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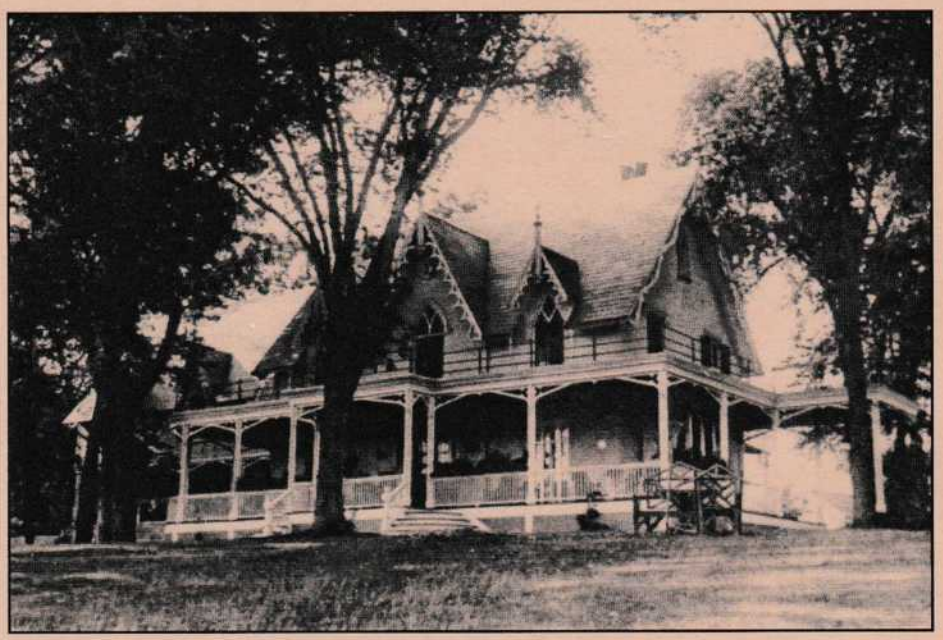

Cedar Hill Home as remodeled by John Tayler Cooper (c. 1836).

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The James B. Lyon II Site, Albany County, Bethlehem, New York

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Situated a few hundred yards east of the historic Cedar Hill School House Museum and the intersection of Clapper Road and Route 144, the James B. Lyon II mansion was the retirement home of a wealthy businessman, whose large printing establishment in Albany occupied an entire block. The 100-acre site was leased to Barent I. Staats by Stephen Van Rensselaer in 1789. The estate was conveyed in 1814 to Captain Hugh Boyd, who built the first house on the property. Although he died in 1816, his wife Catheline and their seven children are believed to have lived on the estate until it was sold to General John Tayler Cooper (1798-1878) and his wife, Charlotte Henry Cooper (1803-1858) in 1836. The Coopers had no children. Cooper was a widely respected citizen in the greater Albany area and the state of New York. He was licensed as a counselor-at-law in 1824. Active in the state militia, he was promoted to Major General, First Division of New York State Cavalry, in 1839. He died in 1878 and his heirs sold the property to James B. Lyon II in 1896. James B. Lyon II (1858-1929), and his wife, Anita Thompson Lyon (1869-1921) were typical of several wealthy families who had business interests in Albany and upscale homes along the west side of the Hudson River, a few miles south of Albany. An empire builder in everything he did, Lyon's life-style matched his boundless ambition. The enlarged house covered an acre of ground and had twenty-four rooms (Figure 1).

Introduction

Arrangements to document the story of this property and its residents were made in July 1984 following several meetings with Mary Elizabeth Van Oostenbrugge, granddaughter of James B. Lyon, II. She is currently living in a Swiss chalet built on the estate in 1907 for Willis MacDonald, M.D., Lyon's physician and friend. Papers supplied by Mrs. Van Oostenbrugge at the outset were helpful in piecing together the broad outline of the three families that had lived on the property; however, information about Captain Hugh Boyd, his wife, Catheline, and their seven children, was slim. Similarly, records were sparse for Major General John Tayler Cooper and his first wife, Charlotte Henry, the second owners of the property. The archaeologists were given a substantial collection of records about the third occupants, James B. Lyon II, his wife Anita Thompson Lyon, their children and grandchildren, but many of them were generated by his company and were laudatory in character. We realized that we would need to "dig" for a more balanced picture of this distinguished family.

