3rd-century samian ware in Britain

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Gaulish samian ware, such a valuable aid to dating during the 1st and 2nd centuries, has rarely been of much assistance for the 3rd. With the cessation of imports from Lezoux c AD 190-200,1 the volume of new samian fell dramatically, and most post-Antonine groups consist mainly of residual Central, and even South, Gaulish wares, mixed, sometimes, with relatively small amounts of later East Gaulish samian. It has not usually been possible to date this later pottery more closely than “late 2nd to mid-3rd century”. The purpose of this paper is to show that, while these later wares will probably never be amenable to the close dating usual for earlier samian, there are some features of decoration, form or fabric which can be of assistance in refining the wide date range quoted above.

The difficulties in dating later samian with any precision are considerable: they include the comparative scarcity of closely dated groups,2 the diminished use of potters’ stamps on plain forms, especially the ubiquitous Dr 33, the relative lack of discernible typological change and development in both form and decorative style, and the evidence from both Trier and Rheinzabern to indicate some reuse of old moulds by later potters (Huld-Zetsche 1972, 81–8; Bittner 1986, 254–5). To offset this, there have been two important recent British finds of late East Gaulish samian, from the Roman waterfront at St Magnus House, London (Bird 1986a), and from the signal station at Shadwell,3 which include Trier and Rheinzabern wares of around the middle of the 3rd century and which show a useful range of late features. Recent German research, notably on Rheinzabern decorated ware, has also produced some important results, which are discussed further below.

It should be made clear that this paper is not the result of a systematic examination of the late East Gaulish samian from Britain – that would indeed be a major research project – but is based mainly on pottery studied during 20 years of work as a samian specialist reporting to excavators on their finds. While this might seem a rather random method of selection, it does mean that all the material has been examined by the same, if evolving, criteria, and also that whole groups have been studied and recorded together. Few published sources have been searched for individual finds, simply because plain samian rarely receives more than the briefest of mentions, and is virtually never illustrated.4 It should also be noted that, while many unusual and unfamiliar forms are mentioned in the following discussion, this is by no means a full list of all the vessel types which may have found their way to Britain during the 3rd century. Oswald and Pryce (1920) is still the best and most comprehensive illustration of Gaulish samian forms, though much of the dating given there has been superseded by more recent discoveries.

The potteries and their British market

During the 3rd century two major factories, Rheinzabern and Trier, supplied samian ware to Britain, and it is their products which are considered here. Trier was an important pottery for a whole range of fine wares, and samian was made there from c AD 130 until at least AD 275, though most of the production after c AD 260 was for local consumption. Rheinzabern, which was also the site of a large legionary tileworks, began producing samian in the mid-2nd century, which was seriously affected by the invasion of AD 259/60, but is likely to have resumed some local supply until the later 3rd century.5 Both sites have produced important groups for the dating of late samian which will be cited throughout the text. The ‘Massenfund’ at Trier, excavated in 1933–6, was a large deposit of moulds
and pottery, probably from a single workshop active c AD 240–60, which contained crucial evidence both for late forms and fabrics and for the reuse of earlier moulds (Huld-Zetsche 1971a; 1971b; 1972). Recent excavations at Rheinzabern (RhZ. 79/657) have uncovered a kiln furnace filled with what was probably a single loading that had overfired; this has been dated to c AD 235–245. Again there was evidence for the reuse of moulds, and also for decorated ware (Reutti 1983, 54–5; Bittner 1986, 249–54).

Very little samian reached Britain from Trier during the 2nd century, and only a moderate amount from Rheinzabern, but there was a marked increase, particularly from Rheinzabern, in the later Antonine period. The volume of trade in the later 2nd and 3rd centuries was, however, far lower than that from the South and Central Gaulish factories during the 1st and 2nd, and of the two potteries Rheinzabern normally seems to have supplied around 70% of the total (Bulmer 1979, 19; Bird 1986a, figs. 81–84; pers comm Margaret Ward). The distribution of 3rd-century wares is also much less uniform than earlier wares, with a distinct bias towards the south and east coasts, the urban south-east and the military zone in the north (Marsh 1981, fig. 11. 14). The evidence available at present would suggest that imports ceased in the decade AD 250–60, and this matches the evidence from the kiln-sites, which indicates a drastic curtailment in production and in more than local trade after the invasion of AD 250/60.

