Material Culture Notes: Dating Colorless Glass Bottles

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by Doug Wilson and Bob Cromwell, NPS Archaeologists

There are many ways to date a bottle, including embossed manufacturers marks, embossed labels, the bottle’s manufacture processes, its shape, and other characteristics. The Society for Historical Archaeology (SHA) and Bureau of Land Management’s web site on historic glass bottle identification and information (developed by Bill Lindsey, http://www.sha.org/bottle/) represents a crucial (and very interesting) resource for historical archaeologists interested in bottle glass.

At Fort Vancouver in the 1970s, Historical Archaeologists David and Jennifer Chance (1976:133) noted that bottle color glass changed through time with a decrease in dark olive glass after 1874. They noted:

Most of the Hudson’s Bay Company vessel glass was dark olive-green, a color that usually appears black unless the shaft is held to the light. Most of the remainder is aqua-colored, but some is clear. Only a handful of amber or brown sherds were found in the Hudson’s Bay Company deposits.

Today, “colorless” glass is the term we use in preference to “clear” glass in describing bottles, as it does not confuse the transluence qualities of the glass with its color. Citing the SHA web site, archaeologists recently attempted to use glass color to help date historical deposits associated with Fort Vancouver to the Interstate 5 Bridge (the Columbia River Crossing Project). They tied their inferences to a brief reference in the SHA web site which states: “Generally speaking, bottles of colorless glass were relatively uncommon prior to the 1870s but became quite common after the wide spread use of automatic bottle machines in the mid to late 1910s.” (www.sha.org/bottle/colors.htm).

The question of using glass color as a meaningful classification device has been debated by historical archaeologists for nearly a generation now. As stated by Jones and Sullivan (1989: 12) in their seminal work, *The Parka Glass Glossary*:

Because color is a universal attribute of glass and is convenient for mending and establishing minimal vessel counts, it has been latched onto by some archaeologists as a classification device. Although classification by color is simple to do, the end result is of little value for the following reasons: color does not have a direct relation with glass type; … color is not related to the technology of glass object production; … color is only weakly related to the function of the object. …Given these factors there is little justification for using color as a means of classification. There is a very broad chronology of popularity of various colours over time; however that chronology cannot be applied to individual glass objects with any significant level of meaning.

Jones and Sullivan go on to say about colorless glass (1989: 13):

This term is used to describe glass with no colour and is preferable to terms like “clear,” “white,” “flint,” or “crystal,” which have not been used consistently by contemporary authors or in historical documents.

Given the earlier patterns noted by the Chances and recent attempts to use 1870 as a temporal marker for colorless bottles, the question is: How much colorless bottle glass exists at sites prior to 1870? At Fort Vancouver, that represents sites related to both the fur trade and the early U.S. Army. In the absence of other technological information, how much colorless glass might be suggestive of a particular time period in the 19th and early 20th century? While the Chances did not measure the frequencies of their bottle glass collections, there are still available for study in our museum facility.

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Jones Chance (1976:133) noted that all of these deposits predate the much more common mid-19th century deposit. According to Jones, about 15% of the bottle glass found at Fort Vancouver from Hudson’s Bay Company contexts.

Obvious inferences on bottle color and dating are fraught with difficulties. One issue to consider is how the sites under study formed. Bottles and fragments of bottles may have been deposited at the site in different ways depending on what type of bottle it was, and how and where it was used. Stephanie Simmons’ thesis at Portland State University is looking at historical re-use of bottles at the Fort and other places. Her results may help us better understand both of historical bottle disposal at the site.

Further work is clearly needed on how types of bottles reflect the frequencies of their fragments. Use of bottle color by itself seems very problematic. Our recommendation, and one echoed by the SHA web site, is to treat color with caution and to use all of the available technological characteristics of bottle fragments to help ascertain the date of a deposit.

References


Free-blown colorless panel bottle found in the Indian Trade Store Privy.
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References

