

Mocha, Banded, Cat's Eye, and Other Factory-Made Slipware

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Introduction

Factory-made slipware has been so neglected in ceramic history literature that its historical name, "dipped" or "dipt," is now obsolete, even though this was its accepted name as late as 1890. Antique dealers, collectors, and museum curators usually refer to the ceramic type as mocha, while archaeologists usually use the terms banded or annular ware. These terms have caused some confusion because they properly describe specific decorative methods rather than the ceramic group. An analogy would be to call all trousers "jeans." The phrase "factory-made slipware" is employed here because it suggests the product's factory origins without implying that the end results were used exclusively for industrial purposes. It is also unencumbered by previous abuses in the ceramic literature and, more importantly, is concisely descriptive of this group of ceramics.

The ancient techniques of decorating with slip, that is, with clay diluted to the consistency of cream, are still used throughout the world, in redware potteries from Uzbekistan to Mexico and in the ateliers of modern studio potters. How ironic it is then that mechanized slip-decorating techniques introduced in the 18th century and lasting until the 20th century have been so forgotten as to qualify as "lost arts."

Factory-made slipware largely used the same decorative techniques as slipware made in small country shops. The differences between the two types lie in their place of manufacture, the kinds of objects made, and their appearance (FIG. 1). The word "slipware" is traditionally associated with the country potter, a man with perhaps a few helpers producing by hand utilitarian articles in coarse earthenware. Factory-made slipware was a product of the factory, of specialized workmen, and assembly-line production. Whereas the country potter may have prepared the clay, shaped, decorated, glazed, fired, and even sold the pot, a workman making factory-made slipware would have been responsible for only one of these steps.

Unlike country pottery, factory-made slipware was made exclusively in refined

earthenware, most of it in the same white fabric as the tableware of the period. This difference in fabric not only made for radically different-looking objects. It separated the country pottery from factory-made slipware by function; one being strictly a utilitarian ware and the other being suitable for the table. This does not imply that factory-made slipware as a class was highly prestigious. Throughout most of its history, dipped was the cheapest decoration available on fine earthenware.

While the techniques of factory-made slipware derived from pre-industrial slipware, its aesthetic ancestry was mixed. Some types of slip decoration were clearly not inspired by traditional country pottery. The antecedents to these types were attractive stones such as agate, granite, and porphyry. In the 17th and 18th centuries, unusual minerals, tortoiseshell, mother-of-pearl, and various other materials were much admired for their beauty and rarity. They were fashioned into decorative domestic articles, jewelry, and interior architectural details. Potters were inspired to imitate or at least to invoke the aesthetic of these materials. The solid "agate" knife and fork handles, the mottled glazes of "Tortoiseshell" tableware, and the matte black of "Basalt" stoneware shared the same associations as the slip imitations of stone. One of the piquancies of studying this ware was the occasional juxtaposition of simple, ages-old methods with elegant, highly artificial intentions.

When I began studying this ware, some years ago, I had three main questions: What decorations were included in the ware? How were these decorations made? And what role did the ware fulfill, that is, what was its price compared to other wares and what functions did its objects fulfill? I also hoped to discover any changes through time in any of the above.

Fortunately, the most mystifying question of how the decorations were made has been the subject of serious study by John Smith and Don Carpentier. The information in Part 1 is largely the result of their research.

In Part 2, answers to questions about price and function come mainly from price-fixing agreements, merchants' records, and like documents. The diverse and fragmentary nature of the sources can be seen in Appendix B. While

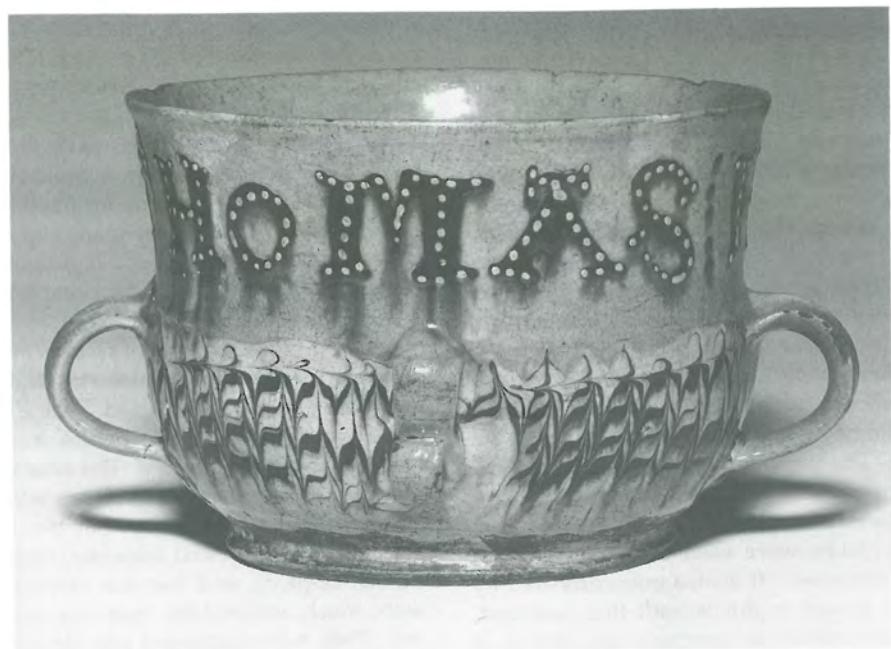


Figure 1. Pre-industrial slipware. These two items are examples of the style of slip-decoration used by "country potters." The tyg or drinking cup above is buff-colored earthenware with combed slip-decoration in dark red. The two-handled posset pot below is red earthenware decorated with white dots and dashes of trailed slip and applied medallions of molded white clay. (Photos courtesy of the Fitzwilliam Museum, Cambridge.)

"dipped" ceramics were and are known to ceramic historians, they have only recently been the subject of even minor studies. Standard sources such as the works of Alexandre Brongniart, Elizabeth Collard, Llewellynn Jewitt, and Reginald Haggar offer interesting snippets of information—brief entries in encyclopedic works. Almost all information regarding chronological change has come from unmarked vessels in archaeological collections. I have not produced a classic seriation of factory-made slipware traits based on datable archaeological contexts. The omission of this standard technique was not due to any philosophical objections but rather to its impracticality in this instance. Factory-made slipware, though ubiquitous, is found in small quantities on archaeological sites. To record traits from a sufficient number of artifacts in a sufficient

number of dated contexts would require examination of collections from dozens of sites, and because archaeologists are unfamiliar with factory-made slipwares, their descriptions of these artifacts cannot serve in lieu of personal examination. One of the expectations of this work is to develop familiarity, on the part of archaeologists, with the various factory-made slipware techniques so that their identification will appear in reports. With that familiarity, it will then be much easier to compare factory-made slipware from different archaeological contexts. For the purposes of this work, however, I have drawn information about chronological change from an unorthodox seriation whereby ware types are substituted for dateable archaeological contexts. The method and results are described in Part 3.

Part 1: Manufacturing Techniques

Except for its decoration, factory-made slipware did not differ in its methods of manufacture from other fine earthenwares. The vessels were shaped either by throwing on the potter's wheel (and later, throwing into a mold called a jolly) or by casting in plaster molds. The shape was refined and the surface finished by scraping the surface with a blade while the vessel turned on a potter's lathe, a horizontal lathe similar in principle to that used in turning wood or metal. The horizontal lathe was a relatively new invention introduced in the last third of the 18th century and probably not widely used until the 19th century. For hundreds of years, vessels had been turned on a vertical lathe which was essentially a potter's wheel. Josiah Wedgwood's famous "engine lathe," installed at his factory in 1765, was a horizontal lathe with the capability of eccentric motion. Not all potters, however, were as innovative as Wedgwood, and 18th-century accounts of manufacturing techniques persist in describing the vertical wheel for turning. It is likely that some of the earliest factory-made slipwares were turned on such a wheel. Abraham Rees' *Cyclopaedia or Universal Dictionary of Art, Sciences and Literature*, published in 1819 and compiled somewhat earlier, described the turning lathe as "similar to the common lathe used for turning wood," so by this time, the horizontal version must have been commonplace.

The turning lathe, especially the horizontal-turning lathe, profoundly influenced the appearance of factory-made slipware. Some of the earliest factory-made slipware decorations required the removal of slip from the surface of the pot. To do this, the pot was mounted on a lathe, either on an upright wheel and/or, in later years, on a horizontal lathe (FIG. 2). While the pot turned, areas of the slip-covered surface were scraped with a sharp blade. The resulting bands, checkers, panels, and like designs were precise, structured, and simple.

At some time it probably occurred to potters that slip could be applied to the pot while it

rotated slowly on the lathe. Of course, trailing and painting slip onto pots had been standard methods of decorating English pottery since the second century A.D., but the kinds of designs associated with non-industrial slipware were inexact, unstructured, and elaborate compared with those of factory-made slipwares. Moreover, there was seldom any "horizontality" in non-industrial designs; the rotation of the pot itself seems to have had little effect on the final designs. This is understandable, since the pot was probably not rotating when it was decorated. After a pot was shaped, and before it received any further treatment, it was taken off the wheel and allowed to dry to at least a leather-hardness. Slip-decorated coarse earthenware was seldom turned, so there was no reason to remount a pot of this type on a wheel.

On the other hand, fine earthenware was invariably turned, and the correct dryness for turning was also the suitable dryness for applying slip decoration. If the pot was mounted horizontally, thin slips could be trailed with little danger of them running to the base of the pot and fine lines could be placed near each other without their running together. Most factory-made slipwares featured horizontal bands, sinuous horizontal lines, or repeating flowing motifs—all characteristic of designs produced by applying liquid to a rotating surface.

The slips themselves were not complicated to prepare, but their make-up was the key to success of the technique. Experiments in replication by Don Carpentier repeatedly demonstrated this point. Whereas consistent successful slip decorations could be made using quite different equipment and with little practice, small changes in the slip recipe made the difference between a crisp design that stayed on the pot and a mess that ran off. He found, for instance, that commercial slips were not satisfactory because they contained added deflocculants, chemicals that made the clay "wetter," a desirable quality for slip-casting, but not for slip-decorating. His best results are with slips he makes himself from scratch.

With only natural clay and water, shades of white, cream, red, brown, and buff slip could be made. However, in applying a naturally colored slip onto a differently colored

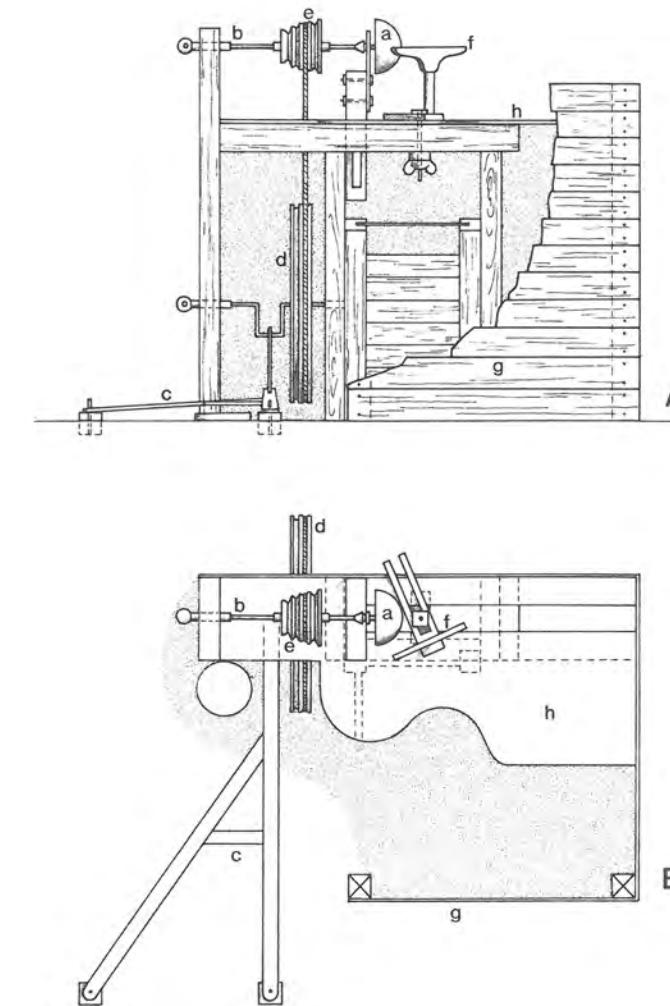


Figure 2. A, Profile and B, Plan of Horizontal Lathe:

- a. Wooden chuck, on which vessel was placed;
 - b. Rotating horizontal axis of the lathe;
 - c. Treadle, called an A-treadle, because of its shape. It was pumped by an assistant to the turner;
 - d. Driven pulley, which turned by pumping the treadle;
 - e. Geared driving pulley (i.e., with several diameters), around which wound the cord that transmitted the power from the driven pulley, d.;
 - f. Tool and hand rest for the turner. Its position was adjustable in all directions;
 - g. Wooden enclosure (cut-away in profile view) to confine the flying scraps of clay;
 - h. Table with indentation where the turner stood.
- (Drawings by Dorothy Kappler, based on drawings in A. Brongniart's *Traité des Arts Céramiques* [1854: pl. 8, fig. 2].)

body, the problem arose of ensuring that the slip "fit" the body, a problem caused by the two clays having different rates of shrinkage. One way to solve this problem was to mix some slip made of the body clay with that of the decorating clay. The distinctive light rust or chestnut colored slip covering some early factory-made slipware pieces can be reproduced by such a mixture of red and white slips. A more reliable solution was to dye slip made from body clay by adding metallic oxides. The many colors of natural clays can be reproduced by adding varying amounts of iron oxide to white clay. Certain colors such as blue, green, or black could only be achieved by adding colorants. For example, cobalt gave blue, cobalt with antimony or iron gave green, and iron with manganese gave black. In order to enhance the color of dyed slips and to make them better adhere to the surface of the pot, an alkaline flux such as potassium carbonate or feldspar was added to the mixture. There were and are countless different recipes for colored engobes or slips, and the ingredients mentioned above are only common examples. Detailed descriptions of slip composition, with emphasis on their chemistry, are given in Cullen W. Parmelee's *Ceramic Glazes* (1951).

