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## Response to a Market: Dating English Underglaze Transfer-Printed Wares

### ABSTRACT

At the end of the 18th century, the Staffordshire pottery industry began transfer printing designs on refined earthenwares. Gaining immediate acceptance from both the British and American markets, printed earthenwares remained immensely popular until the mid-19th century. Hundreds of printed patterns were produced, and these patterns formed distinctive decorative styles based on central motifs and borders. Using characteristics of datable, marked vessels as a database, this study establishes a chronology for dating printed earthenwares based on decorative styles and color.

### Introduction

Ceramics are one of the primary dating tools used by archaeologists working on 18th- and 19th-century North American sites. Over the last several decades, research combining primary documents, such as potters' invoices, trade catalogs, and store accounts, with archaeological data has created a greater understanding of the variety of ceramics available to American consumers during these periods. Information on characteristics such as body composition, glaze type, and decorative attributes is often available in potters' records, allowing accurate date ranges to be assigned. Often, identifying and dating ceramics using evidence from documents is critical, since the majority of individual ceramic vessels were not marked by their manufacturers. While greater effort has gone into developing dating schemes and discovering the social functions of colonial-period ceramics, a growing body of research on 19th-century wares has also developed. In addition to creating classification and dating tools for post-colonial ceramics (Price 1979; Majewski and O'Brien 1987), work has focused on the availability and marketing of ceramics in North America (Miller and Hurry 1983; Miller 1984), household expenditure patterns (Miller 1980), and the effects of ethnicity, gender, and

economic class on ceramic purchasing patterns (Baker 1978; Felton and Schulz 1983; Wall 1994).

This paper develops a dating scheme for one particular type of English pottery produced primarily from the late 18th to the mid-19th centuries. The technique of transfer printing designs under the glaze on ceramics, which revolutionized the Staffordshire ceramic industry, enabled complex decoration to be applied quickly and relatively inexpensively. It also allowed uniformity of design between vessels, something not possible with painted decorations. Thousands of designs were manufactured in a variety of colors and styles, with the Staffordshire potters producing patterns they hoped would be in demand by consumers both in England and abroad. While some patterns, such as Blue Willow, Asiatic Pheasants, and Canova, were extremely popular and manufactured by a number of potteries, the production span of most patterns was short-lived and limited to one potter. These designs reflected the larger social and decorative trends taking place within England and North America.

This study uses marked vessels to establish the chronological ranges for the major decorative styles on printed wares. Information from these dated vessels documents a series of styles that began at a point in time, rose to a level of popularity, and declined in frequency as other styles became more popular. Chronological information on motifs, used in conjunction with data on print color, vessel form, and manufacturing innovations, can assist archaeologists in refining date ranges for archaeological assemblages that contain printed wares. Such a dating tool is valuable because of the problems encountered in dating many 19th-century assemblages, where the majority of the ceramic assemblage is generally undecorated or minimally decorated white earthenware and white granite. Since printed wares were popular for almost a hundred years, they are common on late 18th- and 19th-century archaeological sites. Because the intent is to create a dating tool for archaeologists, the focus of this study is underglaze printed patterns on commonly available vessels forms. Data were

not gathered on vessels decorated with overglaze printing, which are rarely found in 19th-century archaeological contexts and are less common overall.

This paper begins with a discussion of the various printing processes which have been used on pottery and a brief historical overview of printing on English ceramics. This section is followed by an explanation of the study methods and the composition of the database. Results of the study follow and are divided into sections on identifying and dating central motifs, border patterns, ink colors, and printing techniques. Discussed separately are ceramics decorated using flown colors.

Before discussing dating, it is important for the reader to understand the technical processes involved in printing on ceramics. Some technological advances in the printing process and materials used resulted in discernible evidence which can be used to help date printed wares. These advances and how to recognize their use on printed wares are discussed.

### The Transfer Printing Process

Transfer printing, which involved the transferring of a design engraved into a copper plate via tissue paper or a glue bat to a ceramic vessel, was first used beginning in the 1750s (Coysh and Henrywood 1982:8). There were two primary types of printing on ceramics: prints applied over the final glaze and prints applied onto bisque-fired earthenware prior to glazing. Early efforts in printing were on vessels which had already received a final glazing. Printing over the glaze was known by three names: bat printing, cold printing, and overglaze printing (Copeland 1980:26–27; Majewski and O'Brien 1987:141).

Overglaze printing was used as a decorative technique on tin-glazed earthenware tiles in the 1750s, as well as on porcelain and, slightly later, on creamware (Holdway 1986:24–25). It soon thereafter began to be used as a means of decorating earthenware vessels and was generally restricted to high-status items such as tea wares or large jugs printed to order in Liverpool. Most

of these earlier earthenwares were printed over the glaze in black on creamware bodies and were probably done using a technique known as bat printing. Developed in the third quarter of the 18th century, this technique used the transfer, in oil, of the engraved design to a thin sheet, or bat, of glue (des Fontaines 1966:102; Drakard and Holdway 1983:11). This glue bat was placed, oiled side down, on the glazed pottery surface, leaving the design in oil (Halfpenny 1994a:46). Powdered enamels were then dusted onto the oil. The design was fixed into place by firing the pottery in a low-temperature kiln. The powdered enamel colors most suitable for bat printing were black, red, chocolate-brown, and purple (Holdway 1986:22). Because the design was placed over the lead glaze, which slightly blurred the ink in underglaze printing, bat printing allowed a great level of detail.

As a technique for decorating ceramics, bat printing was firmly established by 1805 and stayed popular for several decades (Halfpenny 1994a:57). Bat printing was suitable for irregularly shaped vessels, because the flexible glue bat could be easily fitted along convex surfaces where tissue paper designs would have to be folded. This technique was most effective with small vessels like mugs or teapots, since it was difficult to work with large glue bats (Halfpenny 1994a:46). The process was also unsuitable for transferring continuous border patterns (Drakard and Holdway 1983:11). Bat printing was also known as cold printing, since the engraved copper plates used in this technique were not heated before being charged with oil (Majewski and O'Brien 1987:141).

The development of a printing process for ceramics using the transfer of an inked design by paper allowed a wider range of vessel forms to be decorated. Underglaze, or hot process, printing on earthenwares did not begin in England until Thomas Turner's first attempts around 1780 (Coysh 1970), but was quickly adopted by other Staffordshire potters. Spode was printing under the glaze on earthenwares by 1784 (Drakard and Holdway 1983). The process of printing on ceramics allowed standardization of decoration, permitting complex designs to be

created quickly and in larger quantities. Using this technique, a design was first engraved onto a copper plate (Coysh and Henrywood 1982:8). After the plate was heated to help thin and spread the ink, it was then inked with a thick mixture of boiled linseed oil, powdered flint, and metallic oxide or some other coloring agent. Ink color was determined by the metallic oxide: cobalt produced a blue color; manganese and cobalt, shades of purple, brown, and red; and chromium oxide, maroon (Williams 1975:131–132). Black was produced by adding manganese and cobalt to brown tints made with iron, chromium, and zinc, and greens were made using chromium oxide (Majewski and O'Brien 1987:139–140). Excess ink was removed from the copper plate, leaving the color only in the engraved areas of the design. A dampened tissue paper, which was placed over the copper plate and the inked design, was then transferred by passing the plate and paper through the rollers of a press (Coysh and Stefano 1981:12). After being lifted from the copper plate, this tissue paper was cut apart if necessary, and pressed, inked side down, onto the porous ware (biscuit fired, but still unglazed), which absorbed the ink (des Fontaines 1966:102). The ceramic item was then fired at a low temperature to burn off the linseed oil and set the coloring agent. Next the vessel was dipped in liquid glaze and refired in a glost oven (des Fontaines 1966:102).

Although the process of transfer printing involved a series of steps, all but the initial carving of the design on a copper plate could be accomplished by minimally skilled labor. These plates, done by expert engravers, would have to be made to fit each vessel form and size desired in the pattern, but, as the engraved plates could be used repeatedly, the most substantial cost in this form of decoration was up front. While some manufacturers retained full-time engravers on staff, many of the smaller potteries purchased their engraved plates from independent workshops (Coysh and Stefano 1981:15; Halfpenny 1994b:61). Popular designs were frequently sold to more than one manufacturer, with small changes often made (Gurujal 1988:16). Additionally, some potters sold or traded their used

copper plates to other potteries (Halfpenny 1994b:65). Copper plates engraved for transfer onto ceramics had to be engraved more deeply than those used for book illustrations, since the heat of the glost oven lightened the colors of the ink and the biscuit ware absorbed more ink than paper (des Fontaines 1966:101; Coysh 1970:7). The more deeply the plate was engraved, the darker the color of the resulting print.

In the late 18th century and the early years of the following century, a limited number of factories were producing printed wares; consequently, printed wares were expensive relative to other decorated and undecorated English ceramics. George Miller's (1980) research on the economic scaling of 19th-century ceramics has shown that printed wares were three to five times the cost of undecorated cream-colored earthenwares (CC) in the 1790s. By the mid-19th century, however, the relative price of printed wares had dropped to within one to two times the cost of undecorated wares. While at first only the members of the upper economic classes could afford to purchase printed wares, by 1842, a group of New York pottery dealers considered that Staffordshire wares were now so inexpensive that they were within reach of the poorest (Ewins 1990:8).

Despite the fact that the technique of transfer printing under the glaze had been possible for over two decades, it was not until after the War of 1812 that printed wares began to appear in great numbers in America, as indicated by New York invoices for pottery (Miller 1994:38). This increase in consumption of printed wares following the War of 1812 was probably the result of a major fall in ceramic prices (Miller et al. 1994:234–238). Large fortunes were being amassed in the growing cities of the northern Atlantic coast, and the westward expansion also created new markets for the products of Staffordshire (Tracy 1963:19, 23). After the opening of the American market in the years following the war, Staffordshire potters found a willing market in the American consumer, and pottery in hundreds of patterns made the journey across the Atlantic Ocean to grace the tables of the New Republic. Almost 43% of the plates

and soup plates ordered by New York merchants between 1838 and 1840 were printed (Miller 1994:34). Printed wares remained popular until around the mid-19th century, when they gave way to undecorated or minimally decorated white earthenwares and ironstones for a time. Printed wares in certain colors, such as flow mulberry, continued to remain popular into the 1860s, and, beginning around 1870, printed wares enjoyed a revival which lasted until the use of decals became popular in the early 1900s (Majweski and O'Brien 1986:145, 147).

