GEORGE L. MILLER

A Revised Set of CC Index Values for Classification and Economic Scaling of English Ceramics from 1787 to 1880

ABSTRACT

This paper presents an updated and expanded set of CC index values for plates, teas, and bowls for the period 1787 to 1880. It is meant to replace the index values in the article "Classification and Economic Scaling of 19th-Century Ceramics" (Miller 1980). In addition to expanding the range of years covered, it adds values for dishes and for Irish size teas, as well as correcting a misconception about the stability of the price of CC ware during the first half of the 19th century. A better understanding of the discount rates has made it necessary to recalculate the index values for the post-1844 period. This paper also presents extensive chronological and descriptive information on the common types of ceramics that were imported from the 1780s to the 1880s.

Introduction

During the second half of the 18th century, a revolution took place in the English ceramic industry in Staffordshire. Developing technology, transportation, introduction of new raw materials, glazes, and marketing culminated in the Staffordshire industry becoming one of the dominant suppliers of ceramics to a world market (Miller et al. 1989). One of the major products of that revolution was creamware, which was introduced in the early 1760s and went on to become the dominant ceramic ware used during the rest of the century.

By the late 1790s, however, the demand for creamware was declining, and it had become the cheapest refined ware available. From that time on, creamware was referred to as "CC ware" in potters' and merchants' records. CC ware remained the cheapest type available from the late 1780s through the 19th century. While it consistently remained the cheapest ceramic, its appearance changed over that period. By the 1830s, CC ware was considerably lighter in color and would be classed as a whiteware by most archaeologists.

Because CC ware remained the cheapest type available for over a century, it makes an excellent bench mark to gauge the cost of other wares in terms of its price. A set of index values based on the cost of CC ware was published in *Historical Archaeology* in 1980 (Miller 1980). Over the last decade, those index values have been widely used to examine and compare expenditure patterns represented in archaeological assemblages. The CC index values presented here are the results of research made possible by a recent fellowship and two grants and are intended to supersede those prices provided in the earlier 1980 article.

CC Index Values: An Update

One of the basic assumptions of the 1980 article was that the cost of CC ware was relatively stable from 1796 to around 1860. That assumption was based on the prices of 16 dozen CC vessels from the Staffordshire Potters' price fixing lists of 1796, 1814, 1833, and 1846 (1796, 1846 reprinted in Mountford 1975:11–14; 1814 reprinted in Miller 1984; Staffordshire Potters 1833), and from the 1855 price list of the Fife Pottery (Miller 1980:23). Because the prices of these vessels in the above lists remained somewhat stable, it was assumed that CC index values from various years could be used to compare expenditure patterns from different time periods.

Research funded by the National Endowment for the Humanities (NEH) located Staffordshire potters' price fixing agreements from 22 different years between 1770 and 1885, and individual potters' price lists for an additional eight years during that period (Miller 1988:Appendix D). In addition to these price fixing lists, 167 potters' invoices with discount information for the period 1809 to 1875 have been located (Miller 1988: Appendix B).

This new information provides a clearer picture of the price structure for English ceramics and the relationship between the *list* prices in the price fixing lists and the *net* prices being charged by the

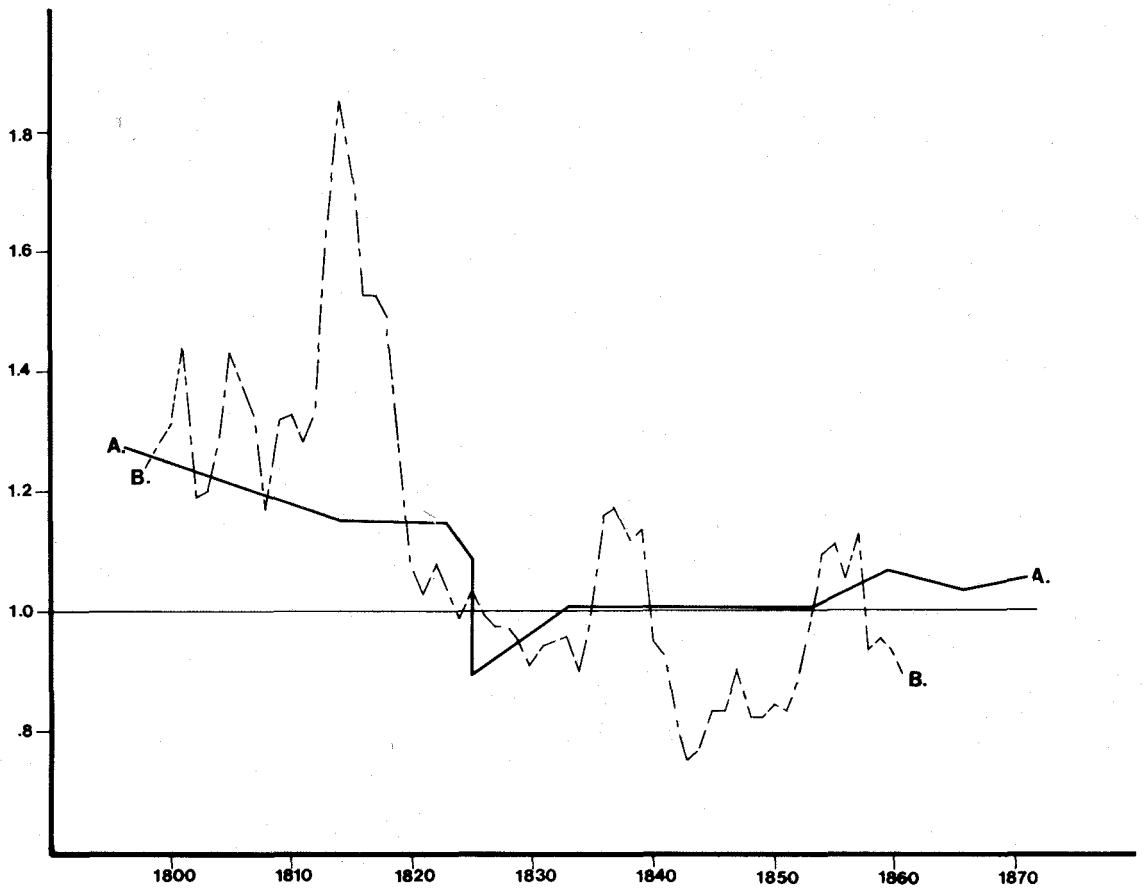

FIGURE 1. Comparison of Ceramic *List* Prices with the New York All Commodities Index of Wholesale Prices, both indexed to the period 1824 to 1842. A. = *list* prices for 48 dozen vessels, one-third creamware, shell edge, and printed wares for 1796, 1814, 1816, 1817, 1818, 1823, 1825, 1833, 1846, 1853, 1859, 1866, and 1871. B. = New York All Commodities Index of Wholesale Prices (Cole 1969: 135–136; Miller et al. 1989).

Staffordshire potters. Using these data, the list prices of 48 dozen vessels (one-third CC, edged, and printed wares) were extracted from 14 potters' price fixing lists and catalogues from 1796 to 1871 (Miller 1988:Appendix A). These *list* prices were then indexed to the period 1824 to 1842 and plotted against the New York All Commodities Index of Wholesale Prices (Cole 1969:135–136). Figure 1 illustrates the results of that price comparison. The graph suggests that prices of the common Staffordshire wares were relatively stable from 1796 to 1871.

That stability, however, is an illusion. Using the discount information from 122 potters' invoices from 25 different years, the Staffordshire average *net* prices per year were calculated for the period 1809 to 1848 (Miller 1988:Appendix C). These prices were also indexed to the period 1824 to 1842 and plotted against the New York All Commodities Index. Figure 2 presents that data. From this graph it can be seen that English ceramic prices dropped significantly from 1809 to 1848.

Clearly the prices of all wares, including CC, were dropping. CC ware remained the cheapest

