

# A SERIATION ANALYSIS OF “TRADE” AND “BELLY BOWL” TOBACCO PIPE FORMS FROM CA. 1655 TO CA. 1725

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## Introduction

Over the course of two decades, the *Lost Towns Project* of Anne Arundel County, Maryland has had the opportunity to conduct excavations at over twenty 17<sup>th</sup>- and early 18<sup>th</sup>-century archeological sites. This has resulted in an extensive database on material culture derived from a specific geographical area, and from a limited time period.

Perhaps the most informative contexts from these sites are cellars and pits, which have been filled with fireplace ash and domestic debris (see Cox and Luckenbach 2008). Often these pits are filled with a mixture of “ash and trash” within a very short time frame. Fortunately, changing ceramics types, bottle shapes, and (perhaps most importantly) tobacco pipes, allow fairly refined chronologies to be assigned to these contexts. When combined with basic seriation techniques, clear trends over time in material culture are readily depicted.

This paper will discuss the tobacco pipe assemblages derived from nine closely dated feature contexts ranging in date from 1655 to 1725. Specifically, it will examine the seriated results that seem to indicate a remarkably predictable shift in the ratio of pipes utilizing “belly bowl” shapes with pipes lacking heels—traditionally called “trade pipes.”

## The Features

The data utilized here is derived from nine separate archeological sites in Anne Arundel County. Many are associated with the “lost towns” of Providence, Herrington, and London Town, although a number of isolated plantation sites are included as well (see Figure 1).

Rather than utilize the entire artifactual assemblages from these sites (which generally span decades), single artifact-rich features from each are chosen for analysis. Obviously, this allows for much more specific chronological assessments. In each case, data indicates that once these pits begin to serve as trash receptacles they are rapidly filled by regular, repeated disposal. Their consistent features include lenses of ash and clay, along with faunal remains, fragments of pipes, bottles, and ceramic vessels. These are augmented by the occasional small find of a coin, dated window lead, or tile.

**18AN818, Broadneck Site–Feature 2.** The Broadneck site is perhaps the earliest domestic site yet tested by the *Lost Towns Project*. Feature 2 consisted of a 6 by 6-foot sub-floor cellar under a building occupied for only a short time in the early 1650s. This feature contained myriad layers of charcoal ash, rich in faunal remains and tobacco pipes—but surprisingly few glass or ceramic vessels (Luckenbach and Mintz 2002). The predominance of locally made Virginia pipes (see Luckenbach and Kiser 2006), along with the lack of both North Devon sgraffito and round wine bottles, place this disposal early in the local European settlement period. An approximate date of 1655 is assigned to this context.

