

## An Approach to Pottery Study : Stamford Ware

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Analysis of the great quantities of pottery from recent rescue excavations has posed questions of methodology, and the resulting variety of local sequence and classification systems shows the need for some degree of standardisation. Moreover, studies of individual pottery industries should help to integrate the different sequences within their distribution areas, as only an understanding of production centres will enable valid interpretation of pottery from occupation sites. In many ways Stamford ware is uniquely suited for this in that it was traded over a large area for a long period of time, although individual vessels may have had a long life and so appear slightly late in site chronologies.

The following classification system is intended to help standardise descriptions of Stamford ware. The criteria outlined below will be presented in greater detail in future, but can meanwhile serve as a guide to the procedure used and preliminary results obtained.

### Historical Background

The study of Stamford ware has reflected the general trends in medieval ceramic research in Britain. The fabric type and pottery forms were isolated first, the source of production and date range identified later, the distribution described, and finally the fabric itself studied in more detail. Although J.C. Hurst (1957) established the basis for research on the pottery, the high quality and widespread distribution of Stamford ware continued to pose questions about the origin and nature of the industry and its trade. More work in Stamford itself has enabled the ceramic production of the town to be reassessed, has clarified the problem of Northern Stamford ware and Stamford-type wares, and has shown the chronological developments. In 1963 G. Simpson (Wilson and Hurst 1964) excavated in the grounds of Stamford School a kiln belonging to the latest production phase. Since 1966 C. Mahany has excavated various sites in the town including the Wharf Road kiln site (Mahany 1968; 1969; Wilson and Hurst 1969) and the Stamford Castle site (Webster and Cherry 1973) which has produced a large quantity of material forming the basis for a general study of the pottery.

### Methods

The first priority in a comprehensive analysis of the pottery industry was to establish a thorough classification system which could assemble a standardised body of information. Such a classification had to be workable and not too complicated, and capable of concise recording. It had to be tailored to the nature of Stamford ware, which shows great diversity during almost four hundred years of production. Therefore, it had to cope with the variety of material. It also had to be precise enough to allow valid comparison, especially given the extensive geographical distribution, and finally it had to be flexible enough to treat fragments of pottery, usually all that is preserved.

Visual study of ceramics with a magnifier will remain the primary method of fabric analysis, but can be usefully supplemented by scientific

analyses. For Stamford ware a combination of petrological (1) and neutron activation (2) analyses is useful in establishing detailed, precise fabric definitions and so aiding identification of dubious examples. Such techniques also add a dimension in the study of raw materials and manufacturing technology.

Pottery classification can generally be separated into the study of vessel composition and form. The term fabric is best limited to the more specific meaning of the combination of clay and temper; the composition then comprises fabric, colour, glaze and hardness. Form is ideally listed as a specific variant of a certain vessel type, but the fragmentary state of excavated pottery means that bases, appendages such as handles and spouts, and surface treatments need separate classification as they are not unique to one particular form, yet may occur as fragments on their own.

### Fabric

Fabric is determined by the available raw materials and their processing. Visually eight categories have been determined by the varying sizes and quantity of quartz grains present. Thin section analysis enables greater precision of definition. In her analysis of the St. Martin's Street site (Mahany 1969, Wilson and Hurst 1969) C. Mahany subdivided the Stamford ware fabrics and glazes present there into categories which have formed the core of the following extended and modified classification, developed for analysis of the Stamford Castle site.

Sherd colour is of dubious value for classification, but can be useful if its technological origin is considered and the information is precise, with categories defined by Munsell notation. Most Stamford sherds are grey to cream coloured, varying on the same sherd, and it seems neither helpful nor practical to subdivide these further. Totally oxidised sherds that are whitish throughout are recorded, as are those totally reduced to a dark grey, and the reddish orange sherds.

Microscopic examination shows that all of the fabrics have an optically anisotropic matrix of fired clay which contains a limited range of inclusions, consisting of quartz grains, iron grains approximately 0.01 mm. diameter, and ovoid clay pellets which can occasionally reach several millimetres in length.