The remainder of this chapter is devoted to the techniques used to apply the slip to the object. Unless otherwise stated, it is understood that the slip was applied to a green or unfired body, then fired, glazed, and fired a second time.

Over-All Slip Covering

This, the plainest of slip decorations, required only that the object be dipped in colored slip. By turning the object on a lathe after the slip dried somewhat, the edges of the slip covering were crisply defined. The slip covering was also cut away from any area that was to show as white against the colored ground (FIG. 3).

Banding

The band was the fundamental decoration on factory-made slipware. Not only was banding a popular and long-lived decoration by

itself, but it appeared in conjunction with most other types of slip-decoration, either as a wide band that formed a background or as narrow lines bracketing the main decoration.

The most common 19th-century method of applying bands was to trail them onto the horizontally-mounted piece with a slip-bottle, an applicator designed specifically for this purpose. The slip-bottle or blowing-pot, as it was sometimes called (Ure 1848: 1023), is a container resembling a teapot with a straight, narrow spout (FIG. 4) (Brongniart 1854: 630). Having filled the bottle with slip, the workman sealed the large opening at the top with a clay plug through which was passed a quill. By blowing through the spout, he forced a fine stream of slip through the quill and onto the rotating piece, thus forming a narrow band (FIG. 5) (Ure 1848: 1023).¹ Rows of parallel bands were made by using several quills.

Wide bands were made several different ways (FIG. 6). The earliest examples were dipped in slip and the surface turned to create white space on either side of the wide band. The easiest method, and the one used currently by Don Carpentier to make all his wide bands, is a simple narrow band in a continuous spiral. He learned of this method from a workman at T. G. Green & Co., England (Don Carpentier, personal communication, 1988). Subsequent examination of 19th-century wide banding has revealed numerous examples of a continuous spiral. Another known method used a blowing-pot with a wide, flat nozzle rather than quills (FIGS. 4 above, 7). The introduction date of the wide nozzle is not known and the only datable evidence found is an advertisement in a trade catalogue dating 1937 (Wengers, Ltd., 1937).² Wide bands could also be made by trailing several narrow bands through banks of adjacent quills.³

While the two methods described above were those most commonly used, bands were occasionally made in other ways. Narrow inlaid lines were common on objects with other inlaid slip-decoration (this decorative technique is described later). Bands were sometimes brushed on, a practice that occurred more frequently after about 1880. More recently (1970s), the technique of applying bands was somewhat different. A plastic tube, leading to a bucket of slip, was attached to a brush



Figure 3. Over-all slip covering with inlaid slip-decoration at the rim. The white lines are the exposed body where the slip was cut away. Vase by John Turner. (Royal Ontario Museum)

and the bands were partly trailed, partly brushed on the object (Edward Willis, personal communication, 1985). All these techniques can be distinguished by examining the decoration, especially if the band is narrow. Dipped-and-turned bands are thin and even, with sharply defined edges. Trailed bands are somewhat thick and rounded. Brushed bands are flat, like those made by dipping-and-turning, but with softer edges. Inlaid bands are of course unmistakable because they jut below the surface of the object. Modern banding usually looks exactly like thick trailed banding but it may have distinct ridges along the edges of the bands (FIG. 8).

Slip-Trailing

This decoration is, in effect, fancy trailed banding. By plying the slip-bottle in much the same way one would a cake decorator, an infinite variety of squiggles, curves, dots, and circles can be combined to form striking designs (FIG. 9). Generally, two or more motifs were applied simultaneously; that is, slip was forced out of the slip-bottle through several parallel quills or tubes. It is not difficult to ascertain how many quills were used at any one time and in what position the bottle was held. For example, the tulip design in Figure 10 was



Figure 4. Slip-bottle or blowing-pot. Above, bottle fitted with wide, flat nozzle for making wide bands. Below, bottle fitted with two quills for making two narrow bands. (Drawing by Dorothy Kappler.)

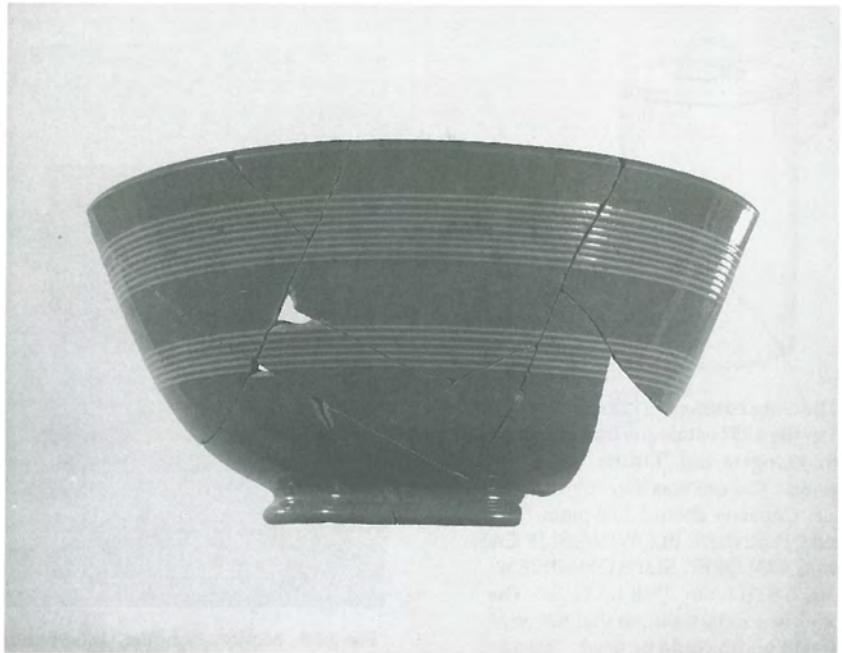


Figure 5. Very fine banding. Yellow ware bowl fragment with white slip bands excavated from Fort Coteau du Lac, Québec. (Photograph by Rock Chan.)



Figure 6. A single wide band is the major decoration on this pearlware bowl. (Photograph courtesy of the Shelburne Museum, Shelburne, Vermont.)

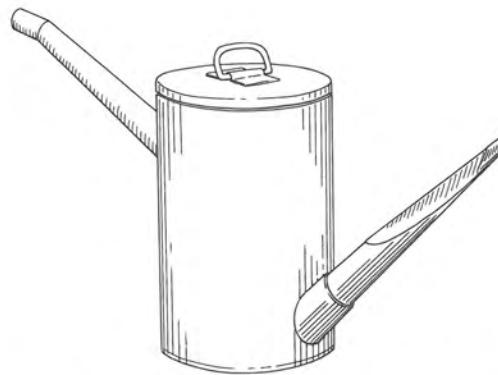


Figure 7. Drawing based on a brass blowing-pot advertised in the 1937 catalogue by the pottery supply firm, Wengers, Ltd., Etruria, Stoke-on-Trent, England. The can was 5 in. high, 3 1/2 in. diameter. Capacity about 1 1/2 pints. The item is titled "TURNERS' BLOWING SLIP CAN FOR LAYING COLORED SLIPS ON GREEN WARE WHILE STILL ON THE LATHE." The straight spout was detachable so that flat nozzles of different width could be used. The advertisement notes "The delivery ends are interchangeable and can be made up to 3 in. width." (Drawing by Carol Piper.)



Figure 8. Modern banding. Blue-banded mug made by Carrigalene Pottery Ltd., Carrigalene, Ireland. (Private collection, John Thompson. Photograph by Rock Chan.)

made with five quills drawn parallel to the rim, while the design in Figure 11 was made with three quills drawn perpendicular to the rim. As you can see, the width of the trailed lines can vary from a couple millimeters to a centimeter, depending on the size of the quill and the fluidity of the slip.

The amount of space between lines was controlled in two ways: the quills themselves could be placed closer together or farther apart; or the slip-bottle could be tilted sideways so that the lines were more closely spaced when they reached the surface of the object than when they left the bottle. The latter method (FIG. 9c) was particularly effective when the decorator wanted the lines to overlap slightly to create wide bands.

Trailing with Templates

Geometric designs can be and, indeed, were made by freehand trailing, but certain designs such as circles and uniform arrangements of dots were also made using templates. For a circular design, a device similar to a

cookie cutter was dipped in slip and pressed onto the object (FIG. 12). Designs made this way often leave a characteristic sharp ridge in the center of the line of slip (FIGS. 13, 14). There is no practical reason why templates in the shapes of hearts, stars, or any other simple pleasing design could not have been used. However, it is extremely rare to find any design other than circles.

Arrangements of dots were made by hammering nails into a board in the desired configuration, dipping the heads in slip and touching the surface of the object (FIGS. 15, 16). Don Carpenter found that the nail heads were better than the pointed ends for holding and controlling the slip. Designs of dots made in this way are easily recognized by their very regularity, but there may also be a characteristic dimple in the center of each dot.

The Versatile Chambered Slip-Bottle

The decorations described above were all made with slip of one color. This is not to imply that they were dull looking; quite colorful

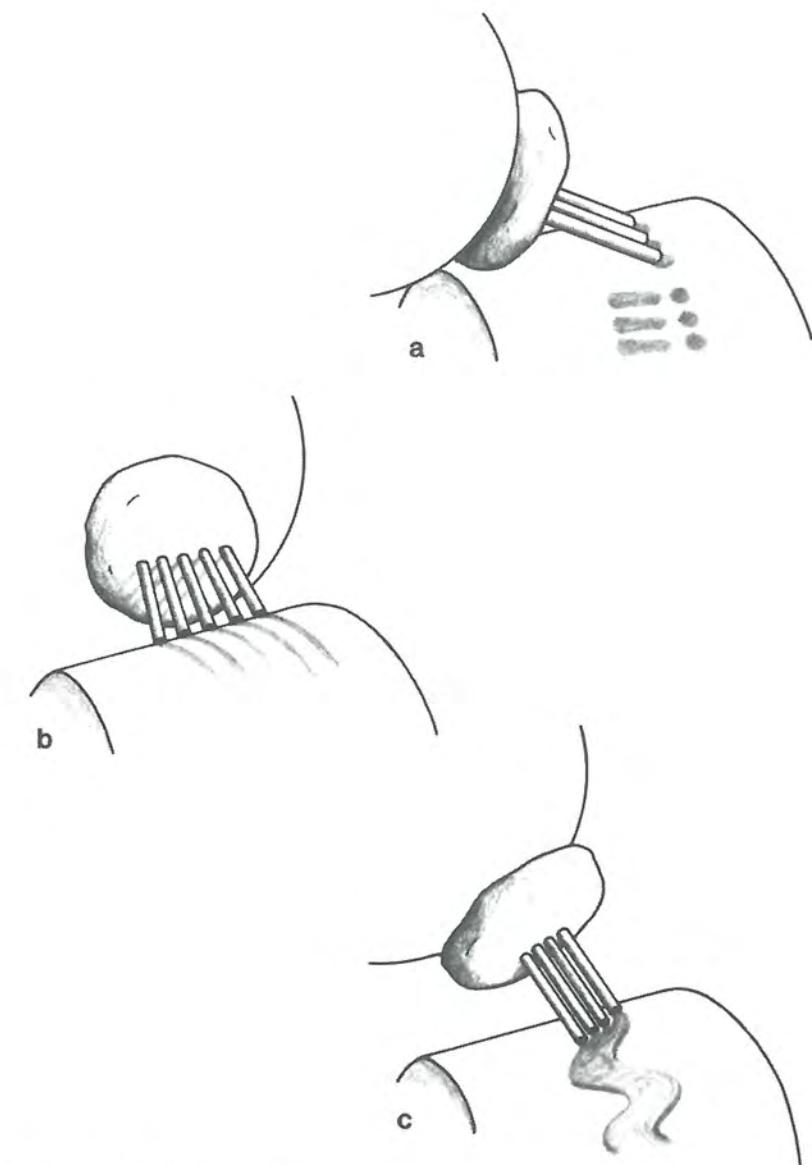


Figure 9. Slip-trailing with the blowing-pot.

