Vernacular pottery manufacture in a nineteenth century Scottish burgh: a kiln deposit from Cupar, Fife

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The documentary evidence

'... on the north and south sides of the Eden [at Cupar], there is an immense bed of clay of a very excellent quality, and peculiarly fitted for the making of brick and tiles, for which it has long been used. Recently, it has been employed for the making of coarse earthen-ware, and is found to answer well' (NSA 1836, 3).

Industrial development in Cupar before the arrival of the railway in 1847 was constrained by high transport costs, the town being about nine miles from the sea. It had no coal, and only limited water power, but it did have good deposits of glacial clay. In 1755 it was suggested to the Town Council that a brick and tile works should be set up, using the local clay and 'furnishing the towns people at as easy a rate as anywhere else by which the carriage will be saved' (StAU B13/14/5, 3 Mar 1755). But it was not until 1764 that four men applied for a feu of the Bridge Hill, which lay just beyond the south-east end of the old bridge over the Eden (the present South Bridge is its modern replacement), 'for building and erecting a kiln and shade thereon ... The petitioners shall be obliged to sell their brick and tile to the inhabitants at as reasonable a rate as sold for at other brick and tile works.' Local people would retain rights to graze cattle and dig clay for their personal use. A lease was eventually signed by two of the men, merchants Robert Geddie and Robert Bell, in a co-partnery agreement dated 9th March 1764 (StAU B13/14/5, 10 Feb 1764; B13/7/5, 14 Feb 1790). The venture prospered, and by 1793 the Reverend George Campbell could report that 'the brick and tile work [at Cupar] has long been profitable to the proprietors, and still continues to thrive, but is not yet able to answer the great demand for tiles (OSA, 205).

Potters had also been working in Cupar in the eighteenth century, and no doubt earlier, to fulfil local demand for a low-cost product whose bulk militated against transport from further afield. In 1763 the Town Council ordered that 'the potters presently residing in the Correction House [at the north end of the Bridge Hill] be debarred from taking any more of the Town's soil of the Bridge Hill' (StAU B13/14/5, 19 Sep 1763). In 1766 John Watson, 'canmaker', was allowed to build a kiln and dig clay provided he served the town 'as well and cheap as others with potters ware' (StAU B13/14/5, 25 Jun 1766). A few years later Martin Watson was given 'the same privileges his father enjoyed relating to the making potter work' (SRO B13/14/6, 3 Feb 1773). There are further references to Martin Watson in Town Council minutes up to 1780.

Towards the end of the eighteenth century Hay Bell, eldest son of Robert Bell, inherited his father's share in the brickworks. In 1790 he and Robert Geddie bought the Correction House and its land, where the potters had worked, 'which affords an additional body of clay etc. for the use of the said tile work' (StAU B13/7/5, 14 Feb 1790). In 1807 James Wilson, a local solicitor, took over from Geddie, and asked the Town Council for permission to expand the works (StAU B13/14/7, 7 Nov 1807). Wilson's account books for 1807 to 1814 survive among papers lodged with the Court of Session in Edinburgh when he went bankrupt. They show that he started paying workmen at the brickworks in November 1807, and by February 1808 was buying coal. He also bought picks, shovels, spades and wheelbarrows, sieves and a riddle. The works had stables and horses, which were supplied with oats and hay. Coal was brought by cart from Balgonie, Balbirnie, Largoward and later Kinninmonth (Illus 1). In 1809 the works paid duty on 115,000 bricks, 132,000 tiles and 2,400 'pavement' (floor tiles). Excise payments for subsequent years were as follows: (1810) 148,000 bricks and 147,000 tiles; (1811) 147,000
bricks and 150,000 tiles; (1812) 143,000 bricks and 130,000 tiles. The numbers of floor tiles remained low. As well as payments for entertaining the Excise Officer, on one occasion James Wilson notes 'one cart of ditto [coals] to Excise Officer 9/9d'. Beer and bread was occasionally provided for the 'men at kiln', and a boy was paid for turning the bricks (SRO CS 96/1736 and 1737).