Fabric A is moderately sandy and usually varies from medium to light grey in colour due to incomplete oxidation; however some pieces, especially glazed ones, are completely oxidised. Thin sectioning shows frequent grains of subangular quartz, the great majority in the range 0.03 to 0.17 mm. across, with some up to 0.40mm.

Fabric B is very fine and virtually always oxidised to a pale cream or whitish colour. The few subangular quartz grains range from 0.03 to 0.13 mm. across and are only occasionally larger; about half are approximately 0.04mm. across. The clay matrix is full of angular quartz grains approximately 0.02mm. long.

Fabric C is extremely fine and visually closely resembles Fabric B. Microscopically it shows the same distinctive clay matrix and range of quartz grains, although in lesser quantity than Fabric B.

Fabric D is very sandy, often reduced to a dark grey colour, although generally medium grey and sometimes even lighter. The quartz grains are fairly evenly divided in the range 0.03 to 0.20mm. long with some larger, but rarely greater than 0.50mm. across.

Fabric E is moderately sandy, usually medium grey to buff coloured. It contains mixed angular and subangular quartz grains, many 0.03 to 0.07mm. across, with fewer in the range 0.07 to 0.30mm, and only a few larger, occasionally up to 0.60mm. long.

Fabric F is closely related to Fabric E, with the same range of grain sizes, but is not as sandy in appearance. There are fewer quartz inclusions than in Fabric E, with proportionally more of them in the range 0.03 to 0.07mm. across, as there are considerably fewer of the larger grains. The small angular quartz grains reflect light, giving an effect similar to mica.

Fabric G is slightly sandy, more so than Fabrics B and C, but less so than the other fabrics. Sherds are usually oxidised to a pale pink colour. The quartz grains generally range between 0.03 and 0.17mm. across, only occasionally larger, and are in a clay matrix containing angular quartz grains approximately 0.02mm. long.

Fabric H is usually buff or medium grey in colour and is distinctive with greatly varied sizes of quartz inclusions. Like Fabrics E and F, many mixed quartz grains are 0.03 to 0.07mm. across, but the remainder are spread up to 0.60mm., with a significant percentage greater than 0.31mm. across.