- Vertical decoration made by moving the ends of the quills perpendicular to the pot's rim. In this case, three quills form three motifs simultaneously.
 - Horizontal lines made by holding the end of the quills parallel to the pot's rim and allowing the slip to fall on the rotating surface of the pot. Five quills simultaneously form five lines.
 - Wide band made with adjacent quills. The slip-bottle or blowing-pot is tilted so that the slip flowing from an upper quill falls partially on the slip from the next, and lower, quill.
- (Drawings by Dorothy Kappler.)



Figure 10. "Painting" by slip-trailing. The bloom in the center band consists of two designs made by a slip-bottle fitted with five quills. The leaves and dots were made with a single quill. Note how the dots on the shoulder of the pitcher have run toward the rim while those near the base are almost perfectly circular. This reveals two things: the slip that formed the dots was quite thin, and the pitcher was decorated while on its side, the sharp angle of the shoulder causing the thin slip to run downhill. (Photograph courtesy of the National Museum of American History, Smithsonian Institution. Gift of Dr. and Mrs. Arthur M. Greenwood. Photograph by Brenda Gilmore.)

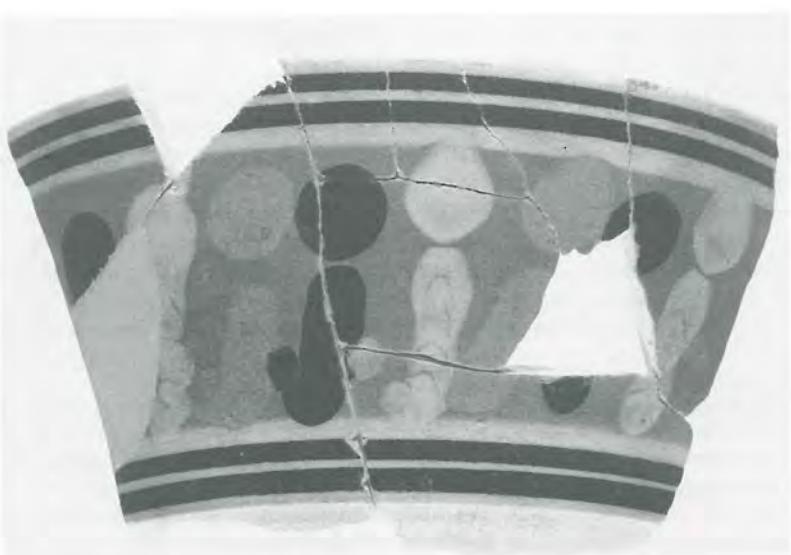


Figure 11. Slip-trailing in three colors. The slip-bottle was held perpendicular to the rim in making this design. (Photograph by Rock Chan.)

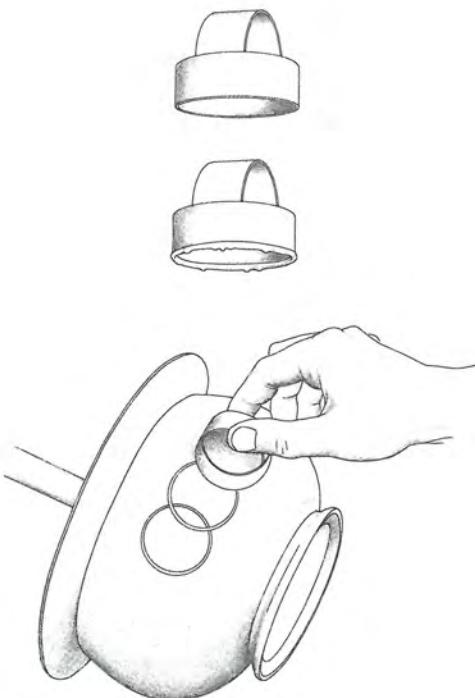


Figure 12. Trailing with a circular template. A metal template resembling a cookie cutter is dipped in slip and touched to the surface of the pot. (Drawing by Dorothy Kappler.)

effects were achieved by laying decoration on a contrasting ground or by trailing differently colored lines separately. The invention of the chambered slip-bottle, however, enabled the workman to apply several colors of slip at the same time. The chambered bottle was not only more efficient at producing, in multicolor, traditional decoration such as banding, but it could create designs that hitherto had not been possible. An entirely new group of decorative effects was introduced, and some of them, such as the cat's eye and the cable, were among the most popular 19th-century slipware designs.

The tin plate blowing-pot illustrated in Figure 17 was owned by the American potter, Edwin Bennet, and is now in the collections of the Philadelphia Museum of Art. A letter accompanying the device when it was donated to the museum in 1914 clearly explains its use.

The slip pan you have was principally used for putting lines of different colors on any articles that were turned on the lathe. It was originally used on yellow ware exclusively. The principal colors used were white, blue, and brown. The method of use was to put the colored slips in each compartment. Then insert a quill in the mouth of each compartment. The operator forced the slip out by blowing in the mouth piece. If he wanted a broad band in the center with a fine line on each side, he put two quills in the center compartment. The revolution of the lathe caused the slip to flow evenly. Expert turners made broad surfaces almost covering the body of the article with what was called "Moco dip" or "Moco ware," a species of marbleized ware in various colors. This was made by bringing the mouth of the quills together and moving them over the surface of the goods from left to right mingling the slips while the lathe was revolving. After the slip had obtained a certain degree of hardness, the articles were again put on the lathe and the surface of the "Moco dip" was shaved off with a very sharp tool, leaving the markings of the slip where it ran together very distinct and clear... (Stradling and Stradling 1981).

The earthenware three-chambered slip-bottle in Figure 18 was made as a presentation piece, but this style of pouring-bottle works very well. Don Carpentier has made an exact duplicate and prefers this tool for making cable and cat's eye decoration. He plugs the ends with clay and passes goose quills through the plug. A recurring question I had concerning all slip-decorating techniques and all types of slip-pots was: Do real quills work? The historic term "quill" could have been used figuratively for some specialized potter's tube. The answer is that they work very well indeed for all techniques and in both blowing and pouring pots.

The small tin pot in Figure 19 and the two brass pots in Figure 20 were also made by Carpentier, and all work using gravity rather than the force of blowing. The triangular tin pot with its tapering spout can only be used for cat's eye, cable, and twigging; the brass pots with their fixed projections for attaching quills (rather than a flexible clay plug) can only be used for banding and slip-trailing.

Multicolored Banding and Trailing

The techniques used in trailing multicolored designs were exactly the same as those



Figure 13. Slip-trailing with a circular template on chamber pot. (Photograph courtesy of the National Museum of American History, Smithsonian Institution. Gift of Clare Shenahon Boyd. Photograph by Brenda Gilmore.)

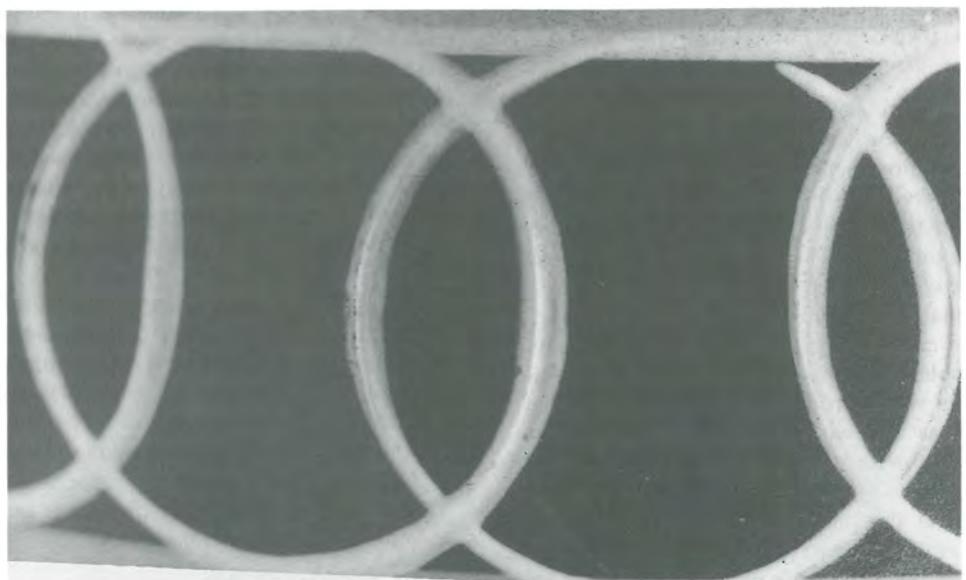


Figure 14. Detail of slip-trailing with circular template. Note the ridge along the center of each circular line. (Photograph by Brenda Gilmore.)

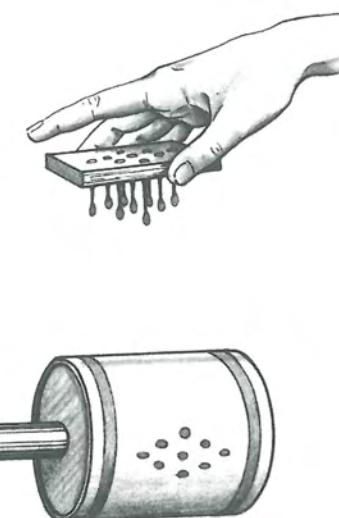


Figure 15. Pattern of slip dots applied with a pronged template. (Drawing by Dorothy Kappler.)

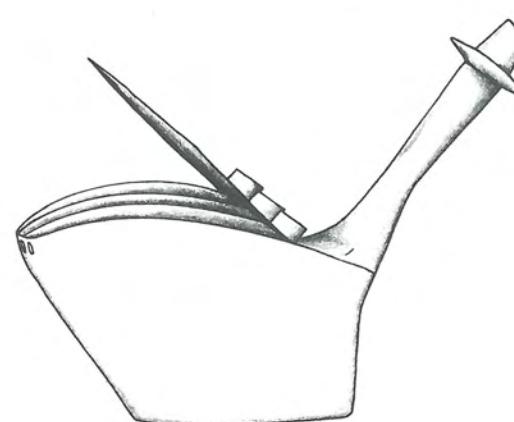


Figure 17. Tin plate blowing-pot from the Edwin Bennet Pottery in Baltimore, Maryland. (Drawing by Dorothy Kappler based on a photograph and description provided by the Philadelphia Museum of Art.)

used when plying the regular slip-bottle. The only way to distinguish colored designs made simultaneously with a chambered bottle from those made successively with a regular bottle is by the strictly parallel lines of the former.

One of the rewards of examining factory-made slipware is detecting the decorator's



Figure 16. Stylized flower petals made of dots of slip applied with a pronged template. The center of each flower and the cable design around the middle of the pitcher were applied separately from the petals. (Photograph courtesy of the Shelburne Museum, Shelburne, Vermont.)

techniques and intentions. It is often the imperfect items, such as the mug in Figure 21 and the bowl in Figure 11 that clearly show how he held the slip-bottle and how he chose to fill the available space. Narrow spaces could be decorated by blocking off chambers in a multi-chambered pot (two-chambered slip bottles may have existed, but were not needed with this method).