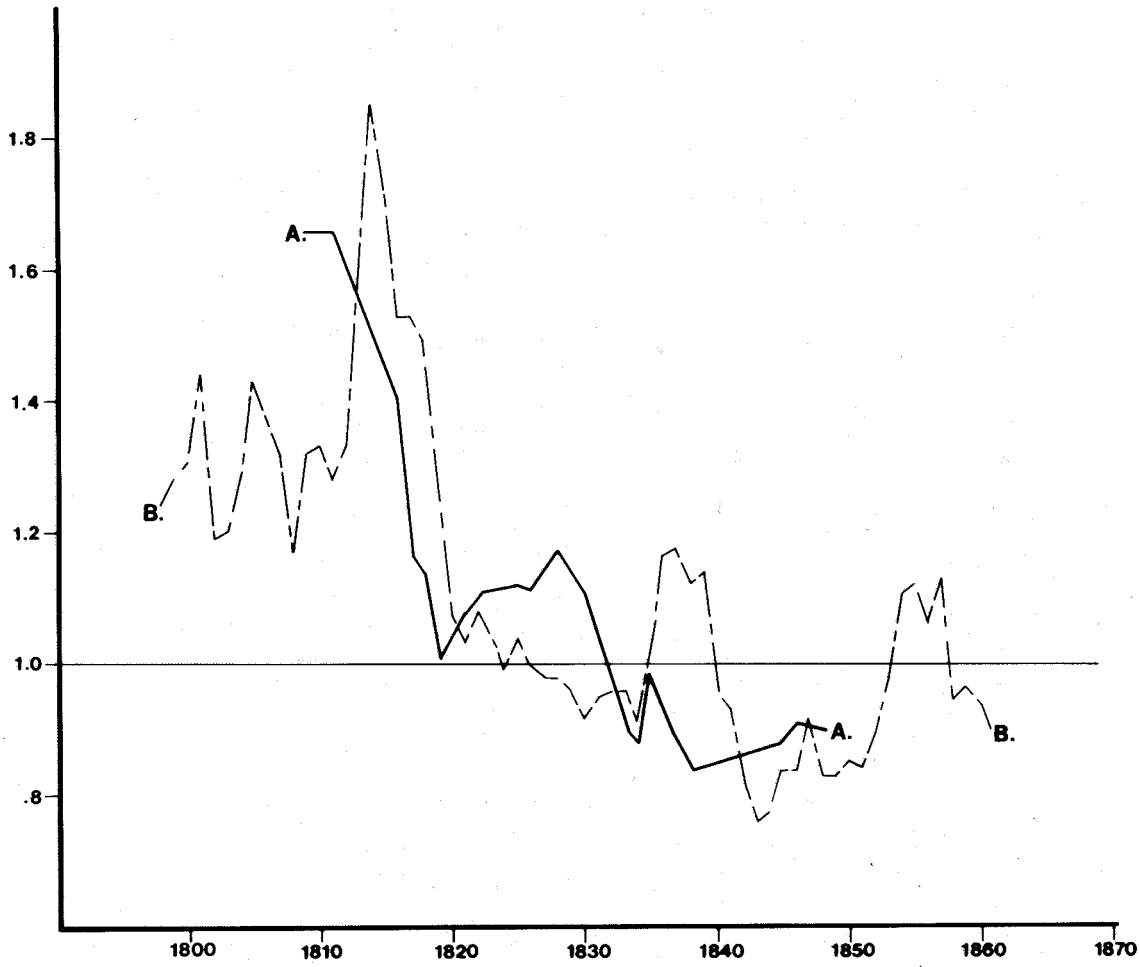

FIGURE 2. Comparison of Ceramic *Net* (wholesale) Prices with the New York All Commodities Index of Wholesale Prices, both indexed to the period 1824 to 1842. A. = *list* prices for 48 dozen vessels, one-third creamware, shell edge, and printed wares for 25 different years between 1809 and 1848. B. = New York All Commodities Index of Wholesale Prices (Cole 1969: 135–136; Miller et al. 1989).

refined earthenware throughout the entire period; however, it was dropping in price just like the other wares. This means that CC index values from one period should not be compared to those from another period without taking into consideration the declining prices and changing tariff rates. From the discount information gathered so far, indices within the following four periods appear to be comparable:

1780–1814 Period of the traditional discount, which was 5 percent for breakage plus 5 percent for cash payment, for a total discount of 10 percent. There was a 5 percent tariff on imported earthenware from 1789 until 1816.

1816–1830 The discount from the invoices for this period averages 28.8 percent. In addition, the tariff on earthenware had been raised to 20 percent in 1816.

1832–1842 The discount from the invoices for this period averages 39.5 percent. The tariff on earthenware continued at 20 percent until 1842.

1844–1859 The discount rate is more volatile during this period; however, the average rate of discount is 39.8 percent which is close to the previous period. The tariff rate went up to 30 percent in 1842 and remained at that rate until the Civil War.

For the periods after 1860, the quality of the information is not sufficient to set up periods or provide average discount rates. During the Civil War, the tariff rates went up and the exchange rate on the dollar dropped because of the large volume of greenback currency issued to finance the War. Assemblages from the Civil War period probably should not be compared to other time periods, and those from after the War probably should not be compared to earlier periods without taking into consideration differences in tariff and discount rates. A summary of the rates of discount and United States tariff rates on ceramics is covered more fully in appendices given in Miller (1988).

Around 1844, a change took place in the way that wares were discounted. Prior to that time, a single rate of discount was applied to all the wares on an invoice. After 1844, printed wares began to be discounted at a different rate than the other wares. As a result, the index values provided in Miller (1980) for printed wares from the post-1844 period had to be corrected. Table 1 provides a comparison of the old and new values for printed wares for 1846.

TABLE 1
CORRECTED INDEX VALUES

	1980	Corrected
Plates		
10 inch	2.63	2.11
8 inch	2.57	2.42
7 inch	2.50	2.37
Teas		
unhandled	2.45	2.27
handled	3.00	2.77
Bowls	2.80	2.58

The index values for edged, painted, and dipt—or dipped—wares remained the same as those published in 1980.

The set of 1980 index values was created from a variety of sources, including potters' price fixing lists, invoices, jobbers' bills, and account books. Until now, there has not been a sufficient amount of data to build a set of index values based solely on potters' price records. Funding provided by NEH remedied this problem (Miller 1988). All of the index values presented here are based on prices from English potters' documents, such as their price fixing lists, catalogues, and invoices.

This paper presents four times as many CC index values as were available in 1980. The earlier article had values for 24 different years, while the current index values cover 38 years and also extend over a longer time period. In addition, index values are provided for new decorative types and vessel forms. Along with the above data is an expanded description of the basic decorative types and information on their periods of popularity. Further information on the technology of decoration can be found in Majewski and O'Brien (1987).

The Use of CC Index Values

Using CC index values is quite simple. Once the minimal vessel count has been completed, the plates, cups, and bowls are grouped by their decorative type. Then the user selects a year from the indexes in the appendices that follow. In dealing with sites that have been occupied for a long period of time, one should attempt to break down the site assemblages into meaningful time units such as periods of occupation for different families or generations of a family. Generating average CC index values for lumped assemblages representing over 20 years of occupation seems to be a meaningless exercise.

Once one has established the assemblage or assemblages to be compared, the index value for each vessel type is multiplied times the number of

vessels of that type. The results for each vessel type are summed and divided by the total number of vessels, which yields the average CC index value for the assemblage. This analysis is done for plates, cups, and bowls which provides three sets of index values for each archaeological assemblage under consideration. For a more detailed explanation of how the index values were derived and are used in the study of expenditure patterns see Miller (1980:11–12).

The most common expenditure pattern that has emerged from the study of archaeological assemblages has been for the highest average index value to be from the teas and the lowest to be from the bowls. The resulting index values can be compared with ceramic index values from other sites. A recent article lists ceramic index values for 44 archaeological assemblages (Adams and Boling 1989).

In the current study, the term "white granite" has replaced "white ironstone." This term was adopted for two reasons. First, it is the most common name used for white ironstone in the potters' documents. Second, "white granite" avoids the confusion between the highly decorated stone chinas, such as Mason's 1813 "Patent Ironstone," with the plain white and molded wares from the second half of the 19th century.

Descriptions of Common Decorative Types

The following descriptions of the types of decoration used on English ceramics are to be used in conjunction with the appendices of CC index values. They cover the most common types of ceramic tea, table, and toilet wares found on North American sites occupied from the 1790s to the 1880s and provide some new chronological information. Guidance to an extensive literature on English ceramics can be found in Miller and Martin (1989).

CC Ware

CC is the potters' term for cream colored or creamware. When the term CC was used by itself, it referred to undecorated creamware. Almost all underglaze decorated, refined earthenwares from the 1780s on were either pearlware or whiteware. Those wares, however, were consistently referenced in potters' and merchants' records by their type of decoration rather than by ware type.

Early creamware has a deep yellow tint. In 1775, the Staffordshire potters gained the right to use kaolin clays from Cornwall (Miller 1987:88), resulting in a lighter colored creamware which became common after that date. By 1830, an even lighter colored CC ware had evolved. The resulting product is what most archaeologists call whiteware. Some have attempted to attribute this change to the development of a leadless glaze around 1820; however, lead glazes continued to be the dominant type throughout the 19th century (Binns 1907:83).

Before the War of 1812, CC ware was common in most forms of tea, table, kitchen, and toilet wares (Miller et al. 1989:17). CC ware remains in the potters' price fixing lists and continues to show up in invoices of wares imported to America into at least the 1890s. However, from the 1830s on, it was more commonly found in utilitarian forms such as bowls, mugs, and chamber pots, which were less involved in status display.

Because CC ware is the base for measuring the cost of the other types, its index value is always one. Therefore, it is not listed in the tables of index values. Index values are given for CC teas, however, because the addition of handles or fluting can create CC teas with an index value greater than one.

Shell Edge Decorated Wares

"Edged" is the most common potters' term for what was called "shell edge" in Wedgwood's 1775 pattern book and in Leeds' pattern book of 1783 (Mankowitz 1966:59; Towner 1965:57–61). The 1783 Staffordshire potters' price fixing list, reprinted in Mountford (1975:9), enumerates a full range of tableware vessels available in shell edge that are listed as "edged in blue," indicating that shell edge was an item of considerable production

by that date. Overglaze painted, shell-edged creamware was first produced in the 1770s (Mankowitz 1966:59). Underglaze painted shell edge was most commonly available on pearl or white wares with blue or green edges. By around 1840, green shell edge had become rare, while blue shell edge remained a commonly available type listed in potters' and merchants' invoices into the 1860s. After that date, shell edge is not commonly found in archaeological assemblages, although production continued into the 1890s and possibly later (Miller 1989).

Edged wares are generally limited to flat wares, sauce boats, tureens, and butter boats, which as a general class are known as tablewares. From the index values presented in this study, it can be seen that edged wares were the cheapest decorated tableware available for most of the 19th century.

