Skinner, A. B.
1919 The pre-Iroquoian Algonkian Indians of central and western New York. *Museum of the American Indian, Indian Notes and Monographs* 2.
Stothers, D. M.
1976 The Princess Point complex: a regional representative of an early Late Woodland horizon in the Great Lakes area. In *The Prehistory of the Lake Erie Drainage Basin,* D. Brose (ed.), pp. 137–146. Cleveland Museum of Natural History, Cleveland.
Thomas, R. A. and M. H. Warren
1970 A Middle Woodland cemetery in central Delaware: excavations at the Island Field site. *Archaeological Society of Delaware Bulletin* 8:1–33.
Thurston, G. P.
1973 *The Antiquities of Tennessee and the Adjacent States.* AMS Press, N.Y. (reprint of the 1890 edition).
Traill, R. J.
1970 A catalogue of Canadian minerals. *Geological Survey of Canada, Paper* 69–45.
Wachtel, H. L.
1960 *Who's Who in Indian Relics.* Privately printed, Dayton, Ohio.
Walthall, J. A.
1973 Copena: A Tennessee Valley Middle Woodland culture. Unpublished Ph.D. dissertation, University of North Carolina. Chapel Hill.
Webb, W. S.
1938 An archaeological survey of the Norris Basin in eastern Tennessee. *Bureau of American Ethnology, Bulletin* 118.
West, G. A.
1934 Tobacco, pipes and smoking customs of the American Indians. *Public Museum of the City of Milwaukee, Bulletin* 17(2).
Willoughby, C. C.
1973 *Antiquities of the New England Indians with Notes on the Ancient Cultures of the Adjacent Territory.* AMS Press, N.Y. (reprint of the 1935 edition).
Willoughby, C. A. and E. H. Hooton
1922 The Turner group of earthworks, Hamilton County, Ohio. *Peabody Museum of American Archaeology and Ethnology, Harvard University, Paper* 8(3).
Winters, H. D.
1967 An archaeological survey of the Wabash Valley in Illinois. *Illinois State Museum, Reports of Investigations, No.* 10.

EUROPEAN CLAY PIPE MARKS FROM 17TH CENTURY ONONDAGA IROQUOIS SITES

James W. Bradley and Gordon DeAngelo

Introduction

European clay pipes, or at least pieces of them, are common artifacts on most historic Onondaga Iroquois sites. Since their styles changed fairly frequently and since many were marked, pipes afford a means both for establishing relative site chronology and for retracing patterns of trade.

A considerable amount of research, both in Europe and the United States, has already been done on clay pipes. This work can be roughly divided into two categories: that which has focused on the physical characteristics of the pipe and their evolution, and that which has concentrated on identification of pipe marks.

Of the former, perhaps the best known study is that of Lewis Binford. Basing his work on the earlier studies of J. C. Harrington, Binford derived a formula for calculating the date of a sample of pipes based on the diameters of their stem bores (for a critical review see Noel Hume 1974:297–301). Other physical studies have examined the evolution of pipe shape, especially the bowl. Among the important contributions in this area are Adrian Oswald's work on English pipes (Oswald 1961) and the studies of Dutch pipes by F. H. W. Friederich (Friederich 1964a-d, 1970 and 1975).

While efforts to identify English pipe marks began early in this century, the most important studies are more recent (Hilton-Price 1900, 1901; Walker 1971a, 1971b, 1977; and Oswald 1975). Though the initial effort to identify Dutch pipe marks was only moderately successful, important progress has been made since then (Helbers and Goedewaagen 1942; Friederich 1964a-d, 1970, 1975; Duco 1975, 1976; and McCashion 1975, 1977, 1979). Despite this research, however, it still remains difficult to identify precisely many of the marked pipes found on Onondaga sites.

The basic purpose of this article is to report, presenting pipe marks in the context of the sites from which they occur. Hopefully this will aid other researchers by indicating when certain marks occur as well as demonstrating what other types of artifacts tend to be associated with them.

The article is divided into two parts. The first is a summary of what is currently known about of the illustrated pipe marks. The marks are divided into three categories: heel marks, stem marks and bowl marks. For each individual mark the available data on manufacture is discussed along with a listing of sites where pipes with the particular mark have been recovered. The second part of the article is a chronological review of the 17th century Onondaga sites on which clay pipes have been found. A brief summary of each site is presented followed by a listing of the marked pipes from that site. The dates given for each site are drawn from a reconstructed sequence based on artifactual trends and correlation with the documentary record.

