

NON-INTRUSIVE TECHNIQUES OF DATING BOW PORCELAIN

By Patricia Begg OAM

Freelance lecturer in ceramics and social history

Introduction

The purpose of this paper is to layout a reliable technique for dating Bow porcelain. Over the years there have been many different theories to the chronological understanding of this innovative and great factory, none of which have proved totally reliable. The technique I will describe is non-intrusive and available to both collector and professional alike. It does not put the object at risk and needs no more equipment than a bright light. The technique relies on the appearance of the type of body, variations in glaze and translucency colour.

Background

Frank Hurlbutt in his book 'Bow Porcelain' of 1926 created a serious new interest in the Bow factory and was the first to comment on translucency. An article by J. L. Dixon in the August 1966 edition of *The Magazine Antiques* draws attention to the use of translucency as a tool to examine eighteenth century English porcelain with a view to determining the factory of origin. To my knowledge, these are the only two serious references in literature to translucency, neither of them using it as a tool to determine the date of manufacture. Hugh Tait was the curator of the 'Bow Porcelain 1744–1776' exhibition in 1959 at the British Museum, and because the exhibition was predominantly built around documentary pieces, it inspired a new excitement and understanding among collectors. Elizabeth Adams and David Redstone's book, 'Bow Porcelain' in 1981 provided additional insight as did Anton Gabszewicz in 1982, in writing on the Freeman Collection and in 2000 in the catalogue of the London Borough of Newham Collection. Peter Bradshaw also contributed in his book 'Bow Porcelain Figures' in 1992.



Sauce Boat (Drab-class)
1746–49. Length: 7 inches (18 cm)
Private collection

As President of the Ceramics and Glass Circle of Australia, as curator of its thirteenth exhibition in 2000, 'A Treasury of Bow' and co-author, with Barry Taylor, of the associated catalogue, I was privileged to have access to over three hundred pieces of Bow porcelain for a period of three months. The objects in the exhibition well represented the entire range of production of the factory from first patent (1744) to closure (circa 1774).

Subsequent to the exhibition I have had opportunity to work on the Bow porcelain in the Lady Ludlow collection at the Bowes Museum and have examined Bow pieces at Norwich Castle Museum, The Cecil Higgins Museum and The British Museum as well as several substantial private collections.

In the preparation for 'A Treasury of Bow', I compared a white plum blossom sprigged 'R' marked tea bowl and saucer with a 'drab class' plum blossom sprigged and enamelled sauce boat. Both with similar sprigging and both with clear grey translucency, the sauce boat with a distinct grey,

slightly matt glaze and the bowl and saucer with a grey bright glaze. Other sprigged wares had variations of glaze colour from white to cream and translucency from green to straw.

I sought the advice of one of Australia's eminent porcelain potters, Anne Geroe, who attributed the glaze variations to kiln conditions and the variations in translucency to both kiln conditions and porcelain recipe, particularly the iron content.

She offered to conduct a trial firing. In the absence of soft-paste porcelain that would have had two firings, the



'Limoges' porcelain samples made by Anne Geroe
Left-hand: Reduced; Right-hand: Oxidised.
Translucency; Grey Straw

first to the biscuit and a second for the glaze, she used 'limoges' porcelain and glaze both with 0.5% iron content, this being hard-paste the glaze and body were fired together at 1350 °C. The use of hard-paste for the test was considered 'suitable' as it is the effect on the glaze of the kiln conditions that was being tested.

Samples were placed in various parts of a wood-fired kiln, some in areas that had oxygen intake (oxidised) and others in an area deprived of oxygen (reduced). The result was that the appearance of the samples fired in the reducing part of the kiln were shades of grey (drab) and those placed in an oxidizing part of the kiln showed shades of cream.

When these samples were compared with Bow pieces there was a close correlation in colour and texture of glaze as well as translucency.¹

This started the very detailed investigation of all 300 pieces in the exhibition that provided the results that follow.

Research Process

Each piece was examined in four ways by at least two independent people:

- (i) Visually looking at the nature of the glaze to determine its colour (grey, blue or cream), thickness (thin or thick) and clarity (clear or opacified).
- (ii) Visually looking at the nature of the body to determine its appearance (dense grey, dense grey-white, chalky or dense cream)
- (iii) Translucency was determined by the use of a halogen projector photo optic lamp ('xenophot' 24V, 250W) which gives a pure clear light without distortion of the colour.

The translucency of each object was put into one of the following categories

Grey	Bright pale grey
Grey-green	Bright grey to green
Green	Bright pale green
Straw	Bright straw
Dark-straw	Dark straw to brown-red
None	No light transparency through any part of the body

- (iv) Decorative style.