Sponge Decorated Wares

Spatter and sponge decorated wares are two closely related types under this classification. Spattered wares have the color powdered on, whereas sponged wares have their color applied with a sponge. Powdered decoration, which has been labeled "spatter" by collectors, has a long tradition, dating back to the delft wares from the 17th century (Shlasko 1989:39). Spattered decoration occurs on "China glaze," i.e., early pearlware from the late 1770s (Ferguson 1975:6). Most of the pre-1830s wares with this type of decoration are spattered (or powdered), and they often are found with simple painted birds which collectors have called peafowl (Godden 1966:160). These painted wares continued into the mid-19th century with the broader sponged decoration.

Sponged wares without painting are not common before the introduction into the Staffordshire potteries of cut sponges with simple patterns in the late 1840s (Turner 1923:149). Most of the early examples are tea wares. After the introduction of the cut sponge, this type of decoration became more common on table, tea, and toilet wares. CC price index values for sponged wares are only available for the period from 1848 to 1871. In the 1855 Fife pottery list, sponged wares were the same price as edged wares. For their period, sponged wares are usually the cheapest vessels available with decoration (Finlayson 1972:118).

Dipped Wares

Dipped—or dipt—wares cover various types of decoration that were produced by the application of a colored clay slip. Potters' terms for these types include: variegated, mocha, moco, common cable, chainband, banded, blue banded, French gray, brick, and checkered (Mountford 1975:20; Miller 1987:91). Collectors have added to this list terms such as annular, finger-painted, finger-trailed, tree, wave, worm, and cat's eye. The most common terms used in the potters' price lists, invoices, and account books are dipt, dipped, colored, mocha, and banded.

Dipped wares were slip decorated on the green ware before it was bisque fired. Most underglaze decoration was applied to bisque fired wares. Colors of dipped wares are generally muted earth tones such as tan, rust, brown, olive drab, ocher yellow, and gray. An exception is blue-banded ware which became the most common type of dipped ware after the 1840s.

These wares occupied a grouping by themselves that was commonly referred to as "Mugs and Jugs Ware." Dipped decoration was generally limited to bowls, mugs, jugs (the English term for pitchers), chamber pots, mustard pots, castors, or shakers. Dipped teas and teapots exist, but they are rare. Dipped wares were the cheapest holloware available with decoration. These wares were not finger-painted.

The term mocha should only be used to describe those dipped wares with the dendritic pattern (Evans 1970[1846]:31). Mocha was most popular from the period 1795 to 1835 on American sites; however, mocha mugs continued to be produced in England for tavern use until the 1930s. Mocha was also developed on yellowware and was common throughout the second half of the 19th century. Index values for yellowware have not yet been worked out.

With the exception of simple banded types,

dipped wares are not common after the 1840s. Blue-banded wares continued to be produced well into the 20th century.

Underglaze and Enamelled Lined Wares

Underglaze-lined and enamelled-upon-glaze-lined wares are types listed on Staffordshire potters' price fixing lists from 1814 to 1833. They have a simple line painted around the rim and the inner edge of the marley that can be either on or under the glaze. The Wedgwood catalog for 1774 lists green double lines, brown double lines, and blue lines as decorative types (Mankowitz 1966: 57; Finer and Savage 1965:116–118). These early versions of lined types would have been enamelled on the glaze.

Underglaze-lined and enamelled-upon-glaze wares are different from the other decorative types in that they often occur on creamware with brown lines. Most other types of underglaze decoration were on pearl or white wares. Lined wares were almost always limited to tableware and are rare in teaware. Creamware and pearlware plates with one or two lines around the rim and marley are common on British military sites that have been excavated by Parks Canada from the period of the War of 1812.

Band-and-Line Wares

Band-and-line wares became common during the last quarter of the 19th century and are usually associated with hotel wares. The band-and-line type is underglaze painted with the two lines usually right next to each other at the vessel's rim. Green was the most common color. Green band-and-line hotel wares remained a common institutional ware into the late 1950s when they began to be replaced by paper plates. One still occasionally finds these wares being used in small non-chain restaurants such as "Hank's Place" in Chadds Ford, Pennsylvania, as recently as December 1989. Band-and-line wares were available in tea and table wares.

Painted and Enamelled Wares

Enamelled means painted on top of the glaze. It is not necessary to refer to such wares as enamel painted wares. This type of decoration is most commonly associated with creamware and porcelain. However, it is also found on white salt-glazed stoneware, pearlware, whiteware, and the stone chinas. Because enamel painting was done after the pottery had been produced, the enameler did not have to be associated with the pottery that produced the ware and often worked independently (Prime 1929:128; Gottesman 1965:127).

Because enamel painting is fired at a lower temperature, a wider range of colors is available than is the case for underglaze colors which had to withstand the high temperature of the glazing oven. In addition to a greater color range, enamel painting produces a sharper image because the colors were not melted into the glaze. Underglaze painting has a slight blurring of the line due to the acidity of the glaze. The main disadvantage of enamelled decoration is that it was subject to being worn away by use. Enamelled wares were more expensive than underglaze painted wares because overglaze painting was added after the pottery was produced and required an additional firing.

By the late 1760s, a series of enamelled border patterns was being developed by Wedgwood (Mankowitz 1966:59–66). These patterns were copied and augmented by other potters. Many of those designs were later used as underglaze painted patterns. Enamelling was the most common type of decoration on creamware and did not begin to be superseded by underglaze painting until late in the 1780s (Miller 1987:90).

The term painted refers to underglaze decoration. Production of underglaze painted cream and pearl wares became more common after 1772, when the technology for the refining of cobalt for blue paints was introduced into Staffordshire (Shaw 1968[1829]:211). Staffordshire did not have much of a tradition of painting or enamelling prior to the development of creamware. The rapid rise of the popularity of creamware slowed the growth of the porcelain industry and destroyed the delft ware industry in England during the last quar-

ter of the 18th century. Blue painters from both of these industries began to migrate to Staffordshire looking for employment in the late 1760s (Finer and Savage 1965:90).

Unlike the enamelers, the blue painters had to work within the factory structure because the painting was done prior to glazing. Widespread use of blue painting existed by 1775 when the potters developed "China Glaze" ware, which was a direct copy of Chinese porcelain in an earthenware. It contained kaolin clays from Cornwall and had a blue tinted glaze in imitation of Chinese porcelain. In addition to these elements, the wares were painted in a Chinese style to take the place of Chinese porcelain which was being eliminated from the English market by a tariff that by 1799 had reached over 100 percent (Haggar 1972:185). This ware was named "pearl white" by Josiah Wedgwood in 1779, and today it is generally known as pearlware (Miller 1987).

Blue painted wares in a Chinese style were the dominant painted ware from ca.1775 to around the War of 1812. The demand for wares painted in a Chinese style was somewhat stemmed by the introduction of underglaze transfer printing, introduced in Staffordshire around 1784. According to Shaw (1968[1829]:215), the "Blue Painters experienced such a diminution of employment and remuneration, that they employed every artifice to prevent" the development of underglaze printing. The blue painters working for Josiah Wedgwood were able to extract a promise from him not to produce blue printed ware (Shaw 1968[1829]: 123).

Around 1795, various other high temperature colors began to be introduced for underglaze painting (Noël Hume 1982:129). The new colors were brown, mustard yellow, and olive green. These colors remained common through the 1820s and are most commonly painted in floral motifs on tea wares.

In the 1820s, blue painted tea wares with floral motifs became popular, and on many sites they are more common than polychrome painted tea wares. Around the 1830s, a new color grouping came into use which included red, black, and some lighter shades of blue and green. These may be related to the introduction of chrome colors. It is at this time that painting again became more common on plates as well as teas. From the 1840s on, it is common to have painted wares in which part of the motif has been done with a cut sponge.

A series of style changes occurred in the floral painting, such as sprig painted wares, which became common after the late 1840s. Large painted floral polychrome motifs come back into popularity during the 1870s, and these often are found on table and tea ware. Flow-painted wares in blue and purple also appear from the 1840s through the 1870s and possibly later.

Gaudy Dutch and peasant painted ware are two 20th-century collectors' terms that have been applied to painted wares, but have no historical time-depth (Anne Wolfe 1989, pers. comm.; Laidacker 1938:82). There is no evidence of these terms having been used by the potters or merchants selling these wares. It would be better to refer to these wares simply as painted.

"Willow Ware"

Willow is a pattern rather than a ware. The term "willow ware" had close to universal usage in the potters' records. By 1814, willow had been set aside as the cheapest available transfer printed pattern in the potters' price fixing lists. It appears to remain in that position throughout the 19th century. Willow ware was made by many potters in England and other countries. Its production was, for the most part, limited to tableware until the second half of the 19th century, when tea wares begin to appear in the willow pattern.

Willow, according to many accounts, was the earliest underglaze printed pattern developed in Staffordshire. It is a composite of two or more Chinese porcelain patterns. A good history of the pattern can be found in Copeland's book on Spode's Willow Pattern. The pattern became standardized around 1790 and has been in production ever since (Copeland 1980:33–44). Shaw (1968[1829]:216) refers to an "Old Willow" with a "dagger boarder," which is probably the first underglaze transfer printed pattern developed in Staffordshire.