By 1816 another solicitor, James Kyd, had become involved in the brickworks (StAU B13/14/6, 6 Nov 1816). In a directory of 1825 he is described as a brick maker at Bridge End, as well as a writer in St Catherine Street (Pigot, 1825), while Wood’s plan of Cupar (1820) records his name in association with the brickworks (Illus 3). In 1828 the heirs of Robert Geddie, one of the original co-partners of 1764, sought to buy the Town’s rights to the land (which were unclear since the original agreement had been made so long before) in order to continue the business (StAU B13/14/9, 26 May 1828). They obviously encountered problems, as the business was put up for sale in 1830 at a reserve price of £200 (StAU B13/14/9, 27th Oct 1830).

In 1830, after the business was sold, the tenancy was taken up by David Smith, a builder who had settled in Cupar in 1819. He continued to run the enterprise until Whitsun 1845, when he got into financial difficulties. When he went bankrupt his main creditor was the colliery at Teasses, near Ceres (SRO CS 280/40/149/1). Just after he had appointed receivers to run his business ‘the Edinburgh and Northern Railway Company required the Brick and Tile work for the purpose of the railway and purchased the same from me or my managers ... at the price of £1,388. 14. 9d.’ The railway company paid the owner of the land separately. The payment to Smith bought out the remaining three years of his lease and re-compensed him for the investment he had made.
He was subsequently employed by the company as an inspector of their building works in the area (SRO CS 280/40/149/1).

When David Smith took over the business in 1830 clay on the land covered by his lease was almost exhausted, and he had to negotiate with neighbouring landowners to get enough to keep going. The shortage of tile clay was particularly emphasised, implying that bricks required a different, perhaps poorer, grade. One of the owners of the core site was John Ferguson, who had bought a third share from James Wilson in 1814 for £320 (StAU B13/8/1, 25 May 1814). A contract in 1834 defined Ferguson’s rights as covering ‘as much clay as they should have use for making and manufacturing bricks, tiles and other potterware’ (SRO CS 280/40/149/1). In 1833 an inspection by the Town Council found that ‘Smith was at present employed in erecting additional buildings’. Its members were concerned that he was going beyond the terms of his lease, and agreed to investigate further, but the council had other matters on its mind at this time, and nothing further seems to have been done (StAU B13/14/10, 3 April 1833). In fact the Town Council seems to have supported the business, agreeing the following year to petition Parliament for the repeal of the duty on bricks (StAU B13/14/10, 7 Apr and 5 May 1834).

The New Statistical Account’s report of 1836 that ‘recently ... [the local clay deposit] has been employed for the making of coarse earthen-ware, and is found to answer well’ must therefore refer to the activities of David Smith. It follows that the pottery found in Station Road was deposited between 1830 and 1847, very possibly when the railway company took possession of the site in the latter year.

The interim factor appointed for David Smith’s sequestrated estate was Archibald Mitchell, builder at Brighton (now Cupar Muir). He set up a new brickworks there, and in 1851 went into partnership with Henry Duncan (Campbell 1989). A trades directory of 1837 lists David Methven.
Illus 3. Early maps of the Bridge Hill area, simplified and redrawn to an approximate common scale (Ainslie 1775; Wood 1820; and Miller 1832).
Illus 4. Flanged bowls (Type I): 1, 44cm diameter; 2, 42cm diameter; 3, 40cm diameter; 4, 38cm diameter.
Illus 5. Flanged bowls (Type I): 5, 36cm diameter; 6, 34cm diameter; 7, 32cm diameter; 8, 30cm diameter; 9, 28cm diameter; 10, 26cm diameter.
Illus 6. Rolled-rim bowls (Type II): 11, 40cm diameter; 12, 38cm diameter; 13, 36cm diameter; 14, 34cm diameter; 15, 32cm diameter.
as an earthenware manufacturer and china dealer in Cupar. He was the nephew of John Methven of the Links Pottery, Kirkcaldy, and in 1837 left Cupar to take over the running of the Kirkcaldy business (Campbell 1989). This has prompted the suggestion that David Methven may have been the manufacturer of the pottery found in Station Road. But it is quite clear from the documentary evidence that David Smith was working the site, on his own, from 1830 until 1847. David Methven was presumably selling Kirkcaldy-made earthenware in his shop, since there is no evidence for a second pottery in Cupar at this period.

