBF	180–260	1734a	MHH	250–350+
1637	MHK	170–250	1685	MBF	180–260	1734b	MHH	250–350+
1638	MHK	-	1686	MHH	-	1735	MHH	250–350
1639	MHK	170–250	1687	MHH	-	1736	MHH	250–350
1640	MFL	180–250	1688	MHH	-	1737a	MHH	250–350
1641a	MFL	170–230	1689	MHH	190–260	1737b	MHH	250–350
1641b	MFL	160–230	1690	MHH	3	1738	MHH?	-
1641c	MFL	150–200	1691	MHH	4C?	1739	MWS	200–250
1642	MFL	-	1692	MHH	200–260?	1740a	MWS?	180–260
1643	MFL	-	1693	MHH	200–260?	1740b	MWS	4?
1644	MFL	170–280	1694	MHH	230–320?	1740c	MWS	4?
1645	MFL	180–260	1695	MHH	3	1740d	MWS	4?
1646	MFL	180–230	1696	MHH	200–260?			

Appendix VI

Quantities of samian by city area, site and source

Site	South Gaul	Les Martres	Lezoux	East Gaul	Total	Site	South Gaul	Les Martres	Lezoux	East Gaul	Total
<i>Upper City</i>						<i>Wigford</i>					
CAT86 ¹	11	4	27	4	46	BWE82	2	5	316	77	400
CL85	51	0	8	3	62	CS73*	0	0	29	15	44
CP56	459	70	638	130	1297	DM72*	0	0	6	2	8
DG83 ¹	2	4	8	0	14	HG72	205	9	429	71	714
EB66	180	12	254	9	455	LT72*	1	0	5	1	7
EB70 ²	8	4	15	2	29	M82	26	9	51	24	110
EB73 ²	5	3	0	0	8	SB85	3	1	35	24	63
EB74 ²	11	5	8	4	28	SM76	9	5	914	199	1127
EB79 ²	4	1	2	0	7	SMG82	13	10	88	33	144
EB80	225	48	159	12	444	WS82*	0	0	2	0	2
EB81 ²	6	4	30	5	45	Z86	2	5	107	44	158
EB82 ²	31	6	12	1	50	ZE87	5	13	151	25	194
EB83 ²	65	15	1	0	81	<i>Sub-total</i>	266	57	2133	515	2971
EBII80 ²	6	0	9	6	21	Total	2565	460	7033	1435	11493
L86	121	20	249	22	412						
LC84 ¹	3	2	17	0	22						
MW79*	4	0	0	0	4						
NY87 ¹	0	1	13	2	16						
SP72	235	8	34	5	282						
W73	41	3	45	11	100						
WB76*	8	0	0	0	8						
WB80	32	10	79	10	131						
WC87	0	2	130	15	147						
<i>Sub-total</i>	1508	222	1738	241	3709						
<i>Lower City</i>											
BE73	100	21	169	17	307						
DT74	35	8	48	7	98						
F72	79	12	212	156	459						
GP81	1	2	21	19	43						
H83	35	22	124	15	196						
LIN73A	57	1	54	11	123						
LIN73B	40	1	117	35	193						
LIN73C	147	49	351	10	557						
LIN73D	9	11	168	110	298						
LIN73E	4	0	22	17	43						
LIN73F	10	1	118	96	225						
MCH84	17	4	41	5	67						
MG78*	2	1	0	0	3						
MH77*	1	0	0	0	1						
P70	121	15	1374	132	1642						
SH74	49	12	33	12	106						
SPM83	57	3	178	34	272						
SW82	27	18	132	3	180						
<i>Sub-total</i>	791	181	1362	679	4813						

Table excludes minor sites

Sites combined for analysis: ¹Cathedral sites (cath); ²East Bight (ebs).

L86 total includes LH84 and LH85.

* Site excluded from analysis.