Brosley is another pattern that was copied from Chinese porcelain. Like willow, it was a generic pattern that was made by many potters. Brosley was almost always limited to tea wares (Shaw 1968[1829]:212–216).

Printed Wares

"Printed" is the most commonly used term in the potters' and merchant's records to refer to transfer printed wares. The first patent application for transfer printing was made in 1751 (Williams-Wood 1981:53). Large-scale printing of ceramics, however, did not begin until after Saddler and Green's patent for the process was taken out in 1756 in Liverpool (Williams-Wood 1981:103). All of this early printing was on top of the glaze.

Printing under the glaze was first used around 1760 on English porcelain, which was over 20 years before its first use on Staffordshire earthenware (Watney 1964: 52–53). Underglaze blue printing was introduced around 1783 into Staffordshire (Shaw 1968[1829]:214). Like the blue painted wares, the early blue printed earthenwares were also done in Chinese patterns which remained popular until around the War of 1812.

Early blue printed wares were line engraved and have cruder and heavier designs with minimal shading. Early in the 19th century, the engravers began to use stipples—small dots in the engraving—as a shading device which gave greater perspective to the prints. The earliest dated piece with stipple engraving is from 1807 (Coysh and Henrywood 1982:9). Around 1810, prints of English and foreign landscapes began to become more common on Staffordshire wares, as did American scenes following the War of 1812. These patterns began to be replaced by romantic views by the 1830s (Samford 1985).

Color is another area that can be helpful chronologically. Around 1818 there was an American craze for very dark blue printed wares (Stachiw 1988). The Staffordshire potters accommodated it by producing a series of dark blue prints, many of which were negative patterns—that is, the subjects of the views were left white while the background was filled with blue. Dark blue patterns were popular through the 1820s, which was also a period of popularity for blue painted floral patterns. Brown printed pearlwares were being imported into the American market as early as 1809 (Smith 1809).

Simeon Shaw's 1829 account stated that "very recently several . . . Manufacturers . . ." had introduced red, green, and brown transfer printed patterns (Shaw 1968[1829]:234–235). Potters' invoices from 1829 into the 1840s list quantities of red, green, brown, and purple printed wares. The printed wares from this period, however, are on white wares with minimal traces of blue in the glaze.

The last major change in printed wares came with the introduction of flowing colors in the 1840s. The earliest known advertisement for this ware in North America occurs in the *Montreal Gazette* for April 10, 1844, where it is described as "the new . . . FLOWING STONEWARE" (Collard 1967:118).

Transfer printed wares declined in popularity in the 1850s and were replaced by white granite ware (Miller 1990). The demand for printed wares picked up again in the early 1870s (Warburton 1931:155–156). Many patterns in a Japanese style were introduced in that period, and these were commonly printed in brown on an ivory tinted body. Kamm illustrates six different Japanese style patterns registered between 1877 and 1882 (Kamm 1970:75,76,87,91–93).

Stone Chinas

One of the most confusing terms used to describe the 19th-century ceramics is ironstone. The term ironstone comes from "Mason's Patent Ironstone China," patented in 1813 (Godden 1980: 102). Several potters produced early stone chinas including: William Turner's Stone China, patented 1800 (Hillier 1965:22); John Davenport's Stone China, produced ca.1805–1820 (Godden 1980: 221); Josiah Spode's Stone China, introduced ca.1814 (Godden 1980:248–249); and Hicks & Meigh, ca.1804–1822, also an early producer of stone china (Godden 1980:227).

These stone chinas were vitrified or semi-vitrified heavy, dense wares. Most of those produced prior to the 1830s were heavily decorated, commonly combining painting or enamelling with printing. Stone chinas were mostly copies of Chinese porcelains. Decoration for the early period was usually in a Chinese style, and the glaze was almost always tinted blue with cobalt as were the china glazed and pearl wares of that period.

There is strong evidence that the stone chinas were produced by potters such as Spode, Davenport, and Turner (Copeland 1980:97) to take the place of Chinese porcelain which the British East India Company stopped importing in 1791 (Godden 1980:22–25). In 1799, a customs duty of over 100 percent was placed on the importation of Chinese porcelain in England (Godden 1980:29). Miles Mason was a London Chinaman, a merchant who dealt in Chinese porcelain imported by the British East India Company. When the source of that porcelain was closed off, Mason purchased a pottery in Staffordshire and began trying to make porcelain (Godden 1980:17–32). That attempt was not as successful as a subsequent product, Mason's "Patent Ironstone China."

White Granite Wares

"White granite" and ironstone are the most common names applied to a group of hard white wares which were often vitrified or semi-vitrified. These wares evolved out of Mason's Ironstone and the stone chinas, discussed above, and are still evolving today. White granite has been selected as the term for their classification because it avoids the confusion of these plain white wares with the highly decorated stone chinas or early ironstone.

Invoices for earthenware shipped to Philadelphia show that white granite was being imported in the United States by the 1840s. Terms used in these documents include "White Glaze" (Ridgway 1844, 1846) and "White Granite" (Heath 1848). After the 1850s, the term white granite, or "W.G.," becomes very common in invoices for wares sent to America. From the invoices and price lists examined for this study, it is clear that white granite became the dominant type in use from the 1850s until the end of the 19th century.

Gold-Banded Earthenware

Gold gilding on porcelain was perfected at Meissen ca.1723 (Hunt 1979:118). The early process involved grinding the gold by hand in mediums like honey, then applying the gilding on top of the glaze. In addition, the gold had to be burnished after firing. Because gilding was expensive, its use was mostly associated with porcelain and finely enamelled earthenware. The process was to change in the 19th century with the development of "liquid bright gold" in Germany in 1836 (Hunt 1979:124). In this process, the gold was dissolved by acids and mixed with chemicals which produced a gold that could be fired with enamel colors and would come out of the muffle kiln bright and shiny without having to be burnished (Hunt 1979: 124).

Wenger Company, a pottery supply company, introduced liquid gold gilding into the Staffordshire potteries by 1870 (Wenger 1893). After that date, bright gilding began to be more commonly found on cheap earthenwares such as the gold-banded plates listed in Appendix A. Use of cheap gilding increased on common wares by the late 19th century and continues today.

Basalt Ware

Basalt is Wedgwood's name for what other potters called "Egyptian Black." It is a dense, fine-grained stoneware that has been dyed black with cobalt and manganese (Savage and Newman 1976: 44–45). These wares were usually unglazed; however, there is a glazed variety which was referred to as "Shining Black" (Shaw 1968[1829]:209).

Basalts are most commonly found in teapots, creamers, sugars, and bowls for tea slops. They were also used for decorative wares such as vases and busts, but these rarely show up in archaeological collections. The CC index values for basalt

wares presented in this paper are from bowls associated with teawares in the Staffordshire potters' price fixing lists.

Black-dyed stonewares were produced as early as the 1690s by the Elers brothers in Staffordshire (Shaw 1968[1829]:118). Wedgwood perfected his version of Egyptian Black in 1768, which he renamed Basalt (Savage and Newman 1976:44). The other potters continued to call it Egyptian Black, which is the name used in the Staffordshire price fixing lists of 1795, 1796, 1814, and 1846 (in Mountford 1975:9–14; Miller 1984:42–43).

English Porcelains

Beginning in the 1740s, various soft paste porcelains were developed in England. These were attempts to discover the secret of how to produce Chinese porcelain, which was a hard paste made with kaolin and petuntse. Different soft paste formulas were developed. Then, in 1768, William Cookworthy produced the first English true hard paste porcelain using kaolin and petuntse from Cornwall (Watney 1964:116–119). However, the growth of the English porcelain industry was checked by the success of Josiah Wedgwood's creamware.

Most of the porcelain types developed in the 18th century were replaced by bone china which was introduced by Josiah Spode around 1794 (Savage and Newman 1976:51). Bone china became the dominant type produced in England by the early 19th century and holds that position today. Even the Worcester porcelain factory, which had a very successful soapstone porcelain, made the switch to bone china in the 1830s (Sandon 1978:189). Bone china had a couple of advantages over hard paste porcelain, including a lower firing temperature which means it can be decorated with a wider color range. In addition, it is a very translucent white porcelain. One of its disadvantages for consumers is that it will stain if the glaze is crazed.

English porcelains are relatively rare in invoices of wares sent to America and in American archaeological assemblages prior to the second half of the 19th century. Therefore, this section of CC index values is very limited, and the descriptions from the invoices are minimal. The porcelains indexed here are most likely bone china which was the dominant type for the period.

Discussion

The following appendices provide an expanded and updated set of index values for platters, plates, twifflers, muffins, London size teas, Irish size teas, and bowls. They are meant to replace the previously published index values (Miller 1980). The tables are organized chronologically by vessel form. The forms and their size ranges are described at the beginning of each appendix.

Appendix A: Flatware

The late 18th- and 19th-century Staffordshire potters' price fixing lists consistently use the following terms to describe the most common types of flatware:

Dish	10–20-inch platters (commonly oval or oblong-hexagonal in shape)
Table plate	10-inch plates
Supper plate	9-inch plates
Twifflers	8-inch plates
Muffins	3–7-inch plates

All of the above vessels are generally larger than their stated sizes. One of the ways in which the potters got around the price fixing agreements was to provide their customers with slightly larger sized vessels for the cost of smaller ones. For example, a potter might sell 9.75-inch plates as "Suppers" which, by the price list for 1796 (in Mountford 1975:11), should only have been 9 inches in diameter.