### Methods

The date ranges for printed earthenwares given in this study were derived using a process related to seriation, a technique particularly valuable on sites where pottery and other sensitive cultural traits are common. Using changes in stylistic attributes of pottery and other material culture has figured prominently in archaeological

literature (Petrie 1972[1904]; Spier 1917; Kroeber and Strong 1924; Dethlefsen and Deetz 1966; Marquardt 1978). Seriation involves ordering units based on similarity. Basic to its theoretical focus is the assumption that a given attribute originates at a specific time, becomes gradually and increasingly common, and is slowly replaced by a different attribute (Clarke 1968:205). Seriation assumes that the popularity of an attribute or trait is transient in nature; experiencing one peak in frequency of occurrence. Arrangement of these attributes over time produces an overlapping effect. For example, as one attribute wanes in frequency, the frequency of another may be increasing. By using this technique to analyze decorative attributes on marked and datable examples of ceramics, it is possible to see changes in stylistic motifs over time. Once these different motifs can be assigned a date range of production, it is then possible to date unmarked fragments from archaeological contexts.

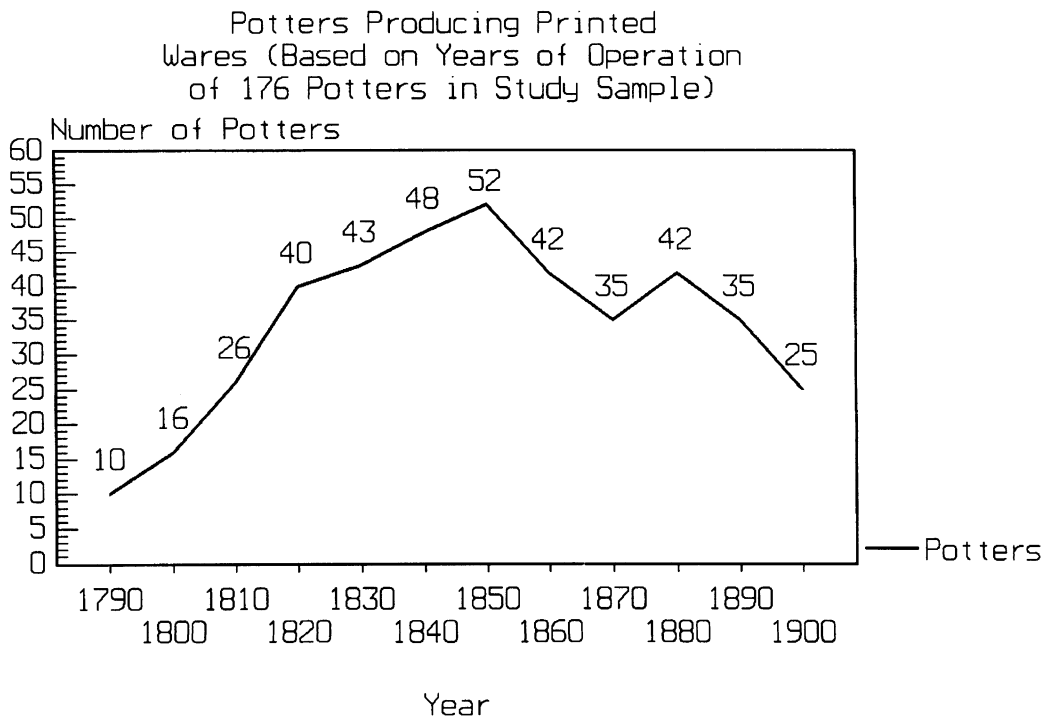


FIGURE 1. The number of potters producing printed wares increased dramatically in the first decades of the 19th century, peaked at mid-century, and enjoyed a brief resurgence in the 1880s.

The study sample included 3,250 pottery vessels made by 176 different British pottery firms. The majority of these potteries were located in Staffordshire, the leading world supplier of decorative and utilitarian ceramics at that time (Tracy 1963:108). Several Scottish firms were also included in the sample. The greatest number of firms producing printed wares as at least one of their products occurred between 1835 and 1855, with a high of 52 of the sampled potteries in business in 1845 (Figure 1).

Information on decorative motifs and other attributes was cataloged into a Paradox database that allowed sorting by various categories. In order to qualify for inclusion in the database, each vessel had to meet several prerequisites. Each had to be marked in a way that would allow it to be positively attributed to a specific maker. Most contained printed or impressed manufacturers' marks, as shown in Geoffrey Godden's (1964) *Encyclopaedia of British Pottery and Porcelain Marks*. Some vessels contained no maker's mark, but did have printed or impressed registry marks, which allowed the manufacturer to be identified by using registry records. To be included in the database, the use-span of the mark, as defined in Godden (1964), or the total operation span of the potter's firm had to date to less than 40 years, in order to maintain greater temporal control. This meant that several important firms, including William Adams and Sons, Ltd. (1769–present) and Josiah Wedgwood (1759–present) could not be included in the sample.

Data for this study were gleaned from a number of primary and secondary sources. These sources are listed below, and the manner in which the data were gathered for each is given.

Primary documents consisted of potters' invoices for wares that were shipped to the United States in the first half of the 19th century. These documents usually contained information about vessel form, size, decoration, color, and pattern name. Published photographs or actual vessels in these patterns by the same manufacturers were located in order to gather the information on decorative attributes, such as central

and border motifs, as well as vessel shape, molded motifs, and the like. Primary documents used in this study were contained within the Joseph Downs Collection of Manuscripts and Ephemera at the Henry Francis DuPont Winterthur Museum, and in the U.S. Customs House Papers (1790–1869) for the Port of Philadelphia, held at the University of Delaware and available on microfilm at Winterthur. The sources used at Winterthur included the Printed Bills Collection (Box 3, Pottery and Glassware Folder) and the Gallimore Collection in the Joseph Downs Collection (71x166.1–.68). Additionally, information on printed pottery as discussed by Ann Eatwell and Alex Werner (1991) was used.

Collections of marked, printed ceramics were examined at the Colonial Williamsburg Foundation Department of Collections and Department of Archaeological Research, at the Smithsonian Museum of American History, and at the Henry Francis DuPont Winterthur Museum. Several sizeable private collections of printed earthenwares were also cataloged, including those of George L. Miller, Ann Smart Martin, and Robert Hunter.

The following secondary sources were used for data gathering. These sources contained photographs of the patterns cataloged, as well as information on makers and marks. In some instances, color and size information was also available. These sources included Robert Copeland (1980), A. W. Coysh (1970, 1972), A. W. Coysh and R. K. Henrywood (1982, 1989), David Drakard and Paul Holdway (1983), Ellouise Baker Larsen (1975[1950]), Sam Laidacker (1938, 1951), Veneita Mason (1982), Silber and Fleming's 1882 trade catalogue (in Bosomworth 1991), and Petra Williams (1971, 1973, 1978). Several archaeological publications and reports were also used where there was a body of information about marked printed earthenwares. These works were David L. Felton and Peter D. Schulz (1983) and Lynne Sussman (1979).

Several minor problems were encountered in using the secondary sources. In the printed

sources, every pictured pattern with a known manufacturing range of less than 40 years was recorded. In instances where photographs were not clear enough to adequately identify the pattern type, no information was recorded. Additionally, the research interests of the scholars who have published on printed wares have introduced some potential biases. There has been great interest in blue printed wares and patterns depicting American buildings, landscapes, and historical events. Consequently, many of the published sources concentrate on these limited categories (Camehl 1948[1916]; Larsen 1975[1950]; Fennelly 1967; Copeland 1982; Coysh and Henrywood 1982, 1989). Other sources are more comprehensive in terms of a representative sample (Laidacker 1938, 1951; Williams 1971, 1973, 1978).

In addition to makers' mark data, information was collected on central design motifs, border (or marley) decorations, ink color, vessel shape, measurements, and additional decorative attributes. Many of these decorative attributes,

such as engraving techniques, were in fact closely linked to technological innovations in the ceramic industry. For those vessels recovered from archaeological excavations, data were also collected on the context from which each was recovered.

To arrive at the date ranges presented in the results section of this report, the beginning and end production dates for each vessel within a category were listed. The sum of all beginning production dates in each category was totaled and divided by the number of examples to arrive at a mean beginning date. The same was done with the end production dates, thus providing a date span for a period of peak production. In general, the results revealed a peak production range of between 15 and 20 years for each design or decorative category. Also shown in each table are the inclusive ranges of production for each type or category, based on the earliest beginning and latest ending dates for marks. In cases where a specific pattern was listed in more than one vessel form by the same potter, the

TABLE 1  
DATE RANGES FOR CENTRAL DESIGNS ON PRINTED WARES

Design	N	Mean Beginning and End Production Dates		Range of Production
Chinese	22	1797	1814	1783-1834
British Views	401	1813	1839	1793-1868
Chinoiserie	33	1816	1836	1783-1873
Pastoral	88	1819	1836	1781-1859
Exotic Views	214	1820	1842	1793-1868
American Historical	49	1826	1842	1785-1880
American Views	192	1826	1838	1793-1862
Floral				
Sheet Patterns	7	1826	1842	1795-1867
Central Floral	56	1833	1849	1784-1869
Classical	104	1827	1847	1793-1868
Romantic	376	1831	1851	1793-1870
Gothic	20	1841	1852	1818-1890
Japanese	44	1882	1888	1864-1907
No Central	11	1868	1878	1845-1920

*Note.* Mean beginning and end dates for all the tables in this paper reflect the period of highest production for these wares, while range of production is based on the earliest beginning date and latest end date of the manufacturers making them.

pattern was only counted once in order to avoid weighting the data. For example, the pattern *Marble* by John Ridgway (ca. 1830–1855) was listed 30 times in the database, once for each vessel form in which it was available. In calculating dates for central or border motifs, however, this pattern was only listed once.