Cat's Eye

Perhaps the most ingenious and mysterious of slip decorations is the cat's eye. Although it was evidently produced widely and in quantity, there seem to be no historical references to its manufacture. The design was reproduced by John Smith using the following, remarkably simple, technique. A three-chambered slip-bottle was filled and a quill placed in each opening; the quills angled toward each other so that their ends formed a tight triangle (FIG. 22). The end of the bottle was tilted in such a way that only a single tri-colored drop fell on the surface of the object. This drop spread into a neat circular design made up of three distinct wedges of color.

Don Carpentier and the author also produced authentic looking cat's eyes with the



Figure 18. Three-chambered earthenware slip-bottle, inscribed "William Shaw 1833." (Photograph courtesy of the City Museum and Art Gallery, Stoke-on-Trent, England.)

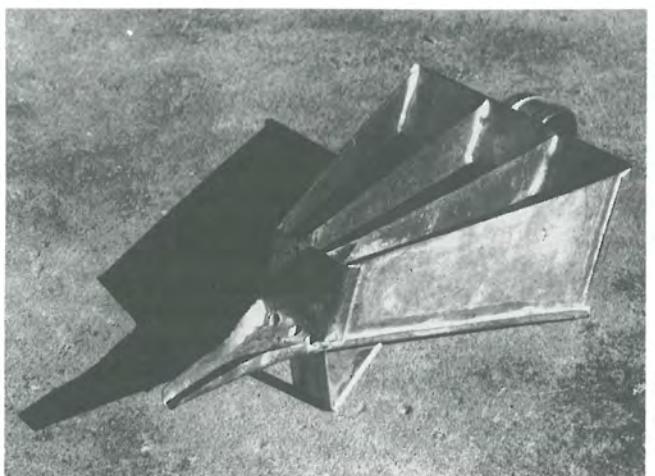


Figure 19. This tinware slip-bottle was made by Don Carpentier. He based his design on the description of a tinware bottle in Ure's *Cyclopaedia* (1848) and on his own understanding about the nature of slips. Note that the three slips share a common spout. The bottle works perfectly well like this; the differently colored slips do not need separate quills or spouts to prevent them from mixing together. (Photograph by Lynne Sussman.)

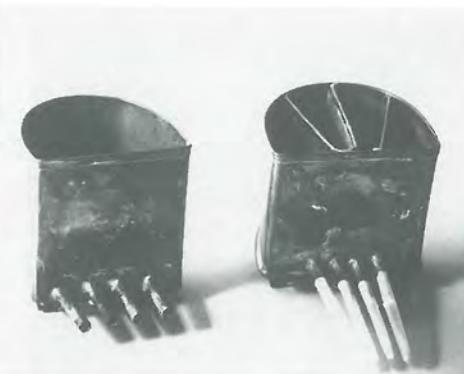


Figure 20. Two brass slip-bottles made by Don Carpentier. Although they have no handles, their size and their rounded ends make a comfortable fit in the hand. The container on the left (with a single chamber) does not have its quills attached, so the structure of the pot can be seen. The pot on the right has four chambers leading to four quills. While the most common form of the divided slip pot was made with three chambers, decorations made with four-chambered pots are not rare. (Photograph by Lynne Sussman.)



Figure 21. Slip-trailing in three colors, one set of triple lines and a set of double lines. We can recreate the worker's solution to a problem. He had a three-chambered slip-bottle with which he trailed the top three lines. This left a space at the bottom, but not enough for three more lines. He blocked one chamber and trailed the other two lines. Mug excavated from Alexandria, Virginia. (Photograph courtesy of the Alexandria Urban Archaeology Program.)

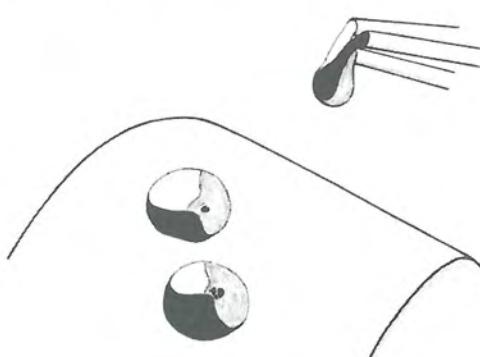


Figure 22. Cat's eye decoration. A three-chambered slip-bottle is filled with slip of three different colors; the quills are drawn together; single tri-colored drops are allowed to fall onto the object. (Drawing by Dorothy Kappler.)

quills touching in a line and with the spouted tin pouring pot in Figures 19 and 23 (compare with FIG. 24).

Cabling

This decoration is sometimes called finger-trailing, a descriptive but misleading term.

Cabling or worming, as it was originally called, is no more and no less than a series of cat's eyes (FIG. 25). By manipulation of the slip-bottle, the workman, called a wormer or cabler, allowed a continuous series of closely overlapping cat's eyes to fall on the object. Because each cat's eye was still in a liquid state when the next one fell on it, its crisp wedge-shaped designs were distorted. The cabler moved the bottle back and forth in an S-shaped path over the rotating object. This movement blurred the slip even further and the resulting design was a curiously smeared serpentine line.

Twigging

The design known to collectors as "sprig-and-twigs" or "twigging" resembles a cross between a slip-trailed line and a cat's eye. No historical descriptions of its manufacture have been found, but it can be reproduced by using a method that is, indeed, part trailing and part cat's eye.

The slip-bottle is prepared as for cat's eye. A single elongated drop is allowed to fall on the rotating object. This striped drop will be

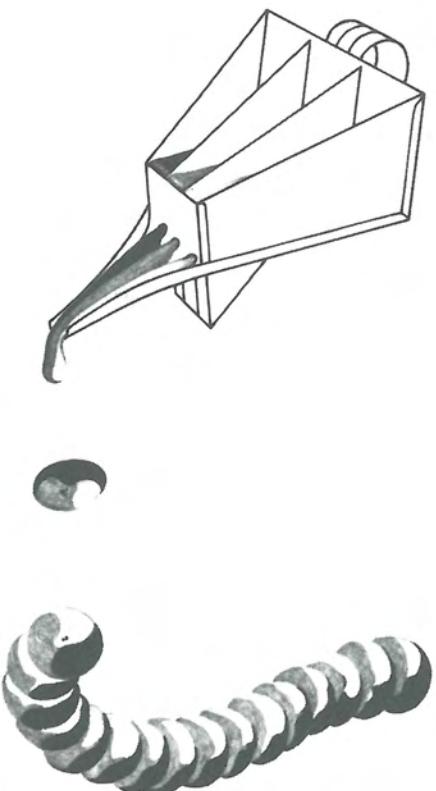


Figure 23. Three-chambered pouring pot making cable decoration with a series of cat's eyes. (Drawing by Dorothy Kappler.)

rounded at one end like a cat's eye motif, but will taper to a point at the other end. The striped drops are generally combined in stylized leaf designs—hence the name twiggling. The twiggling on the pepper shaker in Figure 26 is an example of the design at its best.

The decoration on the pitcher fragment in Figure 27 is particularly interesting because it separates the technique of twiggling into its two components: cat's eye and trailing. You can see that the top of the trailed design could have been made into a cat's eye or, with a slightly different movement of the bottle, into a tapered striped drop like the ones illustrated in the previous figure. The workman who decorated this piece could, with a different motion, also have created a cable design. The piece would then have been a kind of illustrated catalogue for the entire decorative repertoire of the three-chambered slip-bottle.

Fanning

A bold design resembling a single enormous cat's eye is known today under various names—fan, marbleized leaf, and palm leaf being a few. No historical references to its manufacture have been found and its original name is unknown. There are at least two quite different techniques that result in two slightly different-looking designs. The following



Figure 24. Cat's eye decoration and its related decoration, cable, on a pearlware bowl. (Photograph courtesy of the Shelburne Museum, Shelburne, Vermont.)

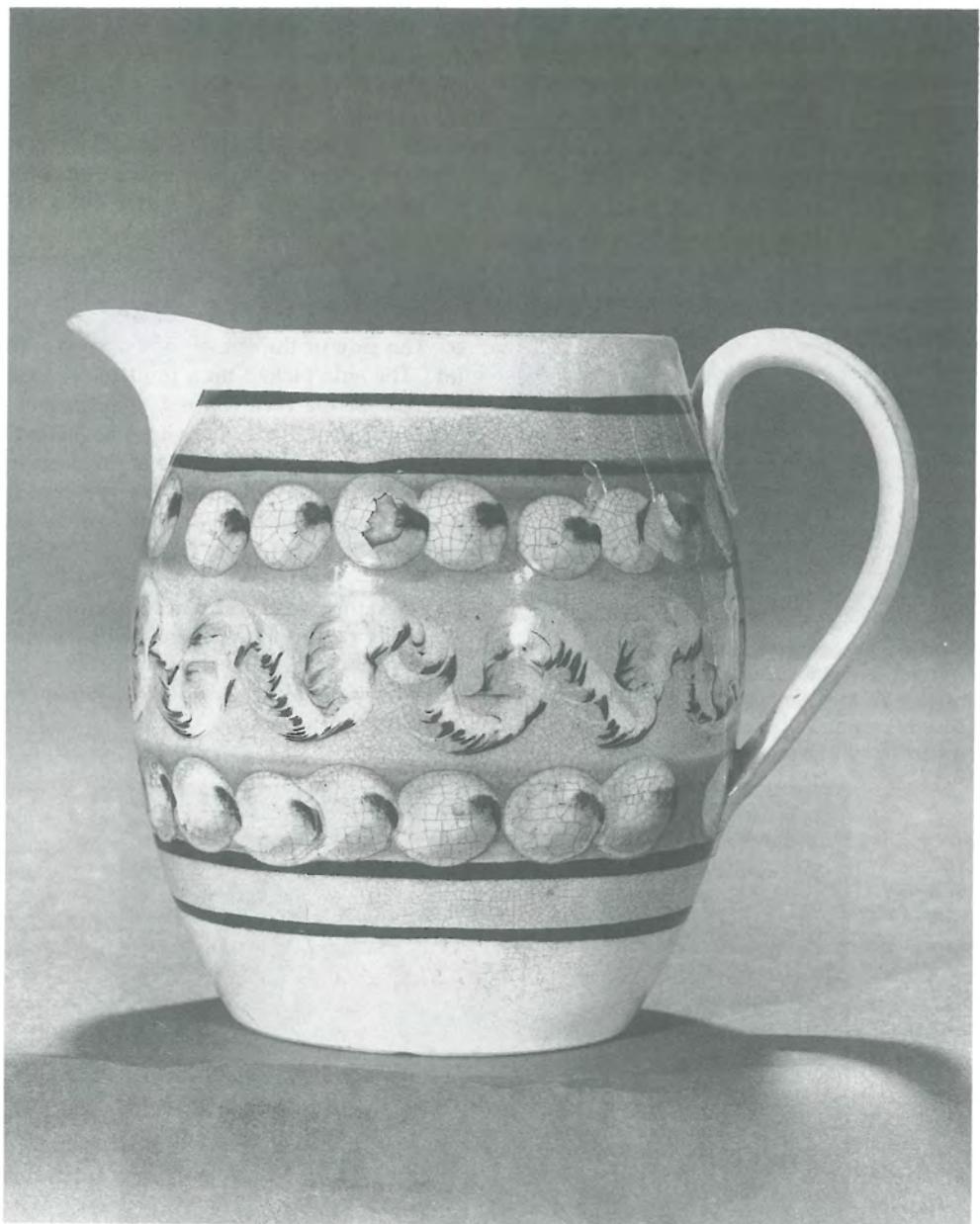


Figure 25. Cable and cat's eye decoration. (Pitcher in private collection of George L. Miller. Photograph by Rock Chan.)



Figure 26. Twisting. Pepper shaker. (Photograph courtesy of the National Museum of American History, Smithsonian Institution. Gift of Miss Margaret A. R. Stottlemeyer. Photograph by Brenda Gilmore.)