Appendix VII

Samian vessel forms by source, percentages per decade

Source	Bowl dec.	Bowl	Dish	Cup	Closed Dec.	Mortaria	Untyped	Total %	Sherds/ decade
<i>South Gaul</i>									
40	15.98	3.51	28.73	26.65	0.94	0.00	24.20	100	71
50	26.20	3.13	34.77	27.91	0.23	0.00	7.77	100	293
60	23.01	3.58	38.37	28.84	0.15	0.00	6.05	100	437
70	27.95	3.61	38.63	23.31	1.38	0.00	5.13	100	609
80	27.96	3.45	37.80	22.82	1.83	0.00	6.14	100	474
90	30.36	3.83	31.86	24.01	1.85	0.00	8.08	100	333
100	44.69	4.50	18.81	25.89	1.83	0.00	4.28	100	147
110	45.00	0.00	55.00	0.00	0.00	0.00	0.00	100	0
120	45.00	0.00	55.00	0.00	0.00	0.00	0.00	100	0
130	45.00	0.00	55.00	0.00	0.00	0.00	0.00	100	0
140	62.07	0.00	37.93	0.00	0.00	0.00	0.00	100	0
<i>Sherds plotted:</i>	659	85	839	595	28	0	160	2366	-
<i>Les Martres-de-Veyre</i>									
100	30.90	4.85	39.75	15.58	0.82	0.00	8.09	100	182
120	9.56	8.03	51.04	22.79	0.00	0.00	8.58	100	27
130	10.40	8.23	44.36	29.82	0.00	0.00	7.20	100	27
140	30.50	6.13	23.25	30.05	0.00	0.00	10.07	100	12
150	31.93	7.44	24.14	36.48	0.00	0.00	0.00	100	10
160	8.70	23.19	56.52	11.59	0.00	0.00	0.00	100	2
<i>Sherds plotted:</i>	125	24	179	79	3	0	35	445	-
<i>Lezoux</i>									
100	13.66	4.83	38.95	23.79	0.00	0.00	18.76	100	25
110	13.66	4.83	38.95	23.79	0.00	0.00	18.76	100	25
120	17.14	4.23	45.01	18.61	0.19	0.00	14.83	100	239
130	20.00	3.95	43.26	18.67	0.19	0.00	13.93	100	476
140	15.22	9.32	33.38	25.10	0.71	0.02	16.25	100	761
150	16.93	9.28	32.84	22.80	2.37	0.04	15.74	100	839
160	15.65	19.09	29.31	19.39	2.28	0.18	14.10	100	905
170	13.79	21.28	27.03	19.62	2.47	6.86	8.95	100	826
180	9.56	22.83	27.45	20.38	2.71	7.51	9.55	100	754
190	7.33	23.32	28.17	20.69	2.76	7.84	9.90	100	722
200	27.44	12.80	0.00	40.55	0.00	0.00	19.21	100	1
<i>Sherds plotted:</i>	781	869	1762	1168	108	172	752	5573	-
<i>East Gaul</i>									
100	37.50	0.00	37.50	25.00	0.00	0.00	0.00	100	1
110	37.50	0.00	37.50	25.00	0.00	0.00	0.00	100	1
120	8.89	3.23	54.58	17.78	2.51	0.00	13.00	100	4
130	8.27	2.72	49.89	26.07	2.12	0.00	10.94	100	11
140	8.08	7.03	43.38	28.71	1.40	0.00	11.41	100	16
150	19.27	6.38	36.54	22.11	1.11	0.00	14.58	100	20
160	36.60	6.90	28.65	17.68	0.88	0.00	9.29	100	25
170	36.72	7.44	21.15	20.04	3.04	0.00	11.60	100	28
180	14.29	19.10	26.90	13.12	3.49	11.88	11.20	100	175
190	12.58	19.56	27.35	13.29	3.58	12.17	11.47	100	171
200	13.48	19.54	26.81	12.10	3.55	15.26	9.25	100	190
210	13.48	19.54	26.81	12.10	3.55	15.26	9.25	100	190
220	13.58	18.22	26.46	11.67	3.57	16.69	9.81	100	165
230	15.10	16.13	25.69	10.89	3.54	18.29	10.37	100	142
240	14.60	16.22	25.84	10.95	3.56	18.40	10.43	100	141
250	61.97	1.02	5.18	22.95	8.88	0.00	0.00	100	6
<i>Sherds plotted:</i>	192	224	348	166	44	179	132	1285	-

Appendix VIII

Samian stamps from Lincoln in museum collections

A further 94 stamps are known from Lincoln, both casual finds and those from earlier excavations. These are summarised in the table below, which is based on information kindly supplied by Miss Brenda Dickinson and includes revised dating for previously published stamps. Most are in The Collection, Lincoln, but a number are in museum collections elsewhere. Eighty-nine of these stamps can be dated and are plotted in Figure 250.

