

ANGLO-SAXON POTTERY AND DIE-STAMPS:  
PRELIMINARY NOTES ON A PROGRAMME OF EXPERIMENTAL ARCHAEOLOGY

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Summary

This short paper is an account of a recent experiment in the manufacture of pagan Saxon pottery, in particular the fabrics found at the Baginton cemetery, Warwickshire, and an assessment of possible materials used in producing decorative stamps on such pottery. The results suggest a number of possibilities for future research, and the author would be pleased to receive comments from other workers in the field.

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In March 1984 the first of a planned series of trial pottery firings took place at the Lunt (by kind permission of Coventry Museum). The experiment had several purposes:

1. to provide a group of extra-mural students with an insight into experimental techniques and some appreciation of the skills and achievements of early potters;
2. to replicate the main fabric types of the Anglo-Saxon cemetery at Baginton, Warwickshire;
3. to test three materials which may have been used to produce the decorative stamps seen on much pagan Saxon pottery.

Only aims 2 and 3 are discussed here.

The fabric

Good quality clays are present in both cap and riverine beds in the Baginton plateau, interleaved with Bunter sands and gravels above the sandstone substrata. These clays were certainly exploited for potting in the past (for example, a 'Potterspytte' is recorded in the 16th century). The clay used for the experimental firing was obtained from the clay pits of Messrs Webster and Hemming, local brickmakers, whose machinery is working the same clay deposits as those at Baginton. The clay supplied was untreated other than having been pressmoulded into brick form.

Clay and fillers (opening materials) in the Anglo-Saxon fabrics from Baginton cemetery (Edwards, 1933 and 1948; Hunt and Stokes, forthcoming) are likely to have had local derivations. The clays contain quartz and mica grains derived from the sandstone, sands and gravels; all eight main Baginton fabric groups show this basis. In the collection from the site are parts of 159 vessels of which only 28 fall outside two main groups. Group 1 is a pure clay with possible additions of fine sand; group 2 is the same but with the addition of quartz-sand grits up to 4 mm in size. The other fillers recognised include crushed flint up to 6 mm in size, haematite, crushed bone (?), crushed pottery (Romano-British?) and vegetable matter. The experiment used all

these fillers except haematite and large quartz grits; vegetable matter was interpreted as chaff, i. e. chopped straw. It is a common mistake to use 'chaff temper' to describe hay, grass, dung and other organic materials and this may have a crucial effect on interpretation.

### The pottery

Thirty-eight small thumb- and coil-built vessels, averaging 15 cm in maximum diameter and height and of similar wall thickness to the smaller accessory vessels of the Baginton assemblage, were produced. In addition, 17 flat discs were made for testing the stamp dies, which were also used on ten of the vessels. For the manufacture of these items, 21,350 gms of clay and 2,210 gms of filler were used. After five days of drying to leather hardness, a weight loss of 3,565 gms was recorded, and a further 1,785 gms were lost during firing.

### The pottery stamps

Six stamps of chalk, bone and wood - some copying Baginton-type designs - were supplied by Lady Briscoe, who is compiling an archive of Anglo-Saxon pottery stamps (Briscoe, 1981). The bone dies were made of oxtail vertebra and lamb tibia, minus the epiphysis. The lamb bone produced a 'hot-cross bun' stamp (Briscoe type A4ai and aiii) with little or no retouching. The oxtail vertebra was also used minus the epiphysis, its natural ribbing being enhanced by a knife and shaved to a rounded, rosette form (Briscoe A5ai). The wood die, of soft wood, was cut by fine saw to a 4 x 4 grid (Briscoe A3aiv), one of the commonest stamps seen on pagan Saxon pottery. Interestingly, it was not possible to produce this stamp using only a knife. Chalk dies were also tested, although geographically chalk is unlikely to have been used at Baginton.