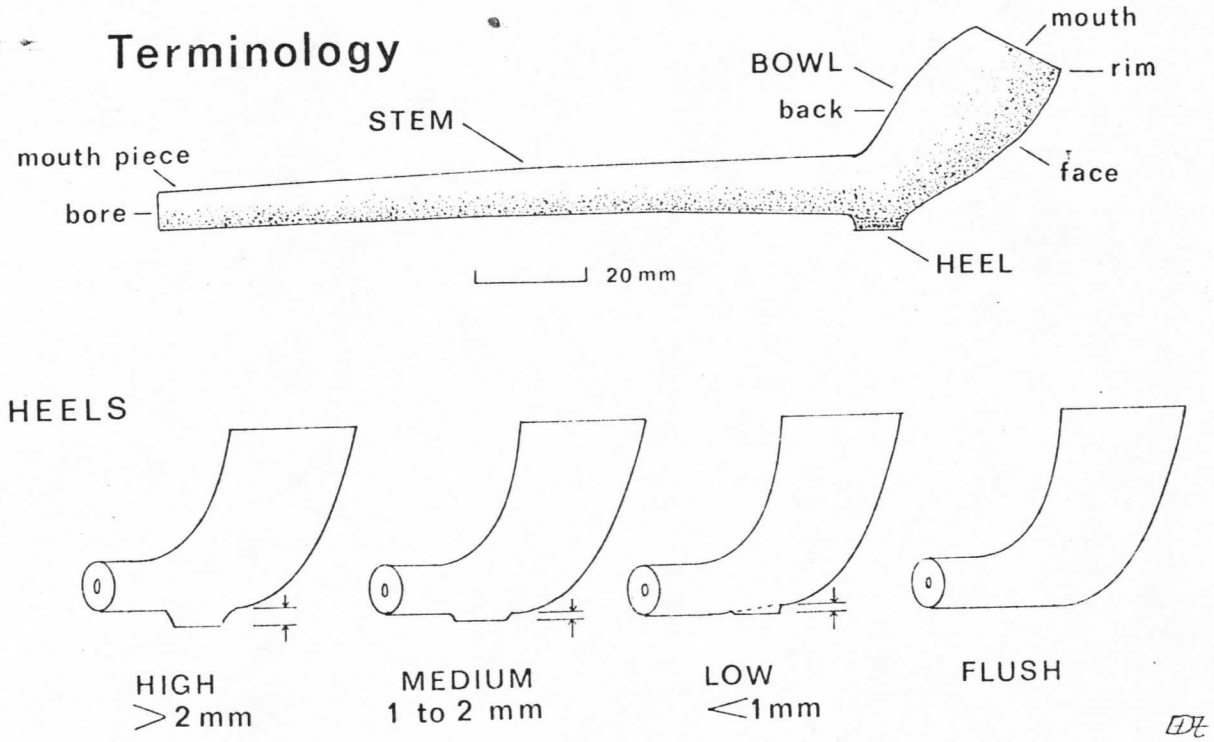

FIGURE 1.

TO (Fig. 6f)

Although Oswald also lists a Chester pipe maker, Thomas Orme (c.1660–1696), we feel this pipe probably represents the work of Thomas Owen I (c.1696–1698, died by 1725) of Bristol, a known exporter of pipes (Oswald 1975:156,164,173,191; Walker 1975b:20; 1977:(11c), 1472–1473). The Onondaga evidence suggests a very late 17th or early 18th century date for this mark.

17th Century Onondaga Sites

Shurtleff site (1630–1640)

Native: Pottery is infrequent and of mediocre quality and design. A few small human effigy figures still occur. Pipes remain relatively scarce. Chert projectile points occur in about equal proportion to ones cut from sheet brass. Some bone tools persist. Wampum occurs in both taper drilled and, for the first time, straight drilled forms.

European: Iron tools are more common and varied than on previous sites. Native recycling of iron, as well as brass and copper, into new implements reaches its greatest extent (Bradley 1980a). Several trade articles occur for the first time. These include European clay pipes, black glass buttons and evidence of firearms. Glass beads are surprisingly scarce; the most common styles are Kidd's types IIa40 and IIb56 (Kidd and Kidd 1970).