A number of the excavated sites used in the following discussion are not yet published, or have relevant unpublished archive material; fuller details of them are given in the notes. They have all produced groups of samian in which late plain or decorated vessels – usually both – are present, but whether this date can be taken to apply to all the Trier and Rheinzabern wares on the site it is impossible to say. They may represent items in a single late assemblage, or form the latest part of a small-scale but regular acquisition of new samian during the first half of the 3rd century. A group like that from St Magnus House is impressive, but many Trier products dating towards the middle of the 3rd century is very different: a thick and relatively coarse fabric, much paler in colour (yellowish cream or pale pink), while the slips vary from light to dark red or orange-red in colour, tend to be uneven and rough-textured, and can be glossy or matt in finish. This is the ware characteristic of the mid-3rd century ‘Massenfund’ group (Huld-Zetsche 1972, 85), and it is found on vessels from British sites where a late date is consistent with other evidence (eg St Magnus House: Bird 1986a, 143).

Antonine to early 3rd-century Rheinzabern fabrics are normally much more red or orange-red with few inclusions visible in the break; an orange tone is also present in the slip, even when that is relatively dark. The surface on well-preserved pieces frequently shows a slight iridescence, while faint ‘swirling’ marks are often visible on the surfaces from the application of the slip. These wares continued in use during the first half of the 3rd century, and, until the plain wares and fabrics of the waster group RhZ. 79/657 are published in detail, it is more difficult to define a characteristic late ware. However, a number of the late Rheinzabern bowls from St Magnus House were in a thick, relatively coarse, yellowish cream fabric with a rough-textured, though generally fairly glossy, light orange slip, and, to judge from the associated decorative styles, this ware must also date towards the middle of the century (Bird 1986a, 144).

Potters’ stamps

Potters’ stamps on plain ware will not be considered here in detail since, as with decorated ware, it is difficult to assign dates at all precisely to individual potters. Specific features of 3rd-century samian which are worth noting here are the greatly
diminished use of stamps on plain forms, particularly on Dr 33 and 38, and the use, almost certainly towards the middle of the century, of ‘Strichstempel’, or line-stamps. These are narrow slots, bearing no visible letters or symbols, which are impressed across the floors of vessels in the same way as stamps; they seem to have been used mainly on Dr 31, but are also known on Dr 32. ‘Strichstempel’ are recorded at St Magnus House, Billingsgate, Shadwell and Mucking; the Rheinzabern waster group included 183 of them (Reutti 1983, 55–6).

The Leeds Index, now in preparation, will include details of all recorded Trier and Rheinzabern potters’ stamps. The stamps from St Magnus House are published in Dickinson 1986, with discussion in Bird 1986a (144–5). In addition to the ‘Strichstempel’, the Rheinzabern waster group contained 313 identifiable plain-ware stamps, more than 80% of them by three potters (Reutti 1983, 54–6).

**Mould-decorated forms**

The common mould-decorated form of the later 2nd and 3rd centuries was the bowl Dr 37, though small numbers of Dr 30 continued to be imported, at least from Rheinzabern. While the basic designs of Lezoux bowls – panels, scrolls, medallions, freestyle animal friezes – were generally followed, the effect is of increasingly clumsier modelling and much less careful layout, accompanied by a decline in the number and repertoire of figure-types and other motifs. Some of the later moulds consist merely of vertical rows of beads and other repetitive motifs. This decline in moulded wares during the first half of the 3rd century has frequently been taken as a sign of a decrease in potting skills, but it seems more likely that the potters were simply devoting less care and attention to these bowls. They were, after all, still producing thin-walled vessels with elaborate barbotine and incised decoration, and making a wide range of competent plain wares (cf Huld-Zetsche 1972, 85).