Further, the archaeology team determined early on to concentrate only on the 100 acres surrounding the non-extant Boyd-Cooper-Lyon residence, which was part of the original 244 acres leased to Barent I. Staats by Stephen Van Rensselaer in 1789. The remaining 144 acres were sold to others, including Adam and Daniel Winne and Arie, Garret, and Henry Van Wie, well-known families in Bethlehem's history. Finally, a story in a local newspaper underscored the main reason why an archaeology dig was needed in order to obtain a more complete picture of the families that occupied this land:

> FIRE WRECKS OLD MANSION. A spectacular fire raged out of control at the old (Lyon) estate in Cedar Hill, Selkirk, destroying the old mansion before firemen could put out the flames... The owner, Mrs. James B. Lyon III, who lives in a smaller house on the estate grounds, said she heard a car leave the mansion early this morning. Later, she smelled smoke and when she saw the flames she alerted firemen [Knickerbocker News, May 28, 1964:2].[1]

Physiographic and Geologic Background

During the archaeological team's first visit to the estate, there was no surface evidence of where the Boyd-Cooper-Lyon house had been located on the property; however, guided by Mrs. Van Oostenbrugge's memory and an 1814 map of the 100-acre site by surveyor Evert Van Alen (Figure 2), we were able to find the foundation of the home. Since the original 1814 Boyd house was renovated and incorporated in future versions of the home by General John Tayler Cooper and James B. Lyon II, the names of all three owners are used here. The Boyd-Cooper-Lyon estate is situated in a heavily wooded area on high land about ½ mi west of the

[1] The Lyon printing plant in Albany burned the same year.

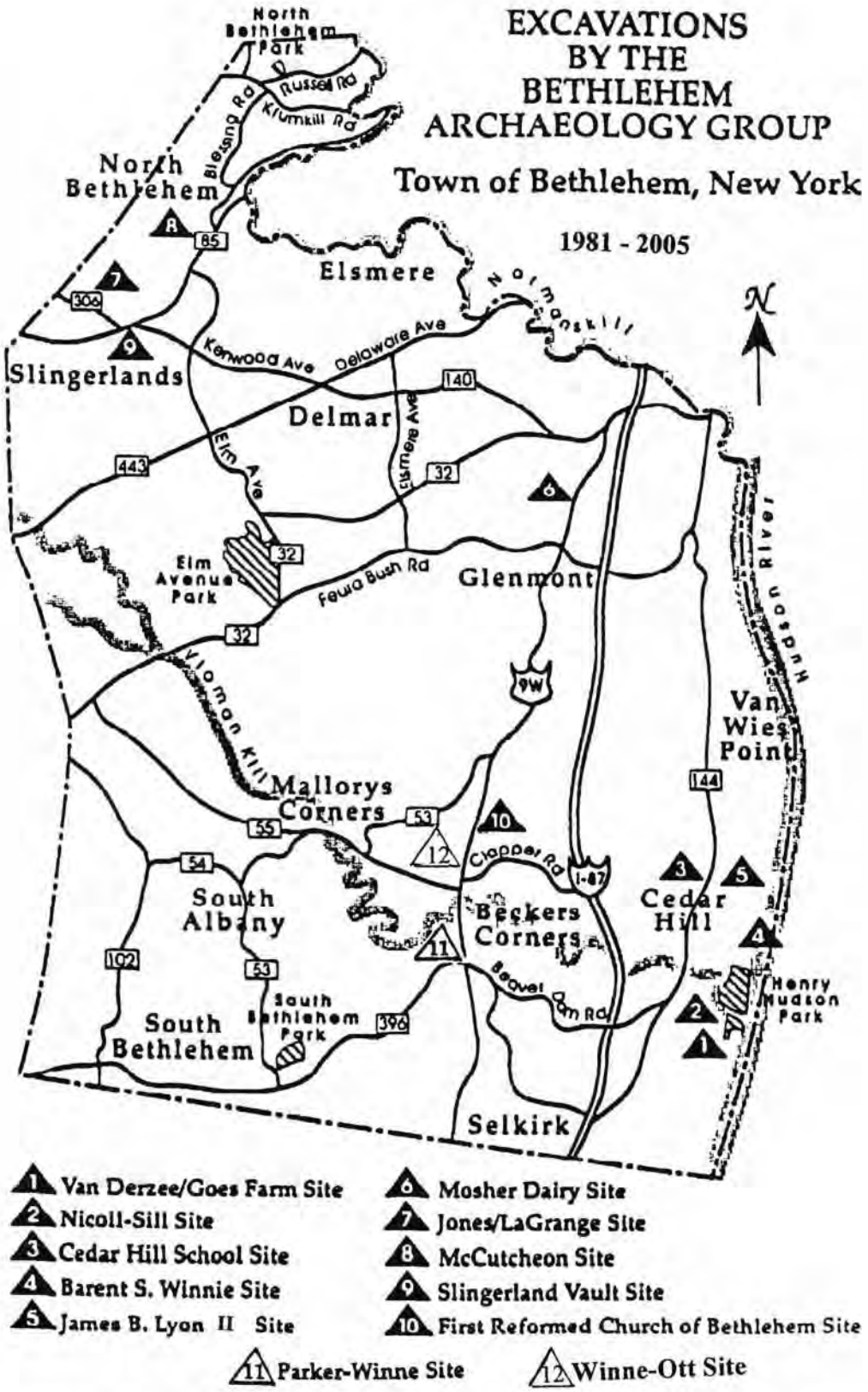

Figure 1. Map of excavations by the Bethlehem Archaeology Group, showing the location of the James B. Lyon II Site in relation to other sites excavated by the Bethlehem Archaeology Group.