The Bridge Hill kiln deposit

In 1995 Morrison Construction began a programme of widening Station Road on behalf of Fife Regional Council. This included the demolition of the old goods sheds outside the station and the grading of the former marshalling yard for use as a car park. These operations yielded sub-

Illus 7. Rolled-rim bowls (Type II): 16, 30cm diameter; 17, 28cm diameter. 18, Steep-sided flanged bowl. 19, Bases common to both forms, diameters 14-24 cm.
stantial quantities of brick and tile associated with
the former brickworks on the site, together with
deposits of industrial waste. In July 1995 Mrs Aase
Goldsmith noted a concentration of broken pottery
among the debris, and collected a sample which
she deposited with Mr Mike King, Curator of the
NE Fife District Museum Service. Further material
was found and deposited by Mr Peter Goldsmith,
and by Messrs Robert and Steven Penrice. Acting
on Mrs Goldsmith’s information the writers visited
the site and noted that the pottery was confined to
a short stretch - not more than 5m in length - of
the spoil bank temporarily dumped by the grading
machinery, and appeared to represent localised
deposition within the much wider spread of debris
from the brickworks. This impression was con-
firmed by the digger driver, whose recollection
suggested that the pottery had been confined to
a short stretch - not more than 5m in length - of
the spoil bank temporarily dumped by the grading
machinery, and appeared to represent localised
deposition within the much wider spread of debris
from the brickworks. This impression was con-
firmed by the digger driver, whose recollection
suggested that the pottery had been contained
within two closely adjacent and perhaps coalescing
pits located close to where the dumped material
now lay (at NO 3764 1437). The character of the
sherds - few rim pieces retained more than 10% of
their total circumferences, and in only four
instances could full profiles be obtained -
suggested that they had been compacted and
shattered during deposition to ensure a tight fill.
The spoil was scheduled for immediate
removal so the writers, assisted by Edward Martin,
made a concerted effort to recover as much of the
pottery and associated evidence as possible. Since
the archaeological context was already lost, and
there was no way of determining from which of
the two pits any particular item might have been
derived, the spoil was excavated under rescue
conditions as a single closed deposit.
Although there is no close internal dating
evidence, a secure terminus ante quem for the
collection is provided by the building of the
railway in 1847 and the consequent submergence
of the brickworks and associated pottery beneath
its marshalling yard. The bulk of the pottery
sample is of a utilitarian type common throughout
Britain from the later eighteenth century, and has
close superficial affinities with the mass-produced
domestic wares of the industrialised ceramic
centres of the Midlands. However, kiln debris
and furniture, wasters, the match of fabrics to the
adjacent clay deposits (of which samples were
taken), and the evidence of vernacular tradition in
its manufacture all point unequivocally to local
production. It seems certain that the material
derives from David Smith’s pottery enterprise here
in the 1830s and ’40s, described above, and may
perhaps reflect a clearing of the site just before the
railway arrived.