In the absence of closely dated groups, much of the research on Rheinzabern decorated ware has concentrated on establishing the relative chronology of the individual potters within a broader framework, based on those sites where some dating is available (Simon 1968; Bernhard 1981 – both very briefly summarised in Bird 1986a, 146, note 6). An important recent paper by Bittner (1986) uses the waster group Rhz. 79/657 as the starting point for a detailed analysis of decorated ware. By identifying links between the different decorative styles, using the motifs shared by, or unique to, individual mould-makers, he has defined two main groups of potters, each divided into several workshops, working respectively before and after a date c AD 190–210 (summarised on Bittner 1986, Beilage C). The dating proposed for the Julius-Julianus group, who are by far the most common later potters found in Britain, is of particular interest. It is suggested that the earlier Julius I phase only began c AD 210, and that the Julius II – Julianus I style probably lasted up to c AD 245, when the late Julianus II style took over (Bittner 1986, 253); this fits well with the evidence from St Magnus House (Bird 1986a, 142–4).

Bittner suggests a date around AD 260 for the latest moulds at Rheinzabern. Those potters whose work falls at the end of both the Bernhard (1981, Group IIIB onwards) and the Bittner sequences are very rare in Britain, but not unknown. There is a bowl of Severianus from Caister-on-Sea (Dickinson 1993, fig. 135, 23), bowls of Pervincus from Billingsgate, Shadwell and probably London (Museum of London S 655G), bowls of Perpetus from Billingsgate, Shadwell and the City of London (Museum of London S 654G, S 663G) and bowls of Victor I from Shadwell and Colchester.

The dating evidence for the Trier potters has not yet received such detailed treatment, but an important paper by Huld-Zetsche (1971a) discusses the chronology of the decorated ware. It is now clear that potters working in the second quarter of the 3rd century – notably Paternianus, Dubitatus-Dubitus and the Primanus group – were exporting pottery to Britain, albeit in small quantities (eg Bird 1986a, nos 2.83–89; one or more of these potters is also recorded at such sites as Swan Lane, Colchester, Shadwell, Canterbury Marlowe, Caister-on-Sea (Dickinson 1993, fig. 135, 10) and Piercebridge (pers comm Margaret Ward)).

As noted above, there is evidence from both potteries for some reuse of old moulds by potters working around the middle of the 3rd century. Although this reuse presents problems in attributing bowls to individual potters – clearly the original mould-maker would not still have been at work – such later work should usually be discernible from shallow or smudged relief due to wear or damage to the mould (eg Bird 1986a, no. 2.61), and from such details as the footing and rim, which were added by the potter and are independent of the mould. Distinctive late fabrics can also be a useful guide to date (see above).
The rims of Dr 37 were drawn up above the mould, which normally ends at the top of the ovolo border, and were turned and finished at the leather-hard stage, as with any other pot. The footings were added after removal from the mould, and the base around them also turned. The rims of late Dr 37s are often much shallower and thicker than those of earlier examples (eg Bird 1986a, nos. 2. 72, 84, 87, 91, 99); alternatively, late Rheinzabern bowls sometimes have a disproportionately high flaring rim which gives a rather strange waisted effect to the finished pot (Fig. 2; Oswald and Pryce 1920, pl. 13, 7, pl. 29, 10). A bowl of Cerialis Ware B from Shadwell has this type of rim, some 90 mm high.

Footings of late Dr 37s from both factories tend to be heavy, thick and rather square, and these indicate a date after c AD 230 (eg Bird 1986a, nos. 2. 72, 75, 84, 87, 99, 104, 108, 114, 119). Similar footings are found at Trier in the two sides of the ‘Massenfund’ and the late group from Louis-Lintz-Strasse (Huld-Zetsche 1972, taf. 45, HWU 585, NSB 10d, 10g), and are present in the Rheinzabern waster group Rhz. 79/657 (pers comm F-K Bittner).

Incised decoration (Figure 1)

Incised, or ‘cut-glass’, decoration was produced by cutting into the body of the vessel at the leather-hard stage, in the same manner as the decoration of glassware, and was a technique demanding a high degree of skill and control. This style of ornament was introduced at Lezoux in the Antonine period, and was mainly used to decorate jars of form Déch 72; the designs usually consist of formalised wreath and foliage motifs. Excavated finds are not particularly common: such delicate craftsmanship must always have been comparatively expensive, and the thin-walled vessels more vulnerable to breakage than most samian. The form was closely copied at Rheinzabern, with Ludowici forms VSb, VSD and VSe (Oswald and Pryce 1920, pl. 77); Lud VSe, distinguished by its tight lattice of overall facets, has been found at St Magnus House and Southwark Calverts.