In recording the findings of the investigation it became evident that there were distinct groups of objects developing.

About 25% of the objects had 'accepted' and/or published dates of manufacture. These were 'arrow and annulet', 'drab' class, incised 'R', 'I' and 'X' mark, 'anchor and dagger' mark, painted numerals, fake Chinese reign marks and dated objects. The balance of the objects were undated and had no marks.

As stated earlier, subsequent to the publishing of the catalogue, 'A Treasury of Bow' in August 2000 with the results of this investigation, I have had the opportunity to examine another 300 pieces of Bow porcelain from both public and private collections.

As a result of all the pieces examined I have developed a chart to summarise the findings so that they can be easily understood.

The chart shows, for each decorative style of tablewares, ornamental-wares and figures (white, blue and white and on-glaze decoration) the date range, body type, glaze and translucency.

Bow Porcelain Bodies, Glazes and Translucency

		1744	1750	1760	1774
White-wares	Table-wares and 'R', 'X' and 'I' mark	Manufacturing dates Body Glaze Translucency	46 ⇒ Dense-grey Clear Grey	⇒ ⇒ ⇒ 56 Chalky Clear Straw	
	Ornamental	Manufacturing dates Body Glaze Translucency	46 ⇒ Dense-grey Clear Grey	⇒ ⇒ ⇒ ⇒ 58 Chalky Clear Straw	
Blue and White	Chinese style	Manufacturing dates Body Glaze Translucency	46 ⇒ Dense-grey Blued Grey	⇒ ⇒ ⇒ ⇒ 58 Chalky Blued Straw	
	Blown-blue, European flower painting and under-glazed printed	Manufacturing dates Body Glaze Translucency	46 ⇒ Dense-grey Blued Grey	⇒ ⇒ ⇒ ⇒ 58 Chalky Blued Straw	⇒ ⇒ 70 Dense-cream Blued Dark-straw none
Famille-rose	Plain and 'R', 'I' and 'X' mark	Manufacturing dates Body Glaze Translucency	46 ⇒ Dense-grey-white Clear Grey	⇒ ⇒ ⇒ ⇒ 56 Chalky Clear Straw	
	With brown-edge	Manufacturing dates Body Glaze Translucency	46 ⇒ Dense-grey-white Clear Grey	⇒ ⇒ ⇒ ⇒ 56 Chalky Clear Straw	56 ⇒ ⇒ 58 Dense-cream Opacified Dark-straw
Japanese	Kakiemon	Manufacturing dates Body Glaze Translucency	46 ⇒ ⇒ Dense-grey-white Clear Grey	⇒ ⇒ ⇒ ⇒ 58 Chalky Clear Straw	
	Imari	Manufacturing dates Body Glaze Translucency	47 ⇒ ⇒ Dense-grey- Clear Green	⇒ ⇒ ⇒ ⇒ 52 white	
Drab-wares	White Famille-rose Kakiemon	Manufacturing dates Body Glaze Translucency	46 ⇒ 48 Dense-grey-white Drab (reduced) Grey-green		
English Style Figures -	Coloured	Manufacturing dates Body Glaze Translucency	46 ⇒ ⇒ ⇒ 50 Dense-grey Clear Grey-green		
	White	Manufacturing dates Body Glaze Translucency	46 ⇒ ⇒ ⇒ 50 Dense-grey Clear Grey-green		
German Style Figures -	Coloured	Manufacturing dates Body Glaze Translucency		50 ⇒ ⇒ ⇒ ⇒ ⇒ 60 Chalky Blued Straw	
	White	Manufacturing dates Body Glaze Translucency		50 ⇒ ⇒ ⇒ ⇒ ⇒ 60 Chalky Blued Straw	
	Rococo bases	Manufacturing dates Body Glaze Translucency			60 ⇒ ⇒ ⇒ 74 Dense cream Blued Dark-straw or none
On-glaze printed wares	Red Puce	Manufacturing dates Body Glaze Translucency		55 ⇒ 58 Chalky Opacified Straw	
	Puce & hand-coloured Chinese famille-rose designs	Manufacturing dates Body Glaze Translucency			60 ⇒ 65 Chalky Opacified Straw
German flower painting	Floral Sea-green borders Botanicals	Manufacturing dates Body Glaze Translucency		55 ⇒ Chalky Opacified Straw	60 ⇒ ⇒ ⇒ 70 Dense-cream Blued Red dark-straw none



Garniture of Vases
1746–49. Largest vase height: 12 inches (30.9 cm).
Hamilton Art Gallery – Herbert and May Shaw Bequest

As part of the initial investigation for the exhibition 'A Treasury of Bow' the balance of the objects that were not dated or marked were put into each of the groups.