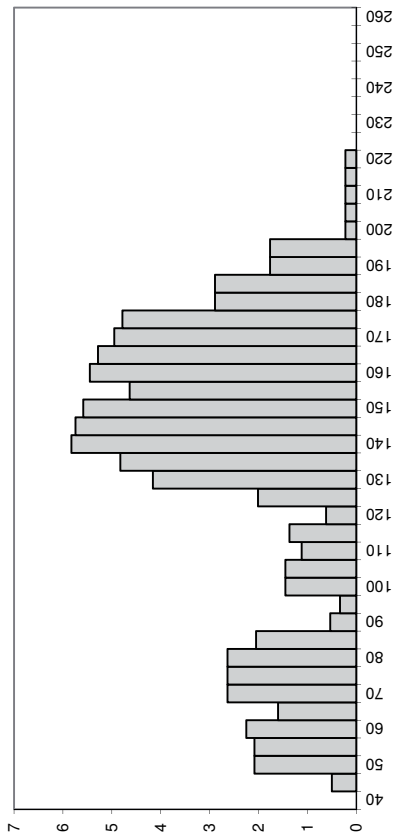


Fig. 250. Samian stamps from Lincoln in museum collections: plotdate by sherd count (89).

Potter	Die	Form	Source	Site	Location	Date
ACAVNISSA	Cursive	37	LZ(a)	-	BM M1464	125-145
ADVOCISUS	2a	31	LZ(a)	Bailgate	LM 1909.100	160-190
AESTIVUS	2a	33	LZ(b)	-	LM O'Neill Collection 151	160-190
AFRICANUS ii	Prob 1a	33	LZ(a)	East Bight 1953	LM	145-175
ALBUCIANUS	6a	31	LZ(a)	-	LM Trollope Collection 114	160-200
ALBUCIANUS	6g ¹	-	LZ(a)	-	BM Trollope Collection	160-200
ALBUCIUS ii	6d	31R	LZ(a)	Water Tower	LM .17	160-180
ALBUS i	9a	27g	LG(a)	-	Yorkshire Museum	50-65
ANDEGENUS	1a	33	LZ(a)	-	LM Trollope (?) Collection 153	140-170
ANNIUS ii	6a	18/31(R?)	LZ(a)	-	-	130-150
APER ii	1a	31	LZ(a)	Bishop's Palace 1968	LM .128	150-180
APRILIS ii	2a	18/31	LZ(a)	Water Tower	LM	140-160
AQUITANUS	21a	27?	LG(a)	Flaxengate	LM	50-65
AVITUS iv	2f	18/31-31	LZ(a)	Eastgate	Grosvenor Museum, Chester	125-150
AVITUS IV	1c	31	LZ(a)	Eastgate	LM Trollope Collection 116	130-150
BELINICCUS i	9c	33	LZ(b;c)	Eastgate	LM	130-150
BAUTIUS	1a	33a	MV(a)	-	LM Baines Collection 135	100-125
CALVUS i	5g	33a	LG(a)	-	Lewes Norris Collection L9.12.26	70-95
CELSIANUS	1a	33	LZ(a)	Flaxengate 1945/48	LM	160-190
CINNAMUS ii	5b	37	LZ(a)	-	BM M1354	150-180
CINNAMUS ii	5b	37	LZ(a)	East Bight 1953	LM	150-180
CINNAMUS ii	5b	37	LZ(a)	Bishop's Palace 1981	-	150-180
CRACISSA	4a	31	LZ(a)	-	LM C&E Collection 297	130-150
CRACISSA	4a	33	LZ(a)	Eastgate 1964	LM 150	130-150
COSI RUFINUS	4a	15/17 or 18	LG(a)	Flaxengate	LM	70-90