The East Gaulish potters also developed new jar and beaker forms. The beakers Lud VSa and VSc were probably first introduced during the late 2nd century or very early in the 3rd, since the type-vessels combine the elaborate floral motifs of the Central Gaulish forms with the double – moulded pedestal foot which became progressively thicker and heavier through the first half of the 3rd century (Oswald and Pryce 1920, pl. 80). Sherds of these forms have been identified at St Magnus House and Shadwell. The round-bodied jar Dr 54 was sometimes decorated with incised ornament, and this version was certainly in circulation during the first half of the 3rd century: Oswald and Pryce’s type-vessel (1920, pl. 77, 5) comes from the fort at Pfünz, which appears from the coin evidence to have been destroyed in AD 233 (Schönberger 1969, 176). A near-complete example was found in a grave at Mucking, associated with the late samian conical-mouthed flagon form (Fig. 4; see below); it is also recorded from Lincoln Holmes. Incised sherds of round-bodied forms occur in late fabrics at a number of other sites, including Canterbury Marlowe.

Incised decoration was also used occasionally on other forms, such as flagons (Oswald and Pryce 1920, pl. 82, 1, 4, pl. 83, 3, 7). The incised cup Dr 41 is recorded from a small number of British sites, notably two examples from Mucking and three in late fabrics from Shadwell. It closely copies a series of glass cups made in the Rhineland in the late 2nd–3rd century (eg Harden et al 1987, 182, 196, no 106; Isings 1957, form 106; Charlesworth 1972, 208–10, fig. 78, 48–53), as do also a group of punch-decorated silver bowls, probably of Gaulish manufacture, which occur in hoards of the mid to later 3rd century (Bird 1986b). The samian version is present in the mid-3rd century ‘Massenfund’ at Trier (Huld-Zetsche 1971b, typen 18 a,b), in the assemblage dating up to AD 259/60 at Holzhausen (Pferdehirt 1976, taf. 11, A1254, A1256, A1258), and with very late samian in the building levels of the Kaiserthermen at Trier (Hussong and Cüppers 1972, taf. 1, 4), and it is likely that the British finds are to be dated well into the 3rd century. The decoration shows considerable variety: one of the Shadwell pieces bears finely engraved ferns and grasses, and Oswald and Pryce illustrate a range of other motifs (1920, pl. 78, 5–10).

In addition to jars, the Lezoux potters occasionally decorated the wall sides of Dr 45 mortaria with very elaborate incised decoration. Déchelette illustrates a splendid boar among vine scrolls (1904, 2, 3, pl. 6), Hartley (1954) a fragment with a burly retiarius, and these must belong to the mid- or late Antonine period. Stanfield illustrates two Dr 45 rim fragments, from London and Lymnpe respectively, which from the fabric descriptions and the shape of the rims are clearly 3rd-century East Gaulish versions; both are decorated with incised foliage motifs (1929, fig. 12, 59, Fig. 14, 70).
Fig 1. East Gaulish cup, jar and beaker forms with incised and barbotine decoration. Scale 1:3.
Barbotine decoration (Figures 1–2)

Barbotine decoration – the technique of trailing thick slip onto the body of a vessel to create raised motifs in a flowing style – was not widely used in either the South or Central Gaulish samian industries. It was introduced in the Flavian period to decorate the rims of a new range of bowls and dishes, mainly Dr 35, 36, 42 and Curie 11, with a simple band of leaves, and was sometimes used to ornament the beaker form Déch 67. The Lezoux potters also used barbotine to form tendrils and sprays linking applied motifs on the Antonine jar form Déch 72, and occasionally to create figures (eg the hound on Johns 1971, pl. 1). It was, however, skilled Rheinzabern potters who extended the use of this technique to a whole range of jar and beaker forms, and added it to forms that had not previously been decorated in this way.