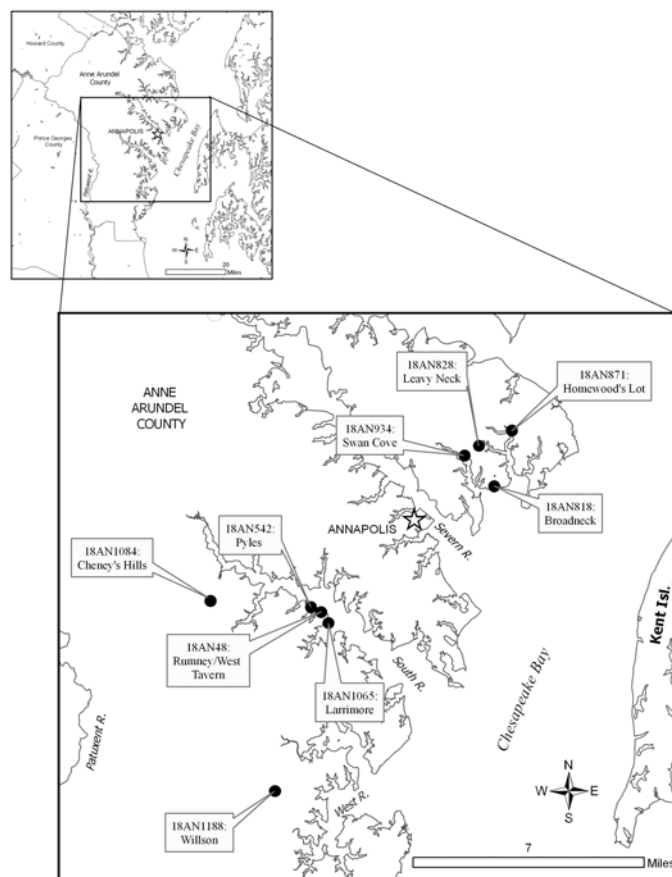


FIGURE 1. Location of sites discussed in text.

**18AN871, Homewood's Lot—Feature 30.**

Excavations at the site of Homewood's Lot in the Providence settlement discovered a series of five structures built between circa 1650 and 1730. The earliest of these—designated as Building A (Franz and Luckenbach 2004)—was a small 16 by 20-foot heated structure sitting on a degraded ironstone foundation. A 10 by 6-foot cellar under the building had been filled by a number of repeated deposits of fireplace ash and domestic trash around 1665. The deposit included construction debris from neighboring Building B, including a window lead dated 1661 (Gadsby and Callage 2002; Luckenbach and Kille, in press). The Feature 30 cellar is presumed to have been filled shortly after this date.

**18AN828, Leavy Neck—Feature 1.** From documentary evidence we know that Leavy Neck was first occupied around 1660. Feature 1 at this site was a 12-foot square sub-floor cellar that had been severely deflated to a depth of about 2 ½ feet. A 16-year-old boy was discovered buried in a corner of the cellar, which was then quickly filled by repeated deposits of fireplace ash and domestic debris. The latter included a 1664 farthing token, window leads, terra cotta pipes, marked pipes, and ceramics such as North Devon sgraffito, which were used to assign an approximate date of 1670 to the deposit.

**18AN542, Pyles—Feature 1.** The Pyles site was part of a salvage excavation undertaken on the South River in 1981 (Rule and Evans 1982). Grading had exposed a 17<sup>th</sup>-century pit feature roughly 5 x 5 feet. Although a depth of 6 feet was reached, cross-mending of pipes and ceramics indicated to the excavators that the pit had been filled rapidly. Marked pipes were recovered—including those of Richard Nunney and Will and Lewellin Evans—which are considered to be consistent 1670s' time markers in Anne Arundel County (see Luckenbach and Cox 2002b:103). Archeological and archival data indicate that the Pyles site was occupied from 1660-1675 with a fill date for the pit feature around the latter date.

**18AN1084, Cheney's Hills—Feature 3.** Two structures have been discovered at the 1658 home site of Richard Cheney/Chaney, called "Cheney's Hills" in contemporary documents (see Kille et al. 1999). Although not fully understood, one of these buildings contained an 8 x 10-foot sub-floor pit clearly oriented to a hearth. Feature 3 was filled with pipes, ceramics, and other domestic debris, apparently near the documented end of the site's occupation, around 1685.

**18AN1065, Larrimore Site—Dairy Cellar.** During excavations at Larrimore's Point in London Town the remains of two colonial structures were discovered. One was a 9 by 9-foot brick foundation with a shallow cellar. Since there was possible window evidence, Willie Graham (architectural historian at Colonial Williamsburg) suggested that the most likely interpretation was that this

structure had been a dairy (see Plumley and Luckenbach 2000). The cellar had been filled with domestic debris—presumably from the neighboring heated structure. Diagnostics recovered from this context included ceramics, bottles, and pipes, as well as coins dated 1652 and 1674, and two window leads dated 1680. In addition, a Binford stem date of 1693 was generated from 85 measurable stems. A general date of circa 1700 was assigned to the deposit.