## Results

Analysis did show that significant dating differences occurred in many of the decorative attributes on printed earthenwares. The results discussed below are divided into central motifs, border designs, print color, and other decorative techniques.

### *Central Motifs on Printed Earthenwares*

Staffordshire printed wares can be seen as commercial and industrial art that reflected social and decorative trends of the time (Krannert Art Museum 1988:4). A series of revivals influenced design and the decorative arts in England and Europe in the 18th and 19th centuries. These revivals of classical, romantic, and gothic tastes were just as important in American design as they were in England. Even after the two wars that pitted the United States against England, Americans continued to look to England, as well as France, for guidance in fashion and refined taste (Cooper 1993:11). In general, upper-class Americans, who traveled and read more extensively than did their middle-class counterparts, were the first purveyors of fashionable decorative arts and home furnishings in America. The presence of fashionable items in the home, particularly those displaying exotic scenes of far-away lands, conveyed messages about one's place in the world and one's knowledge of culture, history, and travel. Interestingly, many of the design motifs and stylistic trends of the 19th century were influenced by the findings of archaeological excavations of English medieval churches and monuments and on classical-period sites. In many ways, the industrial environment and development of technologies that allowed transfer printing as a means of decorating ceram-

ics were the phenomena being reacted against in many of the design motifs seen on these printed wares; this is especially true of the romantic patterns.

Central design motifs have been divided into 13 different categories, corresponding to decorative trends evident in the 19th century and based on examining printed vessels. Analysis showed distinct temporal differences in the periods of peak production for most of these stylistic motifs. Table 1 lists the categories used and the period of peak production for each of these central motifs. A discussion of each type follows.

### Chinese and Chinoiserie

The western fascination with things Chinese had long preceded the advent of underglaze printing on earthenwares. Trade with the East had introduced the West to tea, spices, fine silks, embroidery, lacquered items, and porcelain (Jarry 1981). For decades, consumers desirous of owning expensive Chinese porcelains, but unable to afford them, contented themselves with painted renditions of Chinese-style designs on less costly ceramics, in particular tin-glazed earthenwares. Later in the 18th century, English import duties on porcelain went through a series of increases,

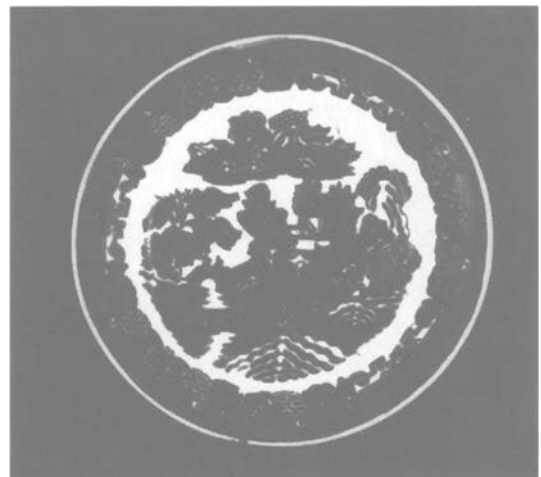


FIGURE 2. Early printed patterns were primarily based directly on Chinese porcelains, like the Broseley pattern shown here on bone china, maker unknown. (Photo by P. Samford; courtesy of George L. Miller.)

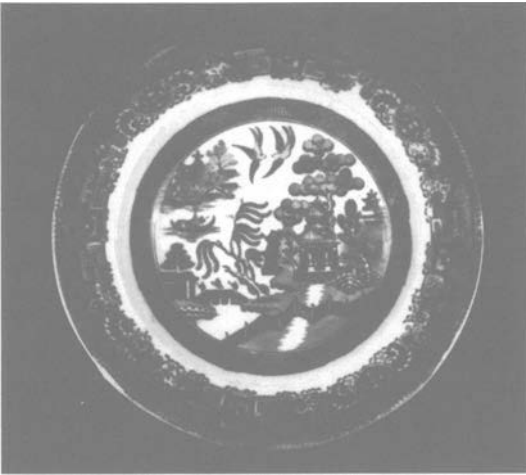


FIGURE 3. Blue Willow was the most commonly produced pattern, popular with both English and North American potters. This example was manufactured by the Buffalo Pottery Company (1916–present) of New York. (Photo by P. Samford; courtesy of George L. Miller.)

reaching 109 percent by 1799 (Copeland 1982:7), and even those who had been able to drink their tea or serve dinner guests from porcelain found it increasingly difficult to obtain replacements and additions to their services. With the advent of printed underglaze designs in blue on white-bodied earthenwares, production of the complex landscapes and geometric borders common on Chinese porcelains became more cost efficient. Additionally, the whiteness of the newly developed pearlware body and glaze were well-suited to the traditionally blue Chinese motifs. In fact, the Staffordshire potters called Wedgwood's new "Pearl white" bodied ware "China glaze" in imitation of Chinese porcelain (Miller 1987). The combination of Chinese style designs and vessel forms with the China glaze was aimed at filling a niche previously occupied by Chinese porcelain. Copies of original Chinese designs, such as Broseley, Buffalo, and Mandarin, printed on English earthenware provided a sufficient, albeit poorer quality, substitute for Chinese porcelain.

For the purposes of this study, Chinese-style printed wares have been divided into two categories—those based directly on Chinese designs and those based on interpretations of Chinese

patterns. The earliest printed earthenware designs were copied directly from Chinese porcelain motifs, such as the Buffalo and Broseley patterns (Figure 2). Perhaps the most enduring of the Chinese-style patterns was Blue Willow (Figure 3). Based on the Mandarin pattern, it was first introduced around 1790 by Josiah Spode (Copeland 1980:33). The Blue Willow pattern has been made by numerous potters since its introduction, and at times its name was synonymous with that of printed wares. The peak ranges of production of marked Chinese designs fall between 1797 and 1814, but these wares were the dominant types from the introduction of underglaze printing in Staffordshire in 1784 until 1814. As time passed, elements such as figures in western dress and western architectural features began to appear (Impey 1977:11; Coysh and Henrywood 1982:9). The term "chinoiserie" is used here to designate all styles based on European interpretations of oriental designs (Impey 1977:10). Chinoiserie designs were most commonly produced between 1816 and 1836.

Because this was a period of experimentation with the new method of underglaze printing on earthenwares, late 18th- and early 19th-century Chinese-style and chinoiserie printed earthenwares designs generally appear two dimensional and in one shade of blue (Coysh and Henrywood 1982:9). Common decorative motifs found on printed Chinese-style and chinoiserie earthenwares include pagodas, temples, weeping willow trees, cherry blossoms, orange trees, figures in eastern dress, junks and sampans, and

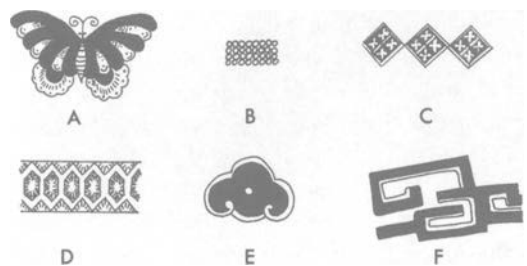


FIGURE 4. These motifs are among those commonly found on Chinese and chinoiserie-style printed wares: a, butterfly; b, fish roe; c, lozenges; d, honeycomb; e, Joo-I; and f, key motif (after Copeland 1980).





FIGURE 5. New York from Heights Near Brooklyn (James and Ralph Clews, 1818–1834) is a typical American view. The combined use of line and stipple engraving give it a soft, watercolor-like appearance (Larsen Collection, Smithsonian Institution).

Chippendale-style fencework. The marleys or rim designs on chinoiserie-style earthenwares are often densely printed geometric designs with butterflies, key motifs, honeycombing, and latticing (Figure 4). Although the penchant for

chinoiserie persisted throughout the 19th century, disenchantment with the exoticism of this style occurred in mid-century (Jacobson 1993:178). The opening of Japan to the west in the latter part of the 19th century and the subsequent interest in Japanese design sparked a revival of interest in chinoiserie (Jacobson 1993:202).