CC INDEX VALUES FOR SHELL EDGE WARES

	Dishes			Plates	Twifflers		Muffins	
	14	12	10	10–9	8	7	6	5
1787	1.5	2.0	2.0	1.67	2.0	2.11		
1793				1.35				
1796	1.67	1.5	1.5	1.33	1.28	1.33	1.41	
1802	1.6	1.58	1.67	1.38	1.23	1.4		
1804	1.5	1.25	1.25	1.33	1.5	1.51	1.49	
1814	1.64	1.57	1.2	1.33	1.28	1.33	1.41	1.24
1816	1.64	1.57	1.2	1.43	1.32	1.28	1.33	1.41
1821	1.64	1.57	1.2	1.33	1.28	1.33	1.49	1.24
1823	1.64	1.43	1.2	1.33	1.28	1.4	1.41	1.49
1825	1.64	1.57	1.2	1.33	1.28	1.33	1.41	1.5
1833	1.64	1.57	1.64	1.33	1.43	1.33	1.4	1.5
1836				1.33	1.25	1.38	1.45	1.25
1838	1.64	1.57	1.2	1.33	1.29	1.33	1.4	1.25
1846	1.64	1.57	1.2	1.14	1.13	1.14	1.17	1.2
1848		1.57	1.2	1.33	1.28	1.33	1.41	
1853	1.64	1.57	1.2	1.12	1.11	1.13	1.16	1.2
1859	1.13	1.05	1.09	1.09	1.05	1.06	1.07	1.09
1866	1.13	1.1	1.08	1.12	1.11	1.13	1.15	1.2
1869	1.13	1.1	1.08	1.14	1.11	1.13	1.15	1.2
1870	1.1	1.08	1.13	1.07	1.08	1.1	1.09	1.12
1871	1.13	1.1	1.08	1.08	1.11	1.12	1.25	1.3
1874				1.09	1.10	1.11	1.14	1.18
1880				1.09	1.1	1.12	1.14	1.18

UNDERGLAZE LINED WARES

	Dishes			Plates	Twifflers		Muffins	
	14	12	10	10–9	8	7	6	5
1814	2.18	2.0	1.6	1.67	1.71	1.68	1.81	2.0
1816	2.18	2.0	1.6	1.43	1.5	1.43	1.5	1.6
1823	2.18	2.0	1.6	1.67	1.71	1.8	1.81	1.99
1825	1.82	1.71	1.4	1.5	1.5	1.5	1.61	1.75
1833	2.18	2.0	1.6	1.67	1.71	1.67	1.8	2.0

BAND-AND-LINE WARES

	Dishes			Plates	Twifflers		Muffins	
	14	12	10	10–9	8	7	6	5
1873	1.27	1.43	1.2	1.2	1.29	1.22	1.32	1.2
1886	1.22	1.33	1.13	1.13	1.17	1.2	1.25	1.18

ENAMELLED-UPON-GLAZE LINED WARES

	Dishes			Plates	Twifflers		Muffins	
	14	12	10	10–9	8	7	6	5
1814	2.73	2.68	2.4	2.33	2.35	2.5	2.41	1.99
1816	2.6	2.67	2.86	2.22	2.0	1.83	1.69	1.5

PAINTED WARES

	Dishes			Plates	Twifflers		Muffins	
	14	12	10	10–9	8	7	6	5
1787				1.5	1.67			
1822							2.1	2.25
1838				2.17	2.36	2.25	2.1	2.25
1853	2.73	3.0	2.4	1.68	1.67	1.63	1.62	1.8
1854							1.56	1.5
1859	1.88	2.0	2.18	1.64	1.58	1.53	1.5	1.64
1866	1.88	2.1	2.0	1.75	1.67	1.62	1.62	1.8
1869	1.88	2.1	2.0	1.71	1.67	1.62	1.62	1.8
1871	1.88	2.1	2.0	1.57	1.5	1.45	1.5	1.64

ENAMELLED WARES

	Dishes			Plates	Twifflers		Muffins	
	14	12	10	10–9	8	7	6	5
1804	3.0	3.0	3.0	3.67	4.0	3.61	2.99	
1814	5.45	6.0	4.8	4.67	5.13	5.0	4.82	5.22
1833	3.27	3.57	3.0	2.33	2.57	2.5	2.7	2.62

SPONGED WARES

	Dishes			Plates	Twifflers		Muffins	
	14	12	10	10–9	8	7	6	5
1855	1.22	1.33	1.25	1.2	1.25	1.2	1.25	1.33
1871					1.5	1.45		1.5

CHILDREN'S ABC AND MOTTO PLATES—PAINTED

	Dishes			Plates	Twifflers		Muffins	
	14	12	10	10–9	8	7	6	5
1845						1.71	1.67	1.8
1868							1.16	1.3
1874								1.74

CHILDREN'S ABC AND MOTTO PLATES—PRINTED AND COLORED

	Dishes			Plates	Twifflers		Muffins	
	14	12	10	10–9	8	7	6	5
1871							6.94	8.12

WILLOW WARE

	Dishes			Plates	Twifflers		Muffins	
	14	12	10	10–9	8	7	6	5
1793				4.0	5.0			
1814	3.82	4.29	3.6	2.67	3.0	3.0	3.01	2.99
1823	3.82	4.29	3.6	2.67	3.0	3.0	3.01	2.99
1825	3.82	4.29	3.6	3.00	3.21	3.25	3.49	3.37
1836				2.5	2.44	2.77	2.73	
1854	1.4	1.38	1.5	1.62	1.5	1.5	1.33	1.38
1855	1.44	1.5	1.5	1.6	1.5	1.8	1.5	1.67
1870	1.25	1.32	1.38	1.52	1.33	1.4	1.22	1.25

PRINTED WARES

	Dishes			Plates	Twifflers		Muffins	
	14	12	10	10–9	8	7	8	5
1796	6.0	5.25	7.5	4.33	3.93	4.0	4.22	
1814	5.45	6.0	4.8	3.33	3.42	3.5	3.61	3.73
1816	5.45	5.14	4.8	2.86	3.0	3.0	3.0	3.01
1823	5.45	6.0	4.8	3.33	3.41	3.5	3.61	3.73
1825	4.91	5.14	4.0	3.00	3.21	3.25	3.49	3.37
1833	3.82	4.29	3.6	2.67	3.0	3.0	3.0	3.0
1836				3.0	2.81	3.0	3.0	
1838	3.82	4.29	3.6	2.67	3.0	3.0	3.0	3.0
1844				2.11	2.44			
1845	3.82	4.29	3.6	2.67	3.0	3.0	3.0	3.0
1846	3.52	3.96	3.32	2.11	2.42	2.37	2.31	2.22
1848	3.47	3.9	3.27	2.42	2.72	2.73	2.74	2.72
1854	2.2	2.46	2.3	1.86	1.75	1.8	1.67	1.62
1855	2.22	2.67	2.25	1.6	1.5	1.8	1.5	1.67

DARK BLUE PRINTED WARES

	Dishes			Plates	Twifflers		Muffins	
	14	12	10	10–9	8	7	8	5
1846	3.82	4.29	3.6	2.29	2.63	2.57	2.5	2.4

FLOW PRINTED WARES

	Dishes			Plates	Twifflers		Muffins	
	14	12	10	10–9	8	7	6	5
1846	4.41	4.95	4.15	2.64	3.03	2.97	2.88	2.77
1848	4.14	4.64	3.9		3.25	3.25		3.25
1855	3.11	3.33	2.75	2.4	2.5	2.4	2.25	2.5

DECORATED STONE CHINA WARES

	Dishes			Plates	Twifflers		Muffins	
	14	12	10	10–9	8	7	6	5
1833		"JAPAN PATTERN"		3.33	3.43	3.5		

WHITE GRANITE WARES

	Dishes			Plates	Twifflers		Muffins	
	14	12	10	10–9	8	7	6	5
1846	3.23	3.63	3.05	1.93	2.22	2.18	2.12	2.03
1858	3.27	3.63	3.09		2.0	1.93	1.98	
1868						1.93	2.06	2.06
1871	2.25	2.57	2.57		2.07	2.0	2.09	2.20
1874	1.93	2.2	2.21		1.66	1.59	1.73	1.81
1880	1.84	2.11	2.11		1.57	1.53	1.67	1.73

GOLD-BANDED EARTHENWARE

	Dishes			Plates	Twifflers		Muffins	
	14	12	10	10–9	8	7	6	5
1871		3.57	3.57		2.98	2.9	3.06	3.24

ENGLISH PORCELAINS

	Dishes			Plates	Twifflers		Muffins	
	14	12	10	10–9	8	7	6	5
1836		White					7.14	
1838		Enamelled					7.0	
1871		White				4.0	3.92	3.4
1871		Gold-Banded						5.06
1871		Sprig						5.54

Appendix B: Teas, London Size

Teas, the potters' terms for cups and saucers, are more complex than tablewares because of available options, different shapes, and the size system. Two sizes were commonly referred to in the price fixing lists and potters' invoices. "London" size was the most common and the smaller of the two. "Irish," the larger size, was sometimes referred to as "Breakfast" size. The great majority of the cups recovered from American sites are of the London size. In addition to London and Irish size teas, there were also bowls and saucers which are a size larger than Irish size. These are rarely reported in archaeological assemblages, perhaps because they have not been recognized. Evidence of this combination would be confirmed by a matching bowl and saucer.