Figure 27. The decoration of this pitcher fragment (excavated in Alexandria, Virginia) demonstrates the close connections among cat's eye, slip-trailing, and twisting. The top of the slip-trailed lines could have been isolated to form a cat's eye or extended slightly to form a sprig-and-twist motif. (Photograph by Lynne Sussman.)

describes the technique used by Don Carpentier to create fanned designs that are indistinguishable from those on historical objects (FIG. 28).

a. Tablespoon-sized blobs of differently colored slip were dropped into a lid about 3 inches in diameter and 1½ inch deep, so that each blob occupied a different horizontal location. Blobs of slip were dropped sequentially until the lid was filled to the brim.

b. The side of the vessel was dipped into the lid. The side picked up a multicolored design the size of the area dipped. As the pot was lifted out of the slip, the slip was pulled into neat wedge shapes. The size of the design was easily controlled by dipping the vessel as far as possible and letting the diameter of the lid determine the extent of the design.

c. When the vessel was placed upright, the slip naturally ran into the design that resembles an open round fan. The dipping process can be repeated several times before the crispness of the design deteriorates.

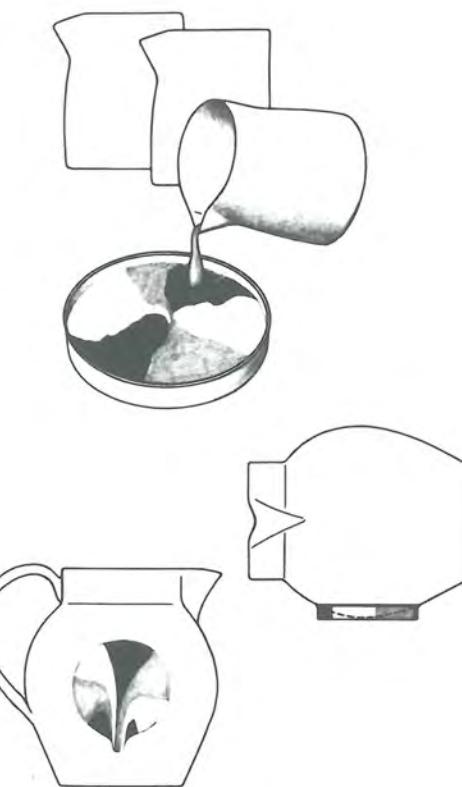


Figure 28. Don Carpentier's Fanning.
Above. A small circular pan, the size of the desired design, is filled with differently colored slips.
Center. The side of the pot is pressed onto the filled pan. When the pot is lifted away, the slips pull into wedges that meet in the center of the circle.
Below. When the pot is set upright, gravity pulls the wedges into a fan shape. (Drawing by Dorothy Kappler.)

Although this technique works best on objects with hemispherical sides, with a slight rolling movement it also works on objects with cylindrical and conical sides.

The decoration reproduced by John Smith required an entirely different technique (FIG. 29).

a. Slip was put in a large open pan. The pan was partially filled with slip of one color. Across the surface of this slip were trailed parallel lines of slip that were not only different in color, but different in viscosity. The best re-

sults were obtained when thicker, heavier slip lines were floated on a lighter slip.

b. The side of the vessel being decorated was carefully dipped into the slips so a large circular patch was lifted onto its surface (FIG. 29b).

c. When the vessel was set upright, gravity and the difference in viscosity between the slips pulled the horizontally striped motif into a characteristic fan-like design of tapering stripes.

Other methods of making the fan design were used, but these seem to be variations of the two techniques described above or variations of cat's eye and twirling. In Figure 30 (left) and Figure 31 (left) are examples that have been dipped more than once. The design on the bowl to the right in Figure 32 is composed of overlapping twig or cat's eye motifs.

An interesting example of marbled fanning is illustrated in the paper "The Downshire Pottery in Belfast" by Peter Francis (1995: pl. XVIIIb). The design is so attractive, one wonders why marbled fanning was not more common.

Marbling

From the 1760s, at least forty years before the invention of the chambered slip-bottle, multicolored slip was lavishly used in an overall decoration called marbling. It should be noted that marbling in this context refers to its application on factory-made fine earthenware; the decoration on English coarse earthenwares was well known since the 17th century.

The object was first dipped in colored slip to lay a ground, then the ground was more or less covered with irregularly trailed blobs of variously colored slips. The marble effect was created either by "joggling" the object to distort the blobs of slip or by combing, that is, by drawing a pointed stylus through the slip (FIG. 33). The latter method is the same as that used to marbleize paper or cake batter. Combing was done either by a single stylus moving in sweeping curves or by a pronged "comb" moving more sedately. The mug in Figure 34 is a good example of both techniques. The splotched decoration on the mug in Figure 35

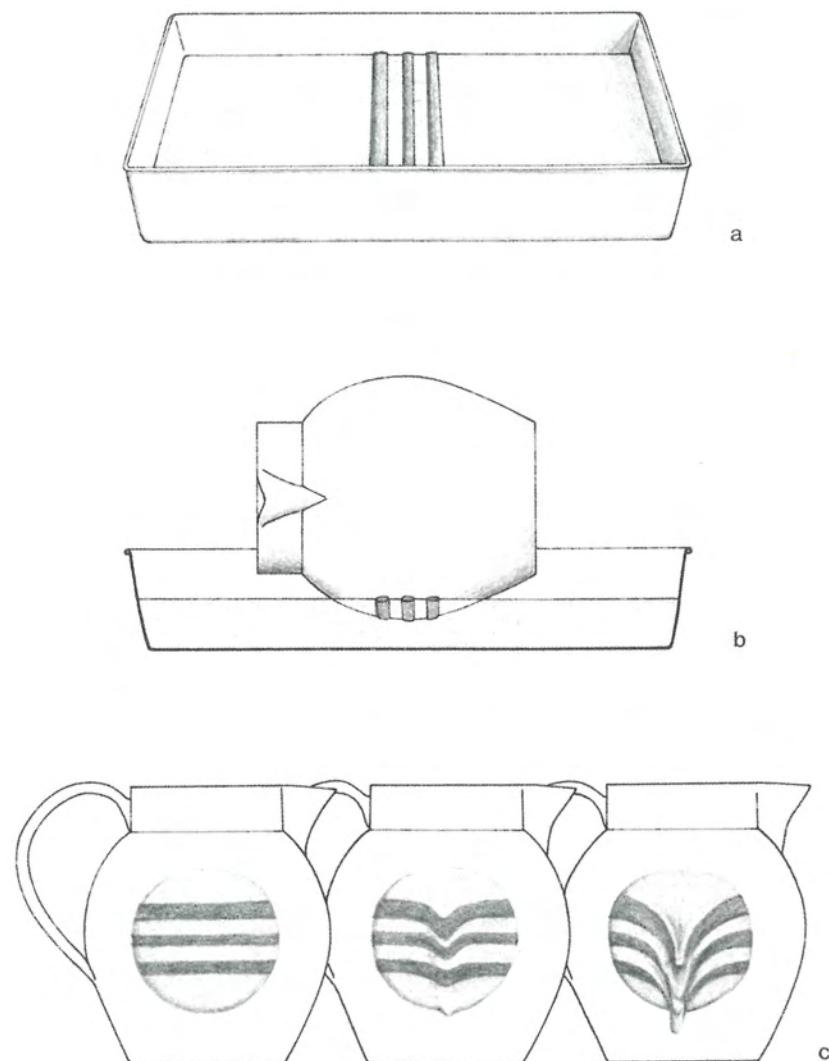


Figure 29. John Smith's Fanning.

- A pan is filled with slip of one color. Lines of thick slip in a different color are trailed on the surface.
- The side of a globular vessel is dipped partially into the two slips so that a circular patch is lifted onto its surface.
- Then the vessel is set upright, the thin background slip flows downwards, pulling the heavier lines into a tapering fan-shaped design. (Drawing by Dorothy Kappler.)

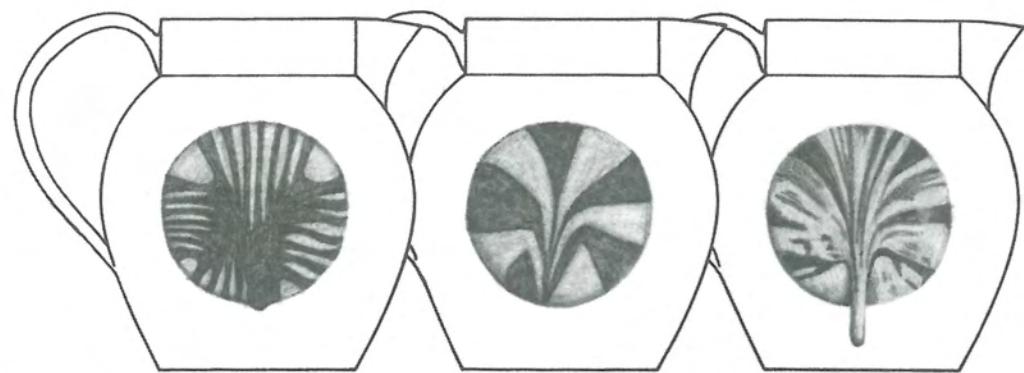


Figure 30. Variations of fanning. Variations in the fan design are achieved by trailing different designs on the surface of the slip in the pan and by altering the orientation of the vessel. (Drawing by Dorothy Kappler.)

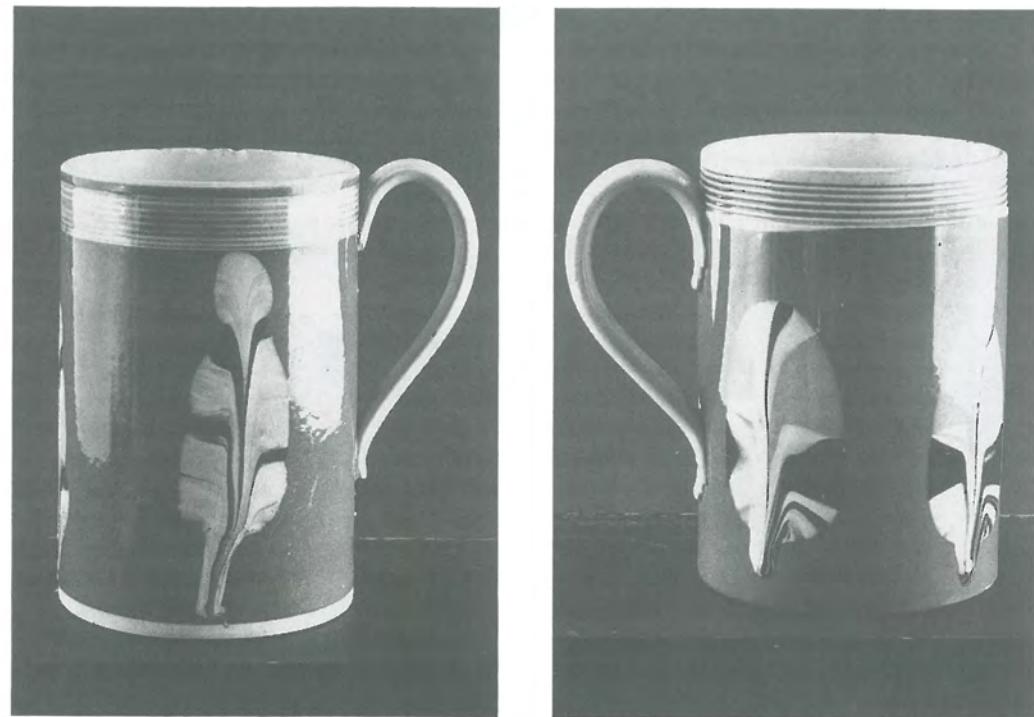


Figure 31. Fanning on cylindrically sided mugs. The fanning on the mug to the left appears to be a composite of two separate motifs, possibly two "dippings." The decoration on the mug to the right was probably made with the technique devised by Don Carpentier. (Photographs courtesy of the Shelburne Museum, Shelburne, Vermont.)