The barbotine motifs used on jars and beakers (Fig. 1) by the later East Gaulish potters include elaborate scolloery, usually with cordate leaves, a variety of birds, and figures such as hounds and huntsmen. The round-bodied jar forms Lud VMg and VMk (Oswald and Pryce 1920, pl. 79) clearly derive originally from Déch 72, but the other forms are new, suggesting a date for their introduction around the end of the 2nd century if not into the early 3rd (Oswald and Pryce, 1920, pls. 79, 80). Rims are generally a plain bead; the bases are either low everted feet or taller pedestal feet, and are finished as a plain bevel or as a double moulding. Late feet, especially the pedestal types, can be very heavy and thick, and often survive complete.

Sherds of barbotine jars and beakers occur on a number of British sites, but are generally too broken to assign to a specific type. Definitely round-bodied forms are recorded at Brancaster (Dickinson and Bird 1985, fig. 48, D33) and Canterbury Marlowe (both Dr 54), and at St Magnus House (Dr 54 and LD VMg). Narrower beaker forms have also been noted, including Dr 52/Lud VMd (St Magnus House and Dorchester), probably Lud VMa (Billingsgate and Dartford) and Lud VMc or its smaller version VMh (Dorchester). Barbotine decoration was also used on flagons (Oswald and Pryce 1920, pl. 82, 6, pl. 83, 5, 8) and on two-handled vases (Oswald and Pryce 1920, pl. 81). Oswald and Pryce’s type-vessel for the two-handled Dr 53 (1920, pl. 81, 3) comes from Pfünz, where it may date before AD 233 (Schönberger 1969, 176); it has been found in Britain at London Walbrook, Dover (Bird 1989, 74) and Chester (Bulmer 1979, frontispiece and fig. 43).

Other forms to which the later samian potters added barbotine decoration include dishes, mortaria and bowls (Fig. 2). The traditional leaf ornament on the rims of Dr 36 persisted, but some 3rd-century examples have considerably more complex motifs. Stanfield illustrates a rim from Southwark with three rows of s-scrolls (1929, Fig. 9, 44); similar motifs occur on one from Old Ford (Bird 1984, fig. 6, 36), and barbotine leaves and tendrils on an example from Southwark Chaucer. A Dr 36 from Billingsgate shows a rare elaboration: paired scrolls on the rim, a circle of overlapping leaves within a rouletted circle on the floor, and a small barbotine horse in the centre (Bird, note in prep). A dish from London bearing a barbotine bird on the floor is probably from a similar vessel (Stanfield 1936, fig. 7, 24). The much rarer form Dr 39/Lud Oa, noted at St Magnus House, sometimes had barbotine decoration on its flat, elaborately-cut handles.

The deep flange of the mortarium form Dr 43 (Lud RSM) became a field for barbotine leaf scrolls, sometimes with figures, such as the stag on Oswald and Pryce 1920, pl. 73, 7. Dr 43s with leaf scrolls are recorded from a number of British sites, including Billingsgate, Seal House, Dover (Bird and Marsh 1981, fig. 49, 321), Canterbury Precincts, Colchester Lion Walk, Keston (Bird 1991, 183) and Dorchester. A note of early finds at Caister-on-Sea includes a drawing of a Dr 43 fragment with a bird in barbotine (Rumbelow in Dickinson 1993, fig. 136). Dr 43 was always much less common than Dr 45, but it is not clear whether this has any chronological significance for British finds. It is not noted in the Trier ‘Massenfund’ group but may simply not have been part of the repertoire of that particular workshop; it is present in the London waterfront deposits, including an apparently unused example from Seal House which is likely to belong with the group of c AD 235–45.

The most common bowl form bearing barbotine decoration is a development of the cordonned Central Gaulish bowl Dr 44, Lud SMb/c. The normal decoration seems again to be a scroll of cordate leaves, but some examples include horses, hounds or birds (Oswald and Pryce 1920, pl. 62). Given the Antonine Lezoux prototype, the form was probably introduced in the late 2nd century or perhaps, with barbotine, in the early 3rd. It is present in the mid-3rd century ‘Massenfund’ at Trier (Huld-Zetsche 1971b, typen 11a, b, 12), where a tendency in the late period to simple leaf-scrolls and less detailed modelling of the actual bowl is indicated. Several examples are noted from British sites, including
Fig 2. East Gaulish dish, bowl and mortarium forms with barbotine decoration, and mortarium form with applied spout. Scale 1:3.
Plain forms

The plain forms made in the late samian industry fall roughly into two groups. The first group comprises the most popular forms copied from Central Gaul, which continued to be produced in relatively large quantities; the second consists of a series of new or variant forms first introduced at this period (Fig. 3).

