

MEAN CERAMIC DATING

Archaeologist Stanley South of the University of South Carolina is an innovator who has raised the visibility of historical archaeology in the Americas during his career. He has studied both the early Spanish and English colonies in the southeastern and eastern United States, respectively. Among his many contributions to the field is a new technique for dating historical sites and deposits based on the occurrence of different types of pottery.

South knew, as do most archaeologists, that material items usually exhibit a similar pattern in their popularity. Objects like music, hairstyles, clothing, dishes, and the like are fashionable—that is, they are rare and unusual when they first appear; if they catch on, their popularity grows and grows until the trend declines and the style becomes rare and disappears. South showed that this principle of popularity could be used to determine the age of an historical site when several fashionable pottery styles are present.

South pointed out that if you know the time of manufacture for different styles of pottery, then a formula based on changing fashions could be used to date a series of different types from an archaeological site—to determine a “mean ceramic age” as South called it. One of the advantages to the archaeology of history is that there are a variety of documents that provide information on events in the past. For example, there are documents providing the years of manufacture for many styles of ceramic plates and dishes made in the last several hundred years. Table 11.1 provides a list that South compiled with this information

TABLE 11.1 Ceramic types, type numbers, median manufacture date, and range of dates for selected historic pottery from the Eastern Seaboard of the United States.

Type	Type Abbreviation	Median Date of Manufacture	Years of Manufacture
Late Ming Chinese porcelain	MCP	1609	1574–1644
Blue decorated Rhenish stoneware	BRS	1668	1650–1725
Embellished hohr gray Rhenish stoneware	HRS	1700	1690–1710
North Devon gravel-tempered ware	DGW	1713	1650–1775
Overglaze enamel Chinese export porcelain	ECE	1730	1660–1800
Underglaze blue Chinese porcelain	BCP	1730	1660–1800
Refined red stoneware	RRS	1733	1690–1775
British brown stoneware	BBS	1733	1690–1775
Lead-glazed slipware	LGS	1733	1670–1795
Slip-dipped white salt-glazed stoneware	SWS	1745	1715–1775
Molded white salt-glazed stoneware	MWS	1753	1740–1765
“Clouded” wares	COW	1755	1740–1770
White salt-glazed stoneware plates	WSS	1758	1740–1775
Jackfield ware	JW	1760	1740–1780
English porcelain	EP	1770	1745–1795
Plain Delft wash basin	DWB	1775	1750–1800
Creamware	CW	1791	1762–1820
Overglaze enamel Chinese trade porcelain	ECT	1808	1790–1825
Canton porcelain	CP	1815	1800–1830
Underglaze polychrome pearlware	UPP	1830	1820–1840
Ironstone and granite china	IGC	1857	1813–1900
Whiteware	WW	1860	1820–1900+

for various types of historic pottery. Obviously, this kind of information is not available for most periods of archaeology.

An important concept in this scheme is the median date of manufacture. This is the year when the manufacture of this type of pottery peaked. Median means that half of the vessels were made before this date and half after this time. Thus, the median date of manufacture should approximate the maximum popularity of the style. The last column in Table 11.1 shows the range of dates of manufacture: when the type first appeared and when it stopped being made.

Now, if several of these types were present at a site, South was able to calculate a date for the site based on the number of sherds of each type and the median year of manufacture. South derived a mathematical formula to do this calculation. Essentially, the formula finds the average year of manufacture for different kinds of pottery based on their frequency of occurrence at the site.

The formula for the mean ceramic date (MCD) for a site is

$$\text{MCD} = \frac{\sum(d_1 f_1)}{\sum f_1}$$

In other words, to calculate the mean ceramic date, multiply the number of sherds of each type (f_1) times the median date of manufacture (d_1) for that type and add all the products. Divide that number by the total number of sherds to determine the MCD.

Now you try it. The historic house of Wilma Willoughby in the town of Beaufort, South Carolina, was excavated in the 1950s before the area was turned into a textile-importing center. Fortunately, the archaeologists counted all the artifacts and types of pottery found in a trash dump behind the house. This information is listed below in Table 11.2. The archaeologists were not able to determine the age of the dump or the house because little was known about when the pottery had been made. Then, in 1977, Stanley South published his method of mean ceramic dating and a list of manufacturing dates for various types of historic pottery. You can use his method to calculate a date for Willoughby's house.

TABLE 11.2 Pottery types and frequency of occurrence per meter square in the trash dump near the Wilma Willoughby House, Beaufort, South Carolina.

Type	Sq 1	Sq 2	Sq 3	Sq 4	Total
RRS	25	40	10	15	90
BBS	66	34	20	15	135
SWS	5	2	2	1	10
COW	200	140	80	30	450
WSS	10	60	60	20	150
JW	12	13	15	20	60
EP	8	4	7	6	25
DWB	325	175	60	140	700
Totals	651	468	254	247	1620

1. Use the excavated data and the formula for MCD to calculate an estimated age. Show your work.
2. What is your calculated estimate for the age of the trash dump?
3. Is this a good estimate for the age of the house?
4. Is there a better way to state the age of the house?
5. What are some of the possible problems with this method?
6. What about the issues of longevity and heirlooms?

Mean ceramic dating illustrates several aspects of pottery and archaeology. The concept of changing fashions and the appearance, increase in popularity, decrease in popularity, and disappearance is a typical pattern in the use of many objects and behaviors. Pottery is a very good example of this pattern because it breaks easily and often, is thrown away, survives in the ground, and different types are readily distinguished. The historic pottery in this example also documents the extent of global trade in the beginning of the industrial era with pottery from England, Holland, Germany, and China in use in the English colonies and during the early years of the United States.

Stanley A. South, *Method and Theory in Historical Archaeology*. Academic Press, 1977, pp. 210–212.