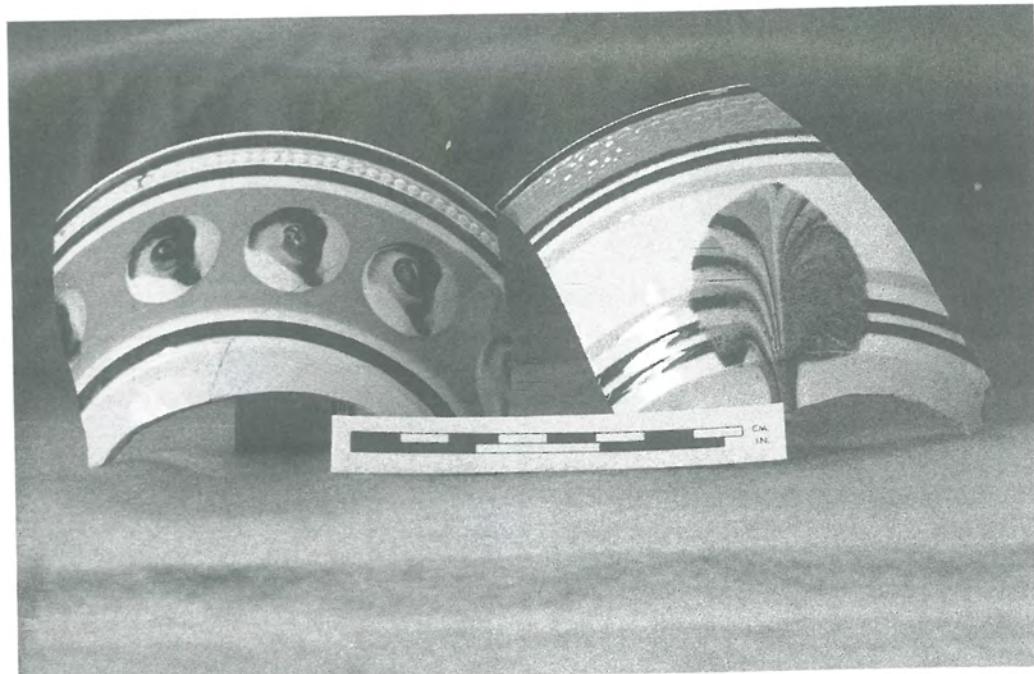


Figure 32. Bowl fragments from the site of the Verreville Pottery, Glasgow, Scotland. The bowl fragment on the right is a clear example of fanning made from several cat's eyes or twigs that have flowed together. (Photograph by Lynne Sussman.)



Figure 33. Marbling by joggling. Creamware teapot with iron replacement handle. (Private collection, George L. Miller. Photograph by Rock Chan.)



Figure 34. Marbling combed with a three-pronged stylus. On this pearlware mug a three-pronged stylus was first passed down the sides (notice the vertical lines), pulling the trailed slip into characteristic scalloped designs. Then, the designs were distorted by sweeping a single point across the surface. (Photograph courtesy of the National Museum of American History, Smithsonian Institution. Gift of Dr. and Mrs. Arthur M. Greenwood. Photograph by Brenda Gilmore.)

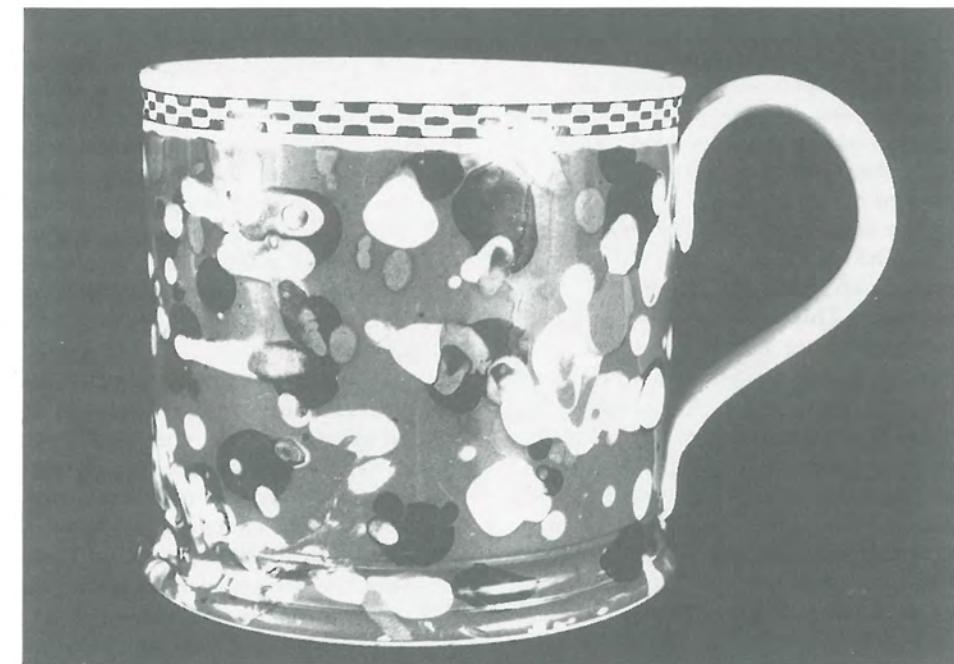


Figure 35. Failed marbling, sometimes called scroddling by collectors. A common decoration that is the result of marbling with a slip ground that is not wet enough. (Collection of, and photograph by, Jonathan Rickard.)

is the result of applying blobs of slip onto a ground that was too dry. Marbling, especially by "joggling," only works if the ground slip is very wet. It is possible that this splotched effect was deliberately created, but I believe that it was unintentional.

Several rather unattractive kinds of marbling were made with the three-chambered slip-bottle. They are readily distinguishable from those made with the original techniques but it is hard to say exactly how; they somehow contrive to appear both messier and more regular than joggled or combed marbling. On the pepper shaker and mug in Figures 36 and 37, the tip of the slip-bottle has simply been pulled along the surface through the cable design. On the pitcher in Figure 38, the marble effect was made by profuse trailing of very thin slip. The peculiar design on the bowl fragment in Figure 39 is really composed of many misshapen cat's eyes.

Mocha

This, the most renowned of all factory-made slip-decorations, was purportedly named after the mocho stone, an agate with delicate tree-like markings (Fig. 40). The decoration has been reproduced in recent years by studio potters and its once enigmatic method of creation is now well understood. The term *dendritic*, a good description of the decoration, was not used historically.

A wide band of colored slip was laid as a ground. The potter then touched a brush charged with an acidic solution or "tea" to the wet surface. This small dab immediately spread into intricate fern-like patterns. The "tea" was essentially an herbal concoction; the essences of certain plants have the ability, when placed on a wet surface, to spread into characteristic patterns. Tobacco, coffee, and hops are three plants whose juices are known to create the mocha effect. A mid-19th-century recipe for one of these teas is described as "a saturated infusion of tobacco in stale urine and turpentine" (Evans 1970: 31). Equally successful results have been achieved with tobacco and vinegar (Little 1974: 36). In addition, the mixture would have included some metallic oxide as colorant. Don Carpenter has used manganese dioxide as the colorant for a most

authentic-looking black mocha. I have not analyzed the blue, green, and pink mocha, but assuming their colorants were the same as underglaze-painted or transfer-printed decorations, blue mocha was made with cobalt, and the rarer green and pink mocha were both made with chromium (Sussman and Moyle 1988).

The overall shapes of these patterns were adjusted by controlling the direction in which the "tea" flowed. An object mounted horizontally and touched by the brush at localized spots received almost circular patterns. If the object was spinning rather rapidly or if the brush was dragged along the surface, these patterns widened to form designs that resembled low hedges. The popular tree pattern was made by holding the object upside down, applying the solution near the base and allowing it to run down toward the rim.

This is one of the few cases wherein the workman held a slipware object in his hands while decorating it. Quite elaborate patterns were produced by painting floral motifs or sinuous abstract designs with the solution (FIG. 41).

Engine-Turning, Dicing, and Rouletting

In 1764, Josiah Wedgwood concentrated his considerable energy on developing an improved lathe that would be able to carve patterns on the surface of his pots (Meteyard 1865: 337–341). His inventiveness and his genius for adapting other men's ideas resulted in the engine-lathe, a machine that could engrave flutes, chevrons, checkers and a variety of decorative zig-zags.

The essential improvement of the engine-lathe was an axis or shaft that moved horizontally in synchronization with its rotary movement. Regular back-and-forth movement was controlled by a system of cams or "rosettes" (the engine-lathe is sometimes called a rose-lathe) (Sandeman 1901: 104–105). The cutting tool was "held rigidly on a clamp while the clay vessel revolved slowly on its shaft, being alternatively presented to the cutting tool and removed" (Copeland 1981). In this way, regularly spaced cuts were made and resulted in designs such as checkers, flutes and panels. Wavy or zig-zag lines were cut by using a



Figure 36. Marbleized cable design. The tips of the quills were passed through the cable design while it was still wet. Pearlware pepper shaker. (Photograph courtesy of the National Museum of American History, Smithsonian Institution. Gift of Clare Shenahon Boyd. Photograph by Brenda Gilmore.)



Figure 37. Marbling with three-chambered slip-bottle. The marbling on this pearlware mug was done by trailing tri-colored designs and passing the tips of the quills through the wet slip. Excavated from Les Villes Forges du St. Maurice, Québec. (Photograph by Pierre Vezina.)



Figure 38. Marbling with three-chambered slip-bottle. The marbling on this pearlware pitcher was done by trailing thin slip in a random fashion from a three-chambered bottle. Excavated at Alexandria, Virginia. (Photograph courtesy of the Alexandria Urban Archaeology Program.)

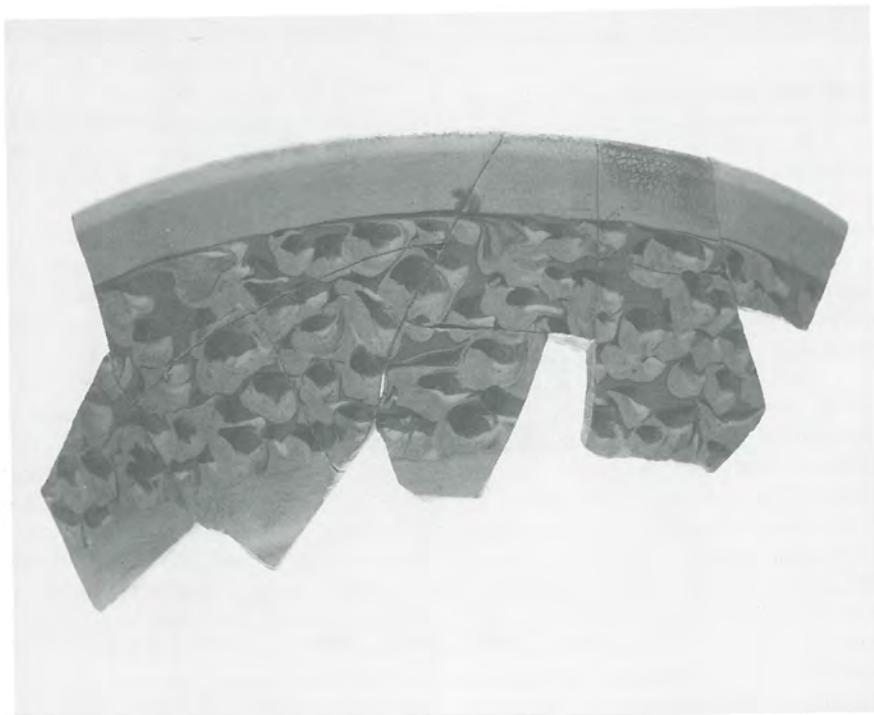


Figure 39. Marbling with cat's eyes. This design consists entirely of closely spaced and distorted cat's eyes. Whiteware bowl fragment excavated at Fort Coteau du Lac, Québec. (Photograph by Rock Chan.)



Figure 40. Mocha-decorated vessels. The bowls and the bowl and pitcher on the top and bottom shelves are examples of circular or near-circular mocha motifs. The large pitcher on the middle shelf is an example of vertical "tree" motifs and a horizontal "hedge." (Photograph courtesy of the Robert C. Eldred Co., Inc.)



Figure 41. Mocha decoration. The decoration on this yellow ware chamber pot is an extravagant example of "painting" with a mocha solution. Excavated object from Fort Coteau du Lac, Québec. (Photograph by Rock Chan.)

further innovation that allowed the shaft to move endwise, parallel to the cutting tool (Sandeman 1901: 106).

In its early application, engine-turning was confined to fine stoneware, in particular the elegant wares known as Egyptian Red and Egyptian Black or Black Basalte (Figs. 42, 43). The bodies of these wares were close-grained and hard, and were usually left unglazed. Their engine-turned designs were too intricate and delicate to be cut into porous earthenware. By the end of the 18th century, engine-turned designs were being engraved on fine earthenware, but with quite different effects. While some earthenware pieces approximated the subtle textural effects seen on fine stoneware (Fig. 44), most combined simple square or rectangular cuts with slip-decoration to achieve dramatic color contrasts (Figs. 45-47). The machine used for making these cuts was later called a dicing-lathe and the designs were known as dicing (Sandeman 1901: 106).