Site location
The site is situated close to the now largely
flattened eminence, known variously as ‘Bridge’ or

Illus 8. Three examples of flanged-bowl rims which fused together during firing. Note the different rim sections in each of the pairs.
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'Brick Hill', beyond the south-eastern boundary of the burgh and on the far side of the River Eden (Mus 2). Its viability as a brick and tile works, and as a pottery, was conditioned by the immediate availability of suitable clay and running water. Convenient access to the town was provided by the adjacent bridge. It was probably normal practice to locate such enterprises close to but outside the towns they served, to minimise industrial nuisance and the risk of fire. Two rectangular buildings labelled 'Bric kilns' (sic) are visible in this location on Ainslie's 1775 plan of Cupar, while four similar buildings, together with a long structure angled slightly in the middle, are shown in Wood's 1820 survey and Miller's plan of 1832 (Illus 3). The long building may perhaps be the 'shade', or sheltered working area, mentioned in the 1764 application to erect a brickworks here.

Products and manufacturing techniques

The fabric is a buff red earthenware derived from the local clay, with some gritty inclusions. It shows hardness factors which indicate a range of firing temperatures of between c 950° C and c 1050° C. These variations have arbitrarily been classified within the group as 'soft', 'medium', and 'hard'. Dark surface coloration shows that the harder pieces are reduced (fired in a smoky low-oxygen atmosphere), while the softer examples display a red coloration indicative of oxidation (fired with a plentiful supply of oxygen). These characteristics of variable temperature and uneven air-supply are typical of simple brick kilns of the 'Newcastle' type (Rhodes 1968, 47). The resultant colour differentials can frequently be seen in the brickwork of contemporary houses, and that similar variations characterise the products of the Cupar pottery suggests strongly that they were fired in the brick kilns already on the site.

The main product appears to have been flat-bottomed bowls with flared sides. Two distinctive rim-forms may readily be identified: one (Type I) is flanged; the other (Type II) displays a beaded edge. Type I bowls show a range of rim diameters from 26 to 44cm, and the collection has been classified in arbitrary 2 cm increments (Illus 4 and 5). Type II bowls display a rim-diameter range from 28 to 40cm (Illus 6 and 7). A single sherd (Illus 7, no 18) indicates a flanged bowl of a more steeply-sided form; this may, however, be an aberration, caused by a distortion of the rim. All the bowls have an interior coating of a thick off-white slip covered by a translucent honey-coloured glaze which extends to just below the outsides of the rims. The glazes sub-divide into two types. One is smooth and glossy, while the other is given a matt and slightly rough finish by the inclusion of fine sandy grit. The glazes, particularly the smooth ones, are frequently subject to crazing. There is no apparent correlation between glaze type and bowl form or size. Slipping and glazing was often done in a slapdash manner, with intrusive streaks of the red body clay sometimes creating an unintentional marbled effect.

The flat bases, which appear to be common to both types of bowl, show a diameter range of between 14cm and 24cm (Illus 7, no 19). The wider ones demonstrate a tendency to kick upwards, a common effect of shrinkage during drying.

The bowls were wheel-thrown by hand, often fairly roughly (bubbles, stress marks, and grit tears are common), and finished by trimming them.

Illus 10. Annular kiln-spacers, showing the tapered ends. This pair is arranged to demonstrate the suggested method of forming a vent to allow gas to circulate during firing. These examples are free of glaze residue and have probably never been used in the kiln.
upside-down on the wheel with a cutting tool when the clay had dried to a leather-hard state (see Woody 1976, 70-73 for a description of this technique). Trimming extended from the centre of the base up to, but not including, the underside of the rim. Grooves were frequently cut just below the rim, though apparently in a haphazard manner, no two examples being alike. Poor control was evidently exercised over the trimming process, with wall-thicknesses often being reduced to a thinness which would cause fragility in use and, in several instances, resulted in breakage during firing, as shown by the creep of molten glaze over the fractures.