**18AN934, Swan Cove—Feature 18.** Although Swan Cove was the site of an important tobacco pipe kiln operated by Emmanuel Drue in the 1660s (see Luckenbach and Cox 2002a; Luckenbach 2004), the site had continued domestic occupation until abandoned by the Merriday family between 1707 and 1720. Feature 18 at Swan Cove was a 10-foot square cellar oriented to the interior fireplace of an earthfast structure associated with this later occupation. This five-foot deep pit contained an amazingly prolific assemblage of domestic debris dated to around 1710 (Cox and Luckenbach 2008).

**18AN1188, Willson Site—Feature 7.** Feature 7 was a stepped cellar (an 11 by 7-foot pit which reached a depth of over 4 feet) under an earthfast outbuilding. The authors of the site report conclude that the deposit was the result of a "rapid filling sequence" (Cox and Sharpe 2003). The rich material culture recovered included delftware and redware ceramics, a number of glass vessels, and pipes—including 408 measurable stems and 10 makers marks. The latter included William Manby II and John Willson (1707-1722) examples, which support the assumed fill date of around 1720.

**18AN48, Rumney/West Tavern—Cellar.** The excavations of an 18 by 16-foot cellar under the Rumney/West Tavern in London Town have been described in a number of venues (e.g., Luckenbach 2002). Analysis of ceramic motifs (Luckenbach and Kille 2003), bottle forms (Luckenbach and Dance 1998), tobacco pipes (Gryczkowski 2002), and floral remains (McKnight 1998) have concluded that the ash and trash deposit occurred rather rapidly around 1724—the time of Stephen West's acquisition of the establishment.

### Pipe Seriation

In 2002 Anne Arundel County's *Lost Towns Project* published an analysis of the tobacco pipe assemblages from eleven sites excavated in the county over more than a decade (Luckenbach et al. 2002). This volume included a classificatory paper by Gadsby and Sharpe (2002) in which a large number of sub-types can be grouped into six basic pipe forms. These included straight-sided bowls, footed bowls with curved fronts, pipes with spurs, and terra cotta pipes, in addition to the two types ("belly bowl" and "trade") under analysis in this paper (see Figure 2).