British Views

Between ca. 1815 and 1840, potters produced a number of designs depicting English cities, colleges, estates, and country homes. In the early 19th century, as the British empire expanded, patriotism increased, and the Napoleonic Wars made travel in Europe and other parts of the world more dangerous, numerous books were published portraying the beauty of Great Britain and its buildings. These prints were the primary sources for British views produced on pottery (Coysh and Stefano 1981:7). Enoch Wood and Sons (1818–1846) produced a series of over 50 known views based on the prints of John

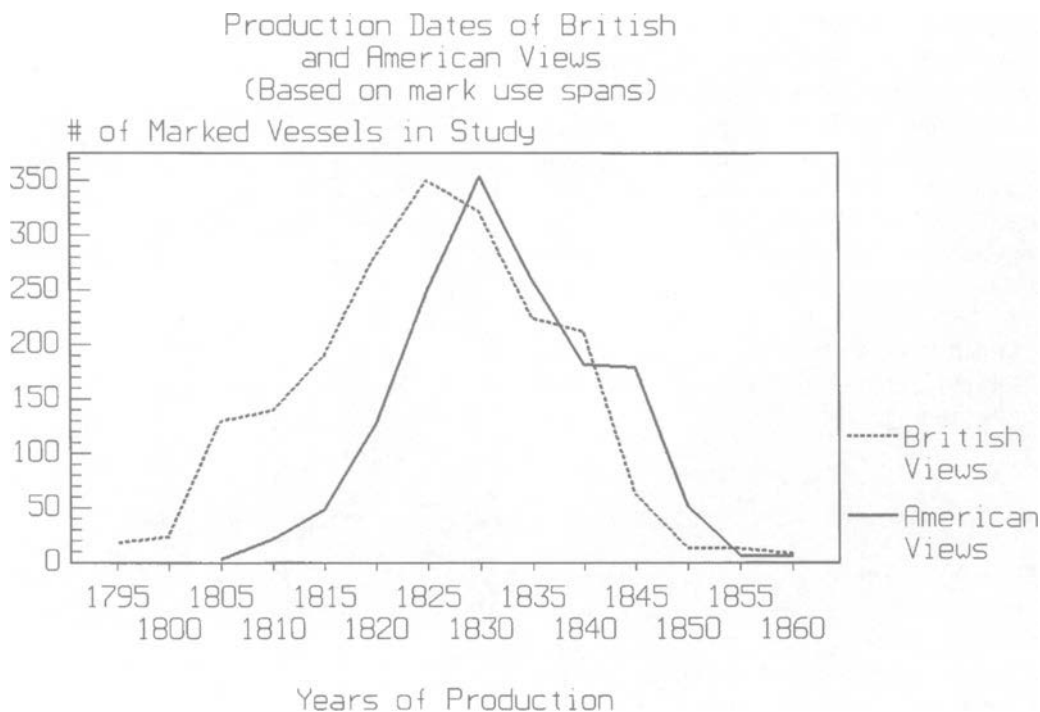


FIGURE 6. Graph illustrating how the production of American views skyrocketed after the end of the War of 1812 and the Embargo of 1807.

TABLE 2  
DATE RANGES FOR AMERICAN VIEWS

Color	N	Mean Beginning and End Production Dates		Range of Production
Dark Blue	65	1822	1836	1810–1850
Black	31	1826	1839	1810–1854
Brown	21	1830	1840	1818–1854
Light Blue	23	1830	1845	1818–1854
Reds/Purples	52	1828	1838	1818–1854

Preston Neale, published in a book entitled *Views of the Seats of Noblemen and Gentlemen in England, Wales, Scotland, and Ireland* (1818–1829). Other series of British views on earthenwares include “Metropolitan Scenery” by Goodwins and Harris (1831–1838), and “Picturesque Scenery” and the “Select Views” series by Ralph Hall (1822–1849).

Often a different design was engraved for each vessel form in a set; in the Grapevine Border series, over 50 different designs were used by Enoch Wood and Sons on one of their dinner services (Laidacker 1951:93). In many instances, the engravings or aquatints were not copied exactly; studies have shown that elements were added or subtracted from the published sources in order to create a better fit with the shape of the ceramic vessel intended for decoration (Maguire 1988:4). Despite this artistic license, the passage of the Copyright Act of 1842, which made it illegal to copy book illustrations, dealt a fatal blow to the British views category (Coysh and Henrywood 1982:11). This category peaks in production popularity around 1823, with mean beginning and end dates of 1813 and 1839.

### American Views

Similar to British views were those depicting American scenes. By the second decade of the 19th century, many of the Staffordshire potteries were encountering financial difficulties brought about in large part by the effects of the Napoleonic Wars, the Embargo of 1807, and the War

of 1812. As a result of these events, there had been little direct trade between Britain and the United States between 1808 and 1815, and ceramic manufacturers were understandably anxious to reestablish North American trade ties after the close of the War of 1812. Staffordshire potters found a willing and ready market for their products with the flourishing population and rising middle class of the early 19th-century United States.

Many Staffordshire potters appealed specifically to the American market by creating series of views depicting American landmarks, such as churches, hotels and resorts, government build-



FIGURE 7. The Monopteros pattern (John Rogers and Son, ca. 1814–1836) is an example of an exotic view with a border that is a continuation of the main scene. (Photo by P. Samford; courtesy of George L. Miller.)



FIGURE 8. The Monopteros pattern in Figure 7 was based on this print taken from Thomas Daniell's *Oriental Scenery*.

ings and homes, city vistas, and natural wonders (Figure 5). The production of these wares began in 1815, almost immediately after the reestablishment of trade with the United States, and showed a rapid increase in production, peaking in 1831 (Figure 6). As with British views on ceramics, published prints were used as the primary source materials. In some cases, the potters sent engravers or artists to America to document the latest architecture and monuments. In 1818, for example, William Wall sent English potter Andrew Stevenson sketches of some of America's most important buildings (Gurujal 1988:16). Engraver William Birch moved from England to Philadelphia in 1794, where he published *Views of Philadelphia and Country Seats*

*in the United States* (Bloom 1988:36). Ellouise Larsen's research has turned up almost 800 American scenic and historical views (Larsen 1975[1950]). The sheer quantity of American views recorded to date suggests that they were popular, but, like the British views category, their production was essentially brought to an end by the 1842 Copyright Act. Analysis shows that the production of British and American views, although already on the decline, does taper off considerably after 1842 and ceases completely by the mid-1850s.

Distinguishing between British and American views, particularly at the sherd level, may be difficult. In general, both British and American views show a high degree of skill and detail in engraving, with the finished vessels displaying an almost watercolor-like appearance. While it does appear that many of the American views produced and exported to the United States—and disproportionately recorded in this survey due to the attention they have been given by scholars and collectors—were printed in dark blue, they were also available in other colors, such as light blue, brown, black, purple, and pink. In general, the copper plates produced for these other colors do not appear to have been engraved with the

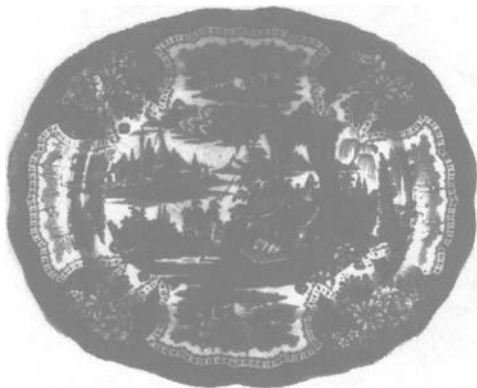


FIGURE 9. The Palestine pattern (William Adams, 1769–present) is an example of a composite exotic view. (Photo by P. Samford; courtesy of George L. Miller.)

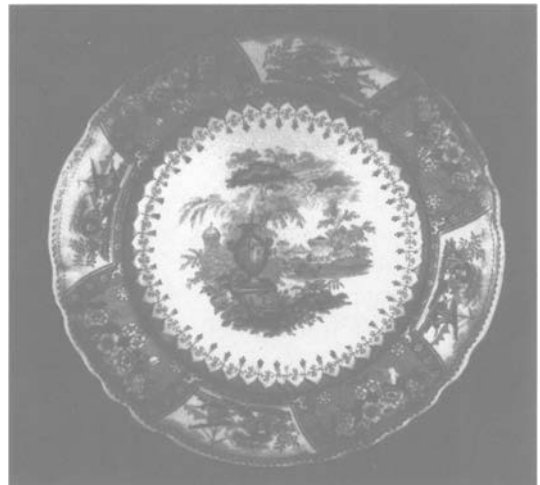


FIGURE 10. Patterns with classical motifs, such as Canova (Thomas Mayer, ca. 1826–1838), contain columned temples, urns, and draped figures. (Photo by P. Samford; courtesy of George L. Miller.)

attention to detail and tonal gradations evident in the slightly earlier dark blue American views. Table 2 illustrates date ranges for various print colors on American views.

A smaller, but nonetheless important, category of American ceramics created by the Staffordshire potteries specifically for the American market included designs featuring military battles, heroes, and special events. One of the more popular subjects of these historical views was General Lafayette's triumphant return visit to the United States in 1824 (Larsen 1975[1950]:57). These patterns are generally well documented in secondary literature and can be dated fairly easily, but data suggest that the majority of American historical views were produced between 1826 and 1838.

### Exotic Views

In the early 19th century, the expanding British colonization of India and other foreign countries sparked a great deal of interest in places outside Great Britain (Bloom 1988:33). For the wealthy, travel to exotic places was not difficult, and "The Grand Tour" of Europe was standard for young men (Coysh and Henrywood 1989:8). But for most Victorians, the cost of travel was prohibitive and the desire to learn about and experience foreign lands had to be satisfied through published travel diaries and books of engravings. As with American and British views, the Staffordshire potters took advantage of published illustrations of cities, monuments, and landscapes in places like India, the Middle East, and even the Arctic to provide them with subjects for their wares. For example, the *Monopteros* pattern (Figure 7) by John Rogers and Son (1815–1842) was based on a print entitled "Remains of an Ancient Building near Firoz Shah's Cotilla, Delhi" (Figure 8) taken from Thomas Daniell's *Oriental Scenery* (Coysh and Henrywood 1982:157). Additionally, some Staffordshire potters sent engravers to Italy, Greece, and India to produce drawings for pottery design (Bloom 1988:32).

The exotic views category encompasses all designs that contain motifs of foreign architec-

ture, ruins, and nonnative animals such as elephants or tigers. These scenes could either be based on published engravings of actual places, as was common before 1842, or could be more fanciful, romantic interpretations of exotic places. An example of a composite interpretation of an exotic view is the pattern entitled *Palestine* (Figure 9) by William Adams and Sons Ltd. (1769–present). The exotic buildings shown are well in the background, and the focus of the view is on the tent and eastern-garbed figures in the foreground. The scene portrayed is romanticized and lacks the distinct architectural detail present on views of actual foreign locales. The mean beginning and end dates for the production of exotic views were 1820 and 1842.