Although the rim-forms are clearly distinguishable between the two types identified above, within each type wide variations occur. No two examples, indeed, appear to be quite the same. Some of the flanged rims are wedge-shaped, while others are parallel-sided or club-like in profile. A similarly wide range of variations occurs within the beaded-rim bowls. Yet the homogeneity of the group as a whole suggests strongly that these were contemporary products, manufactured with an intention of general conformity. This assumption is reinforced by three separate examples of two rims which have fused together in the kiln, showing that each pair had been part of a single firing batch. In all three cases the paired rim profiles are quite significantly different from one another (Illus 8).

The characteristics noted above are indicative of vernacular, essentially non-industrial production, in which the potter throws each vessel freehand with only the most elementary guides to approximate conformity within a production standard (weight of the clay billet, repetitive experience, simple height and diameter gauges, and so on) (Leach 1976, 75-76). Within the general specifications set for the rim form selected (flanged or beaded) a virtually limitless range of variation was possible, conditioned only by chance and the whim of the potter. Trimming of the outside profiles was done by eye, often incompetently (although to be fair many of this group are probably rejects), rather than by the more reliable semi-industrialised jigger and jolley process which would have ensured mechanical conformity (Billington 1962, 101).

The finds included a considerable quantity of L-sectioned circular pieces of heavily grogged fireclay, which can be identified as spacers for stacking both bowl forms in the kiln. No complete example can be reconstructed, but the cut and tapered ends on many of the pieces show that they were segmental rather than continuous. The diameters of the flanges cover a range which would accommodate vessels from 26cm to 46cm in diameter, closely matching the size spread of the bowls (Illus 9, no 22). A minimum of two, but more probably three or four, segments can be postulated for each complete annular spacer, gaps being left between the tapered ends to form flared vents for the free circulation of gasses (Illus 10). The probable stacking arrangement is shown in Illus 11. It is evident that the bowls were fired upside down, with their rims resting on the flanges of the spacers, most of which are covered with deposits of glaze (three pristine examples were evidently still unused when dumped). Some care seems to have been taken by the potter to finish the bowl rims in such a way as to minimise the area of contact with the spacer flange, no doubt to reduce to possibility of fusing.

Although the two types of glazed slipware bowl constitute the majority of the sample (about 95% by sherd count) two other forms have been identified. The first can be recognised as flower pots, in various sizes, of unglazed soft red earthenware with the traditional drainage-hole in the base (Illus 9, no 21). The second, represented by a number of heavily distorted wasters, can be reconstructed as a lugged casserole in well-fired earthenware (fired perhaps to 1100° C) with an internal light slip and a clear glaze extending from the whole interior to near the outside foot. A reconstruction of the form is presented in Illus 9, no 20, from a substantially complete waster which, though collapsed, retains its full profile on one side (Illus 12). Basal sherds indicate a minimum vessel-count of five: that all appear to have failed dramatically in the kiln suggests that this product had not been a success. It may be surmised that the high temperatures involved, coupled with the difficulties inherent in firing vessels glazed on both sides, made this an over-ambitious venture for the limited experience and resources of the Cupar pottery.

Base, wall, and rim sherds indicate the use of cylindrical saggars (Mus 9, nos 23 and 24) appropriate to firing closed wares of this kind (Rhodes 1968,157-9). A final item was kindly deposited with the District Museum Service by one of Morrison Construction’s workers, who
confirmed that it came from the main pottery deposit. It is a small wheel-thrown unglazed earthenware vessel with thick walls and a wide external flange. The piece has not been identified, but it may be a piece of kiln furniture or workshop equipment (Illus 9, no 25).

No systematic study was attempted of the brick and tile deposits, except to note that the bricks conform to the common standard of 9 x 4\(\frac{1}{2}\) x Sin (229 x 114 x 76mm) (Wood 1963, 275). The pantiles are of a type still current in the district, while two examples of semi-cylindrical ridge tiles are unusual only because of the spectacular distortions they have undergone in the kiln (Illus 13). No examples were found of the ‘pavements’ of the kind noted by James Wilson in his accounts of 1809-12.