Potter	Die	Form	Source	Site	Location	Date
L.COSIUS VIRILIS	27a	18(R?)	LG(a)	Bishop's Palace 1955-58	-	80-110
CRACUNA	2a	27	LZ(a)	Newport Arch	LM 368.37	125-150
CRICIRO v	1a	18/31-31	LZ(b)	-	LM C&E Collection 96	135-155
CRISPUS ii	10a	27	LG(a)	Bishop's Palace 1955-58	-	70-90
DIOGENES	1a	27	MV(a)	Bishop's Palace 1955-58	-	100-120
DOCCALUS	2b	31	LZ(a)	Flaxengate 1945/48	LM	130-150
DOMITUS i	1c	18/31?	MV(b);BANASSAC(a) ²	Bishop's Palace 1955-58	-	Trajanic/E Hadrianic
DONATUS	-	-	-	-	BM?	-
ESCUSIUS	2a	33	LZ(a)	Flaxengate	LM 34.58	160-190
FORTIO	1a	32	RZ(a)	Monks Road	LM 1909?	L2-E3
GENIALIS iv	6a	31	LZ(b)	Flaxengate 1945/48	LM	150-190
GENTILIS iii	6a	18/31R	LZ(a)	Flaxengate 1945/48	LM	125-150
INDERCILLUS	1a	33a	MV(a)	-	Lewes Norris Collection L9.12.26 S30	100-120
ILLIXO	-	27	LZ	Westgate 1938	LM	150-160
IULIUS NUMIDUS	1a	46	LZ(b)	Eastgate	LM 376.37	160-200
LEO ii	1a	32	TR(b)	-	LM O'Neill Collection 147	L2E3
LUPPA ii	1a	33	LZ(a)	Bishop's Palace 1955-58	-	130-155
MACCALUS	3a	33	LZ(a)	St Peter-at-Arches	LM 392.37	160-200
MARCELLINUS i	1c	27	MV(a)	-	Lewes Norris Collection L9.12.26 328	115-135
MARCUS v	5a	33	LZ(a)	-	LM O'Neill Collection 150	160-200
MARTIALIS i	6a	18R	LG(a)	-	Assoc Reform Latin Teaching	50-65
MARTINUS iii	6a	31	LZ(a)	Upper Lindum Road 1967	LM C&E Collection 296	160-200
MASC(U)LUS i	17a	15/17-18	LG(a)	Eastgate 1965	-	50-70
MATARIANUS	1a	33	LZ(a)	Eastgate 1964	LM	160-190
MATERNIANUS i	3a	38	LZ(a)	Flaxengate 1945/48	LM	160-200
MAXIMINUS i	9b	31	LZ(b)	Flaxengate 1945/48	LM	170-200
MOMMO	9c	33a	LG(a)	Flaxengate 1945/48	LM	60-90
MOXIUS ii	2a	31	MV(a)	-	LM C&E Collection 298	130-160
MUXTULLUS	1a	18/31R or 31R	LZ(a)	Flaxengate 1945/48	LM	155-180
MUXTULLUS	1a	38	LZ(a)	Water Tower	LM .56	150-180
NICEPHOR i	3a	18/31	MV(a)	Bishop's Palace BP68	-	100-120
OSBIMANUS	2a	33	LZ(b)	Water Tower	LM .149	150-180
PASS(I)ENUS	5a	29	LG(a)	Eastgate 1942	LM Box 219	65-80
PASS(I)ENUS	57a	18r	LG(a)	-	Yorkshire Museum	50-65
PATER ii	4a	33	LZ(b)	Bishop's Palace BP69	-	130-155
PATERCLINUS	1a	31	LZ(a)	-	LM C&E Collection 295	160-190
PATERATUS	1a	27	LZ(a)	North Row	LM .13	135-155
PATERATUS?	-	31	LZ	Flaxengate 1945/48	LM	135-155
PINNA	2a	33	LZ(c)	-	LM O'Neill Collection 152	135-165
PONTUS	8f	27g	LG(a)	Eastgate 1965	LM	65-90
POTENS	1a	31	LZ(c)	-	LM Baines Collection 101	160-190
PUGNUS ii	-	33	LZ()	Eastgate	LM	150-180
QUADRATUS iii	1b	33	LZ(b)	-	LM O'Neill Collection 184	160-200
QUINTILIANUS i	1b	18/31	LZ(a)	East Bight 785	LM	125-150
QUINTILIANUS i	4a	18/31-31	LZ(b)	-	LM C&E Collection 293	125-150
RUFFUS ii	1a	33	LZ(b)	Westgate 1938	-	140-160