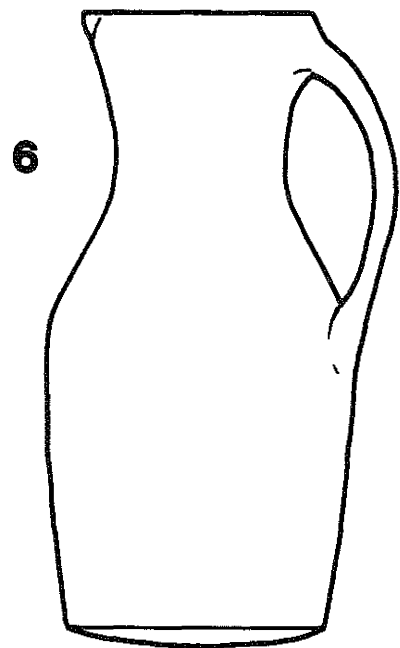
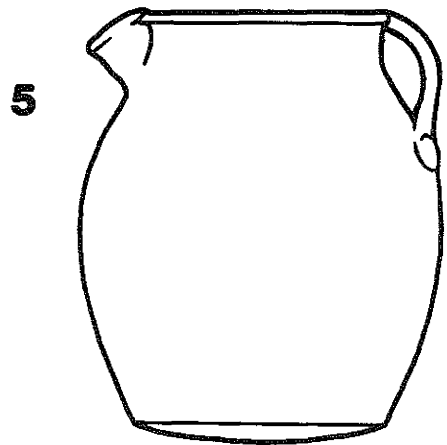
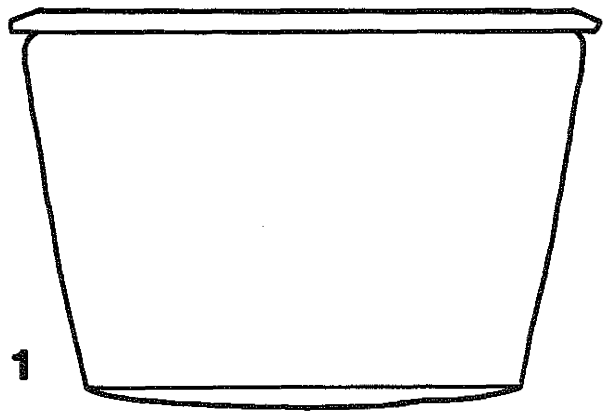
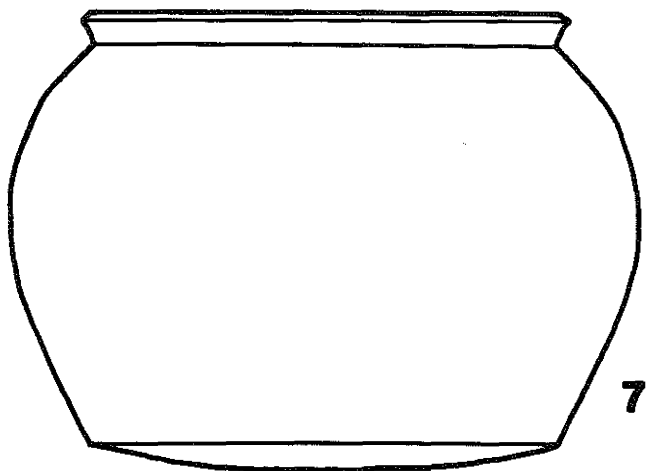
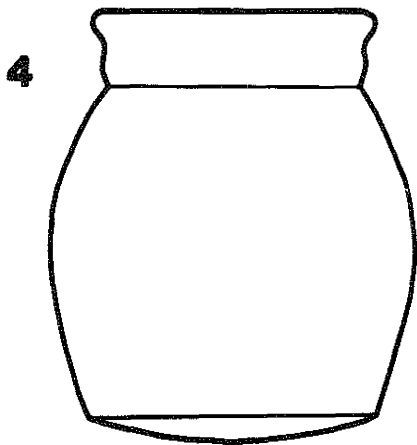
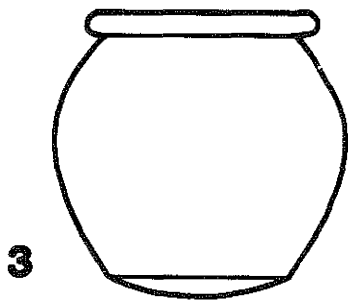
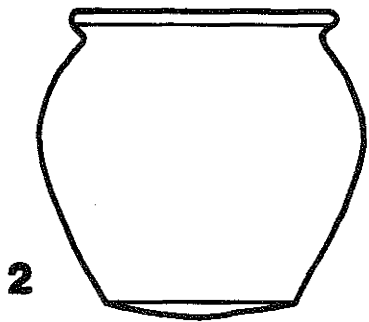
The fabric of a sherd is indicated by the use of the relevant capital letter.

### Glaze

The fabric of a pot will affect the appearance of any glaze applied to it. The resulting glaze is further determined by its original ingredients, unintentional impurities, method of application and firing conditions (Verhaeghe 1968). Glaze analyses are difficult to interpret, (De Bouard 1974) partly because of the reaction between glaze and clay during firing and the subsequent diffusion of elements, and early glazes are not very homogeneous. The diversity of Stamford glaze effects can be divided visually into six groups which are useful for classification and show chronological change. All of these glazes are simple, lead-based ones (3). Experiments have shown that the Upper Estuarine clay found north of the town contains enough silica to form a fabric and glaze very similar to a twelfth century type when fired with a coating of lead applied in a water solution.

Glaze 1 is the most common, generally dating from the late eleventh and twelfth centuries. It is fairly thin, clear and glossy, and ranges in colour from light yellow to pale green, occasionally with unglazed patches.

Glaze 2 appears to be a consistent firing fault or experiment, which nevertheless occurs on a significant proportion of twelfth-century glazed pieces. It is the thinnest glaze and has oval unglazed patches 1 cm. to 4 cm. long. The colours are mottled in shades of blue-grey and olive green.



