

Ancient Monuments Laboratory
Report 5/86

A NOTE ON THE PETROLOGY OF SOME
LATE BRONZE AGE AND MIDDLE IRON
AGE POTTERY FROM THE 1944
EXCAVATIONS AT HEATHROW, MIDDX.

D F Williams

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Summary

A detailed fabric examination by thin section was made on some late Bronze Age and Middle Iron Age pottery from Heathrow. The sherds were divided into three broad fabric groups based on the range of non-plastic inclusions present:

(1) Flint/Quartz, (2) Vegetable impressions/Flint/Quartz and (3), Quartz. At this stage there seems to be no reason to suspect anything other than a fairly local source for the pottery.

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A NOTE ON THE PETROLOGY OF SOME LATE BRONZE AGE AND MIDDLE IRON AGE POTTERY

FROM THE 1944 EXCAVATIONS AT HEATHROW, MDX.

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Introduction

A small number of Late Bronze Age and Middle Iron Age sherds from Heathrow were submitted for a detailed fabric examination by thin sectioning and study under the petrological microscope. The main object of the analysis was twofold: (1) to characterize in detail the fabrics involved and compare them with each other, and (2) if possible to suggest if the pottery could have been made locally. All the sherds were initially studied macroscopically with the aid of a binocular microscope (x 20). Munsell colour charts are referred to together with free descriptive terms. The site at Heathrow is situated on Taplow Gravels, near to Flood-Plain Gravels and Brickearth, and with London Clay, Bracklesham Loams and Bagshot Sands not too far distant.

Petrology and Fabric

On the basis of the range of non-plastic inclusions present in the pottery sampled, a number of broad fabric divisions have been made.

Group 1: Flint/Quartz

HR 32a Late Bronze Age: large jar

Medium thick, hard fabric, brown (between 7.5YR 5/2 - 4/2) burnished outer surface, black core and inner surface. Moderate inclusions of small pieces of flint.

HR 13 Late Bronze Age: jar

Medium thick, hard fabric, light reddish-brown (5YR 6/3) surfaces, reddish-brown/grey core. Frequent inclusions of small pieces of flint.

HR 42D Middle Iron Age: jar

Medium thick, hard fabric, dark grey (2.5Y N4/ - N3/) throughout, burnished on outer surface. A few small pieces of flint visible.

HR 46 Late Bronze Age: angular bowl

Medium thick, hard fabric, grey (between 10YR 5/1 - 4/1) surfaces, dark grey core. Frequent inclusions of small pieces of flint.

HR 109 Traces of ?haematite coating

HR 111 Traces of ?haematite coating

Medium thick, fairly hard fabric, reddish-brown (2.5YR 5/4) outer surface, with traces of red ?haematite/ochre, grey inner surface and core. Moderate inclusions of small pieces of flint.

In thin section all six sherds can be seen to contain varying amounts of angular and subangular fragments of flint. Fairly well-sorted quartz grains also occur in all the sections, together with occasional rounded ferruginous pellets which have a much lower birefringence than the clay of the matrix, sometimes appearing optically isotropic except for the included quartz grains. There are some argillaceous inclusions in HR 32a which might possibly be grog (i.e. crushed up pottery), but it is difficult to be certain.

Group 2: Vegetable impressions/Flint/Quartz

HR 11a Late Bronze Age

HR 26 Late Bronze Age: large jar

HR 33 Middle Iron Age

HR 35 Middle Iron Age: beadrilled pot

Fairly thick, softish vesicular fabric, reddish-grey (10R 5/1) to dark grey (10YR 4/1) outer surface, reddish-brown inner surface, light to dark grey core. Some of the vesicles appear to be impressions of vegetable matter. Quartz grains and sparse small fragments of flint are also visible, together with red earthy ferruginous grains. Most of the latter are very soft and friable to the touch and the more rounded vesicles may once have contained similar inclusions.

In thin section the fabric of all four sherds contains a number of voids, both fairly rounded and elongate, commensurate with the vesicular nature of the fabric. It is difficult to decide at this stage whether the elongate voids represent deliberately added chopped grass or chaff to the clay by the potter, or if these voids represent rootlets due to particular soil-forming processes in the clay before it was dug. Also present in the clay matrix are some fragments of flint, a scatter of subangular quartz grains, average size 0.10-.30mm, and rounded ferruginous pellets similar to those of Group 1.

Group 3: Quartz

HR 37

Medium thick, fairly hard dense sandy fabric, brown (between 7.5YR 6/4 / 5/2 - N4/) burnished surfaces. Thin sectioning shows a moderate amount of subangular quartz grains, average size under 0.15mm, and a few rounded ferruginous pellets similar to those of Group 1.

HR 42b Middle Iron Age

Medium thick, hard sandy fabric, reddish-yellow (7.5YR 6/6) surfaces with a few small red earthy ferruginous grains present, dark grey core. Thin sectioning shows frequent subangular grains of quartz, average size below 0.40mm in size, a little flint and some rounded ferruginous pellets similar to those of Group 1.