Potter	Die	Form	Source	Site	Location	Date
RUFINUS	-	-	-	-	Yorkshire Museum I 306	-
RUFUS iii	3b	18	LG(a)	Usher Gallery extension	LM 47.58	65-90
SACRAPO	1b	27	LZ(a)	Newport cemetery	LM	130-150
SACRILLUS	3a	31	LZ(a)	Friars Lane 1961	LM	160-200
SARRUTUS	1a	18	LG(a)	Water Tower	LM .16	70-90
SATTO v	2a	31	LZ(a)	Eastgate	LM	150-180
SATURNINUS ii	8a	33	LZ(a)	Flaxengate	LM 34.58	160-200
SATURNINUS ii	7a	33	LZ(b)	Newport Arch	LM 371.37	160-200
SECUNDINUS	-	-	-	-	Yorkshire Museum E35	-
SECUNDUS i	4b	15/17	LG(b)	Water Tower?	LM Trollope Collection 314/4	45-65
SECUNDUS i/ii	1b	24	LG(a)	Eastgate	LM	45-65
SECUND	-	-	-	Westgate 1938	LM	-
SECUNDUS	-	-	-	-	BM Trollope Collection	-
SEDATUS iv	-	-	LZ	-	BM Trollope Collection	125-150
SENILA	1a	33	LZ(a)	-	LM O'Neill Collection 183	140-170
TAURICUS i	1a	33	LZ(b)	-	LM .148	150-180
TAURICUS i	5a	27	LZ(b)	Water Tower	LM C&E Collection 289	150-160
VERECUNDUS i	8a	27	LG(a)	-	Leicester Museum 848/1956	65-85
VESPO	1a	33	LZ(a)	Nettleham Road 1861-185	LM	140-170
VIRILIS ii	6c	27	LG(a)	Bishop's Palace 1955-58	-	80-110
VITALIS ii	8m	33a	LG(a)	Newport Arch 1937	LM 373.37	65-90
VITALIS ii	8h	15/17R or 18r	LG(a)	East Bight 1953	LM	70-85
VOSECUNNUS	2a	33	LZ(c)	Eastgate 1964	LM	Hadrianic/E Antonine

Source

- LG La Graufesenque
- LZ Lezoux
- MV Les Martres-de-Veyre
- RZ Rheinzabern
- TR Trier

Location

- BM British Museum
- LM The Collection (formerly Lincoln City and County Museum)

Notes

- 1 Albucaianus 6g – CIL VII, 1336, not seen. Perhaps 6a misread?
- 2 Domitus I – more likely to be MV than Banassac.

(a), (b) and (c) suffixes to the sources denote:

- (a) stamps of the same die are attested at the pottery/potteries in question
- (b) stamps from other dies of the same potter are known there
- (c) assigned to this pottery on distribution and/or fabric.