Glaze 3 is characteristic of "Developed Stamford ware" of the second half of the twelfth and first half of the thirteenth centuries. Its bright green colour is produced by the addition of copper filings. On some examples the filings were not fine enough to mix well, so that a speckled effect of green and black spots up to 4mm. diameter on a pale yellow background resulted. This glaze is slightly thicker than Glazes 1 and 2, but thinner than Glazes 4 and 5.

Glaze 4 is a thick, glossy yellow colour with a treacly appearance, slightly opaque, and generally dates from the tenth and eleventh centuries.

Glaze 5 of approximately the same date, is also quite thick, yellowish green to olive green in colour, with black iron flecks, usually 1 to 2mm. in diameter, which produce slight orange and greenish streaks.

Glaze 6 is a very clear and glossy yellow with an orange tinge, of approximately the same thickness as the contemporary Glaze 3.

#### Recording of Glaze

Unglazed sherds are recorded as 0 to note the absence of glaze, and when sherds have only a few specks of glaze parentheses are used. Usually only the exterior of the pot is glazed and the use of a single digit implies this. When both surface are glazed, this is described with the use of a slanted stroke, such as 1/1, and the few vessels which are internally glazed are noted as 0/5 etc. The glaze notation is recorded after that of the fabric, so that B 3 would be a typical so-called "Developed Stamford ware" sherd of Fabric B, externally covered with copper-coloured Glaze 3.

#### Vessel Form

Although plain body sherds can have their composition recorded, in practice they are not very useful for a study of forms. Nevertheless, as many of the identifiable pieces as possible should be assigned to a vessel type.

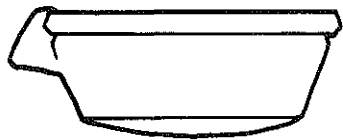
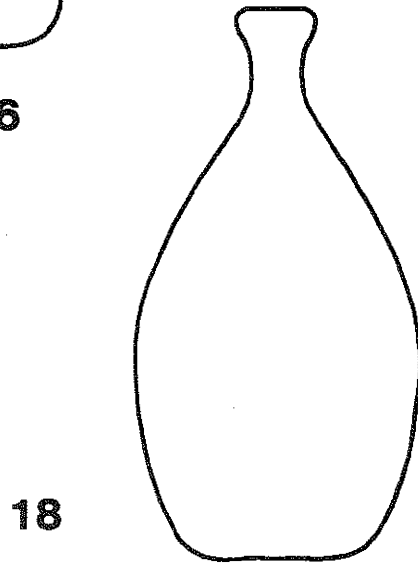
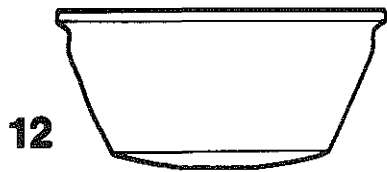
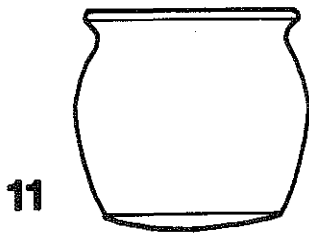
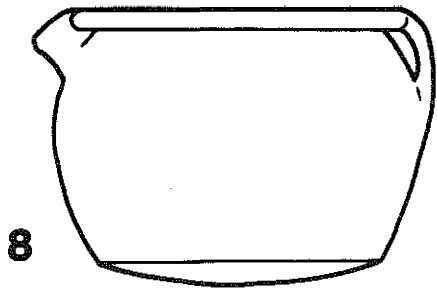
Twenty-five vessel categories have been defined so far, in addition to a group of miscellaneous forms. Each has a range of variation, particularly of rim shape. In the following list date ranges are given only when reasonably secure.

Group 1 : (fig. 6, 1,) large, straight-sided bowls, usually with thick, everted flanged rims. Although the ratio of height to radius varies, the rim is always the broadest part of the vessel. Decorated bowls usually have rouletting on the rim flange or thumbed, applied strips on flange and side.