The commonest East Gaulish plain forms continued to be the dish Dr 31, the cup Dr 33 and the mortarium Dr 45 (e.g. Bird 1986a, fig. 85). The Dr 31 series did not follow the Central Gaulish prototypes precisely, and Ludowici’s Sa and Sb forms are often a more accurate comparison for the shape (Oswald and Pryce 1920, pls. 46–7). The larger and more bowl-like Dr 31R, while broadly copied in the 3rd century, frequently lost both the rouletted circle on the floor and the offset at the internal wall/floor junction which are characteristic of the later Antonine type. Unless there are clear indications, such as a distinctive late fabric or the use of ‘Strichstempel’, it is not usually possible to suggest a close date range for this form. Interestingly, it is not apparently present in the Trier ‘Massenfund’, though there are many examples in the Rheinzabern waster group (Reutti 1983, 55). A series of Trier and Rheinzabern Dr 31s from St Magnus House, dating up to the mid-3rd century, is illustrated in Bird 1986a (nos 2.183–192).

The Dr 33 cups from the St Magnus House group (Bird 1986a, nos. 2.146–155) show a number of distinctive late features: the absence of stamps, a straight, rather than concave, wall, a thick heavy floor – the space inside the footring is often almost conical – and pale coarse fabric. Similar unstamped Dr 33s are recorded from a number of other sites, including Billingsgate, Southwark Calverts, Mucking and Dorchester. A second cup form, Dr 46, shows similar features; 3rd-century examples also sometimes have barbotine added to the rim (Bird 1986a, no. 2.157), while a bead-rimmed version (Oswald and Pryce 1920, pl. 55, 21) is recorded from St Magnus House and Canterbury Precincts, and occurs, with thick late base, in the material dating before AD 259/60 at Holzhausen (Pferdehirt 1976, taf. 11, A1243). Both the barbotine Dr 46 and the Dr 33 described above are present in the Trier ‘Massenfund’ (Huld-Zetsche 1971b, typen 4, 19).

The mortarium Dr 45, introduced at Lezoux c AD 170, continued in manufacture during the 3rd century. Later examples have a more inturned upper wall, usually without grooves, but the most distinctive feature is the applied mask added to the spout. Lezoux’s snarling lion had become, by the mid-3rd century, a rather indeterminate species, its ears often indicated by deep finger impressions which give it a bat-like appearance (Fig. 2). Such late spouts are recorded from Billingsgate, Swan Lane, London Walbrook, Shadwell, Ewell and Dorchester. The St Magnus House group is illustrated in Bird 1986a, nos. 2.214–218 (no. 2.217 is the type which occurs in the ‘Massenfund’: Huld-Zetsche 1971b, typ 14).10

Other familiar Lezoux forms persisted, and some also evolved variants of the original types. The late Antonine dish Walters 79 became more rounded...
Fig 3. East Gaulish cup, dish and bowl forms. Scale 1:3.
The tendency to a slightly more conical profile are a guide to later examples. Dr 32 certainly continued in use until the middle of the 3rd century; late thick ware and a flat-rimmed Lud Tb (St Magnus House and Canterbury Marlowe). A final unusual dish to note is the variant Dr 31 with rouletted bands (Oswald and Pryce 1920, pl. 75, 12); this is recorded from Shadwell, and is present in the pottery depot at Langenhain, dated c AD 233 or a little later (Simon and Köhler 1992, taf. 39, C I 2242), and at Holzhause (Pferdehirt 1976, taf. 8, A400).