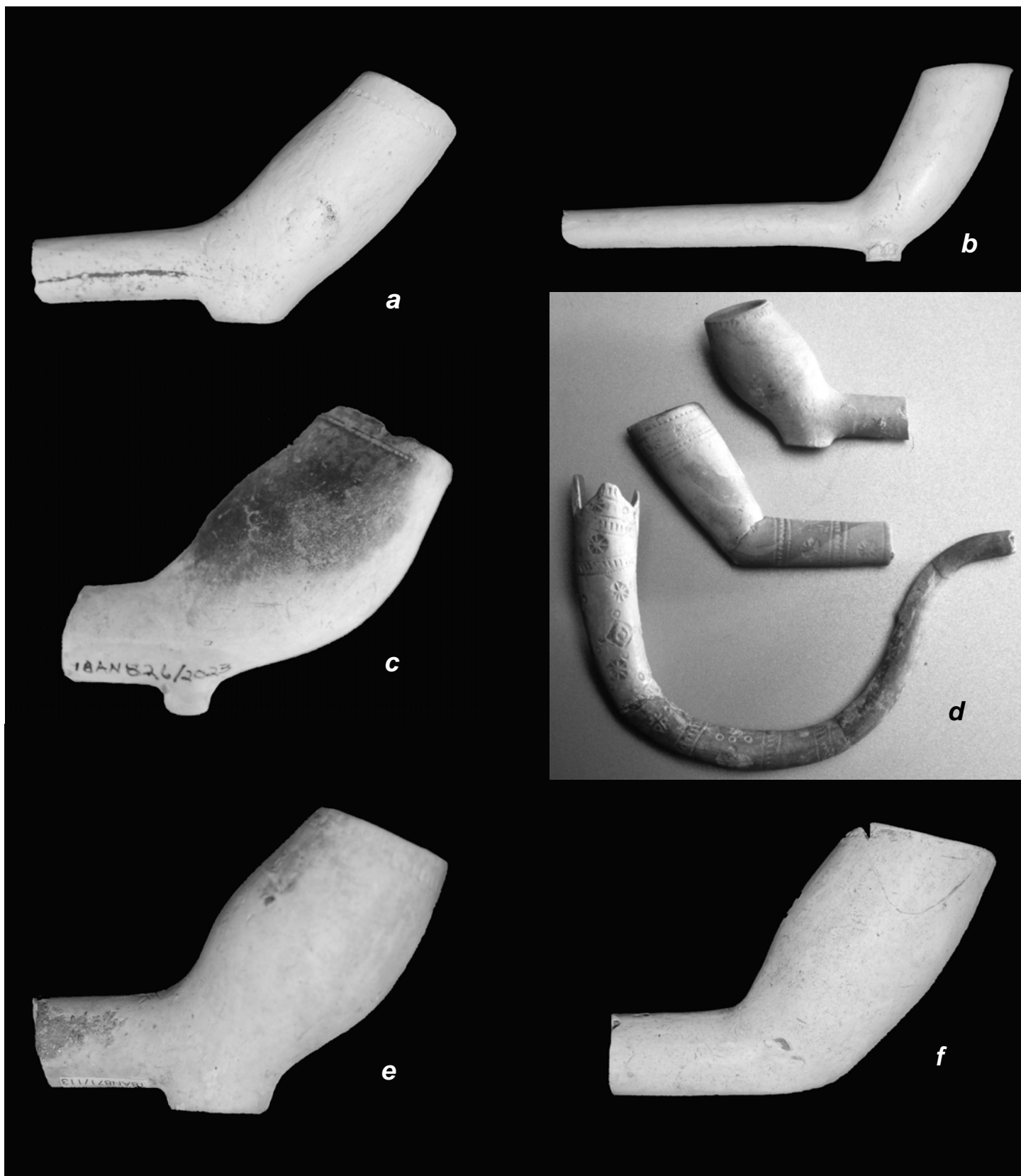


FIGURE 2. Basic pipe forms. *a*, Straight-sided bowl; *b*, footed bowl; *c*, spurred; *d*, terra cotta; *e*, “belly bowl;” *f*, “trade.”

The results shown in Table 1 and Figure 3 demonstrate that these six basic forms can be easily seriated when using the chronological placements assigned to each of the nine discrete features just described. For example, terra cotta pipes can be seen to fall off rapidly through time while trade pipes do the opposite.

It is the intent here, however, to isolate belly bowls and trade pipes because of a rather straightforward inverse relationship between the two over time. Strictly speaking, most terra cotta pipes are also belly bowls but, given their rapid decline, their inclusion actually does nothing to alter the statistics of this relationship.

It has long been maintained by the authors that bowl forms are a much preferable diagnostic for analysis than the measurement of bore diameters. Not that such bore calculations should be abandoned, but that they be relegated to a support role in assigning site chronology.

As stated, there is a constant inverse relationship between belly bowls and trade pipes through time that is dramatically illustrated in Table 2 and Figure 4. The large fall-off noted between approximately 1660 and 1670 corresponds to the large influx of Bristol pipes previously hypothesized as occurring in this time frame (Luckenbach and Cox 2002b:103).

It is a short step to use this chart as a way to approximate chronological placement for a discrete assemblage of pipe bowls. For example, the 31/69 ratio of belly bowls to trade pipes recovered at Leavy Neck (18AN828) might be used to assign a circa 1670 deposit date even in the absence of other diagnostics. It is hoped that this simple analysis will adequately demonstrate the continued utility of "old-fashioned" seriation as an analytical technique, and add to the archeologists' chronological tools.

TABLE 1. Pipe forms by site (chronological, left to right).