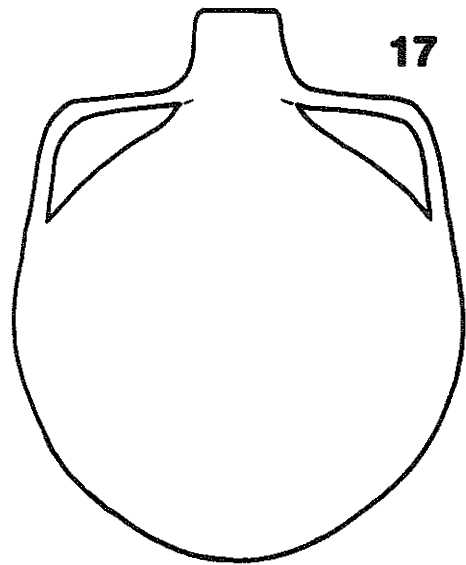
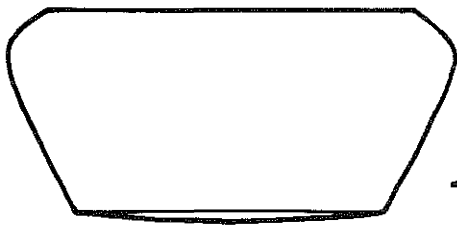
Group 2 : (fig. 6, 2,) cooking pots with simple, everted rims.

Group 3 : (fig. 6, 3,) cooking pots with a concave upper rim surface or some form of possible lid seating. A few Group 2 and 3 vessels have rouletting on the shoulder or rim; very few show any glaze.