The new forms introduced in East Gaul also included a range of undecorated jar, beaker and flagon forms (Fig. 4). These are apparently less common as British finds than the barbotine versions, and most of those identified survive only as body sherds. Among the group from St Magnus House were a round-bodied beaker, Lud Vd (Bird 1986a, No. 2.132) and an undecorated version of Lud VMa/d (Bird 1986a, No. 2.133); an indented form such as Lud Va was present at Shadwell. Rim, base and handle fragments attest other plain or decorated closed vessels on a number of sites: a full range is illustrated by Oswald and Pryce 1920, pls. 69, 79–83.

Late forms (Figure 4)

There is a small group of forms, occurring as rare finds on British sites, which can, on the Continental evidence, be assigned to a date around the middle of the 3rd century. They comprise two bowls, a flagon and a small dish; it is possible that the two bowls were only made at Trier.

The bowl with deep grooved flange (Gose 1950, typ 146) is recorded from the London waterfront at Seal House and Southwark Calverts, in both cases associated with other samian of late date. Gose’s type-vessel comes from Trier and is dated by him to the second half of the 3rd century; it is however present, though rare, in the mid-3rd century ‘Massenfund’ group (Huld-Zetsche 1971b, typ 16). The second bowl, a rouletted variant of Dr 44 (Oswald and Pryce 1920, pl. 76, 5–6; Gose 1950, typ 64), is recorded from Canterbury Marlowe; again Gose dates this to the second half of the 3rd century. His type-vessel comes from Remagen, which continued in occupation until late in the Roman period (Schönberger 1969, Fig. 23), but Fölzer illustrates it with a series of typically mid-3rd century plain forms (1913, taf. 11, 26). Pferdehirt 1976, taf. 8, A410, from Holzhause, is probably this form, dated before AD 259/60.

The flagon with characteristic conical mouth has been identified at Dorchester, Mucking, Caister-on-Sea (two examples: Bird, in Dickinson 1993, fig.
There are two main versions. The first, to which the Mucking vessel certainly belongs, has three pairs of grooves on a straight neck; it occurs at Holzhausen before AD 259/60 (Pferdehirt 1976, taf. 11, A1268). The second has a plain straight or concave neck, and is illustrated by Oswald and Pryce (1920, pl. 83, 11), after the Niederbieber example, which is also Gose's typ 176; it is present in the group of AD 233 or slightly later at Langenhain (Simon and Köhler 1992, taf. 41 C1 2482). Both are present in the 'Massenfund' (Huld-Zetsche 1971b, typen 17a, b), where both exhibit paired grooves on the shoulder. On the pieces examined, the slip does not reach very far down the interior.

The final late form noted is a curious little dish, a throwback in shape to the early versions of Dr 35/36 but lacking either decoration or a footring — Gose (1950) typ 44. A single example was present among the St Magnus House samian. It occurs at Niederbieber, where typ 11B is rather more sinuous in outline than other versions (typen 11A, B: Oswald and Pryce 1920, pl. 67, 5–6), at Langenhain.

Fig 4. Plain East Gaulish beaker forms; late samian forms. Scale 1:3.
trade becomes much more likely. There is now (Mitard Blockley volume, 19)) then the possibility of continuity in roller-stamped bowls of Chenet form unusually wide range of plain forms. These have been dated to the later 3rd to 4th centuries (Bird in Class is Britannica fort at Dover had continued to be (ie before the 260s) would suggest (Ward 1993 (this evidence from the kiln sites that some at least of the interesting series of later Argonne ware: some 15 indeed apparently specialising in imported after other forms (Bird and Marsh 1981, nos. 2.211-213). Also considered that the Argonne Dr 45s at the Classis Britannica fort at Dover had continued to be imported after other forms (Bird and Marsh 1981, 178-9 and Archive). If the later wares can be dated somewhat earlier, as a piece from the Outer Limes (ie before the 260s) would suggest (Ward 1993 (this volume, 19)) then the possibility of continuity in trade becomes much more likely. There is now evidence from the kiln sites that some at least of the potteries carried on without appreciable break, some indeed apparently specialising in Dr 45 mortaria (Mitard et al 1986).

The Marlowe sites at Canterbury produced an interesting series of later Argonne ware: some 15 roller-stamped bowls of Chenet form 320, and an unusually wide range of plain forms. These have been dated to the later 3rd to 4th centuries (Bird in Blockley et al forthcoming).

