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AN EXERCISE IN SERIATION DATING

Background information

Archaeologists will sometimes date a site by studying how the 'form' of artifacts change over time. An artifact's form refers to its shape, size, and material used in its manufacture. This method of assigning dates to sites based on their 'form' at a particular time is called seriation dating, it is based on the fact that a cultural trait, like the type of jeans worn by teens, experiences popularity peaks, in other words, an artifact's popularity rises to a high point and then trails off, sometimes even to extinction. This rise or fading of popularity may be rapid while other times it may be gradual. Styles of music, dancing, fashion, and forms of speech all demonstrate this kind of popularity curve.

One example of seriation dating using artifact remains is found with ceramics. Ceramics recovered from colonial sites in the Mid-Atlantic region demonstrate a change in form over time. These changes in form include the material used to make the ceramics, the glazes used, and the decoration applied. Three major ceramic types have been identified by archaeologists. These include:

Delftware: The earliest ceramic remains found at sites in the Mid-Atlantic are soft-bodied and colorfully hand-painted bowls and plates called Delftware. Delftware ceramics have a pale blue cast to them due to their tin enamel finish.

Creamware: Later, a hard-bodied clay ceramic called Creamware develops. Creamware items are often plain but sometimes have hand-painted blue, brown and black decoration. Creamware items have a yellowish cast produced by the glazes used to make them.

Pearlware: After a few decades, still newer glazes were produced for ceramics along with harder, denser clay bodies and colorful decorative designs. These later ceramic types are referred to as Pearlware. Pearlware items have a blue-ish cast to them as a result of the glazes used in their production.

Ceramic Types			
<u>Type</u>	<u>when Produced</u>	<u>where Produced</u>	<u>how Produced</u>
<i>Delftware</i>	17 th Century	Dutch manufactured	handmade by craftsmen
<i>Creamware</i>	18 th Century	British manufactured	semi-machine/-hand
<i>Pearlware</i>	19 th Century	British/American made	mass produced

The selection and use of these ceramic forms by colonial peoples reflects the preference for, or the popularity of, these different ceramics over time.

Sometimes a group of sites can be placed in a chronological sequence using the seriation dating method. To do this, an archaeologist compares the artifact popularity data from several sites that are located within the same region. This comparison produces a regional distribution of artifact use and decline. The group of sites under study can then be placed in a “chronological sequence” that orders them from first, or earliest dated site, to the last or most recent dated site. The graph below illustrates such a distribution. Based on peaks of ceramic popularity and decline, the sites in the region are ordered from earliest (17th century) to most recent (19th Century):

Graph: Ceramic peaks for archaeological sites in Maryland:

Ceramic Age	SITE	St. Mary's	Leonardtown	St. Charles City	Annapolis	Baltimore
	19 th Century		.	x	xxxx	xxxxxx
18 th Century		.	xxxxxx	xxx	xx	.
17 th Century		xxxxxx	xx	x	.	.

Interpret the results of your chart by answering the following questions:

1. What do the ceramic popularity peaks tell us about the individual sites?
2. How could you explain why the ceramic type used changed over time?
3. How does this ceramic evidence add to our understanding of the history of Maryland?
4. Why do we replace the type of dishes we use today?

An Exercise in Seriation – Teacher Response Sheet

When charted, the ceramic popularity peaks form the following chronological site sequence. The most recent occupation is presented at the top of the chart while the oldest, or earliest, occupation is at the bottom of chart):

Geographical Location		Types of Ceramic		
		<i>Delftware</i>	<i>Creamware</i>	<i>Pearlware</i>
Site c	Mountains	0 %	0 %	100 %
Site f	Mountains	0 %	20 %	80 %
Site d	Mountains	0 %	40 %	60 %
Site e	Piedmont	10 %	60 %	30 %
Site a	Tidewater	50 %	40 %	10 %
Site g	Tidewater	70 %	30 %	0 %
Site b	Coastal Edge	90 %	10 %	0 %

The ceramic popularity peaks and declines for the different sites tell us that there is a change in the type of ceramics used by Maryland residents over time. The occupants of earlier dating sites along the coast and in Tidewater used Delftware and later Creamware. Later, by the time people have settled in the Piedmont and in the Mountains, the choice of ceramic type changes from Creamware to Pearlware.

Some suggested interpretations for the ceramic popularity peaks and declines include factors relating to a) ceramic availability and to b) ceramic preference. These include the possibility that:

- ceramic choices may be influenced by fashion and social trends (get rid of the old, desire for the new)
- ceramic prices may fluctuate over time making available some items that were not affordable earlier
- items are made better (sturdier) over time and are therefore more desirable
- the rise of global markets and the emergence of import taxes and embargoes might influence ceramic supply sources.

Summary: The popularity peaks for the seven sites, taken together, indicate a change in the type of ceramics preferred over time. This change correlates with the emergence of the industrial revolution, the establishment of American society and culture, and the migration of colonists into the interior regions of America.