### Classical

Archaeological excavations at the ancient cities of Herculaneum, Pompeii, and similar sites were one of the driving factors behind the Greek Revival style of the late 18th and early 19th centuries (Cooper 1993:10). Archaeological reports were used as source material by architects



FIGURE 11. The Messina pattern, by Edward Challinor (1853–1862), shows figures and water in the foreground and buildings typical of Romantic patterns in the background. (Photo by P. Samford; courtesy of George L. Miller.)

and designers, and the purity of line and form of ancient Greece and Rome began to replace the excesses of the baroque and rococo styles (Tracy 1963:12). Classical motifs were particularly embraced by Americans, with the use of these motifs in architecture and art perceived as a way for the new nation to join the ranks of great past civilizations (Bushman 1993:16). Appearing in America by the first decade of the 19th century, the classical style was dominant during the emergence of the new middle class, whose desire for fashionable objects helped spread the influence of classical motifs in the decorative arts (Cooper 1993:11; Bushman 1993:14). The taste for classical furnishings had begun to wane by the 1840s, and was replaced in popularity by Gothic Revival themes (Cooper 1993:12).

Since classical motifs permeated every aspect of the decorative arts, Staffordshire potters were not immune to the economic opportunities afforded by using these motifs. Many of their designs from this time period feature classical elements such as columned temples, urns, draped figures, and acanthus leaves. Prints of Greek and Roman ruins were often the inspiration for these designs (Bloom 1988:33). A well-known example of a classical motif is the Canova pattern (Figure 10). Antonio Canova (1757–1822), an Italian neoclassical sculptor, was popular in England. Legend has it that his heart was placed in a neoclassical urn after his death, and the Canova pattern prominently features just such an urn (Williams and Weber 1986:59; Coysh and Henrywood 1989:46). Classically-inspired motifs on English earthenwares enjoyed a brief period of popularity between 1827 and 1847.

### Romantic

The 19th-century Romantic movement in England and Europe influenced music, art, literature, and even social and political thought (Meijer 1959:38). Stressing emotion and intuition over tradition and reason, the Romantic movement arose in opposition to the classical revival and in response to the increasing industrialization sweeping through England. Humans were seen as subordinate to the all-powerful but



FIGURE 12. The Girl at the Well (John Heath, 1809–1823) is representative of pastoral patterns. (Photo by P. Samford.)

benign forces of nature. One of the manifestations of this movement was evident in garden design. The formal, geometric gardens of the 17th and early 18th centuries began to be replaced by expansive parklands whose relaxed style evoked wilderness.

Given the interest in nature, it is perhaps not surprising that much of the decorative art associated with the Romantic movement contains depictions of the landscape. Landscape painting continued as a means of expression, and nature was a favorite subject for the newly developing field of photography (Millard 1977; Vaughan 1978). Certain picturesque elements were predominant in romantic imagery; mountains, waterfalls, trees, cottages, and castles evoked images that excited the Victorian imagination. Philosopher Friedrich von Schelling wrote in 1796 on viewing Heidelberg Castle, “The castle hovers above the town and dominates it completely, increasing the romanticism of this moment” (quoted in Sandkuhle 1970:66).

Ceramics printed with Romantic-style motifs typically follow a formula: they were generally bucolic scenes containing several elements (Coysh and Henrywood 1982:11). In the back-

ground were generally one or more stylized buildings, whose fanciful nature or lack of distinguishing architectural detail indicated that they were not depictions of actual buildings. In the mid-ground was usually a water source such as a river or lake, and the foreground contained small human figures or animals, generally placed there to provide a sense of scale. Nature in the form of trees, mountains, or wooded valleys completed the Romantic formula (Figure 11). Research has suggested that elements from different sources were combined in some Romantic views (Bloom 1988:34). Many of the names given to Romantic patterns bear little or no resemblance to the subject portrayed on the vessel, but were chosen instead to help boost sales (Coysh and Henrywood 1989:8). For example, the pattern Scinde began production after this part of India was annexed in 1845 (Coysh and Henrywood 1982:11). Camden, a geometric pattern produced by Ridgway, was inspired by Sir Charles Pratt, the first Earl of Camden. With a number of towns in the United States and several in Australia named Camden, Ridgway may have been banking on export sales for this pattern (Coysh and Henrywood 1989:46). Many patterns were named after European cities and



FIGURE 13. The pattern Gothic Ruins by Davenport (ca. 1793–1887) is typical of Gothic motifs. (Photo by P. Samford.)

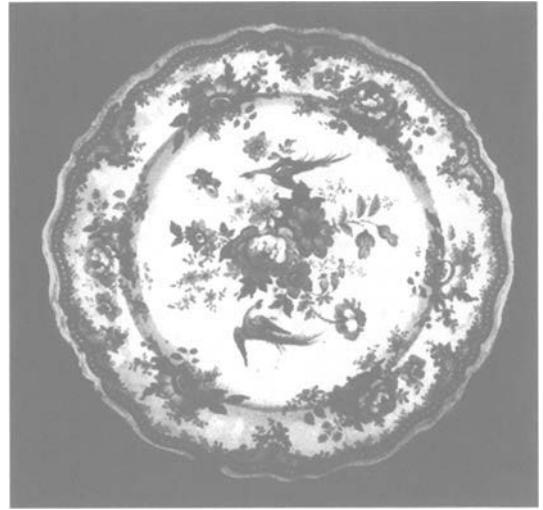


FIGURE 14. Asiatic Pheasants (Ralph Hall and Company 1822–1849) was one of the most commonly produced floral patterns. Its border consists of a discontinuous repeating floral motif. (Photo by P. Samford; courtesy of George L. Miller.)

towns, like the Roselle—registered in 1848 by John Meir and Son—and the Geneva—Joseph Heath, 1845–1853—patterns (Coysh and Henrywood 1989:8). Romantic views, although remaining popular throughout the 19th century, were at their peak of highest production ca. 1831 to 1851.

### Pastoral

Closely related to Romantic views were those which have been given the designation of pastoral. These views depicted generally rural-based scenes containing detailed views of farm animals, such as cows or horses, or persons engaged in working pursuits, such as milking cows, chopping wood, or drawing water from a well (Figure 12). In the pastoral category, the focus of the view was on the activities of the figures portrayed prominently and in detail in the foreground. Pastoral views were at their peak of production between 1819 and 1836.

### Gothic Revival

The Gothic Revival style, an offshoot of the Romantic period, began as a literary movement

and gained popularity through the works of authors like Sir Walter Scott. Using the Middle Ages as inspiration, the Gothic Revival drew upon the design motifs depicted in medieval illuminated manuscripts and in archaeological publications that described Gothic medieval monuments (Vaughan 1978:127). In many ways a reaction against the severity and formality of classicism, the Gothic style reinterpreted many of the themes and motifs that had been predominant in the Middle Ages and stressed irregularity, drama, melancholy, and unity with nature. The year 1820 is given as the beginning of the Gothic Revival in England, and it flourished throughout the middle of the 19th century in England and America (Addison 1938:60; Howe and Warren 1976:5). The Gothic style influenced home and garden design—country homes with turrets, towers, and crenelated walls began to spring up in Britain and the United States, naturalistic garden landscaping became common, and gardens and estates were embellished with picturesque ruins. For example, Prospect Hill, an estate in Norwalk, Connecticut, was converted from a Greek Revival style to a Gothic style during the late 1840s (Howe and Warren 1977:91).

The Gothic Revival style enjoyed its greatest popularity in Britain, where it influenced design

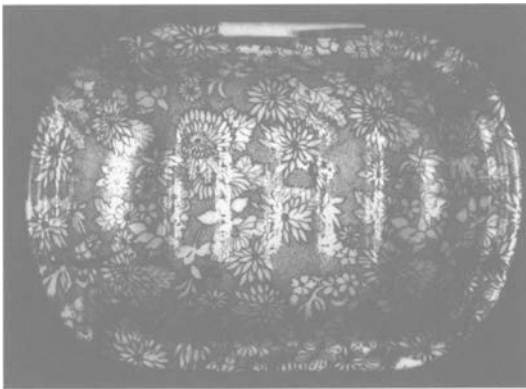


FIGURE 15. This 20th-century soapdish by an unknown maker displays a floral sheet pattern. On this example, the tissue paper used to transfer the inked design is still in place and is peeling away along the upper edge of the vessel. (Photo by George L. Miller.)



FIGURE 16. The asymmetry of the Melbourne pattern by Gildea and Walker (1881–1885) is typical of Japanese-influenced motifs of the late 19th century. (Photo by P. Samford; courtesy of George L. Miller.)

between around 1820 and 1870 (Addison 1938:60, 94). It particularly appealed to the British, since they felt that this style, with its overtones of castles and medieval churches, was more in keeping with British national character than that of the classical style (Germann 1972:182). In mid-19th century Britain, many public and private buildings, especially churches, were constructed in the Gothic style. The publication of numerous design books, such as Pugin and Willson (1895[1821]) and Alexander Jackson Davis (1980[1838]), helped familiarize people with the Gothic style. Although the Gothic Revival began as a primarily literary movement, it permeated every aspect of the decorative arts, with Gothic motifs finding their way onto pottery, bottles, wallpaper, bird houses, and the like (Howe and Warren 1976:9). In the United States, the Gothic Revival style was at its most popular in the mid-19th century, from about 1840 to the outbreak of the Civil War (Davies 1976:5). Additionally, the Great Exposition of 1851 brought added exposure of the Gothic Revival style with the medieval exhibit held in the Crystal Palace (Addison 1938:85).