The simplest decoration using a dicing lathe and slip was similar to early banding. The piece was dipped in slip, mounted on the lathe and turned in places to expose the body. Instead of the continuous bands made with the regular lathe, white checkers, interrupted lines, and rows of dots were made against a darker

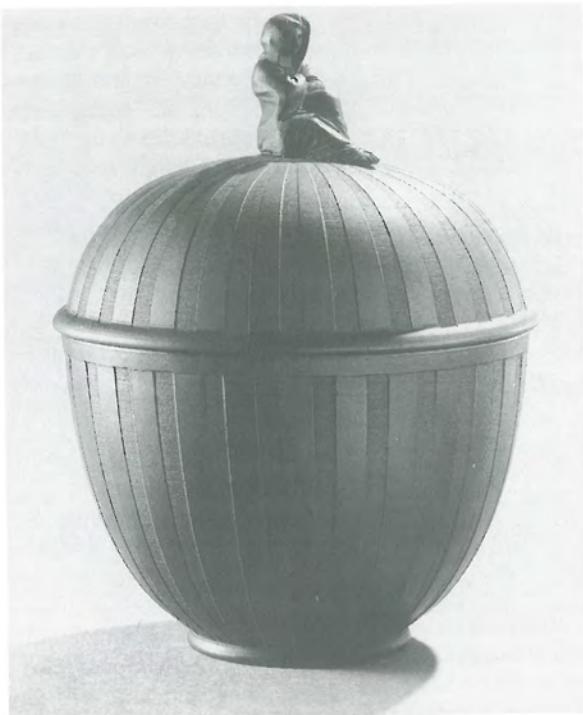


Figure 42. Engine-turned decoration on black basalt sugar bowl. (Photograph courtesy of the Royal Ontario Museum, Toronto.)

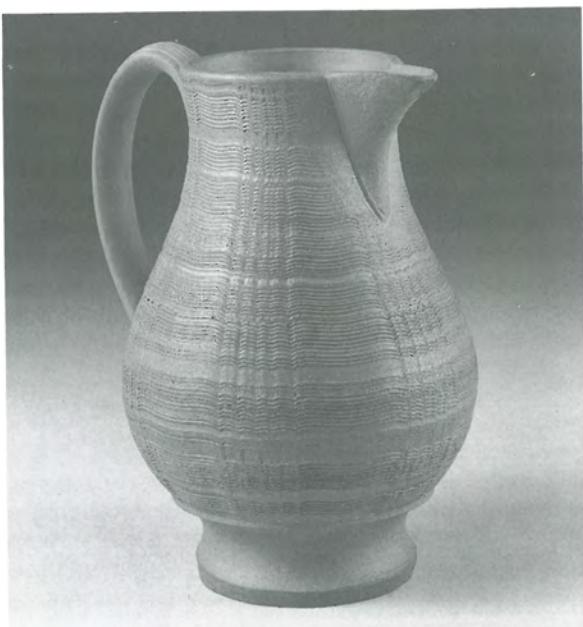


Figure 43. Engine turned decoration on red stoneware cream jug. (Photograph courtesy of the Royal Ontario Museum, Toronto.)



Figure 44. Engine-turned decoration on pearlware pitcher. Note how much softer the engine-turned designs appear on this object than on the unglazed stoneware objects in the previous figures. (Photograph courtesy of the National Museum of American History, Smithsonian Institution. Gift of Dr. and Mrs. Arthur M. Greenwood. Photograph by Barbara Gilmore.)

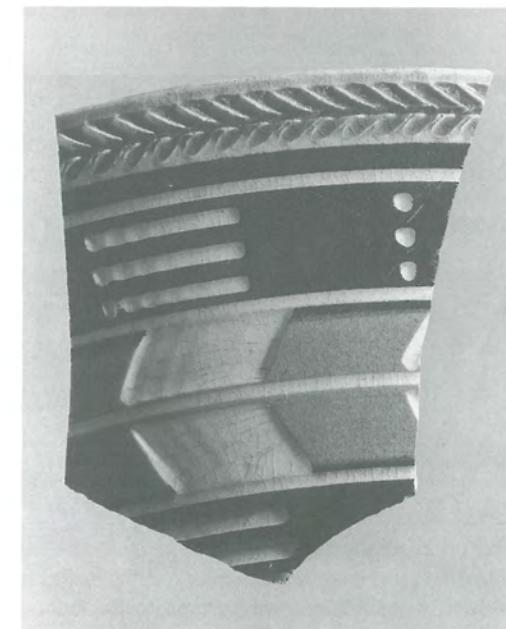


Figure 45. Engine-turned dots, lines, and lozenges over bands of slip. The regular flaws on the left are a result of "chattering," that is, the cutting edge of the tool bounced along the surface at this point. The shuddering of the engine-lathe made it a common problem with this type of decoration. (Photograph courtesy of the Colonial Williamsburg Foundation.)



Figure 46. Engine-turned lines. Note that curved motifs can be cut with an engine-lathe. Pitcher fragment excavated at Fort Coteau du Lac, Québec. (Photograph by Rock Chan.)



Figure 47. Cut-away panels made with an engine-lathe. The colored bands create a checkered effect that approximates the designs achieved by the more complicated method of inlaying slip. Pearlware bowl excavated at Alexandria, Virginia. (Photograph courtesy of the Alexandria Urban Archaeology Program.)

background. A more colorful decoration was achieved by first banding the piece with slips of different colors. The bowl fragment in Figure 45 was decorated in this manner. Note the "chattering" marks at the same place down the side of the bowl.

A simple alternative method of "engraving" patterns on pottery was to impress designs with a roulette. The roulette, also called a rollete or rowel, was a small revolving wheel with an embossed edge. By rolling it along the damp (leather-hard) clay surface, a narrow band of repeating designs was impressed on the pot (FIG. 48).

Inlaid Slip

This decoration is visually the reverse of the previous decoration (FIGS. 49–55). A pattern was either cut into the body with a dicing-lathe or impressed with roulettes. The piece was

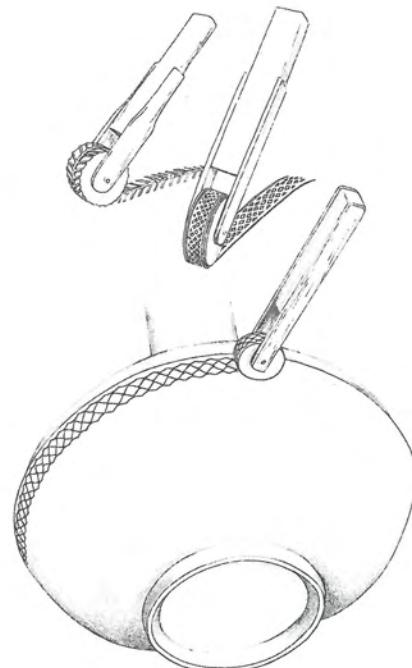


Figure 48. Rouletting. (Drawing by Dorothy Kappler.)

dipped in slip (most often dark brown). It was then mounted on a regular lathe and carefully turned so that all the slip was scraped from the surface, leaving only a design formed of slip-filled depressions. By painting or trailing different colors of slips on different areas of the pot, multicolored inlaid designs were achieved. For example, the two-colored

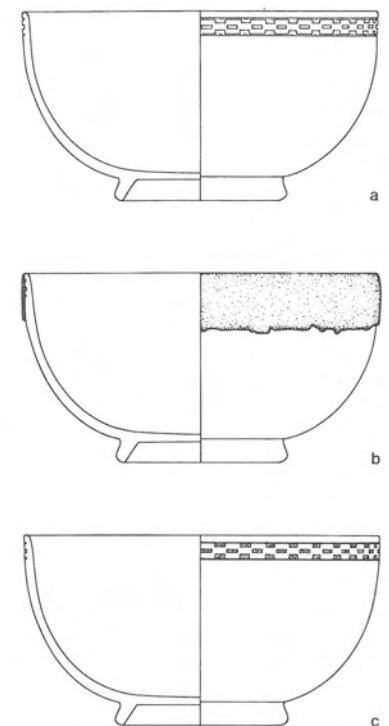


Figure 49. Inlaid slip-decoration.
a. A checkered design is diced into the body or fabric of the pot. A similar design could have been made with a roulette.
b. The pot is dipped in slip so that the cut-away design is covered.
c. The pot is turned, leaving the colored slip only in the depressed areas of the design. (Drawing by Dorothy Kappler.)



Figure 50. Complete bowl with inlaid slip-decoration along the rim and a plain covering of slip in a contrasting color on the sides. Excavated pearlware bowl from Alexandria, Virginia. (Photograph courtesy of the Alexandria Urban Archaeology Program.)

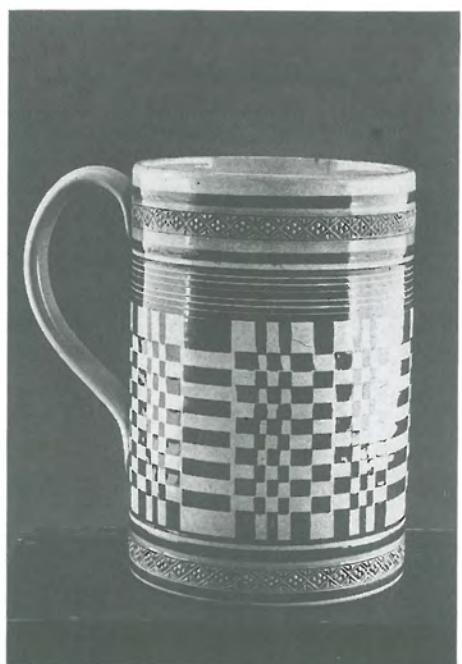


Figure 51. Inlaid slip-decoration. The checkered design is one of the most common inlaid designs, although it is more frequently seen as a secondary decoration near the rims of objects. (Photograph courtesy of the Shelburne Museum, Shelburne, Vermont.)



Figure 52. Unusual slip-trailed decoration in imitation of inlaid checkered design. Bowl excavated at Alexandria, Virginia. (Photograph courtesy of the Alexandria Urban Archaeology Program.)

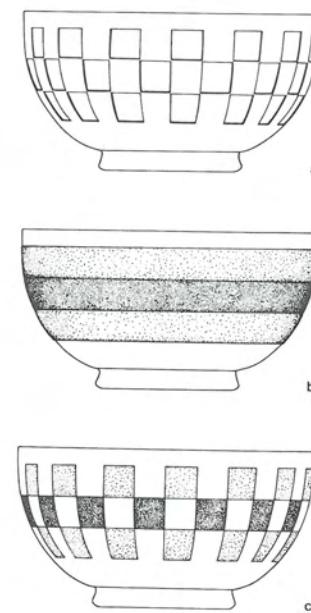


Figure 53. Inlaid slip-decoration in more than one color.

- a. A checkered design is engine-turned into the body of the pot.
- b. A band of slip is applied over each tier of squares. The top and bottom bands are one color, perhaps blue and the middle band is another color, possibly brown.
- c. The pot is turned, leaving slip only in the depressed areas. The result is a blue and brown checkered design.

Any engine-turned or rouletted design and any number of differently colored slips may be used to achieve multicolored inlaid designs. (Drawing by Dorothy Kappler.)



Figure 54. Inlaid slip-decoration. The engine-lathe that cut these waved lines could move eccentrically in two directions. (Photograph courtesy of the Shelburne Museum, Shelburne, Vermont.)



Figure 55. Inlaid slip-decoration. The inlaid designs on this mug were cut into the body with a roulette. Note the double design on the upper band and the shadowing on the middle band. Both are the result of the roulette "chattering" while held against the object. (Photograph courtesy of the Shelburne Museum, Shelburne, Vermont.)

checkered design was made by dicing a checkered design on the body, banding in alternating colors over each row of squares, and turning.

Imitation Stone

Among the earliest artistic uses of colored clays on fine earthenware were attempts to imitate attractively mottled stone, granite, porphyry, serpentine, marble, and agate. The finest pieces were press-molded from solid variegated clay and cannot be considered examples of factory-made slipware. Others, generally later pieces, were mottled only on the surface and because slip was used in their decoration (albeit sometimes only as an adhesive for the surface decoration) they are included in this survey.