The excitement of the investigation grew as objects with 'accepted' dates started to relate to other objects in another date range. Some of the more interesting findings are detailed below.

Ornamental and white wares

The seven-piece garniture (with the gold applied by an outside decorator) consists of two pieces that have 'R' marks and five pieces that have 'I' marks. All the pieces were hand thrown and have a thin tight bright glaze on the outside, a drier glaze on the inside with a slightly marbled effect, and occasional blue speckling over a dense grey body. They all had a grey translucency and were made from the same clay batch.

The conclusion from this information is that 'R' and 'I' marks are happening concurrently. At the time of publication of 'A Treasury of Bow' in 2000 I dated the garniture as 1748-50. Now, having handled many more early Bow objects, I believe this date should move backward to 1746-49. This is because they are simply hand turned without the use of shaping-form tools, each of the pairs having distinctly different dimensions.

The body, glaze and translucency are very similar to the 'A' mark teapot (decorated in *famille-vert* palette) that I also had access to during this research.

Sprigged wares

Sprigged wares have always posed difficulties in dating. The belief that they were made from 1748 to 1760 seems to extend beyond the end of the fashion for this type of decoration. The research found that at least 20% of this type were 'R' or 'I' marked and that they all had a clear glaze and a mixture of grey, green or light straw translucency. Out of the 21 pieces first examined, there were five with a distinct 'drab' glaze (including two 'R' mark and two 'I' mark pieces) and a distinctive dry marbled appearance to the glaze on the inside of cups and bowls or the back of saucers. They had a grey translucency and had a dense grey body. This would place them as early as 1746–50. The balance of the sprigged wares had a clear glaze, a chalky body and a pale straw translucency. This would indicate that they were all made between 1750 and 1756.

Subsequent to the exhibition I have examined a further twenty sprigged pieces, five of which were 'R' marked and two 'I' marked. They all confirm the above findings.

Famille-rose

Famille-rose decorated wares are amongst the earliest on-glaze enamelled production of the Bow factory and continue through to 1760. The research showed that there

In analysing the chart, the start and finish dates for each stylistic group became evident. The dating conclusion from this is:

White and ornamental wares	1746 to 1758
Blue and white	1746 to 1770
Famille-rose	1746 to 1758
Kakiemon and Imari	1746 to 1758

Drab-ware	1746 to 1748
English style figures	1746 to 1754
German style figures	1754 to 1758
Rococo bases	1758 to 1774
On-glaze printed wares	1755 to 1758
Puce printed and hand-coloured	1758 to 1760
German flower painting	1755 to 1770



Bowl
1746–49. Diameter: 7½ inches (19.0 cm)
Private collection

Tea Pot
1746–49. Diameter: 11¼ inches (28.5 cm)
Private collection

were three distinct groups. The first group included 'drab', incised 'R', 'I' and 'X' marks all with a clear thin glaze, dense grey body and grey-green translucency, the round wares within this group also had a dry marble-like glaze on the interior. The suggested date of manufacture for these is 1746–50. The second group had a clear thicker glaze, chalky body and pale-straw translucency, the suggested date of manufacture being 1750–56. The third group had a thick opacified glaze, a dense white body and a dark-straw translucency, the suggested date of manufacture being 1756–60.

The bowl and tea pot illustrated show two important examples of *famille-rose* decoration on Bow porcelain; both have green translucency, a dense grey-white body and a clear glaze with a 'drab' appearance. The interior of both objects has a drier marbled appearance. The bowl has an 'R' mark and the tea pot has no mark.

Two pierced baskets had established dates of circa 1754 but showed grey-green translucency, a tight thin clear glaze and a dense grey body. They also had a small amount of gold

within the decoration being the same in appearance as that used on the figures of 'Kitty Clive', 'Two Sphinxes' and 'Falstaff' (gold laid over the top of brown enamel). The baskets were re-dated to 1746–50.

Another significant piece in the exhibition was a tureen that is part of the National Gallery of Victoria's collection. The interior of this piece was very dry and marbled. It was also 'R' marked.

Kakiemon

Kakiemon styled vases and wares fall into two groups, the first being those with a grey-green translucency, a thin clear glaze and a dense grey body and the second being straw translucency, a clear glaze and a chalky body.