Given its popularity, it was inevitable that Gothic designs would find their way into the

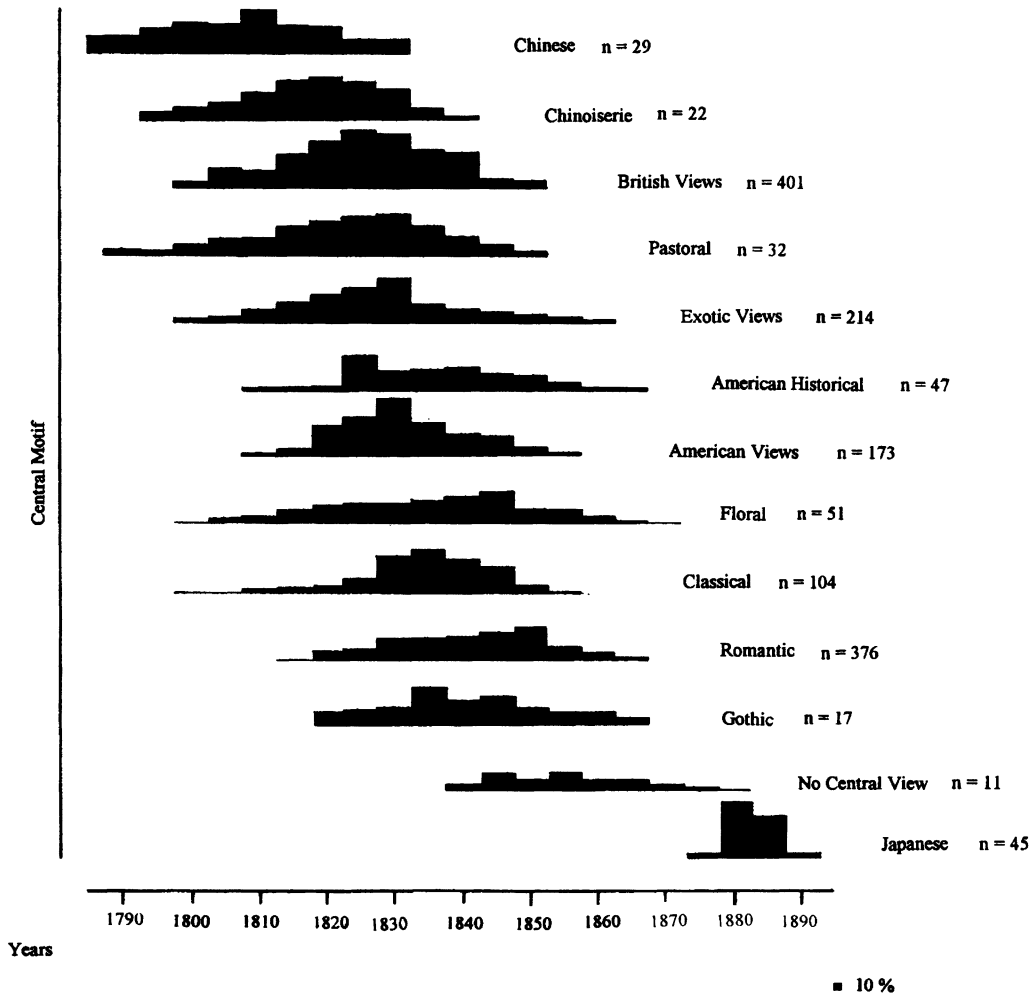


FIGURE 17. This graph illustrates the overlapping periods of production for central designs on printed wares. Bars represent percentage of total patterns produced during five-year intervals. (Illustration by Jane Eastman.)

engravings of the Staffordshire potters. From the mid-1830s through ca. 1860, Davenport of Longport (ca. 1793–1887) printed a series entitled “Scott’s Illustrations,” based on the novels of Sir Walter Scott. Another Gothic pattern, Fonthill Abbey, was inspired by the country estate of the same name, built between 1796 and 1799 for author William Beckford (Addison 1938:50). Structural flaws caused the house to collapse in 1825, and it subsequently and rather appropriately became the subject for a Gothic-style dinner service produced by James and

Ralph Clews between 1818 and 1834 (Coysch and Henrywood 1982:144). This pattern was also produced by Enoch Wood (1818–1846) and Ralph Stevenson (ca. 1810–1832).

Gothic Revival patterns on Staffordshire earthenwares are characterized by depictions of church and other building ruins, structures with architectural details such as arches, turrets, towers, bastions, and crenelated walls (Figure 13). Gothic designs were most commonly produced on pottery after the more composite Romantic views began to decline in production, with peak



TABLE 3  
CHARACTERISTIC MOTIFS ON CENTRAL DESIGNS

Central Designs	Motifs
Chinese/Chinoiserie	<ol style="list-style-type: none"> <li>1. Pagodas/temples</li> <li>2. Willow trees</li> <li>3. Junks/sampans</li> <li>4. Orange trees</li> <li>5. Figures in eastern garb</li> <li>6. Chippendale fencing</li> </ol>
American and British Views	<ol style="list-style-type: none"> <li>1. Building or landscape feature displayed prominently with attention to specific detail.</li> </ol>
American Historical	<ol style="list-style-type: none"> <li>1. Detailed scenes of military battles, or special events, such as treaty signings, and war ships.</li> <li>2. State seals or coats of arms bearing U.S. state names.</li> </ol>
Exotic Views	<ol style="list-style-type: none"> <li>1. Animals not indigenous to America or the British Isles, such as camels, tigers, and elephants.</li> <li>2. Exotic architecture, such as mosques, minarets, etc.</li> <li>3. Figures in foreign garb.</li> </ol>
Romantic	<ol style="list-style-type: none"> <li>1. Small figures in foreground, strolling, fishing, etc.</li> <li>2. Water source such as river or pond in mid-ground.</li> <li>3. Fanciful building in background.</li> <li>4. Gazebos or pavilions in foreground.</li> </ol>
Classical	<ol style="list-style-type: none"> <li>1. Urns</li> <li>2. Acanthus leaves</li> <li>3. Columned temples</li> <li>4. Figures in classical garb</li> <li>5. Greek key elements</li> </ol>
Floral	<ol style="list-style-type: none"> <li>1. Central Floral—group of flowers located in center of plate or vessel, usually surrounded by unengraved (white) area.</li> <li>2. Sheet Floral—a small repeating pattern, usually of flowers, across the entire surface of the vessel.</li> </ol>
Pastoral	<ol style="list-style-type: none"> <li>1. Rural-based scenes with focus on animals or people working.</li> </ol>
Gothic	<ol style="list-style-type: none"> <li>1. Architectural ruins.</li> <li>2. Buildings with turrets, arches, towers, or battlements.</li> </ol>
Japanese	<ol style="list-style-type: none"> <li>1. Prunus branches</li> <li>2. Fans</li> <li>3. Asymmetrical designs, often on ivory-dyed ceramic body</li> <li>4. Birds/plants</li> <li>5. In-filled half circles</li> </ol>

TABLE 4  
DATE RANGES FOR  
MARLEY DESIGNS ON PRINTED WARES

Marley Type	N	Mean Beginning and End Production Dates		Range of Production
Continuation				
Main Scene	38	1815	1837	1784–1903
Continuous				
Repeating:				
Floral	858	1820	1836	1784–1856
Geometric	105	1818	1829	1784–1864
Other	164	1825	1848	1784–1910
Linear	44	1842	1858	1820–1891
Noncontinuous				
Repeating:				
Floral	121	1829	1843	1799–1894
Vignettes:				
Floral	49	1832	1848	1802–1889
Scene	132	1832	1847	1790–1889
Object	27	1838	1849	1809–1889

years of manufacture between 1841 and 1852. Central Gothic designs are often accompanied by border motifs that contain scrolled or arched designs against a background of concentric circles or lines, as shown in Figure 19.

### Floral

Floral motifs were popular transfer-print subjects for potters throughout the course of the 19th century. Temporal differences were apparent, however. The most prevalent floral designs had a central floral motif, generally accented with a floral printed marley or border (Figure 14). The peak years of production for central floral patterns were 1833–1849. Another type of floral pattern is that with an overall repeating design, known as a sheet pattern (Figure 15). These were most commonly produced between 1826 and 1842.

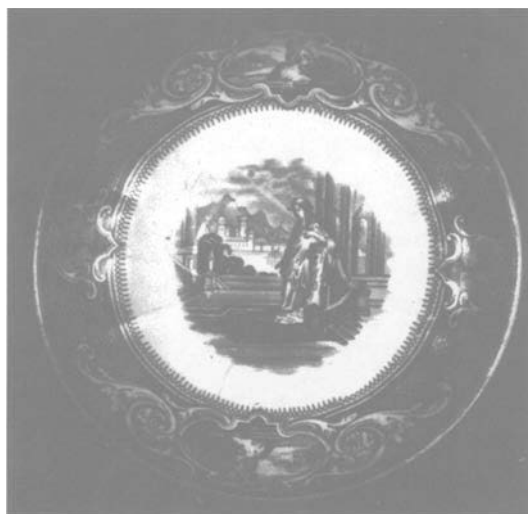


FIGURE 18. This unmarked classical pattern with a vignette border, was imported to the United States by the Davenport Brothers of New York. (Photo by P. Samford; courtesy of George L. Miller.)

### Japanese Aesthetic

The opening of trade with Japan to the west in the mid-19th century sparked the popularity of Japanese-style designs in British decorative arts that occurred in the 1870s and 1880s (Pickford 1983:153). Intrigued by the perceived romanticism and exoticism of Japan, westerners began purchasing Japanese prints, fabrics, and lacquer (Meech 1989:19). British manufacturers, inspired by the exhibits displayed at the 1862 International Exhibition, saw the monetary potential of “Japonisme” or the “taste for things Japanese” and began to produce a number of household and decorative items in this style (Sato and Watanabe 1991:14, 127). Japanese-inspired designs formed one component of the aesthetic movement, where decorative emphasis was on asymmetry and imagery that combined birds and butterflies with exotic flowering plants (Bosomworth 1991:8). Many of the Japanese-inspired earthenwares are printed in brown, black, red, or green on ivory-dyed ceramic bodies. Common design motifs on Japanese aesthetic vessels are fans, half circles filled with decorative patterns, prunus blossoms, bamboo, birds, and butterflies in asymmetrical collage-like effects (Figure 16).