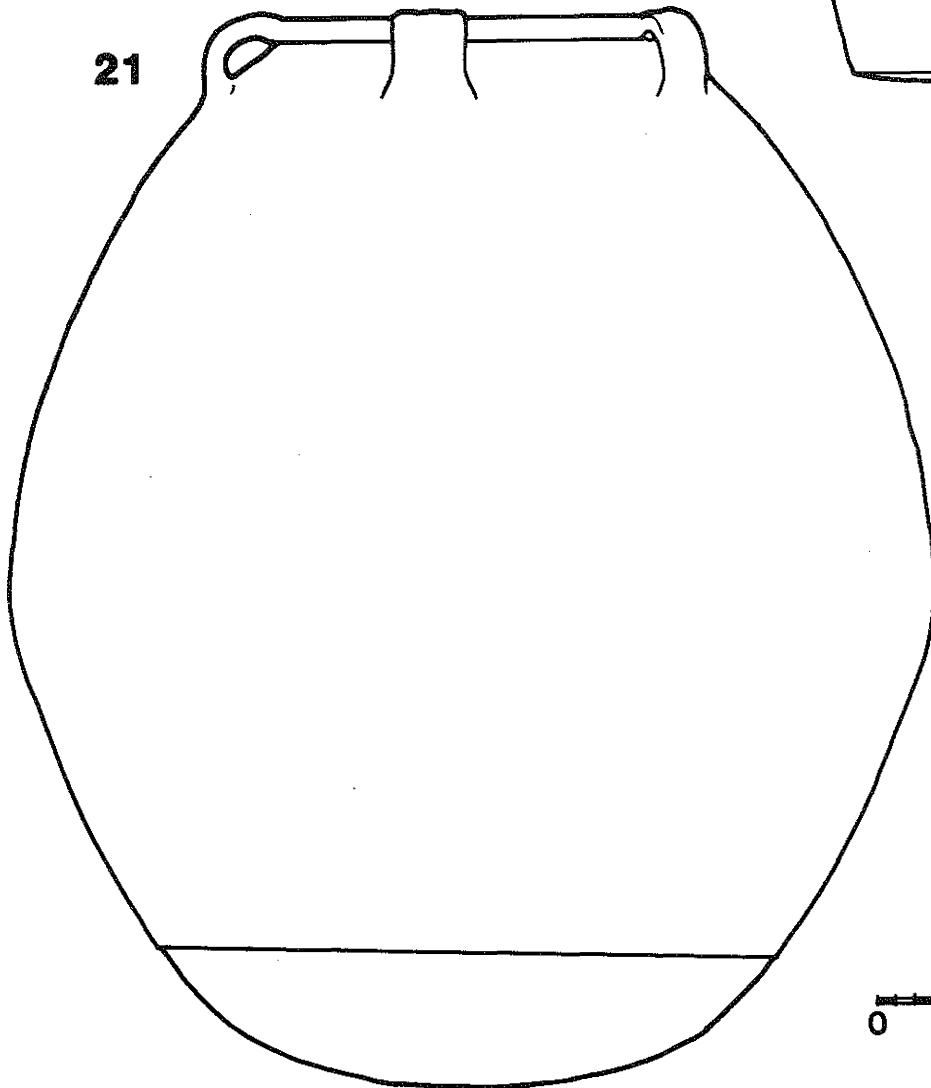
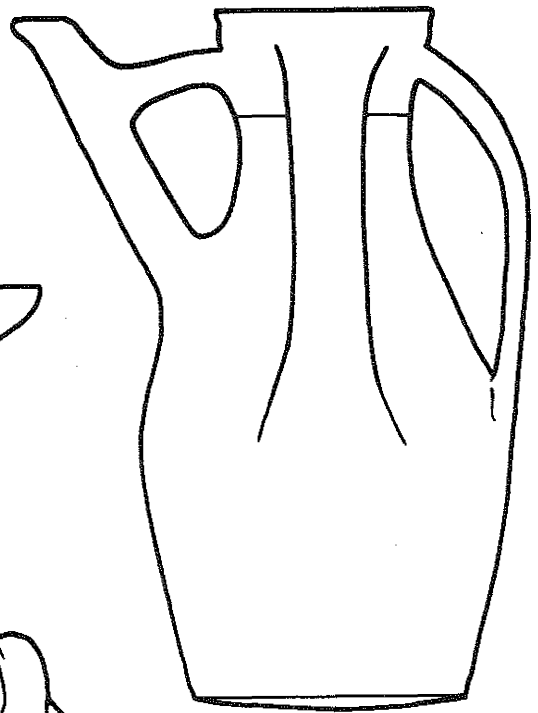
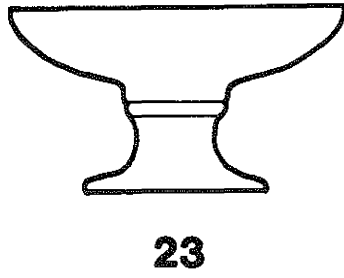
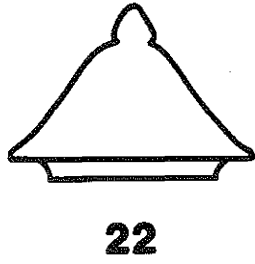
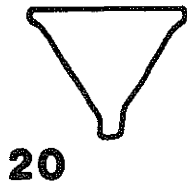
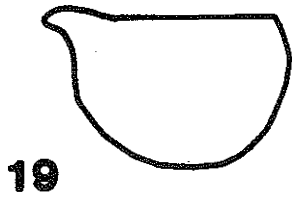
Group 4 : (fig. 6, 4,) jars with a neck 3 to 5 cm. high. These become common from the middle of the eleventh century and eventually replace forms 2 and 3, although fewer examples are soot blackened and they do not seem so exclusively used for cooking.