Conclusion

The domestic earthenware manufactured in Cupar during the first half of the nineteenth century is remarkable not because it was in any way unusual or exotic - it was most emphatically neither - but because it shows how vernacular ceramic techniques in a small Scottish burgh could respond to local demand for cheap utilitarian pottery closely replicating forms in widespread use elsewhere. This might perhaps be seen as a paradigm for pre-industrial pottery production.
throughout lowland Scotland. The viability of such an enterprise depended upon sufficient demand close to a production centre, and economic access to appropriate natural resources. In Cupar’s case demand was provided by the burgh and its surrounding rural area, while two of the required resources - clay and running water - were conveniently available just outside the town. The third, fuel, could be obtained from small-scale local collieries close enough for economic haulage by horse and cart.

The controlling factor in the economic equation is transport. The cost of acquiring raw materials, and of distributing the resulting product, rapidly escalates beyond a cheap and relatively bulky item’s capacity to generate profit if transport costs are other than minimal. Cheap ceramics for domestic markets must therefore, of necessity, be produced close to where they will be used (Martin 1979, 286). Small-scale potteries are likely to have operated to service the individual demands of most Scottish burghs from their inception, though the fact that ceramic kiln remains have rarely been encountered within burgh boundaries (an exception is the 13th/14th century pottery excavated at Rattray, which lay behind a tenement inside the burgh (Yeoman 1995, 112-13)) suggests that, as at Cupar, they were normally situated in the countryside close by. This indeed was so of the major medieval pottery complex at Colstoun, near Haddington, which no doubt owed its unusual size to the substantial urban populations in its vicinity (Brooks 1981). This site has produced, amongst other wares, passable imitations of the well-known anthropomorphic jugs made in Scarborough.

It may be supposed that vernacular potters in Scotland throughout the medieval and early modern periods were as capable as the nineteenth century craftsmen working at Cupar to model their wares to conform with more widespread contemporary fashions or to replicate products manufactured elsewhere. Caution should therefore be exercised in seeking to identify ‘production centres’ for ceramic types identified only by stylistic similarities or common manufacturing techniques. By the same token identifiable differences do not in themselves necessarily indicate that the products displaying them were not manufactured at the same place and time. It is salutary to note that the Cupar sample, derived as it is from a closed kiln deposit with a confidently attested context and date, could have been classified to show a wide range of sub-types based on rim forms, finishing techniques, and firing regimes. As has been shown above, these variables in fact derive from nothing more than the idiosyncrasies inherent in non-industrial production. Cupar’s otherwise undistinguished pottery industry is therefore a telling reminder of the caution which must attend attempts to classify and interrelate vernacular coarsewares of the medieval and early modern periods. The find also illustrates, very directly, the end of that era, for the railway which physically swept away David Smith’s failing enterprise in 1847 also removed any economic justification for its continued existence.

Craft skills rooted in medieval tradition were being
displaced by organised industry and the transport revolution, and henceforward cheap, standardised crockery from remote mass-production centres could be brought economically to the burgh by rail.

This paper is published with the aid of a grant from the Fife Council.

Sources
Primary
Pigot & Co’s New Commercial Directory of Scotland for 1825-6, (London and Manchester).
SRO Scottish Record Office, Edinburgh.
StAU St Andrews University manuscript collection, St Andrews, Fife.

Maps
Ainslie, j 1775 Inset plan of Cupar on The Counties of Fife and Kinross with the Rivers Forth and Tay.

Bibliography

Abstract
Two pits full of pottery wasters and kiln debris were discovered near Cupar railway station during road widening operations in 1995. The find is probably associated with the production of cheap earthenware, known to have been carried out in this vicinity at the brickworks operated by David Smith between 1830 and 1847. Vernacular traditions are evident in its manufacture, and it is suggested that the enterprise represents a paradigm of localised ceramic production which is essentially pre-industrial in character.

Key words: pottery, kilns, brickworks, Cupar, vernacular, nineteenth century