### Summary

In summary, the data from marked vessels support temporal patterning of central designs on printed wares. Each of the central motifs exhibited a peak range of production that generally spanned about 20 years. Designs based on Chinese porcelains were the earliest motifs to appear on Staffordshire earthenwares, followed by anglicized variations of these designs. Blue printing on a white background, in imitation of Chinese porcelain, was standard for these early Chinese-influenced patterns. As technological advances occurred that allowed greater detail in engraving and a wider range of colors to be produced, potters began to broaden the range of designs. These motifs can be readily related to major decorative trends occurring in England and the United States during the 19th century (Table 3). Scenes depicting places in North America and



FIGURE 19. The Venus pattern, by Podmore, Walker, and Company (1834–1859), has a border with a continuous repeating linear pattern. (Photograph by P. Samford; collection of the author.)

Britain were also among the earliest designs used by the potteries; these gave way to fanciful Romantic, Pastoral, and Gothic scenes after the Copyright Act of 1842 made it illegal to use published prints as sources for the engravers. Classical designs enjoyed a brief span of popularity coinciding with the Greek Revival in the United States. Japanese-inspired designs were popular after Japan was opened to the West toward the end of the 19th century. Figure 17 illustrates the overlapping periods of production for each of the different central motifs. The graph for each motif type shows what percentage of the total number of patterns, in the study sample, were in production at different times. For example, of the 214 different exotic views patterns in production between 1793 and 1868, a total of 133, or 67 percent, of the patterns were being produced in 1830. Some of the graphs show short, sharp peaks of production for motifs, such as Japanese-inspired designs, while others show slower, longer periods of production.

### *Borders on Printed Wares*

Another key to dating printed wares lies within the border, or marley, designs that served

as a frame around the central decorative element on many vessel forms. Inspiration for border design appears to have been drawn from many sources, including lace and wallpaper (Coysh 1970:7; Postlewait 1988:21). While some borders were distinctive to one particular manufacturer, popular patterns were often imitated, and potter attribution based on border style can be dangerous (Postlewait 1988:20). Marley designs, however, do fall into several easily characterizable categories with distinct production periods (Table 4).

### Continuation of Main Scene

These rather uncommon transfer-print treatments are found on plates, dishes, and other flat vessel forms and are distinct in that there is no separate border motif (Figure 7). The central design continues to the rim of the flatware vessel, although the border area is often “framed” with a tree or other vegetation which is part of the main design. This treatment appears to have been restricted to British, American, and exotic views. Enoch Wood and Sons used this treatment in their Italian Scenery series, as did James

and Ralph Clews in their Foliage and Scroll Border series. This border treatment is most common on vessels produced between 1815 and 1837, corresponding well with the dates for these American, British, and exotic views.

### Geometric

Geometric borders are those whose primary elements consist of unbroken, repeating patterns of lozenges, honeycombs, butterflies, Joo-I, and key motifs (Figures 3, 4). These designs are found most typically in conjunction with Chinese and chinoiserie central motifs and have a peak range of production between 1818 and 1829.

### Floral

Floral borders fall most readily into two types: those with continuous repeating motifs whose patterns run unbroken around the marley (Figure 5), and those whose floral motifs are broken by unprinted white areas or areas with a light or airy background pattern (Figure 14). The marleys with noncontinuous floral motifs were most commonly produced between 1829 and

TABLE 5  
DATE RANGES FOR COLOR ON PRINTED WARES

Color	N	Mean Beginning and End Production Dates	Range of Production	
Dark blue	122	1819	1835	1802–1846
Medium blue	120	1817	1834	1784–1859
Black	49	1825	1838	1785–1864
Brown	69	1829	1843	1818–1869
Light blue	89	1833	1848	1818–1867
Green	21	1830	1846	1818–1859
Red	20	1829	1842	1818–1880
Purple	56	1827	1838	1814–1867
Lavender	13	1830	1846	1818–1871
Mulberry	29	1837	1852	1818–1870
Pink	52	1827	1842	1784–1864
Two color printing	18	1831	1846	1818–1866
Brown on ivory body	24	1881	1888	1873–1895
Black on ivory body	26	1883	1889	1879–1890

1843. Those with boldly printed, unbroken floral borders date somewhat earlier, with peak production occurring between 1820 and 1836.

### Vignettes or Reserves

In the 1830s and 1840s, marley designs incorporating small oval or oblong cartouches enclosing a variety of designs became popular (Figure 18). These vignettes, usually found in conjunction with floral elements, were often printed on white granite bodies (Teresita Majewski 1996, pers. comm.). Floral vignettes were most often produced between 1832 and 1848. Vignettes containing objects such as musical instruments or statuary were common between 1838 and 1849, and those with scenes or landscapes had a peak production range of 1832 to 1847.

### Linear

During the later decades of printed ware popularity, a border treatment that has been designated as a continuous repeating linear element was common. With a period of peak production ranging from 1842 to 1858, this border treatment consisted of closely spaced concentric lines running around the rim of the marley. These concentric lines served as a background for discontinuous floral or scroll marley motifs (Figure 19).

### Summary

In summary, while there are not as many distinct marley motifs as there are central design motifs, several recognizable themes occur which show temporal patterning. Specific types of marley decoration appear to be related to central motif: Chinese and chinoiserie central motifs usually have geometric repeating borders; continuous floral motifs are typical of American, British, and exotic views, as is the less common treatment where there is no distinct border. Later central motifs, such as Romantic, pastoral, Gothic, and floral, are usually characterized by



FIGURE 20. This plate, depicting the pattern Ulysses Weeps at the Song of Demodocus, by Joseph Clementson (1839–1864) is an example of a negative pattern. It is part of the Classical Antiquities Series, and was registered on 13 March 1849. (Photo by P. Samford; courtesy of George L. Miller.)

noncontinuous floral marleys, or those with floral and vignette elements.

### *Colors on Printed Wares*

Underglaze printed vessels produced at the end of the 18th century and into the first several decades of the following century were primarily blue in color. At that time, cobalt was the only coloring agent that could withstand the high heat of the glost oven without excessive blurring (Coysch 1970:7). Blue was undoubtedly the most popular color for printed decoration on English earthenwares; in addition to the dark blue typical of the early period of transfer wares, a variety of lighter shades was also common.

As technology improved and glazes became clearer, other colors began to be developed successfully for underglaze printing. Various combinations of metallic oxides produced different colors; for example, a mixture of manganese, copper, and cobalt produced a black printed transfer (Williams 1975:131). Simeon Shaw wrote:

Very recently several of the most eminent Manufacturers have introduced a method of ornamenting Table and Dessert Services, similarly to Tea Services, by the Black Printers using red, brown and green colours, for beautiful designs of flowers and landscapes; on Pottery greatly improved in quality, and shapes formed with additional taste and elegance. This pottery has a rich and delicate appearance, and owing to the Blue Printed having become so common, the other is now obtaining a decided preference in most genteel circles (Shaw 1900[1829]:234–235).

Consumers could purchase matching dinner, tea, or toilet sets in an assortment of colors. In August of 1833, Philadelphia merchants S. & T. Tams purchased from potters Job and John Jackson table, tea, and toiletwares of the pattern “Clyde Scenery” in purple, pink, brown, and blue (U.S. Customs House Papers 1790–1869). The following year, the same pottery firm shipped “Clyde Scenery” printed in green to the United States (Downs Collection Bill of Lading).

Black appears to have been among the first successful colors other than blue, but was followed by various shades of brown, purple, green, red, and lavender. The color brown was used in printing prior to 1829, but it became more common in the 1830s (Miller 1984:44). The peak periods of production for green, red, and brown wares confirmed the mean beginning date of

1829 (Table 5). Red was one of the more difficult colors to produce successfully (Williams 1975:133). For the purposes of this analysis, dark red or maroon printed vessels have been included with the “red” category, while a distinction was made between purple wares and those more of a mulberry, or brownish purple, color. Appendix A lists the Munsell color values used for each color designation in this study (Munsell 1929).

Printing in two or more colors was introduced around 1840 (Honey 1952:622–623). Generally, the central design of a vessel would be depicted in one color, and the border in a contrasting color. The production of these vessels could involve two different copper plates, one for each ink color, or a single copper plate where different colored oils were applied to different parts of the engraved design (Halfpenny 1994c:69–70). When multicolored prints were first produced, multiple firings, one for each color, were required (Majewski and O’Brien 1987:143). By 1848, however, blue, red, and yellow could be fixed in a single firing. Four years later potters could also fix brown and green colors at the same time (Hughes and Hughes 1968:54). The most commonly appearing color combination in the study’s database was red and green.

Some printed wares display a type of polychrome decoration known as clobbering, consisting of colored enamels—pinks, greens, yellows, reds—hand-applied as highlights over the final lead glazing (Coysh and Henrywood 1982:87). Clobbering is generally restricted to small areas along the rim or marley of the vessel and is a technique quite distinct from one practiced somewhat later in the century of printing a design with larger areas intended to be filled with enamels. Clobbering used as a decorative technique most commonly appears on vessels manufactured after 1840.

#### *Other Printing Techniques*

Engraving technology, field dots, negative printing, and flown colors are other technologies, addressed briefly below.

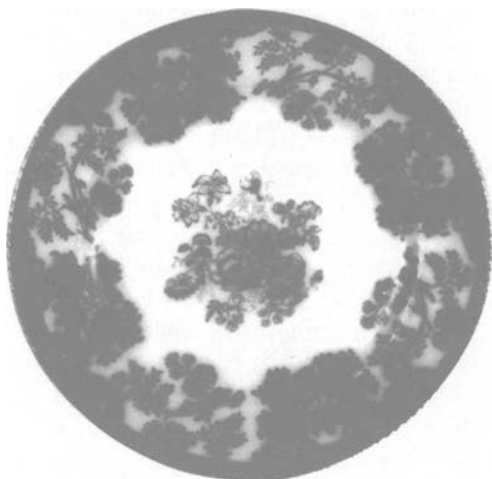


FIGURE 21. Persian Rose, a flow pattern by W. Baker and Company (1839–1932), shows the soft blurring typical of the flow process. (Photo by George L. Miller.)