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Notes
1. The scenario proposed by Tony King (1981, 63-6) in which Central Gaulish samian wares continued to be exported to Britain up to c AD 230, at which date he suggests that Rheinzabern also ceased trade, has not been accepted by any specialist in samian ware studies; see Bird 1986a (146, note 2) and Ward 1993 (this volume, 15-22).

2. Despite the historical evidence for a succession of invasions and military activities on the German frontier in the 3rd century, it is rarely possible to assign a destruction or rebuilding level to any specific event; some of the more useful deposits are briefly summarised in Bird 1986a, 146, note 6. The pottery depot at Langenhain is an important recent find, dated to AD 233 or a little later (Simon and Köhler 1992), the dating evidence there supports that from other sites noted in this paper. Schönberger 1969 remains a useful survey in English of the German frontier.

3. The Shadwell signal tower and associated structures lay some ½km east of the Roman city, in the area of the London Docklands. It was excavated in 1974 and 1976-7, and interim reports were published by Johnson 1975 (with a plan of the tower) and Anon 1977. A brief account of the samian is given in Bird 1987.

4. The editors of the St Magnus House report (Bird 1986a), which includes profiles of all the substantial plain and decorated vessels, are a notable exception to this rule; it is to be hoped that more editors will be encouraged to redress the balance, at least for stamped and unusual pieces.

5. Excellent summaries of both sites are given in Cappers 1990, 534-9 (Rheinzabern) and 629-30 (Trier), with full bibliographies.

6. This is demonstrated by Marsh (1981): his fig. 11. 8 shows the percentage of samian by date from a range of
British sites, and fig. 11. 10 the proportion of imports from the main producing areas.

7. Reports by the author on samian from the following excavations are cited without further reference in the text; individual sites within a town have been abbreviated for ease of reference. London waterfront: St Magnus House (Bird 1986a and Archive), Billingsgate Lorry Park, Seal House and Swan Lane (Brigham 1990, 178–81, tables 6–8, and Archive); London Walbrook (directed by W. F. Grimes; report in prep, J. Shepherd); Southwark Calverts Buildings/15–23 Southwark Street and Chaucer House (Museum of London Archaeology Service, reports in prep); Shadwell, E1 (Museum of London Archaeology Service, report in prep); Mucking, Essex (directed by Mrs M. U. Jones; report in prep, English Heritage); Colchester, catalogue of Central and East Gaulish decorated samian from several excavations, and Lion Walk 1971–4 (Colchester Archaeological Trust, reports in prep); Dartford, Kent, villa (Dartford Archaeological Group, report in prep); Canterbury Marlowe Car Park (Bird in Blockley et al forthcoming) and Cathedral Precincts (Bird in Bennett et al forthcoming); Dover Albany Place (Kent Archaeological Rescue Unit, report in prep); Ewell, Surrey, ‘King William IV’ site (Nonsuch Antiquarian Soc, report in prep); Dorchester Colliton Park (excavated 1936–8, report in prep, M. G. Fulford); Lincoln Holmes Grain Warehouse (City of Lincoln Archaeological Unit, report in prep).

8. A comprehensive range of decorated bowls from Rheinzabern is shown in Ludowici and Ricken 1948. Trier is at present less well served for publications of later samian: Fölzer 1913 shows a wide range of styles, but the main study of the late potters, Gard 1937, is unpublished.

9. It is likely that a mortarium rim from Lincoln (Bird 1973, fig. 10, 26) is in fact a Dr 43 with chipped barbotine, rather than a Dr 45 as published.

10. The spouts mentioned here have all been identified by M Pierre-Henri Mitard (Centre National de la Recherche Scientifique, Paris).

Bibliography
Anon 1974: Roman site at Shadwell, London Archaeol, 3, 4, 112
Collingwood, R. G. and Richmond, I. 1969: The Archaeology of Roman Britain, 2 edn.
Dèchelette, J. 1904: Les vases céramiques ornés de la Gaule Romaine, 1, 1–2, 2, 1–3 (Paris).
Oswald, F. and Pryce, T. Davies 1920: *An introduction to the study of terra sigillata*.