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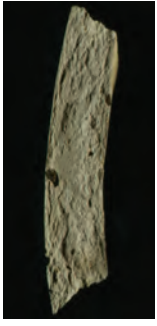
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*Plate 1.1 CR,
LRF234*



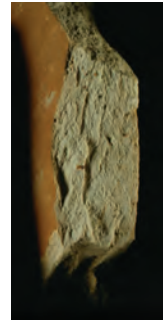
*Plate 1.2 SC,
LRFK23A*



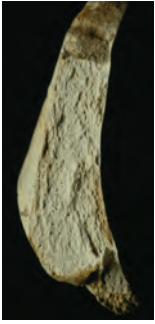
*Plate 1.3 SC,
LRF179*



*Plate 1.4 PINK,
LRF235*



*Plate 1.5 RDSL
LRF264*



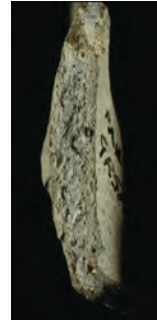
*Plate 1.6 LEG,
LRF266*



*Plate 1.7 CRGS,
LRF238*



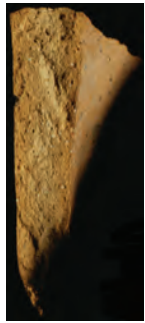
*Plate 1.8 OXSA,
LRF236*



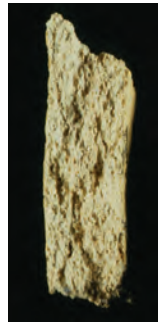
*Plate 1.9 GRSA,
LRF267*



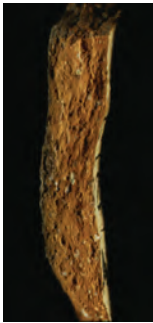
*Plate 1.10 SPCC,
LRF258*



*Plate 1.11 SPOX,
LRF259*



*Plate 1.12 CRSA,
LRF233*



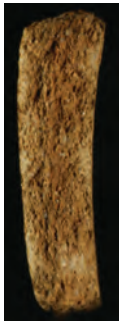
*Plate 1.13 SPIR,
LRF262*



*Plate 1.14 MARB,
LRF204*



*Plate 1.15 MARB,
LRF203*



*Plate 1.16 MICA,
LRF182*



*Plate 1.17 MICA,
LRF222*



*Plate 1.18 MICA,
LRF226*



*Plate 1.19 NVMIC,
LRF221*



*Plate 1.20 RC,
LRF214*



Plate 2.21 SCCC,
LRFK23B

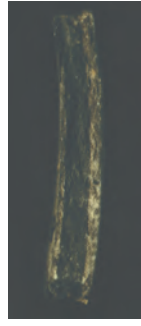


Plate 2.22 LOND,
LRF297

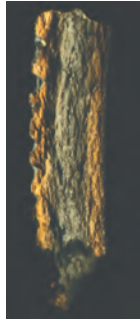


Plate 2.23 PART,
LRF282

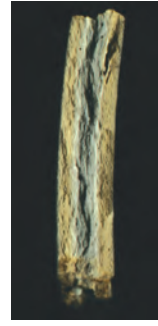


Plate 2.24 PART,
LRF283



Plate 2.25 PART,
LRF286



Plate 2.26
HADOX, LRF171

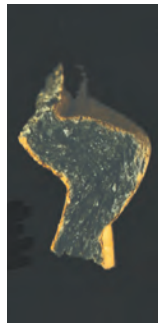


Plate 2.27 OXGR,
LRF256



Plate 2.28 IAGR,
LRF323



Plate 2.29 IAGRB,
LRF322



Plate 2.30 IASA,
LRF324



Plate 2.31 IASH,
LRF328

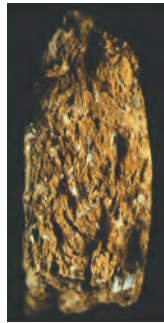


Plate 2.32 IASHC,
LRF329



Plate 2.33 IASHF,
LRF330

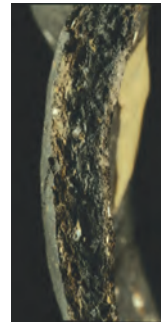


Plate 2.34 IASHD,