Heel Marks	Fig.	Type of Heel	#In Sample	Stem Bore	Comment
PG or PC(?)	____	high(?)	1	9/64(?)	This pipe was not available for study. Only part of the heel was present.
Stem Marks					
fleur de lis	5a	_____	1	7/64	_____

Carley site (1640–1650)

Native: While pottery has virtually disappeared, pipes have become more common. Among the prevalent styles are rimless trumpet, square bowl trumpet, coiled snake and other animal effigies. Lithic points are still present, but large numbers of circular gunflints made from local Onondaga chert indicate a reorientation of traditional knapping skills. Shell is increasingly popular as the medium for ornamentation.

European: There is an increase in smaller trade items such as jews harps, scissors and thimbles. Both European clay pipes and gun parts occur more frequently. Dutch bale seals (from woolens) indicate greater commerce with the upper Hudson valley (Bradley 1980b). Beads are predominantly untumbled, tubular and dark blue (Kidd IIIa12); however, many round and tubular polychrome varieties occur as well.

Indian Castle site (1655–1663)

Native: Shell is at the height of popularity, appearing in runtee, crescent, and effigy forms, as well as a variety of bead styles. While native pottery is represented by only a few vestigial sherds, native ceramic pipes are more common and of high artistic quality. Ring bowl and both human and animal effigies are the prominent styles. Combs are also becoming more frequent.

European: Religious artifacts, particularly rings of the *IHS* and *L* with heart styles, are common; glass bottle fragments appear for the first time, evidence of the growing liquor trade. An undated medal of William, Prince of Orange (probably William II, who reigned from 1647–1651) was found on this site during the 19th century. Most beads are still tubular, but have tumbled rather than untumbled ends.

This is probably the site of the village where the mission of St. Jean Baptiste was established in 1656 by Fathers Dablon and Chaumonot.

Heel Marks	Fig.	Type of Heel	#In Sample	Stem Bore	Comment
EB, type 1	2a	low	1	9/64	
EB, type 1	2a	medium	2	7/64	
EB, type 2	2b	flush	1	9/64	very thick bowl wall
EB, type 2	2b	low	2	7/64	
EB, type 2	2b	medium	2	7/64	
BC	2d	medium	1	7/64	
CD with rowel	2e	medium	1	7/64	
WS	2f	low	1	8/64	
Stem Marks					
fleur de lis, type 1	5a		2	7/64	

Lot 18 site (1650–1655)

Native: Most native-made artifacts are non-utilitarian, indicating a nearly complete replacement of native tools by European ones. Shell ornaments are common and occur in a greater variety of forms. Catlinite begins to appear.

European: Gun parts have become common and European gunflints occur as well as the circular native-made ones. "Luxury" trade articles, such as pewter and European ceramics, begin to appear. Jesuit related, French religious artifacts (rings, medals and crucifixes) occur for the first time. Ring designs are

primarily *IHS* and *L* with heart. A partial bale seal impressed with *AMSTERDAM* and *1652* reflects on the continued Dutch influence. Untumbled tubular beads remain the dominant type with red and blue the common colors (Kidd IIIa1, IIIa12, Ia1 and Ia20).

This is probably the site of the village visited by the French Jesuit, Simon LeMoyne in 1654.

Heel Marks	Fig.	Type of Heel	# In Sample	Stem Bore	Comment
EB, type 1	2a	flush	1	9/64	_____
EB, type 1	2a	low	1	7/64	_____
EB, type 2	2b	low	1	9/64	_____
EB, type 2	2b	flush	1	9/64	_____
'rose'	2g	low	2	8/64	Type 3 Fleur de lis on stem of one example

Stem Marks	Fig.	Type of Heel	# In Sample	Stem Bore	Comment
fleur de lis, type 1	5a	_____	1	6/64	_____

Stem Marks	Fig.	Type of Heel	# In Sample	Stem Bore	Comment
fleur de lis, type 1	5a	_____	2	8/64	_____
fleur de lis, type 1	5a	_____	1	9/64	_____
fleur de lis type 3	5c	low	1	8/64	associated with 'rose' heel mark
fleur de lis, type 4	5d	_____	1	8/64	_____