The first group had consistent translucency, glaze and body with the early white wares and the first group of *famille-rose* and were made before 1750. The second group had the same translucency, glaze and body as the second group of *famille-rose* and were made from 1750 to 1758.

Within the first group there were two objects, and I have subsequently examined a further eighteen objects that relate in body, glaze and translucency to the seven piece garniture in that they have a thin clear glaze that is dry and marble like on the inside of the object and a grey-green translucency. Many of the objects have a 'drab' quality to the glaze.



Vase
1748–50. Height: 6½ inches (17.5 cm)
Private collection

Plate
1750–53. Width: 8¾ inches (22 cm)
Private collection

Vase
1754–56. Height: 7¾ inches (19.5 cm)
Private collection

Sparrow-beak Jug
Circa 1756. Height: 7½ inches (19 cm)
Private collection

Under-glaze blue

The under-glaze blue and white material proved very interesting with all the glaze, body and translucency types being well represented.

The earliest pieces were a coffee cup (decorated with the tree friends of winter) and the well known plate with the 'disconsolate fisherman' pattern from the Toppin Collection. These two pieces had a grey-green translucency, dense grey body and a blued glaze. The cup has a very thin glaze with marbling on the inside. The plate is heavily potted with a thick and bubbled glaze and has a salt-glazed appearance on the back as does the 'R' marked white sprigged saucers. It was fired the right way up which is unusual as all other Bow plates that I have examined have

been fired upside down.

The latest piece I have examined is the 'Crowther' plate that is marked on the back with 'MR ROBERT CROWTHER STOCKPORT CHESHIRE January 1770'. It has no translucency, a dense cream body and a blued glaze and was fired upside down.



Coffee Cup
1747–50. Height: 2¼ inches (5.7 cm)
Private collection

Plate
1746–49. Diameter: 12 inches (30.5 cm)
Private collection



Figure: Kitty Clive
1750. Height: 10¼ inches (26 cm)
Private collection

Pair of Figures: Sphinxes
1748–52. Height: 9½ inches (24 cm)
Private collection

Figure: 'Falstaff'
1748–50. Height: 9½ inches (24 cm)
Private collection

The blue staining of the glaze on the early pieces was probably done to give them a look of Chinese Export ware as there is no blue staining on white or coloured material of the early date range.

Figures

The figures and some of the ornamental wares proved a challenge to test for translucency. However, in all cases I was able to find a part of the object that was thin enough and accessible to the light source. All of the figures with flat bases had a ventilation hole in the base and showed very good translucency all the way up to the head. It also allowed me to understand the manufacturing technique of press moulding.

Of those with flat bases, I was fortunate to have a group of twelve early figures for the exhibition, six of these being white. These all showed grey-green translucency, a very thin clear glaze and a dense grey body. Many of these figures and particularly the six white ones showed a 'drab' appearance. Five of the figures had gold decoration over a brown enamel as found on the *famille-rose* baskets described earlier. The

conclusion was that all these figures were manufactured prior to 1750.

A second group within the flat-based figures (23 objects) consistently showed bright straw translucency, a thicker clear or slightly blued glaze than the first group and a chalky body. The conclusion was that this group were made from 1750 to around 1758.

The 48 figures with rococo bases showed poor translucency of a straw to dark straw nature. They had a thick opacified blued glaze that tended to pool. A third type of body, dense white in nature, was used in all these figures. The conclusion is that manufacture of these figures starts in 1760 around the time of Thomas Fry's death.

Subsequent to the exhibition I have examined at last a further 50 figures that show consistent findings to all these groups.

Transfer printing

Transfer-printed wares in red or puce provided a small but interesting group with a chalky body, a thin clear glaze and a straw translucency. These characteristics put their date of



Leaf Dish
1755–58. Width: 7¾ inches (19.3 cm)
Private collection

manufacture between 1750 and 1758. The precise commencement date of printing at Bow is not known and as it is on-glaze printing the decoration could have been well after the date of making the white-ware.

Transfer-printed and hand-coloured *famille-rose* patterns all had a dark straw translucency, a thicker opacified glaze and a dense cream body which is consistent with a date of manufacture between 1760 and 1765. This form of *famille-rose* design is Bow's last attempt to hold onto Oriental based design.

German flower painting

The last group I want to discuss is that of table-wares in the European manner (German flower painting). This style comes to England in the early 1750s, from Meissen and

moves away from the Oriental styled pieces of the previous years.