Pipe Type	Site								
	BROADNECK (18AN818)	HOMEWOOD'S LOT (18AN871)	LEAVY NECK (18AN828)	PYLES (18AN542)	CHENEY'S HILLS (18AN1084)	LARRIMORE (18AN1065)	SWAN COVE (18AN934)	WILLSON (18AN1188)	RUMNEY/ WEST TAVERN (18AN48)
Belly bowl	8	81	29	16	5	0	0	0	0
Straight-sided	0	0	1	21	29	25	5	6	0
Footed	0	0	0	0	0	0	1	0	19
Spurred	0	2	5	3	19	0	0	0	0
Trade	0	8	65	58	47	75	93	94	81
Terra cotta	92	9	2	0	0	0	1	0	0

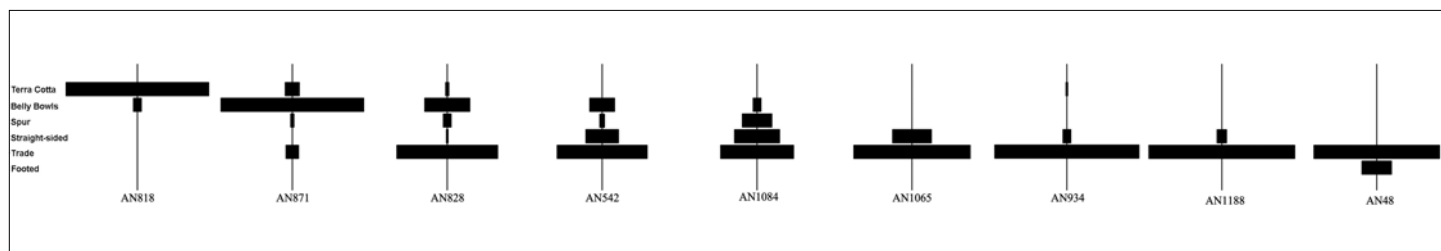


FIGURE 3. Seriation of pipe forms through time.

TABLE 2. "Belly bowl" vs. "trade" pipes (%) through time.

	BELLY BOWL	TRADE
1655	100	0
1661	91	9
1670	31	69
1675	22	78
1685	10	90
1700	0	100
1710	0	100
1720	0	100
1725	0	100

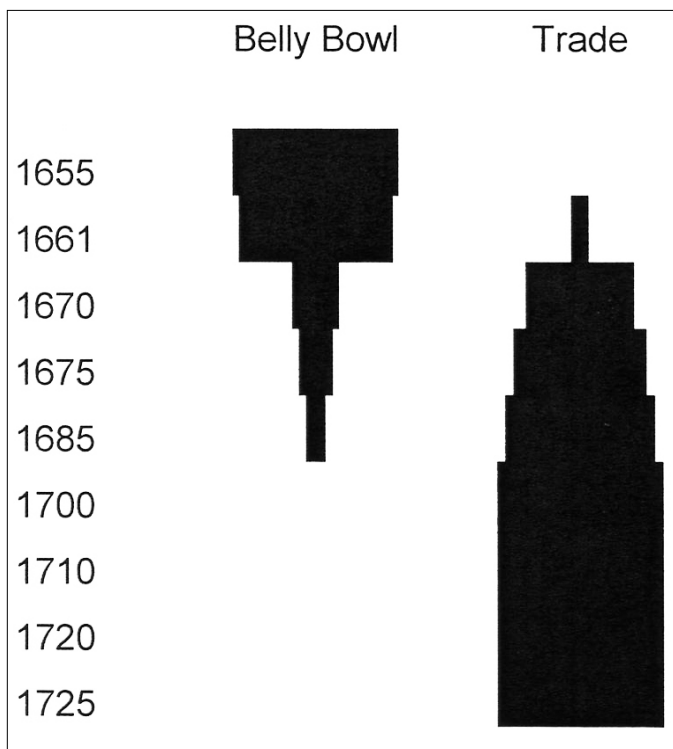


FIGURE 4. Seriation of "belly bowl" vs. "trade" pipes.

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