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- Group 5 : (fig. 6, 5,) spouted pitchers, often simply Group 4 vessels to which a spout and one to three handles have been added.
- Group 6 : (fig. 6, 6,) jugs, fairly homogeneous in form, generally with copper-coloured Glaze 3, and often decorated with grooves or thumbed and combed applied strips, usually with an elaborated pattern on the handle. They start to replace the Group 5 spouted pitchers from the mid-twelfth century.
- Group 7 : (fig. 6, 7,) large, curved sided bowls with simple, fairly delicate rims which are not the broadest part of the vessel. Although Group 1 bowls have a long life, they seem to be gradually replaced by this form.
- Group 8 : (fig. 7, 8,) spouted pots which differ from the pitchers of Group 5 by their proportions. These vessels are basically large cooking pots, with broad mouths, to which a handle and spout have been added, often unglazed.
- Group 9 : (fig. 7, 9,) small, globular pots, usually glazed and probably used as cups.
- Group 10 : (fig. 7, 10,) small, conical vessels with pedestal bases, glazed or unglazed.
- Group 11 : (fig. 7, 11,) vessels slightly smaller than cooking pots with simple upright rims, usually glazed and probably a variety of tableware.
- Group 12 : (fig. 7, 12,) small bowls, probably also tableware. The basic form virtually spans the life of the industry, with changes in fabric and rim style. Early, sandy examples often have a small rouletted flange, while later types are often glazed.
- Group 13 : (fig. 7, 13,) bowl forms like Group 12, with the addition of a horizontal spout or socket.
- Group 14 : (fig. 7, 14,) inturned bowls, glazed or unglazed, belonging to the tenth and early eleventh centuries.
- Group 15 : (fig. 7, 15,) shallow dishes, basically from the first half of the industry.
- Group 16 : (fig. 7, 16,) crucibles, generally globular with simple inturned rims.
- Group 17 : (fig. 7, 17,) costrels, though rare, cover a wide date range.
- Group 18 : (fig. 7, 18,) bottles, best known from the Stamford School kiln wasters.
- Group 19 : (fig. 8, 19,) ovoid lamps with pinched lips, predominantly twelfth century.
- Group 20 : (fig. 8, 20,) cresset lamps with a shallow, conical upper and a spiked base.





Group 21 :(fig. 8, 21,) very large storage vessels, glazed or unglazed, decorated with applied strips and bosses in the Thetford ware tradition, dating from the tenth and eleventh centuries.

Group 22 :(fig. 8, 22,) lids, glazed and often decorated with concentric grooves.

Group 23 :(fig. 8, 23,) pedestal dishes, rare and known mainly from the Stamford School kiln wasters.

Group 24 :(fig. 8, 24,) tubular spouted pitchers, glazed and often elaborately decorated, which seem to continue from the mid-twelfth century into the thirteenth century.

Group 25 : miscellaneous remaining vessel types.

### Recording of Vessels

Each of the different sub-divisions of these vessel types is numbered, so that 5-12 represents a specific spouted pitcher form. Form notation should be followed by that of the composition so that 5-12 G 1 would be a very precise description of a particular spouted pitcher type made in Fabric G and bearing Glaze 1 on its exterior surface.

These forms may be modified, by various surface treatments or decoration, which consist basically of impressions into the pot, such as rouletting, grooving and combing, or applications onto the pot, usually of strips, or impressions into an applied piece. These effects have been broken down into simple elements which can occur singly.

### Conclusions

A detailed classification such as this is necessary if Stamford ware is not to be treated as one oversimplified type. The fine white fabric with pale yellow glaze, generally associated with the term Stamford ware, is only one part of the production. Precise descriptions also allow more detailed analysis of the distribution of various kinds of Stamford ware, and help in dating coarse ware sequences.

The study of the pottery found at Stamford clarifies the production there and suggests that virtually all the so-called "Northern Stamford ware" originated in the town itself. This provokes questions about the nature of the trade involved and the scale of production in the town. The increasing quantity of Stamford ware found in distant sites does suggest actual trade rather than scattered breakage from peripatetic households.

Yet the production in Stamford did not develop into a large-scale industry, along continental lines. The variety shown in the pottery at any one period (of forms, decoration, fabric and glaze), does not suggest a concentration monopoly. The observed overlap in the changes in these elements also supports an interpretation of several workshops. Kilns and waster groups are the primary sources of information, and those so far excavated all show a relatively restricted range of products. The excavated production material comes from five sites : the 1874 kiln find in the Stamford School grounds, the nearby kiln excavated by G. Simpson, C. Mahany's 1968 excavation north of St. Leonard's Street of a large quarry pit containing wasters (Wilson and Hurst 1969), the 1969 Wharf

Road kiln, and the 1976 kiln on the Castle site.