Surface Agate and Agate Inlay

To create an agate-like mass, whether for solid bodies (FIG. 56) or for surface decoration, differently colored clays were wedged

together, that is, they were kneaded in such a way that distinct layers and streaks ran throughout the mass with little or no blurring of their colors. For surface decoration, the pot was dipped in slip that served as an adhesive. Thin slices of agate-like clay were cut from the mass and pressed firmly on the pot. After the pot had dried, it was mounted on a vertical lathe, similar to a potter's wheel, and turned to remove the smudged outer surface. Inlaying (FIG. 57) was done by first turning a shallow groove on the pot, filling the depression with thin slices of agate-like clay, and then turning the pot when dry.

Surface Granite and Granite Inlay

This technique has been only partially replicated—I have reproduced the small clay pieces that make up the decoration. How they were applied to the pot is still a matter of speculation. In the following description, and in the accompanying drawing, certain techniques are suggested, but any concrete information (confirming or contradicting) will be a



Figure 56. Solid agate jugs, ca. 1740. (Photograph courtesy of the Nelson-Atkins Museum of Art, Kansas City, Missouri. Gift of Frank P. and Harriet Burnap.)



Figure 57. Solid agate bowl with inlaid agate band around rim, ca. 1750–60. (Royal Ontario Museum, Toronto)

welcome addition to the current body of knowledge.

The granular effect of granite was created with varicolored clay crumbs about the size of peppercorns. For surface granite, the pot was dipped in slip, which acted as an adhesive, and the variegated pieces were packed firmly onto it. An alternative method was to pack the pieces into a solid block resembling a meat loaf. Thin slices were cut from the block and applied to the slipped surface of the pot. In both methods, the pot was subsequently turned. The "granite" surface thus created was rather coarse-grained (FIG. 58) compared with a beautiful variation of this decoration that required the creation of finely striped pieces (FIG. 59). These pieces were made using the following method: A stratified clay mass was prepared by putting down layers (about 1/4 inch thick) of differently colored slabs of clay. These layers were made very thin by rolling

the stack with a rolling pin or similar tool, then cut, restacked, and flattened until the layers were at the desired thickness (Colbeck 1983: 36–40) (FIG. 60). The stack was cut into strips and allowed to dry, then crumbled into pieces, ready for application to the pot. Inlaying was done by first turning a shallow groove, filling it with variegated pieces (or thin slices composed of these pieces) and then turning the surface.

The surface granite decoration on the teapot in Figure 59 was made by combining pieces from three sets of layered slip: dark brown and tan; blue and rust; and white and rust. The granite inlay on the pitcher in Figure 61 is composed of pieces from a single set of white, dark brown, and rust layers.

The term "granite" in reference to this decoration is not known historically; it is a modern term that describes its appearance.



Figure 58. Surface granite decoration on teapot. (Royal Ontario Museum, Toronto)



Figure 59. Surface granite decoration. Pearlware teapot with engine-turned fluting at its base, inlaid-slip-decoration, and gilding as well as surface granite decoration. (Photograph courtesy of the National Museum of American History, Smithsonian Institution. Gift of Mrs. Helen A. Mosher. Photograph by Brenda Gilmore.)

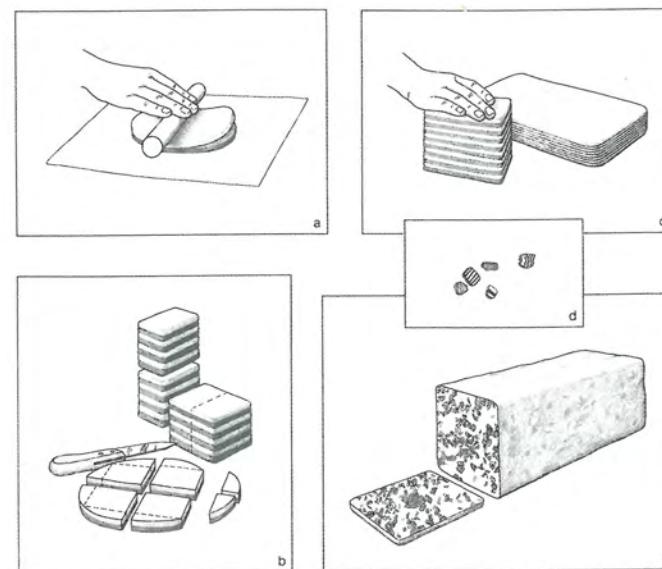


Figure 60. Surface granite decoration.

- a. A striped mass of clay is created by laying down layers of differently colored clays. The layers are thinned by rolling the stack like pastry.
- b, c. The number of layers is increased by cutting and restacking the layered mass.
- d. After the clay has dried, it is crumbled into small, finely striped pieces. These pieces can then be applied to the slipped surface of the pot.
- e. An alternative method requires that the pieces still be plastic or rendered plastic by adding water. The damp pieces are packed into a solid block. Thin slices are cut from the block and these are applied to the surface of the pot. (Drawing by Dorothy Kappler.)



Figure 61. Granite inlay decoration. Pearlware pitcher covered in brown slip with granite inlay decoration on the collar. (Photograph courtesy of the National Museum of American History, Smithsonian Institution. Gift of Clare Shenahon Boyd. Photograph by Brenda Gilmore.)

Encrusting

A far simpler and, to some, unlovely, variation of surface granite was a decoration composed of grout, that is, crumbs of dried clay (FIG. 62). All that was required in the way of technique was to roll the slipped surface of the pot in the grout. It was not subsequently turned and the result was a textured surface not unlike stucco. Sometimes a tweedy effect was achieved by combining crumbs of differently colored clays. In spite of its rough, unfinished appearance, this encrusted decoration was associated less with factory-made slipwares than with lusterware, a group of ceramics whose purpose was primarily decorative.

The historical name for this decoration is not known.

Fine Speckling

A densely speckled decoration can be seen on rather fine objects, including painted teawares of the late 18th and early 19th century (FIG. 63). This type of decoration consisted of either dark blue specks on a blue ground, dark brown specks on medium brown ground, or black specks on gray ground. The appearance of this decoration suggested that it was made by sprinkling metallic oxide thickly onto a slipped surface. Appearances are deceiving—it was not. An example discovered by



Figure 62. Encrusted decoration. Pearlware pitcher excavated at Artillery Park, Québec. (Photograph by Pierre Vezina.)

Jonathan Rickard had a remnant of the speckled surface on the bottom: no worker would deliberately waste time by sprinkling oxide on the unseen base of an object (Jonathan Rickard, personal communication, 1991). He immediately understood the significance of this: the slip was pre-speckled. Subsequent experiments by Don Carpentier have reproduced speckled slips identical to those on historical objects. Although he was able to produce delicately speckled grounds when he mixed metallic oxides themselves in slip, these results did not really resemble the period vessels. They were similar to some faintly speckled commercial slips that are now available. He achieved the proper results by suspending colored fragments of glaze in the slip. First, he mixed frit and the metallic colorant for the desired color (cobalt with copper for blue speckles; manganese for dark brown speckles). He then fired the mixture in his kiln to create a glass that he subsequently pounded into small fragments.

Coarse Speckling

A sparse type of speckling was sometimes given to a slipped surface on inexpensive objects made in the mid-19th century. Besides the size and sparseness of the speckling, coarse speckling has three characteristics that distinguish it from fine speckling. The specks are usually a different color than the ground slip; the specks can be two different colors on the



Figure 63. Fine speckling in dark blue with blue painted decoration. Pearlware saucer fragment from Fort Beauséjour, New Brunswick. (Photograph by Rock Chan.)

same piece; the specks are different sizes on the same piece. It is possible that the particles were suspended as in fine speckling, but the technique has not yet been replicated. The coarse speckling illustrated in Figure 64 is in two colors, dark blue, and dark brown.

Bull's Eyes

While it resembles no earthly stone, this rare design was produced by techniques similar to those creating imitation agate and granite (FIG. 65). The design was replicated by the author using two slightly different techniques. The first technique is similar in some aspects to millefiori, the famous style of glass decoration. A clay rod was wrapped in layers of alternating colored clay, care being taken to abut the joining edge so that no seam showed (FIG. 66). The resulting thick log was then pulled to thin the layers. Several wrapped cores were piled to form solid blocks and then sliced in cross-section.

In the second technique, a clay rod the diameter of the center of the bull's eye was pulled or rolled; bats of clay were stacked in alternating colors and the stack was rolled thin. This layered covering was then wrapped around the core.

Rim Decorations: Rouletting and Rilling

For reasons unknown, certain distinctive rim decorations were applied exclusively to

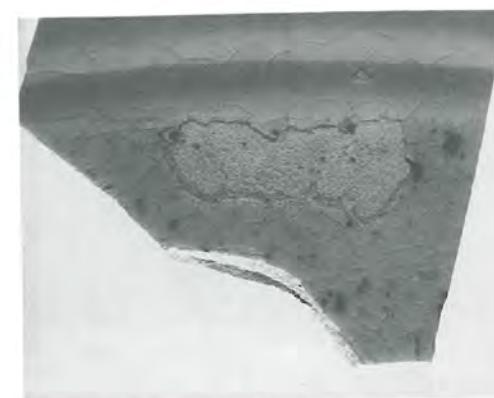


Figure 64. Coarse speckling. Pearlware bowl fragment from Fort Wellington, Ontario.



Figure 65. Bull's eye decoration. Pearlware pitcher fragment with mocha decoration on the collar and bull's eye decoration in orange and white and brown and white slip. Excavated object from Alexandria, Virginia. (Photograph by Gert Taudien.)

factory-made slipwares (FIG. 67). One of these, rouletting, has already been described as a preliminary step to inlaying with slip. While inlaid rouletting was certainly practiced widely, the most common rouleotted decoration was a band, about 1 cm wide, run around the rim and covered with a clear green glaze. It is not apparent when examining these green-edged rims that the effect was the result of an application of glaze. The effect could have been created with a simple wash of copper oxide in water, applied with a brush. John Smith reproduced green rims with this method. Extensive experiments by Don Carpentier, however,

make a convincing case for colored glaze recipes. They consistently reproduce the same shades of green as on period pieces.

Sometimes a blue or yellow band of slip was substituted for the green glaze. Occasionally the rouleotted band was left colorless.

Rilling, the other rim treatment associated with factory-made slipware, consisted simply of a band of narrow, turned grooves made with a sharp-toothed tool. Because it, too, was covered with a colored "glaze" (usually green), rilling had the same general appearance as the rouleotted rim decorations.

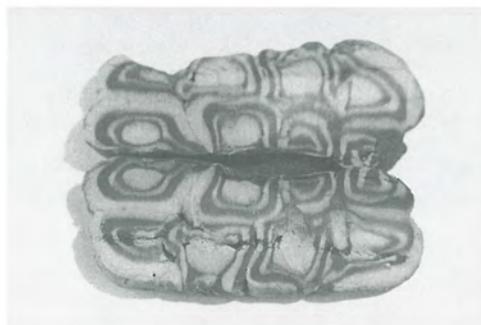


Figure 66. Variation of bull's eye decoration. Top, the author pulling a rod made up of light and dark clay bats around a light core. Bottom, cross-sections of the rod. Eight sections of the rod were pressed together and sliced. (Photographs by Lynne Sussman.)

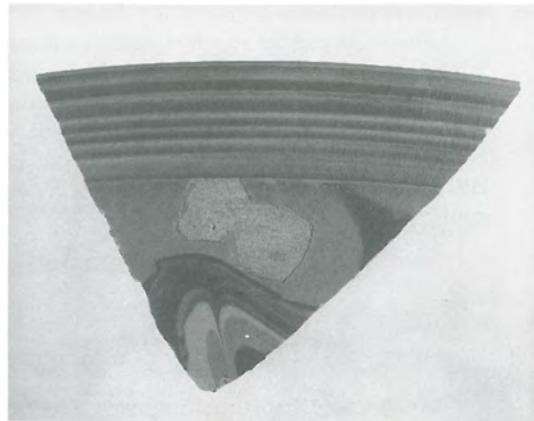


Figure 67. Left, green-stained rilling. Right, green-stained rouletting. (Photographs by Rock Chan.)

Notes

¹ This process is also described in Brongniart (1854), but differs in one important detail—he has the workman blowing into the large opening to force slip out through the spout. With all due respect to Brongniart's considerable knowledge, I do not see how this method could work.

² The catalogue is in the library of Don Carpentier. John Smith (personal communication, 1984) also described such a nozzle and Figure 4 (above) was based on his description, but he did not specify the source of his information.

³ Philadelphia Museum of Art. Letter accompanying a donated blowing-pot owned formerly by the American potter, Edwin Bennet.