The dies were used one day after manufacture of the pottery and discs. Instant use led to severe clogging, while waiting for longer meant that the vessels tended to crack under hand pressure (it is strange to read in at least one source, Kennett 1978, 10, that the stamps were not used until after firing). The bone dies gave by far the most efficient results, clearer impressions and less regular need for cleansing. The oxtail die gave 60 stamps before beginning to clog, and the lamb gave 55. Wood was a good substitute, though it showed a tendency for clay particles to adhere more readily to its grainier surface and needed more scouring. Finer-grained woods such as yew might perform more effectively. After 40 impressions, the wood die clogged badly at the base of its cuts, leaving recognisable surface impressions which should be identifiable on finished vessels. A number of Saxon examples of this stamp form (Briscoe A3aiv) can be shown to have been made when the die was clogged or even broken, a good instance being Spong Hill No. 1002 (Hills 1977, Fig. 103).

The chalk dies gave good impressions at first but had a strong tendency to disintegrate, the 'grip' in particular becoming crumbly before the die itself. All three chalk dies gave about 50 imprints before beginning to break up though the stamp type was still clearly recognisable after 100 impressions. The chalk dies were not washed during use for obvious reasons, but they would, it is felt, have been suitable for use only on 'short run' production. In all cases the 'grip', as it began to flake, left many chips embedded in the pot surface, and these were not removed by the firing process, though they might be affected by subsequent use, cleansing, burial and leaching; trials to test this are in progress.

In the nature of this experiment the dies received nothing like the extensive use that could be postulated for an Anglo-Saxon potter's equipment, as many excavated pots bear upwards of 200-300 impressions each. Any speculation as to the longevity of bone or wood as a die material is therefore liable to change after re-use of the stamps next year.

### The firing

Few kilns are known from the Anglo-Saxon period, those at Cassington being rare examples. It is generally thought, however, that most pagan Saxon pottery was finished in open-firing conditions under bonfires.

At the Lunt, pre-heating fires were employed to drive off excess moisture from the ground and thus prevent steam damage in the firing of the pottery. Two wood fires were used, one on the natural sand surface, the other about a metre away, in a pre-dug bowl 0.5 m deep and 1.0 m wide. The fires burnt for 45 minutes, producing a bed of hot ashes onto which the pottery was placed; the vessels and discs were divided into two approximately equal groups for firing. Whilst useful, it may be that this pre-heating stage was an unnecessary safeguard (Woods, in press). The wood used for the pre-heating and the firing was scrap timber from the Lunt and coppiced oak, hazel and beech from nearby Tocil Wood (known as Pottersfield Coppice in the 17th century). Cones of timber were raised around the pottery and fanned to full ignition. The total timber employed was not accurately quantified, and on this occasion no thermographic recording equipment was used. Within 100 minutes the fires were reduced to red-hot embers and were left to cool before raking the vessels out. This process was completed by hand after two hours when the vessels were still uncomfortably hot but no longer prone to thermal-shock cracking in the cold March conditions.

### Firing results

All discs and vessels were successfully fired, though the discs were prone to cracking due to their position at the edge of the fires. None of the vessels showed any sign of fracture that had not been present before the firing. No fabric group could be said to be more successful than any other; this conforms well with the observation that at Baginton pots of all sizes and shapes are found in a range of the fabric groups. Control over the final coloration of vessels was limited as might be anticipated in such conditions. No vessel showed signs of reduction though most had substantial patches of smoke or charcoal-blackening commensurate with that seen on much hand-made pottery in archaeological contexts. Even a shallow bowl containing bark, leaves and other dry debris, placed in the centre of the surface fire, was fully oxidized on the interior. Pit-clamps will be used to try for reduction in future trials.

One unusual firing result occurred with the chaff-tempered fabric group. As seen in the Baginton pottery, chaff should leave a vesicular, open form of corky light fabric. In not one instance did the chaff burn out in the experimental firings, however, and the vessels fired as well as any others, even one that had been deliberately overloaded with chaff at the clay preparation stage. These vessels are now being tested in saturation, burial and leaching trials to see if the vesicular form can be achieved. This does not, of course, rule out the possibility that hay, grass or dung was used instead of straw, and these other materials will be tested in the future.

### Future research

The range of potential research projects is clear and the value of such trials in both archaeological and educational fields uncontested. The author would be pleased to receive offers of help or involvement in future trials from interested MPRG members. All the material is in the author's possession, and some vessels have already been subjected to a second firing at the Experimental Firing Group meeting in Leicester in July 1984.

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