LRF331



Plate 2.35 SHEL,
LRFK14

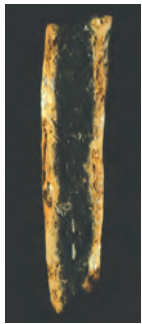


Plate 2.36 SMSH,
LRF317

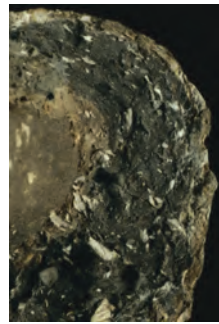


Plate 2.37 DWSH,
LRF303

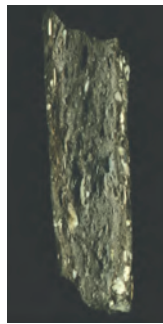


Plate 2.38 DWSH,
LRF304

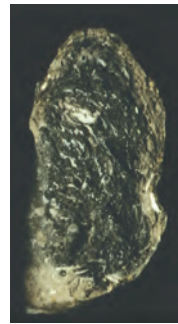


Plate 2.39 DWSH,
LRF307

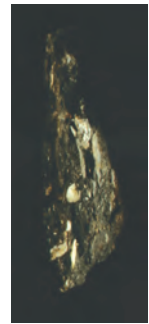
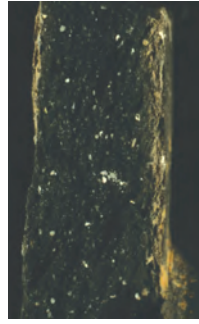


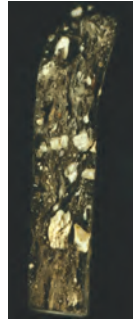
Plate 2.40 DWSH,
LRF302



*Plate 3.41 LCOA,
LRF271*



*Plate 3.42 CASH,
LRF314*



*Plate 3.43 HUNT,
LRF308*



*Plate 3.44 GREY,
LRFK8*



*Plate 3.45 GREY,
LRFK16*



*Plate 3.46 GREY,
LRFK20*



*Plate 3.47 GREY,
LRFK21*



*Plate 3.48 GREY,
LRFK22*



*Plate 3.49 BB1,
LRFK19*



*Plate 3.50 MOLO,
LRF2*



*Plate 3.51 MOLO,
LRF152*



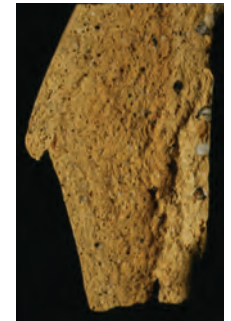
*Plate 3.52 MOLO,
LRF153*



*Plate 3.53 MOLO,
LRF167*



*Plate 3.54 MOLO,
LRF168*



*Plate 3.55 MOSC,
LRF151A*



*Plate 3.56 MOSC,
LRF151B*



*Plate 3.57 MOSP,
LRF37*



*Plate 3.58 MOSP,
LRF38*



*Plate 3.59 MOSP,
LRF39*



*Plate 3.60 MOSP,
LRF40*



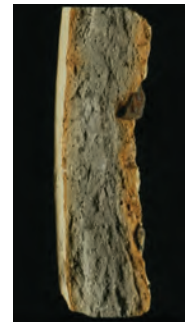
*Plate 4.61 MOSP?,
LRF36*



*Plate 4.62 MOSPC,
LRF35*



*Plate 4.63 MOSPC,
LRF34*



*Plate 4.64 MOMD,
LRF170*



*Plate 4.65 MOG,
LRF32*



*Plate 4.66 MORT,
LRFK10*



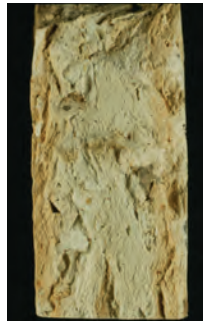
*Plate 4.67 MOCR,
LRF31*



*Plate 4.68 MOTILE,
LRF27*



*Plate 4.69 TILE,
LRF254*



*Plate 4.70 TILE,
LRF255*



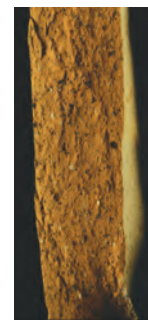
*Plate 4.71 EMED24,
LRF43*



*Plate 4.72 F148,
LRF115*



*Plate 4.73 F148?,
LRF121*



*Plate 4.74 ITAMP,
LRF336*