Heel Marks	Fig.	Type of Heel	# In Sample	Stem Bore	Comment
EB, type 1	2a	flush	1	7/64	
EB, type 1	2a	medium	1	7/64	
EB, type 2	2b	flush	3	9/64	
EB, type 2	2b	flush	1	7/64	
EB, type 2	2b	low	1	7/64	
EB, type 2	2b	low	1	8/64	
EB, type 2	2b	medium	1	7/64	
EB, type 2	2b	medium	1	8/64	
WH	2h-i	flush	2	7/64	
'rose'	2g	low	1	7/64	
fleur de lis	2j	high	1	6/64	Heel is slightly convex
I over M	3a		1		From Beauchamp, 1898, #139
Stem Marks					
fleur de lis, type 2	5b		4	7/64	
fleur de lis, type 3	5c		1	8/64	
fleur de lis, type 3	5c		1	9/64	
fleur de lis type 4	5d		2	6/64	
Bowl Marks					
Tudor rose, type 1	6c	low (no mark)	1		Mark in relief on both sides of bowl
Tudor rose, type 2	6b	low (no mark)	1	8/64	Mark in relief on both sides of bowl

Indian Hill site (1663–1682)

Native: While shell is still popular, ornaments of catlinite and red slate are increasingly common. Ceramic pipes are at their peak, both in quality and quantity. Ring bowl and effigies remain the dominant styles. Combs are frequent and portray either animal effigies or geometric designs.

European: The variety of iron utensils is extensive and includes tools such as rasps, files and drill bits. Both European ceramics (delft and Rhenish stoneware) and glass bottle fragments are more common. Despite the popularity of native pipes, European clay pipes occur very frequently. Religious ornaments are still prevalent and there is greater diversity in ring designs. Among other significant artifacts are an undated medal of Louis XIV, several Dutch bale seals from Campen and Leiden and a surprisingly large number of perforated French coins—double tournois (1619, 1639, 1640, and 1642) and lairds (1656 and 1657). The great majority of beads are round and either red or black (Kidd IIa1 and IIa6).

This is probably the site of the village where the mission of St. Jean Baptiste was re-established by Father Garnier in 1667, and which, ten years later, was visited by the Englishman Wentworth Greenhalgh.

Heel Marks	Fig.	Type of Heel	# In Sample	Stem Bore	Comment
EB, type 2	2b	high	1	7/64	
Orb	3b	medium	1	7/64	
Goblet	3c	flush	2	7/64	
Stem Marks					
fleur de lis, type 2	5b		1	7/64	
fleur de lis, type 4	5d		1	7/64	
fleur de lis, type 4	5d		2	6/64	

Heel Marks	Fig.	Type of Heel	# In Sample	Stem Bore	Comment
EB, type 2	2b	flush	1	9/64	
EB, type 2	2b	medium	1		
EB, type 3	2c	high	3	6/64	
IW with star	3d	medium	3	7/64	
HG	3e	flush	4	7/64	
HG with crown	3f	flush	4	6/64	
HG with crown	3f	medium	2	6/64	
HG with crown	3f	high	1	7/64	

Bloody Hill II site (1675–1685)

This village was probably a satellite of the larger settlement on Indian Hill. The general artifact invenories of the two sites are nearly identical. This is probably the site of the small village mentioned by Greenhalgh in 1677 as being about two miles west of the main Onondaga village.

Heel Marks	Fig.	Type of Heel	# In Sample	Stem Bore	Comment
Orb	3b	high	1	7/64	
Orb	3b	high	1	8/64	
PS monogram	3g	flush	1	6/64	
two figures	3h	flush	1	7/64	
Two figures	3h	flush	2	6/64	
Two figures	3h	medium	1	6/64	
Bell	3i	high	2	7/64	
Bell	3i	high	1		
Hand	3j	medium	3	6/64	
Stem Marks					
fleur de lis, type 2	5b		1	7/64	
fleur de lis, type 4	5d		2	7/64	
fleur de lis, type 4	5d		3	6/64	
fleur de lis, type 5	5e		3	7/64	

Jamesville Pen site (1682–1696)

Native: Catlinite is now the preferred medium for ornaments. Beads, pendants, animal effigies and human face maskettes are characteristic artifacts. Shell remains popular, particularly for long tubular beads and runtees. Native pipes are still of high quality but are beginning to decline. Combs are at the peak of artistic sophistication.

Trade: Iron trade goods are commonplace, reflecting near total dependence on European tools and utensils. There is evidence of iron being forged: partially completed articles such as ice creepers and forge scrap. French religious ornaments remain common. English clay pipes and lead bale seals reflect the shift from Dutch to English domination of trade. Bottle glass is common in the refuse. Beads show a mixture of older styles plus the introduction of new polychrome varieties and wire wound types.

This is the site of the village burned by the French under Frontenac in 1696 and probably re-occupied briefly afterwards.