The term London size is further complicated by the fact that the most common cup shape for the period from 1810 to 1840 has been labeled "London Shape," which is the name that the Spode factory gave to this shape. London shape cups look like an inverted truncated cone with a steeply angled shoulder just above a high standing foot ring. Other potters appear to have called this shape "Grecian," which is what an illustration of this shape is labeled in the Wedgwood catalogue of 1880 (des Fontaines 1971:28). London or Grecian shape occurs in all sizes of cups as well as bowls.

Some of the options that were available with teas included handles, color-lined rims, fluted shapes, and scalloped rims. These options all involved an additional cost which, on the potters' price fixing lists, commonly added a shilling per dozen to the teas. This resulted in a greater range of prices for teas for most of the period under consideration. For example, taking all of the combinations of these options in the 1796 price fixing list, there were 18 options which are listed below:

TEAS

	Unhandled			Handled		
		Fluted			Fluted	
	Simple	or edged	& edged	Simple	or edged	& edged
CC	1.0	1.8	2.6	1.8	2.6	3.4
Painted	1.8	2.6	3.4	2.6	3.4	4.2
Printed	3.4	4.2	5.0	4.2	5.0	5.8

One can see that a set of handled, fluted or edged CC teas would cost as much as a simple printed set of teas. However, edged, fluted, and handled teas are not very common in American archaeological assemblages.

The following descriptions apply to the forms indexed in the appendices.

Handled The great majority of cups were unhandled until the second half of the 19th century. A New York merchant writing to his Liverpool

agents in 1816 stated that "Handled cups & saucers will Never never sell in our Market there can not be a worse article" (Ogden 1816). The above range of index values provides a possible clue as to why handled cups may have remained unpopular. For the price of CC teas with handles, one could have painted teas without handles. A set of fluted painted teas with handles could have cost more than a set of simple printed teas. In other words, the consumer may have chosen to have a more highly decorated set of teas without handles rather than a simpler handled set for the same amount of money.

Brown Edged Brown Edged or "Topped" teas have an enamelled or painted brown line on the top of the rim of the cups and saucers, in imitation of the brown iron rim line on Chinese porcelain. Edged teas are listed in the Staffordshire potters' price fixing lists for 1795, 1796, 1808, and 1825 (1795, 1796 in Mountford 1975:9–11; Staffordshire Potters 1808, 1825). Occasionally the rim was lined with blue. Lined teas seem to have been most popular from the 1790s to around the War of 1812.

Fluted These teas have molded fluting, usually spiraled, up the outside surface of the cups and on the inside surface of the saucers. Fluted teas are listed in the Staffordshire potters' price fixing lists for 1796, 1808, 1814, 1846, 1853, and 1859 (1796, 1846 in Mountford 1975; 1814 in Miller 1984; Staffordshire Potters 1808, 1853, 1859). They seem to be most popular from the 1790s to the 1820s.

Scalloped Scalloped teas appear to be a good time marker, as they appeared for a short period from the mid-1820s through the 1830s (Staffordshire Potters 1825). These teas have a slight rim scallop.

Extra Thick These teas were hotel wares meant for use in institutions such as hotels, restaurants, hospitals, and schools.

Pressed Most teas were wheel thrown until the Jolly came into use in the potteries after 1863 (Lamb 1977:6). The Jolly was an automatic throwing device that used a plaster mold to shape the cups with the aid of a template mounted on the wheel to form the inside profile of the cup. Teas could be pressed, a slower process than throwing. In 1859, pressed teas were the same price as fluted teas (Staffordshire Potters 1859:2). These are listed as "pressed shapes" and appear to refer to eight-, 10-, and 12-sided teas which make their appearance in the 1850s.

CC TEAS—LONDON SIZE

	Unhandled			Handled		
	Simple	Fluted or Edged	Fluted & Edged	Simple	Fluted or Edged	Fluted & Edged
1796	1.0	1.8	2.6	1.8	2.6	3.4
		Fluted			Fluted	
1804	1.0			1.28		
1814	1.0	1.67		1.67	2.33	
18.16	1.0	1.5		1.5	2.0	
1823	1.0	1.67		1.67	2.33	
		Scalloped			Scalloped	
1825	1.0		1.17	1.67		1.83
1833	1.0			1.57		
1836	1.0			1.67		
1838	1.0			1.67		
1845	1.0			1.67		
1846	1.0			1.55		

CC TEAS—LONDON SIZE (continued)

	Unhandled			Handled		
	Simple	Fluted or Edged	Fluted & Edged	Simple	Fluted or Edged	Fluted & Edged
1848	1.0			1.67		
1853	1.0			1.55		
		Fluted or Pressed	Extra Thick		Fluted or Pressed	Extra Thick
1859	1.0	1.63	2.0	1.5	2.13	2.5
1866	1.0		2.0	1.5		2.5
1871	1.0		1.92	1.38		2.31

PAINTED TEAS—LONDON SIZE

	Unhandled			Handled		
	Simple	Fluted or Edged	Fluted & Edged	Simple	Fluted or Edged	Fluted & Edged
1787	2.5					
1796	1.8	2.6	3.4	2.6	3.4	4.2
		Fluted			Fluted	
1802	1.6					
1804	1.71			2.14		
1814	1.5	2.17		2.17	2.83	
1816	1.25	1.75		1.75	2.25	
1823	1.5	2.17		2.17	2.83	
			Scalloped			Scalloped
1825	1.5		1.67	2.17		2.33
1833	1.43			2.0		
1836	1.5					
1838	1.5					
1845	1.5					
1846	1.23			1.77		
1848	1.5					
1853	1.23			1.77		
		Fluted or Pressed	Extra Thick		Fluted or Pressed	Extra Thick
1859	1.13	2.0	2.13	1.63	2.5	2.63
1866	1.17		2.17	1.67		2.67
1868	1.16					
1869	1.17					
1871	1.15		2.08	1.54		2.46

ENAMELLED TEAS—LONDON SIZE

	Unhandled		Handled	
	Simple	Fluted or Edged	Simple	Fluted or Edged
1814	3.0	3.67	3.67	4.33
1823	3.0	3.67	3.67	4.33
1833	2.0		2.57	

DIPT TEAS—LONDON SIZE

	Unhandled		Handled	
	Simple	Scalloped	Simple	Scalloped
1825	1.5	1.67	2.17	2.33

SPONGED TEAS—LONDON SIZE

	Unhandled	Handled
	Simple	Simple
1848	1.5	2.17
1858	1.5	2.17
1871	1.16	

BAND-AND-LINE TEAS—LONDON SIZE

	Unhandled	Handled
	Simple	Simple
1873	1.22	1.45
1886		1.18

PRINTED TEAS—LONDON SIZE

	Unhandled			Handled		
	Simple	Fluted or Edged	Fluted & Edged	Simple	Fluted or Edged	Fluted & Edged
1795	4.09	5.18	6.27	5.18	6.27	7.36
1796	3.4	4.2	5.0	4.2	5.0	5.8
		Fluted			Fluted	
1799	5.36	5.95				
1804	3.42	4.29	5.14			
1814	3.0	3.67		3.67	4.33	
1816	2.25	2.75		2.75	3.25	
1823	3.0	3.67		3.67	4.33	
			Scalloped			Scalloped
1825	3.0		3.17	3.67		3.83
1833	2.57			3.14		
1836	3.0					
1838	3.0					
1845	3.0			4.0		
1846	2.27	2.52		2.77	3.02	
1848	2.89					

DARK BLUE PRINTED TEAS—LONDON SIZE

	Unhandled		Handled	
	Simple	Fluted	Simple	Fluted
1834	3.0			
1846	2.45	3.15	2.73	3.27

FLOW PRINTED TEAS—LONDON SIZE

	Unhandled		Handled	
	Simple	Fluted	Simple	Fluted
1846	2.83	3.15	3.46	3.78
1848		3.25		

WHITE GRANITE TEAS—LONDON SIZE

	Unhandled		Handled	
	Simple	Fluted	Simple	Fluted
1846	2.08	2.31	2.54	2.77
1868	2.15			
1871	2.04		2.45	
1874	1.71		2.05	
1875	2.0		2.75	
1880	1.69		1.95	

ENGLISH PORCELAIN TEAS—LONDON SIZE

	Unhandled	Handled	
1823		14.5	Gilded
1835	4.44		Decorated
1836	3.70	4.20	Decorated
1871	2.20	3.01	White

Appendix C: Teas, Irish Size

Irish size teas have been discussed above. Their index values are given here.