TABLE 6  
DATE RANGES FOR ENGRAVING ELEMENTS ON PRINTED WARES

Technique	N	Mean Beginning and End Production Dates		Range of Production
Line Engraving	13	1797	1812	1785–1833
Field Dots	34	1816	1841	1790–1853
Negative Print	13	1821	1840	1802–1864

### Engraving Technology

Improvements in the materials used in the engraving process changed the look of printed wares in the first decade of the 19th century. During the first several decades of printing as a decorative technique, the tissue paper used for transferring the inked design to the bisque-fired vessel was coarse and thick. Due to poor paper quality, engraving of the copper plates had to be rendered in thick lines to enable the paper to absorb the ink and resulted in finished wares (Figure 3) with little or no tonal value (Whiter 1970:142). After the 1803 invention of the

Fourdrinier paper machine, capable of producing finer quality tissue, artists employed by the potteries enjoyed more freedom in engraving techniques. Line engraving could be combined with stippling to allow fine tone gradations in color and three-dimensional shading of the entire surface (Figure 5). The use of combined line and stipple engraving began around 1807, with ceramic vessels showing a mastery of the technique by the end of the first decade of the century (Coysh and Henrywood 1982:9). Vessels in the study sample with simple line engraving showed a peak production range between 1797 and 1812 (Table 6). The use of line and stipple

TABLE 7  
DATE RANGES FOR FLOWN COLORS ON PRINTED WARES

Type	N	Mean Beginning and End Production Dates		Range of Production
Flow Blue				
Chinoiserie landscape	38	1841	1854	1828–1867
Romantic	15	1849	1863	1830–1920
Chinoiserie floral	10	1839	1856	1834–1887
Central floral	17	1890	1904	1862–1929
No central design	18	1891	1908	1878–1920
Flow Mulberry	25	1840	1858	1828–1867

combination engraving continued throughout the remainder of the period of printed ware popularity.

### Field Dots

With this decorative element, the marley design is printed on a background, or field, of small white dots against the colored ground. Of the examples used in this study, 88 percent (30 out of 34) were on vessels with British or American views as their central motif. The use of field dots was typical of the firms of Enoch Wood and Sons (1818–1846), Ralph Stevenson (1810–1832), and Andrew Stevenson (1816–1830).

### Negative Print

This category includes vessels which have been printed “in reverse” to typical vessels. For example, the background of the vessel will be blue and the design elements will appear in white (Figure 20). This treatment appears to have been uncommon, and the sample size from this study was quite small ( $N = 13$ ). The period of peak production for these vessels was 1821 to 1840.

### Flow Blue and Other Flown Wares

In the early 1830s, a new process for decorating ceramics was introduced by the Staffordshire potters (Williams 1984). It was not until the 1840s, however, that flown decorated wares were available in any quantity in the U.S. market (Collard 1967:118; Miller 1991:9). Believed to produce a softer visual effect than the mechanical look of the standard underglaze printing technique, flown colors on earthenwares were achieved by placing a cup with a volatilizing solution, such as lime or chloride of ammonia, in the saggars during the glaze firing of traditionally printed wares. These chemicals caused the printed color to flow outside the original pattern lines and produce a soft, halo-like effect (Williams 1984). While a misty or cloudy effect was

produced in lighter colored pieces, designs in some of the more heavily printed or darker flown pieces were almost completely obscured from view.

The popularity of flown wares was enormous and long-lived, with production continuing from the early 19th century well into the 20th century. There seem to have been two periods of popularity for flow blue ceramics, one period falling in the mid-19th century (1840s and 1850s) and the other at the end of the same century (ca. 1890–1904). Several distinctive stylistic motifs occur within each of these periods (Table 7). Earlier patterns tended to have chinoiserie themes, with landscapes most common between 1841 and 1854. Chinoiserie florals—peonies, chrysanthemums, lotus blossoms, and butterflies were typical elements—were at their peak range of production between 1839 and 1856. Designs with a romantic theme were popular slightly later, and were more typically produced between 1849 and 1863. At the end of the 19th century, floral designs predominated (Figure 21). They consisted of either small central non-chinoiserie flowers with a corresponding floral marley, or vessels decorated only with a border and no central motif. The period of highest popularity for these later central floral patterns fell between 1875 and 1886. Vessels with no central motif, but with a marley design in flown colors, were most popular between 1891 and 1908. The marley designs on flow decorated vessels of all types were generally discontinuous repeating floral patterns.

Although blue was by far the most popular color for flown decorated wares, vessels were printed in mulberry (also called puce), brown, black, and green (Collard 1967:118). Blue remained a popular color throughout the period of flow production, while the manufacture of mulberry-colored vessels was much more temporally restricted. The period of heaviest production of mulberry-printed flow vessels fell between 1841 and 1858. Not enough data were collected on other flow colors to establish date ranges. The use of gold gilt as a decorative element on flown wares began in the 1860s (Mason 1982:9).



## Conclusions

In a segment of *Eliza Cook's Journal*, entitled "The New Crockery Shop," Cook addressed the role of printed ceramics in the middle-class household:

Poussins may arise; Claudes may paint their glorious landscapes; Raphaels their divine countenances; but pictures such as these are not always accessible; and even when accessible, not always intelligible to mental faculties, wholly or partially uneducated. But a well-shaped jug, or cup with a hanging bunch of flowers, or pastoral landscapes on them, in these our days of cheap and cheapening art, in relation to domestic life, can go every where; and the germ of many a great intelligence will be fostered, by thus placing the true foundation of progressive art in ALL the forms which minister to the conveniences of every-day life. The vital impulse necessary to artistic love and artistic excellence may be given to the child by the figure on his dinner-plate. . . . Neat tea services have likewise led to many a well scrubbed table, a cleaner hearth, a cheerfuller fireside. . . . and such sound comforts as lead men and women from the gin shops (Cook 1849:37–38).

While certainly not all purchasers of printed wares would have endowed their crockery with the significance that Eliza Cook did, the proliferation of motifs and individual patterns on printed earthenwares attests to their popularity. Not immune to the desires of consumers, Staffordshire potters tried a variety of decorative techniques to attract new markets and stimulate purchases of their wares. The design motifs that they chose to use reflected the larger decorative trends of the day, and, as this study illustrates, their manufacture dates closely paralleled them. As seen earlier in Simeon Shaw's 1829 quotation, new colors were developed because blue printed wares had become so commonplace they no longer attracted a genteel clientele. As the market among the wealthy for printed wares became saturated toward the end of the first quarter of the 19th century, the potters, desirous of appealing to the middle classes, cut the cost of printed wares by decreasing the size and amount of detail in the engravings. The soft, watercolor-like effect typical of American, British, and early exotic views gave way to smaller and more two-dimensional prints. By the end of

the 1850s, production of printed wares was tapering off as molded white granite and other minimally decorated wares were becoming more popular. The introduction of decals as a means of decorating ceramics beginning in the late 19th century may have also played a role in the decline of printed decoration (Majewski and O'Brien 1987:147; Majewski 1996, pers. comm.). Underglaze printing did continue, but by the end of the 19th century, the most common printed designs in the study sample were floral or geometric border designs surrounding an undecorated central area.

Researchers using this dating tool should keep in mind that the dates provided in this paper are dates of peak production for specific motifs, colors, or engraving techniques. Ceramics found in archaeological contexts will have a use-span which will need to be considered during analysis. Future research could address the question of how production date ranges correlate with date ranges for use of ceramic items.

Additional studies on printed wares could include linking vessel form with design motifs and other decorative attributes to see if a time lag exists between the appearance of motif types on teawares, and other costly, high-status vessel forms, and those of humbler ceramics, such as chamberpots, basins, and ewers. Additionally, larger sample sizes for some categories used in this study, particularly print colors, could help confirm or refine the date ranges shown here. In addition, dates from this study, used in conjunction with archaeological data on well-documented sites could help determine whether motif and color preferences exist regionally or socioeconomically. Work in Texas (Pollan et. al. 1996), Alaska (Jackson 1991), California (Felton and Schulz 1983), and the Pacific Northwest (Chapman 1993) would be good comparisons for sites excavated east of the Mississippi.

Using the results of this study, it is possible to look at central design motifs and other decorative and technological details on printed wares and date them with greater accuracy than previously possible. Although archaeologists may not find a large enough portion of a vessel to determine the central motif, the elements listed in

Table 4 are useful for picking out likely elements in these motifs. Fortunately, marley designs and vessel color are much easier to assign based on small sherds. Using the dating tools given here, either singly or in combination, should provide another means by which late 18th- and 19th-century sites can be dated.

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APPENDIX A  
MUNSELL COLOR DESIGNATIONS

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Dark Blue			Red		
7.5 PB 2.5/10	7.5 PB 2.5/8	5 PB 3/8	10RP 3/10	10RP 4/12	
2.5 PB 3/7	7.5 PB 2/6				
			Maroon		
Medium Blue			7.5RP 3/6	7.5RP 3/8	2.5R 3/10
7.5 PB 3.5/12	2.5 PB 4/10		5R 2/8		
			Mulberry		
Light Blue			5RP 3/4	5RP 2/4	5RP 2/6
7.5B 7/6	7.5B 9/4	2.5PB 8/6	5RP 2/8	2.5R 2/6	2.5R 2/4
2.5PB 7/8					
			Brown		
Purple			2.5Y 4/4	2.5Y 3/4	2.5Y 3/2
7.5P 5/8	7.5P 5/10	7.5P 4/6	7.5YR 3/6	7.5YR 3/4	7.5YR 3/2
5RP 3/6	7.5RP 2/2	10R 3/4	7.5YR 2/4		
			Green		
Lavender			2.5BG 3/6	2.5BG 3/8	2.5BG 4/8
7.5P 7/8	7.5P 7/6	7.5P 6/8	2.5BG 4/6	2.5BG 3/4	5BG 4/8
7.5P 6/10			10GY 3/6	10GY 4/8	7.5GY 3/6
Pink					
5RP 6/8	5RP 7/8	5RP 6/10			
10RP 6/6					