There were 35 pieces examined in 'A Treasury of Bow' and I have examined a further 50 pieces. These also fall into two groups. The first group has a bright straw translucency with a thin clear glaze and a chalky body, the same as the second period of the white, *famille-rose* and Kakiemon wares. The body, glaze and translucency for this group would suggest that they were made between 1750 and 1758. However, the decorative style starts about 1755. The second group showed an opacified and blued glaze, a dense cream body and a variation of translucency of dark straw, red or none. These were made between 1758 and the closure of the factory.

Amongst this second group there were a number of pieces that had a red 'anchor and dagger' mark or a painter numeral. A few of the pieces with a red 'anchor and dagger' mark had a dark translucency; the majority, including all the pieces with a sea-green border, having no translucency.

Summary

In preparing this paper in 2007, I correlated the findings of all the Bow porcelain that I have handled and examined over the past nine years and developed charts to show a clearer picture of the different glazes, bodies and translucencies. These charts were refined to produce the one published in order to show the production periods for each of the different parameters.

Some of the information originally published in 'A Treasury of Bow' 2000 is not entirely consistent with this chart. For example 'A Treasury of Bow' refers to the early period as being 1748–50. I now believe that this is 1746–50 and could even be a little earlier.

There are three distinctly different periods of Bow porcelain manufacture. These are:

'Early Period' Commencement to 1750

This group all showed a dense-grey body with a thin clear glaze, the interior of round objects and bowls having a matt marbled appearance, the backs of plates and saucers often having a salt glaze effect. The translucency was consistently grey for the earliest pieces and a grey-green in the latter part of the period.

The whole group present as 'grey', some more pronounced than others.

These pieces are the result of having been fired in kilns that had an uneven reducing atmosphere. This would have produced the greyer pieces that are often referred to as 'drab-class'.

'Middle Period' 1750–1760

This group all showed a chalky body, a clear slightly thicker glaze than the 'early period' and straw translucency.

These pieces are the result of having been fired in a very stable kiln environment for both the primary and gloss firings. Such conditions would have been created within the new factory (New Canton) by the new, possibly larger, kilns.

'Later Period' 1760–closure

This group all showed a dense-cream body, a thick opacified blued glaze (as compared to the 'middle period') and a dark-straw, red or no translucency.

The thicker glaze often obscures modelling detail on figures

These pieces are the result of having been fired in kilns that consistently had a slightly oxidising atmosphere. It is also probable that the clay used from 1760 contained mineral impurities.

In a very small number of objects, patchy areas of discolouration in translucency occurs, particularly where there has been food absorption. I have only observed this contamination in pieces that have a chalky body.

I believe that the appearance of the glaze and body and the use of translucency provide most adequate diagnostic tools to divide Bow porcelain into its three categories and thus determine the manufacturing date ranges of this early, innovative and fascinating factory.

References

- Adams and Redstone, 1981. Adams, Elizabeth, and Redstone, David, *Bow Porcelain*, Faber and Faber, London, 1981.
- Begg and Taylor, 2000. Begg, Patricia and Taylor, Barry, *A Treasury of Bow*, Jenkin Buxton Printers Pty Ltd Melbourne, 2000.
- Bimson and Frestone. Bimson, Mavis and Frestone, Ian C, *Phosphatic Porcelain from the Vauxhall Site*, English Ceramic Circle Transactions Volume 18 Part 1, 2002.
- Bradshaw, 1992. Bradshaw, Peter, *Bow Porcelain Figures, circa 1748-1774*, Barrie & Jenkins, London, 1992.
- Dixon, 1966. Dixon J. L. *Examination of English eighteenth-century porcelains by transmitted light*. Antiques Magazine Library New York 1978
- Gabszewicz, 1982. Gabszewicz, Anton, *Bow Porcelain: The Collection formed by Geoffrey Freeman*, Lund Humphries, London, 1982.
- Gabszewicz, 2000. Gabszewicz, Anton; *Made at New Canton: Bow Porcelain from the Collection of the London Borough of Newham*, The English Ceramics Circle, London, 2000.
- Hurlbutt, 1926. Hurlbutt, Frank, *Bow Porcelain*, G. Bell and Sons, Ltd., London, 1926.
- Tait, 1959. Tait, Hugh, *Bow Porcelain 1744 – 1776*, British Museum, London, 1959.

Notes

- 1 In December 2000 Mavis Bimson and Ian Freestone presented a lecture to the English Ceramic Circle (Transactions Volume 18 Part 1 2002 p. 91) on 'Phosphatic Porcelain from the Vauxhall Site. In this paper they presented a table that shows the iron content of early Bow to be 0.5% and Bow between 1750 and 1755 to have iron content of 0.3%.