

The technical examination of some Saxon pottery from Chester

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The pottery was all examined as hand specimens and then x-radiographed. The features noted on the radiographs were compared with those noted visually; they are tabulated below.

Pottery that has been wheel-thrown or wheel finished usually has slight lines visible on the surface of the pots, produced by the roughness of the former (eg a hand) held against the pot as it is turned. These lines can be obliterated by further surface treatment, eg burnishing or slipping. In addition wheel-thrown pottery often has an undulating inside surface with ridges running round the pot, produced by uneven hand pressure as the pot was raised.

The fine surface striations do not show up radiographically but the larger-scale ridges do, as they are variations in the thickness of the fabric (thicker areas appear paler on the radiograph). The mineral temper in the fabric shows as radio-opaque particles (pale spots) and the voids, due in the main to burnt out vegetable temper, as radio-lucent areas (darker patches).

The mineral and vegetable temper in the clay moves with it as it is shaped into a pot, the final orientation of the particles indicating the direction in which the clay fabric flowed. Equiaxed particles, which are approximately the same size in all directions, cannot indicate the direction of movement as they have no preferred alignment in the flowing clay. Long thin particles however, align themselves pointing in the direction of clay flow. Their orientation is 'fossilised' when the clay is fired and if the temper is visible radiographically, the direction of clay movement during forming shows up on the radiograph.

If a pot is wheel thrown the particles will point round the pot and slightly upwards towards the rim. The angle they make with the horizontal depends on how rapidly the pot was raised which may be a function of wheel speed, vessel size or fabric, or the ability of the potter. The angle may vary from base to rim in one pot. If a pot is wheel-finished the surface will have the slight concentric lines noted above but the bulk clay will not have flowed round and up so the radiograph will not show a 'thrown' structure. If a pot is coil built the joins between the coils may show on the radiograph and the clay flow will be partly along the coils and partly across them as they are smoothed together. A hand built pot will show no particular orientation of the temper particles and will be slightly uneven in thickness which shows up radiographically as slightly varying density (radio-opacity).

The interpretation of the data given in the table can be taken at two levels. First each sherd can be taken on its own and the most likely method of forming that part of of that vessel can be suggested on the basis of the information available. At a second level the methods of formation of whole pots can be suggested on the basis of summing the information from several sherds from different parts of vessels.

Most of the sherds have fine surface striations suggesting they were at least finished on a wheel. The exceptions are the two sherds which are from the lower part of a pot wall where it turns in to form the base.

Most of the wall portions of all the sherds show ridging to a greater or lesser degree. Where this is recorded in the table as 'not definite' it is usually because the sherd was not large enough. In one case (AM 802751) the apparent ridging visible on the radiograph could be seen to be due to a clay ridge formed not by throwing but by hand finishing of the pot wall. This shows the importance of considering both visible and radiographic features together before coming to any conclusion.

The evidence suggests that most if not all of the rims were wheel thrown but the lower parts of vessels appear more varied, though the sample is considerably smaller. One base/wall junction piece (AM 802754) is definitely wheel thrown; it has distinct ribbing and many well aligned, slightly rising, elongated voids in the fabric. The other base/wall junction sherd (AM 802755) has the variation in thickness more typical of handmade pots (variation both round and up and down the pot), yet the voids in the fabric show a slight non-random alignment at a small angle to the base. Perhaps this is best interpreted as a hand finished but originally thrown pot. One wall sherd (AM 802756) is almost certainly handmade; the voids are randomly orientated and it varies in thickness in both directions.

The number of non-rim pieces examined was not large but suggests that at least some wheel **thrown** pots were hand finished while others were not. Some pieces appear handmade but even these may have had their rims finished on a wheel. Sagging bases cannot be produced on wheel thrown pottery with no hand finishing.

Table : Features noted in the pottery

AM No.	Vessel part	Visual examination		X - Radiography			
		surface lines	ridging	ridging	voids parallel to ridging	voids in rising spiral	voids multi-directional and/or very fine grained
802740	RW	+	+	+	+		
802741	RW	+	+	+		?	
802742	RW	+	?	+		+	
802743	RW	+	+	+			+
802744	R	+	-	-		+	
802745	RW	+	?	?		+	
802746	RW	+	+	+		?	
802747	R	+	-	-	?		
802748	RW	+	+	+		+	
802749	R	+	-	-			+
802750	R	+	-	-		?	
802751	RW	+	X	?		?	
802752	RW	+	+	?			?
802753	RW	+	?	+		+	
802754	WB	X	+	+		+	
802755	WB	X	X	X		?	
802756	W	+	X	X			+
802757	W	+	+	+		+	

Key:- R = rim W = wall B = base + = present X = absent - = not enough wall; can't tell ? = not definite

The mineral temper is omitted from the table as it is no help in this study of forming methods as it is all equiaxed but significant variations in fabric are apparent and could possibly be used to refine visual fabric descriptions.