CC TEAS—IRISH SIZE

	Unhandled			Handled		
	Simple	Fluted or Edged	Fluted & Edged	Simple	Fluted or Edged	Fluted & Edged
1796	1.0	1.67	2.6	1.67	2.33	3.4
		Fluted			Fluted	
1814	1.0	1.5		1.5	2.0	
1816	1.0	1.4		1.4	1.8	
1823	1.0	1.5		1.5	2.0	
			Scalloped		Scalloped	
1825	1.0		1.13	1.5		1.65
1833	1.0			1.5		
1846	1.0			1.43		
1853	1.0			1.43		
		Fluted or Pressed	Extra Thick		Fluted or Pressed	Extra Thick
1859	1.0	1.42	1.67	1.33	1.75	2.0
1866	1.0		1.73	1.36		2.09
1871	1.0		1.73	1.36		2.09

PAINTED TEAS—IRISH SIZE

	Unhandled			Handled		
	Simple	Fluted or Edged	Fluted & Edged	Simple	Fluted or Edged	Fluted & Edged
1787	2.4					
1796	1.83	2.5	3.17	2.5	3.17	3.83
		Fluted			Fluted	
1814	1.38	1.88		1.88	2.38	
1816	1.2	1.6		1.6	2.0	
1823	1.38	1.88		1.88	2.38	
			Scalloped			Scalloped
1825	1.38		1.5	1.88	2.0	
1833	1.5			2.0		
1846	1.18			1.61		
1853	1.29			1.71		
		Fluted or Pressed	Extra Thick		Fluted or Pressed	Extra Thick
1859	1.17	1.67	1.83	1.5	2.0	2.17
1866	1.27		2.0	1.64		2.36
1869	1.27					
1871	1.27		2.0	1.64		2.36

ENAMELLED TEAS—IRISH SIZE

	Unhandled		Handled	
	Simple	Fluted	Simple	Fluted
1814	3.0	3.67	3.67	4.33
1823	3.0	3.67	3.67	4.33
1833	2.25		2.75	

BAND-AND-LINE TEAS—IRISH SIZE

	Unhandled	Handled
1886		1.07

PRINTED TEAS—IRISH SIZE

	Unhandled			Handled		
	Simple	Fluted or Edged	Fluted & Edged	Simple	Fluted or Edged	Fluted & Edged
1795	4.07	4.93	5.79	4.93	5.79	6.64
1796	3.5	4.17	4.83	4.17	4.83	5.5
		Fluted			Fluted	
1814	2.75	3.25		3.25	3.75	
1816	2.2	2.6		2.6	3.0	
1823	2.75	3.25		3.25	3.75	
			Scalloped			Scalloped
1825	2.75		2.88	3.25		3.38
1833	2.75			3.25		
1846	2.18	2.37		2.57	2.77	

DARK BLUE PRINTED TEAS—IRISH SIZE

	Unhandled	Handled
1846	2.36	2.79

FLOW PRINTED TEAS—IRISH SIZE

	Unhandled		Handled	
	Simple	Fluted	Simple	Fluted
1846	2.72	2.97	3.21	3.46

WHITE GRANITE TEAS—IRISH SIZE

	Unhandled		Handled	
	Simple	Fluted	Simple	Fluted
1846	1.99	2.18	2.36	2.54

Appendix D: Bowls

Bowls' sizes were ranked by the potters' dozen. The potters' dozen began as a unit of pay for throwers and other workers. After a vessel was thrown, it was placed on a 6-ft. drying board. A board full of wares of a single size counted as a dozen. Thus, a dozen bowls could range from four one-gallon punch bowls to 30 half pint bowls (Copeland 1983). The former would be called 4s while the latter would be called 30s. Bowls were available in the following sizes: 3s, 4s, 6s, 12s, 18s, 24s, 30s, 36s, 42s, and 48s. The potters attempted to stabilize the capacities assigned to these various sizes, but they got larger as various potters attempted to get around the price fixing lists by selling bigger bowls under smaller potters' dozen sizes. A 1796 potters' agreement (in Mountford 1975:11) set the following sizes:

BOWLS AND WASH BASINS

Size	Maximum volume
3s	6 pints
4s	4 pints
6s	3 pints
12s	1 1/2 pints
24s	3/4 pints
30s	1/2 pints

Sometimes the size number was impressed in the bottom of hollowares. The following summary, for example, gives prices per dozen bowls from the 1814 Staffordshire potters' price fixing list, reprinted in Miller (1984:42–43), and the cost per individual bowl:

COST, IN PENCE, FOR BOWLS

		Individual bowl prices			
	Price per potters' dozen	6s	12s	24s	30s
CC	30d	5.0@	2.5@	1.25@	1.0@
Dipt	36d	6.0	3.0	1.5	1.2
Painted	48d	8.0	4.0	2.0	1.6
Printed	84d	14.0	7.0	3.5	2.8

Thus, a potters' dozen of bowls purchased in 1814 could range from 6 to 30 bowls depending on the size ordered. The price per potters' dozen would be the same with adjustments made for the size by varying the quantity of bowls included, rather than by changing the price for each size category.

CC INDEX VALUES FOR BOWLS

	Dipt	Painted	Sponged	Enamelled	Flow Painted	Printed	Dark Blue	Flow Printed	White Granite	Basalt	"White China" Porcelain
1787		3.75 (sortable)									
1795						4.32 (Sortable)					
1799	1.6	2.0									
1802		2.33									
1804		2.0				3.14					
1814	1.2	1.6				2.8				6.0	
1821	1.2	1.6				2.8					
1822	1.2	1.6		2.8		2.8					
1823	1.2	1.6				2.8				6.0	
1825	1.2	1.6				2.6					
1832	1.2	1.6									
1833	1.2	1.6		2.4		2.8					
1836	1.2	1.8				3.0					
1838	1.2					2.8					
1842	1.22					3.0					
1846	1.2	1.6				2.58	2.8	3.25	2.37	6.0	
1848	1.2					2.91		3.03			
1853		1.64									
1854	1.14					2.0		2.29			
1855			1.11			2.0		2.4			
1858									2.49		
1859	1.08	1.38									
1866	1.17	1.5									
1868									2.29		
1869	1.17	1.17									
1870	1.13	1.38		3.5	1.5	2.0		2.25	2.25		
1871	1.16	1.5							2.42		2.54
1873	1.11	1.33			1.67						
1874									2.46		
1877	1.08	1.33									
1880									2.34		
1886	1.08										

ACKNOWLEDGMENTS

The generation of this expanded set of index values was made possible by funding from a fellowship and two grants. I would like to thank the Winterthur Museum for awarding me a NEH/Winterthur Fellowship in 1979. I would also like to thank Pat and Barbara Garrow of Garrow and Associates for a grant in 1985 to work on the 1814 Staffordshire potters' price list. In 1986, Ann Smart Martin, Nancy Dickinson, and I received a two-year grant from the National Endowment for the Humanities for our project "English Ceramics in America, 1760–1860: Marketing, Prices, and Availability" (NEH Grant RO-21158-86). Working as a team, we were able to cover a very broad range of documents from many areas. I also thank my boss, Marley Brown, for his support during this project. I would like to thank Colonial Williamsburg for providing the matching funds for this project.

I would like to thank the following institutions for generous access to their archives and records: in

England, Josiah Wedgwood and Sons; Keele University Library; the Stoke-on-Trent City Museum and Art Gallery; the Spode Company Archives; the Minton Company; the Horace Barks Reference Library in Hanley; and the Stafford County Record Office; on this side of the Atlantic, Winterthur Museum; New York Historical Society; Massachusetts Historical Society; Maryland Historical Society; Virginia State Archives; Smithsonian Institution; Colonial Williamsburg Foundation Library; National Archives, Washington, D.C.; Canadian National Archives, Ottawa; Hagley Museum, Wilmington; Pennsylvania Historical Society; Kress Library of Business and Economics of Harvard University; and University of Delaware Library.

My research in England was greatly facilitated by Robert Copeland and Helen Dent. Others in England to whom I owe special thanks include: Martin Phillips, Pat Halfpenny, Gaye Blake Roberts, Una and John des Fontaines, Eileen and Rodney Hampson, David Barker, David Furniss, Christine Fyfe, Margaret Morris, John Smith, Arnold Mountford, and Terry Lockett. On this side of the Atlantic, I thank Susan Myers, Reggie Blaszczyk, Lynne Sussman, Elizabeth Collard, Arlene Palmer Schwind, Mary Beaudry, Georgeanna Greer, Barbara Teller, Rob Hunter, Silas Hurry, Henry Miller, Kate Hutchins, Neville Thompson, Rich McKinstry, Beatrice Taylor, Karen Stuart, Bill Adams, Steve Pendery, Myron Stachiw, Ellen Shlasko, Sarah Peabody Turnbaugh, Suzanne Spencer-Wood, and John L. Seidel.

Many people were more than generous with help in the form of suggestions, sending copies of price lists, invoices, and other records. Because this research has been going on for over a decade, it is difficult to remember everyone who provided help and information. I apologize to anyone I may have left off the list of acknowledgments.

REFERENCES

ADAMS, WILLIAM H., AND SARAH JANE BOLING
1989 Status and Ceramics for Planters and Slaves on Three Georgia Coastal Plantations. *Historical Archaeology* 23(1):69–96.

BINNS, CHARLES F.
1907 *The Manual of Practical Potting*. Scott, Greenwood and Son, London.

COLE, ARTHUR H.
1969 *Wholesale Commodity Prices in the United States, 1700–1861*. Johnson Reprint Corporation, New York.

COLLARD, ELIZABETH
1967 *Nineteenth-Century Pottery and Porcelain in Canada*. McGill University Press, Montreal.

COPELAND, ROBERT
1980 *Spode's Willow Pattern and Other Designs after the Chinese*. Rizzoli International Publications, Inc., New York.
1983 Pottery Trade Sizes. Ms., on file with the author.

COYSH, A. W., AND R. K. HENRYWOOD
1982 *The Dictionary of Blue and White Printed Pottery, 1780–1880*. Antique Collectors' Club, Woodbridge, England.

EVANS, WILLIAM
1970 Art and History of the Potting Business, Compiled from the Most Practical Sources, for the Especial Use of Working Potters. Reprint of 1846 edition. *Journal of Ceramic History* 3:21–43.