Comments

The above analysis suggests that at this stage there appears to be no reason to suspect anything other than a fairly local source for the pottery. Abundant flint nodules are to be found in the local Taplow Gravels (Dewey and Bromehead, 1915, 72-76), while ironstone occurs in the nearby junction of Bracklesham Beds and Bagshot Sands (ibid., 51).

Reference

Dewey, H. and Bromehead, C.E. N. (1915) The Geology of the Country Around Windsor and Chertsey (London, 1915).

Examination of Slag from Stanwell, Heathrow Airport

PAUL WILTHER, ANCIENT MONUMENTS LABORATORY

Five samples of slag (AM 817442-6) were examined. AM 817442, 817444 and 817445 were samples of fuel ash slag which is formed by a high temperature reaction between fuel ash and silicon rich materials such as clay or sand. It is often associated with metalworking hearths but can be produced in any fire which reaches a sufficiently high temperature. AM 817443 included a small piece of iron (probably smithing) slag and some fragments of hearth lining and AM 817446 consisted of more pieces hearth lining and a fragmentary iron object. The hearth lining could have been from either an iron smithing hearth or iron smelting furnace.

Small quantities of iron smithing slag are found on almost all iron age or later settlement sites. The presence of a single piece of slag and a few fragments of hearth lining does not, therefore, provide sufficient evidence for any comment on metalworking activity on or near the site to be made.

PETROLOGICAL ANALYSIS OF IRON AGE FABRICS FROM

HEATHROW, MIDDLESEX

sent to

Prof. G. G. G. G.

Report 2178

Thirteen sherds of Iron Age ware from the temple site at Heathrow were submitted for petrological examination. From an initial macroscopic examination of the fabrics, followed in each case by thin sectioning, three divisions could be made on the basis of temper inclusions. These are listed below following the descriptions of the fabrics. Munsell colour charts are referred to together with free descriptive terms.

Description of fabrics

HR 9

Thin, moderately hard fabric, dark brown (7.5YR 4/4) throughout. Numerous inclusions of small flints.

HR 26

Fairly thick, moderately hard fabric, reddish-grey (10R 5/1) outer surface, red inner surface, light grey core. Impressions of chopped grass or chaff can be seen on the outer surfaces and in the paste, also sparse inclusions of small flints.

HR 32a

Medium thick, hard fabric, black throughout, burnished on the outer surface. Moderate inclusions of small flints.

HR 33(2)

Medium thick, hard fabric, dark grey (10YR 4/1) throughout. Upright rim.

HR 37

Thick, friable fabric, reddish-brown (5YR 4/3) throughout.

Red earthy grains in paste.

HR 42a

Medium thick, hard fabric, reddish-yellow (7.5YR 6/6) surfaces with small red grains present, dark grey core. Slightly everted rim.

HR 46

Medium thick, fairly hard fabric, dark grey (5Y 4/1) surfaces, black core. Numerous inclusions of small flints.

HR 50

Medium thin, moderately hard fabric, light brown (7.5YR 6/4) throughout. Abundant inclusions of large flints.

HR 55

Medium thick, moderately hard fabric, strong brown (7.5YR 5/6) outside surfaces, black core. Numerous inclusions of medium sized flints.

HR 56

Medium thick, hard fabric, red (2.5YR 5/8) outer surface, dark grey inner surface, black core. Sparse inclusions of small flints.

HR 66

Medium thick, moderately hard fabric, greyish-brown (10YR 5/2) outside surfaces, black core. Sparse inclusions of small flints.

HR 75

Medium thick, brittle fabric, yellowish-red (5YR 5/6) outside surface, dark grey inner surface and core. Abundant inclusions of large flints.

HR 103

Fairly thick, brittle fabric, reddish-yellow (7.5YR 6/6) surfaces, grey core. Red earthy grains in paste.

Group One Fabrics 9,32,46,50,55,56,66,and 75.

All the samples contain varying amounts of subangular to subrounded fragments of crushed flint, set in an anisotropic matrix of fired clay. In nos. 9, 46, 50, 55 and 75 the flint appears numerous and up to 2.6mm. across, though the average size is about 0.60-.80mm.; in nos. 32, 56, and 66 the flint is less frequent and about 0.20-.40mm. in size. A plentiful amount of well-sorted subangular quartz grains occur in all the sections, the average size being 0.05-.10mm., except for no. 56 where the grains are slightly larger, 0.20-.40mm. Occasional grains of opaque iron ores are also present.

Group Two Fabrics 33(2),37,42a and 103.

Thin sectioning shows numerous grains of subangular quartz,

average size 0.10-.20mm., together with a scatter of opaque iron ores, set in an anisotropic matrix of fired clay.

Group Three Fabric 26

In thin section the fabric consists of an optically anisotropic matrix of baked clay containing a number of elongate voids, commensurate with the vesicular nature of the sherd and in all probability representing chopped grass or chaff. Also present are sparse inclusions of flint, average size 0.20-.40mm., and a scatter of subangular quartz grains, average size 0.10-.30mm.

Discussion

The above analysis indicates that there is no reason to suspect anything other than a fairly local source for the pottery. Abundant flint nodules are to be found in the local Taplow Gravels (Dewey and Bromehead, 1915, 72-76), while ironstone occurs in the nearby junction of Bracklesham Beds and Bagshot Sands (ibid., 51).

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