It is now clear that pottery production did not start in Stamford because of the excellent clay, for it was not used in the early phase, when the pottery seems closely related to the other Thetford-type wheel thrown industries in form and technique. The start of the industry in Stamford seems linked with the growth of the town in the late nineteenth century. Thus the origin of Stamford ware is part of the whole phenomenon of the rapid spread of pottery industries in the Danelaw at that time, although the discovery that red-painted vessels were made in Stamford at a very early stage of the industry also shows some awareness of Continental developments. There is no conclusive evidence of Stamford production before the Danish occupation, which provides a convincing historical link between the known Thetford-type industries.

By the late tenth century the Stamford industry was becoming distinctive, and seems more successful than other contemporary centres. There are two main reasons for this: the use of glaze and the location of the town. Although the origin of glaze is not clear, it seems to occur in the earliest phase of production and should be considered in relation to developments in northern France. The glaze must have made Stamford pottery a unique product, therefore highly competitive and worth transporting. The comparative excellence of the unglazed vessels also ensured their wide distribution, especially where local products were poor. The site of Stamford was well suited for trade, being linked to north and south Ermine Street. Also, the river Welland was navigable at least as far as the town itself (Darby 1940). These factors, combined with the general stimulus given to trade by the Danes, and its later expansion with the reconquest of the Danelaw, help to explain the early spread of the pottery.

It was only in the middle of the eleventh century that finer layers of the Upper Estuarine beds seem to have been exploited, and this gave a new impetus to the industry. With practice in using this clay, the Stamford potters could produce high quality vessels, virtually unrivalled by competitors. In addition to the fine wares, the traditional sandy wares continued, usually unglazed, for almost a century. So this phase in the early to mid-twelfth century shows a lively diversity in fabric, form and decoration. The vitality of the new developments also preserved the industry from the decline noticeable in other contemporary town pottery industries, with the increased importance of localised rural pottery centres.

By the late twelfth century, the Stamford potters were only using pure, whitish Estuarine clay, producing fabrics B and C exclusively, and leaving the provision of coarse wares to village potters. There is no simple explanation for the decline of the pottery industry in Stamford, although its end is not perhaps as surprising as the fact that it managed to last as long as it did, considering both the external and internal conditions. First, increased competition limited the market for Stamford ware. The fine, rather expensive products would be competing with cheap, local products of improving quality, the new style of jugs from large-scale centres, the increasing use of metal vessels. It is also important that the significance of the pottery industry within the town should not be over-emphasised. Stamford never seems to have become a specialized pottery town. Pottery making was comparable with the town's iron working, stone quarrying, tanning, weaving and dyeing. By the mid-thirteenth century, the wool industry was certainly a dominant feature of the Stamford economy (Carus-Wilson 1962-3; 1969); its opportunities for employment would have been attractive and its trade presumably more profitable for middlemen. If pottery making and selling was no longer a successful

pursuit, it would not be difficult for the tradition to be ended by a secondary factor. Nevertheless, for almost four hundred years, the Stamford potters produced some remarkable wares which inspired some degree of imitation wherever they were traded.

#### Notes and Acknowledgements

Wilson and Hurst (1964) 294-96. G. Simpson will report on this kiln in a forthcoming publication.

Mahany (1968), Mahany (1969) 11-20, Wilson and Hurst (1969) 234-35. C. Mahany will publish in detail the St. Martin's Street and Wharf Road kiln sites in a forthcoming monograph.

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Mahany (1969) 14-17, Wilson and Hurst (1969) 265. I would like to thank Miss Mahany for her constant help in expanding her original classification.

I am grateful to Dr. R. Preston of the Department of Geology, University College London, for spectroscopic analyses of Stamford ware glazes.

L'auteur présente ici la base d'un système de classification destiné à homogénéiser les descriptions de la céramique de Stamford. Huit types sont aussi décrits à la fois dans leur aspect visuel et dans leur composition pétrologique, aussi que six types de glaçures. Le répertoire complet des formes est divisé en vingt-cinq catégories, et une méthode d'enregistrement des types, glaçures et forms est présente. L'auteur présente également le développement de l'industrie céramique à Stamford, en relation, à la fois avec les autres centres de production et avec la vie de la ville de Stamford elle même.

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