FERGUSON, LELAND G.
1975 Analysis of Ceramic Materials from Fort Watson, December 1780–April 1781. *Conference on Historic Site Archaeology Papers, 1973* 8:2–28.

FINER, ANN, AND GEORGE SAVAGE (EDITORS)
1965 *The Selected Letters of Josiah Wedgwood*. Cory, Adams and Mackay Ltd., London.

FINLAYSON, R. W.
1972 *Portneuf Pottery*. Longman Canada Limited, Don Mills, Ontario.

DES FONTAINES, JOHN K.
1971 *The Wedgwood 1880 Illustrated Catalogue of Shapes*. The Wedgwood Society, London.

GODDEN, GEOFFREY A.
1966 *An Illustrated Encyclopedia of British Pottery and Porcelain*. Crown Publishers, New York.
1980 *Godden's Guide to Mason's China and the Ironstone Wares*. The Antique Collectors' Club Ltd., Woodbridge, England.

GOTTESMAN, RITA S. (COMPILER)
1965 *The Arts and Crafts in New York, 1800–1804: Advertisements and News Items from New York City Newspapers*. New York Historical Society, New York.

HAGGAR, REGINALD
1972 Miles Mason. *English Ceramic Circle* 2:183–199.

HEATH, JOSEPH
1848 Invoice for Earthenware Sold by Joseph Heath, Manufacturer of Earthenware, Tunstall, to P. A. Rovendt of Philadelphia, 12/9/1848. Customs House Collection, University of Delaware Library, Newark.

HILLIER, BEVIS
1965 *Master Potters of the Industrial Revolution: The Turners of Lane End*. Cory, Adams and Mackay Ltd., London.

HUNT, L. B.
1979 Gold in the Pottery Industry. *Gold Bulletin* 13(3): 116–127.

KAMM, MINNIE WATSON
1970 *Old China.* Kamm Publications, Grosse Pointe, Michigan.

LAIDACKER, SAM (EDITOR)
1938 *The Standard Catalogue of Anglo-American China from 1810 to 1850.* Sam Laidacker, Scranton, Pennsylvania.

LAMB, ANDREW
1977 The Press and Labour's Response to Pottery-making Machinery in the North Staffordshire Pottery Industry. *Journal of Ceramic History* 9:1–8.

MAJEWSKI, TERESITA, AND MICHAEL J. O'BRIEN
1987 The Use and Misuse of Nineteenth-Century English and American Ceramics in Archaeological Analysis. *Advances in Archaeological Method and Theory* 11: 97–209. Academic Press, New York.

MANKOWITZ, WOLF
1966 *Wedgwood.* Spring Books, London.

MILLER, GEORGE L.
1980 Classification and Economic Scaling of 19th-Century Ceramics. *Historical Archaeology* 14:1–40.
1984 George M. Coates, Pottery Merchant of Philadelphia, 1817–1831. *Winterthur Portfolio* 19:42–43.
1987 Origins of Josiah Wedgwood's Pearlware. *Northeast Historical Archaeology* 16:80–92.
1988 Prices and Index Values for English Ceramics from 1787 to 1860. Ms., on file with the author.
1989 *A Chronology of English Shell Edged Pearl and White Wares.* George L. Miller, Williamsburg, Virginia.
1990 The 'Market Basket' of Ceramics Available in Country Stores from 1790 to 1860. Paper Presented at the Annual Meeting of the Society for Historical Archaeology Conference on Historical and Underwater Archaeology, Tucson, Arizona.

MILLER, GEORGE L., AND ANN SMART MARTIN
1989 English Ceramics in America. In *Decorative Arts and Household Furnishings Used in America, 1650–1920: An Annotated Bibliography,* edited by Kenneth L. Ames and Gerald W. R. Ward, pp. 201–219. University Press of Virginia, Charlottesville.

MILLER, GEORGE L., ANN SMART MARTIN, AND NANCY S. DICKINSON
1989 Changing Consumption Patterns: English Ceramics and the American Market from 1770 to 1840. In *Everyday Life in the Early Republic 1789–1828,* edited by Catherine E. Hutchins. Twenty-ninth Winterthur Conference, Wilmington, Delaware, in press.

MOUNTFORD, ARNOLD R.
1975 Documents Relating to English Ceramics of the 18th and 19th Centuries. *Journal of Ceramic History* 8: 3–41.

NOËL HUME, IVOR
1982 *A Guide to the Artifacts of Colonial America.* Alfred A. Knopf, New York.

OGDEN, JONATHAN
1816 Letter to Bolton and Ogden in Liverpool, 9/12/1816. Letterbook of Jonathan Ogden. Ferguson, Day and Successor Company papers, New York Historical Society, New York.

PRIME, ALFRED COXE (COMPILER)
1929 *The Arts and Crafts in Philadelphia, Maryland, and South Carolina, 1721–1785.* The Walpole Society, Philadelphia.

RIDGWAY, JOHN
1844 Invoice for Earthenware Sold by John Ridgway & Company, Manufacturer of Earthenware, Cauldon Place, to J. Y. Rushton of Philadelphia, 12/28/1844. Collection of Business Americana, National Museum of American History, Smithsonian Institution, Washington, D.C.
1846 Invoice for Earthenware Sold by John Ridgway & Company, Manufacturer of Earthenware, Cauldon Place, to Adam Southern of Philadelphia, 10/31/1846. Collection of Business Americana, National Museum of American History, Smithsonian Institution, Washington, D.C.

SAMFORD, PATRICIA M.
1985 Response to a Market: English Transfer Printed Wares in North America. Paper Presented at the 18th Annual Meeting of the Society for Historical Archaeology, Boston.

SANDON, HENRY
1978 *Flight and Barr Worcester Porcelain: 1783–1840.* Antique Collectors' Club, Woodbridge, England.

SAVAGE, GEORGE, AND HAROLD NEWMAN
1976 *An Illustrated Dictionary of Ceramics.* Van Nostrand Reinhold Company, New York.

SHAW, SIMEON
1968 *History of the Staffordshire Potteries and the Rise and Progress of the Manufacture of Pottery and Porcelain.* Reprint of 1829 edition. Beatrice C. Weinstock, Great Neck, New York.

SHLASKO, ELLEN
1989 Delftware Chronology: A New Approach to Dating English Tin-Glazed Ceramics. Unpublished M.A. thesis, Department of Anthropology, College of William and Mary, Williamsburg, Virginia.

SMITH, MATTHEW
1809 Letter to Jonathan Wyld of Liverpool from the Baltimore Earthenware Dealer Matthew Smith, 12/20/1809. *Matthew Smith Letterbook, 1803–1812* 1: M3621-1. Maryland Historical Society, Baltimore.

STACHIW, MYRON O.
1988 Research notes on the Letter and Order Books of Horace Collamore, a Boston Earthenware Dealer, 1814–1818. Ms., on file with the author.

STAFFORDSHIRE POTTERS
1808 A List of Prices, Settled, and Finally Agreed to by the Manufacturers, as the Lowest Prices, of the Following Articles, Below which None of Them Are to Sell after 1st of March, 1808. *Enoch Wood Scrapbook* 1. Stoke-on-Trent City Museum and Art Gallery, Hanley, Staffordshire.
1825 Staffordshire Potteries, Price Current of Earthenware, July 1, 1825. Ferguson, Day and Successor Company papers. New York Historical Society, New York.
1833 Staffordshire Potteries. General Meeting of Manufacturers, Held at the Swan Inn, Hanley, October 21, 1833; Mr. Ralph Stevenson in the Chair. Ferguson, Day and Successor Company papers. New York Historical Society, New York.
1846a At a Meeting of Manufacturers Engaged in the American Trade, Held Pursuant to Notice, At the Trentham Inn, on Monday, January 26th, 1846. John Ridgway, Esq., in the Chair. Foxwell Collection of Broadsides and Circulares, Item 24954. Kress Library of Business and Economics, Baker Library, Harvard University, Cambridge, Massachusetts.
1853 Prices Current of Earthenware, 1853. Wedgwood Archives, Keele University Library, Keele Staffordshire.
1859 Prices Current of Earthenware, 1859. Wedgwood Archives, Keele University Library, Keele, Staffordshire.

TOWNER, DONALD
1965 *The Leeds Pottery*. Taplinger Publishing Co., New York.

TURNER, WILLIAM
1923 *William Adams, An Old English Potter*. Chapman and Hall Ltd., London.

WARBURTON, W. H.
1931 *The History of Trade Union Organization in the North Staffordshire Potteries*. George Allen & Unwin, Ltd., London.

WATNEY, BERNARD
1964 *English Blue and White Porcelain of the 18th Century*. Thomas Yoseloff, New York.

WENGER, A.
1893 *Liquid Gold of the Highest Standard, for Earthenware, China, and Glass; Introduced by Me to the English Potters, Since 1870*. A. Wenger, Hanley, Staffordshire. One-page circular, on file with the author.

WILLIAMS-WOOD, CYRIL
1981 *English Transfer-Printed Pottery and Porcelain: A History of Over-Glaze Printing*. Faber and Faber, London.

GEORGE L. MILLER
DEPARTMENT OF ARCHAEOLOGICAL RESEARCH
COLONIAL WILLIAMSBURG FOUNDATION
WILLIAMSBURG, VIRGINIA 23187