Heel Marks	Fig.	Type of Heel	# In Sample	Stem Bore	Comment
EB, type 2	2b	medium	1	7/64	_____
SH with figure	4a	medium	4	5/64	
SW with crown	4b	high	1	6/64	_____
CW with crown	4c	high	1	6/64	_____
balance	4d	high	1	5/64	_____
two diamonds with crown	4e	high	1	5/64	_____
deer (?)	4f	high	1	5/64	_____
bird	4g	high	1	5/64	_____
two figures	3h	medium	1	6/64	_____
GLV type 1	4h	medium	1	6/64	associated with starburst bowl mark
GLV type 2	4i	medium	1	7/64	_____
O with crown (?)	4j	high	1	5/64	_____
Stem Marks					
fleur de lis,	5f	_____	1	7/64	mark is in high relief

Observations and Conclusions

The primary purpose of this article has been to report pipe marks and place them within a chronological and artifactual context. While the data at this point are insufficient to draw firm conclusions, three observations can be made:

1. The overall number of pipe marks is considerably greater than expected. From the existing literature on historic Iroquois sites we anticipated perhaps fifteen or twenty different marks. In actuality the number was double that. This raises the question of whether as broad a range of marks occurs on non-Onondaga Iroquois sites as well. In addition, we were surprised at how little repetition of marks there was from one site to another.
2. Some general patterns are discernible in the occurrence of certain groups of marks, particularly heel marks. Plain letters are found throughout the 1640–1700 period. The same holds true for rebus, or representational device, marks. On the other hand, marks with crowned letters and human or animal figures seem to be restricted to the last quarter of the 17th century. A clearer pattern of occurrence emerges for the two most common marks: the EB heel mark and the fleur de lis stem mark. Though the evidence is limited, it suggests that the varieties of both these marks sort out in a chronological pattern. This is summarized in Figure 7. It might be added that much remains to be done on the EB heel mark, particularly correlating stem bore data, bowl shape and heel size with the varieties of the mark.
3. Finally, the pipe evidence from Onondaga provides not only a perspective on cultural change between Europeans and native Americans but between Europeans themselves. The great majority of the pipes studied are of Dutch manufacture; not until the end of the 17th century do English pipes occur in quantity. This is somewhat surprising since the English, having taken New Netherlands from the Dutch in 1664, had controlled the area and ostensibly the trade for nearly forty years. Trade under the English was subject to regulation under the Navigation Acts. Among other things these measures restricted the importing of certain foreign manufactured goods, a procedure design to protect English industries making the same products. It has been argued that these restrictions did effectively exclude competitive goods, such as Dutch deftwares, from traditional markets in New York (Noel Hume 1974:140–41). The pipe evidence, however, indicates that these regulations were either ignored or poorly enforced. Despite the change in sovereignty, business continued to be done through established Dutch networks.

The authors wish to acknowledge the help of and to thank the following: Richard Wright of the Onondaga Historical Association, for access to the Warren G. Haberle collection; John McCashion and Paul Huey, for their generous comments and help; and the members of the William Beauchamp chapter, NYSAA, for the opportunity to study materials in their collections.

Bibliography

Atkinson, D. R.
1972 A Brief Guide for the Identification of Dutch Clay Tobacco Pipes Found in England. *Post Medieval Archaeology, Vol. 6.* London.

Anonymous
1976 *Historical Archeology at Philipse Manor Hall.* New York State Parks and Recreation. Albany, New York.

Beauchamp, William M.
1898 Earthenware of the New York Aborigines. *Bulletin of the New York State Museum, Vol. 5, No. 22, (October).* Albany, New York.

Bennett, Monte
1973 The Moot Site (Sullivans) OND 3–4. *Chenango Chapter Bulletin, NYSAA,* Vol. 14, No. 1. Norwich, New York.

Bennett, Monte and Richard Cole.
1974 The Upper Hogan Site OND 5–4, *Chenango Chapter Bulletin, NYSAA,* Vol. 15, No. 2. Norwich, New York.

Bradley, James W.
1980a Ironwork in Onondaga: 1550–1650. *Studies on Iroquoian Culture,* edited by Nancy Bonvillain. Occasional Publications in Northeastern Anthropology, No. 6. Rindge, New Hampshire.
1980b Dutch Bale Seals from 17th-century Onondaga Iroquois sites in New York State. *Post-Medieval Archaeology,* in press.