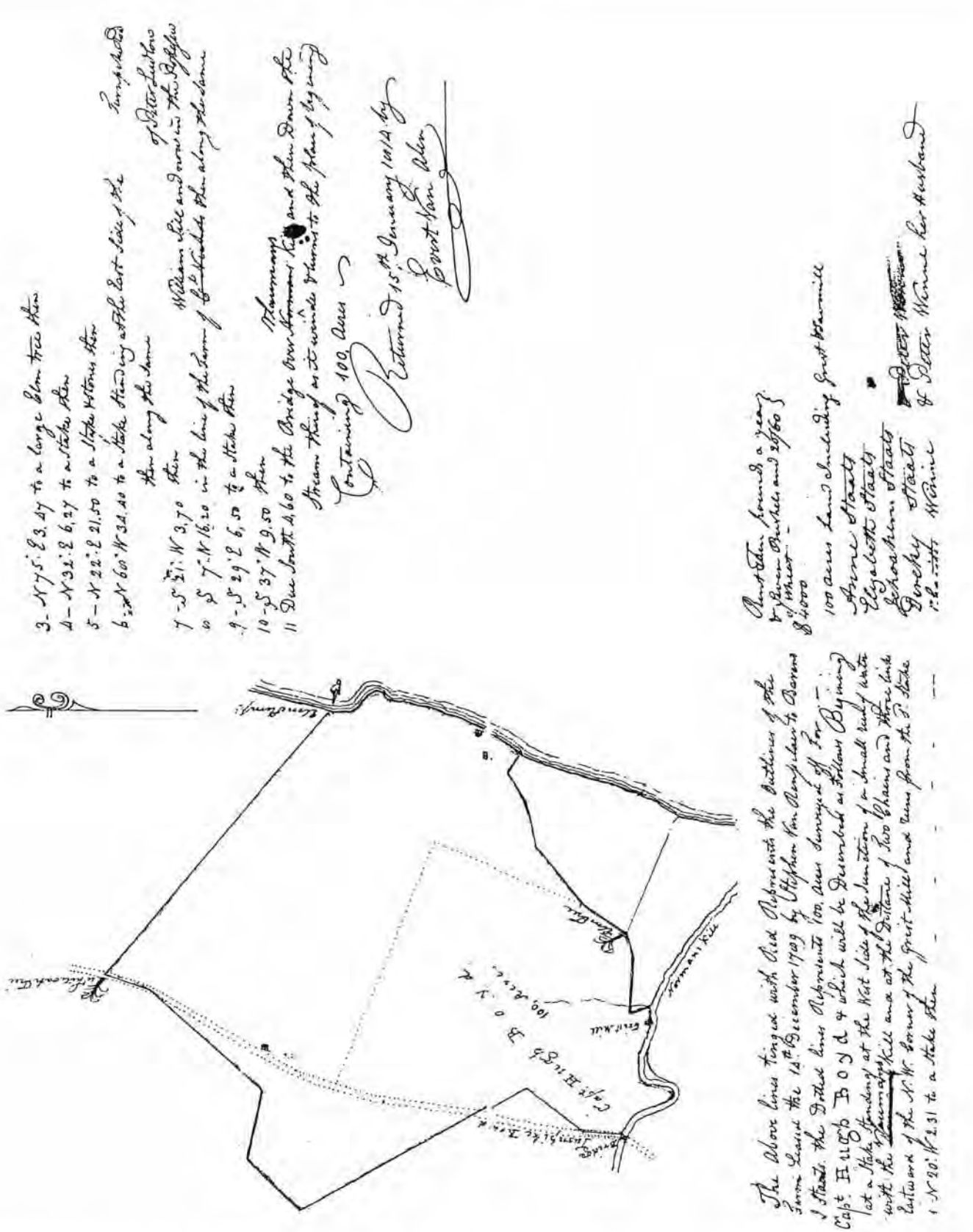

Figure 2. Map Drawn by Evert Van Alen in 1814 when 100 acres were conveyed by Stephen Van Rensselaer to Captain Hugh Boyd.

Hudson River and about ¼ mi north of the Vloman Kil. In geological terms, this property evolved when:

> The Delmar Readvance of the Hudson Lobe surged south 20 mi (32 km) from Round Lake to South Bethlehem ... The Readvance folded lake clays and thin, discontinuous till over lake sand and silt [Dineen 1986:101-103].

Excavation and Research Methods

A thorough surface search was conducted of a large open area where the residence was believed to have stood. Three ten-quart pails were filled with pottery fragments, iron objects and various late plastic items. The search was extended to the outbuilding area about 200 ft north of the open area where the old residence had stood. This search uncovered a large surface trash pit northeast of the old residence which the archaeology team labeled "Main Trash Pit."

Four 3-ft square test pits were dug in the vicinity of the non-extant residence, which were helpful in locating sections of the original 1814 building foundation and the foundation for the 1907 Lyon addition. A grid system of ten-foot squares was established and a field notebook was set up to make a systematic record of all of the artifacts recovered by the archaeology team. Four additional three-foot test squares were dug in areas near the outbuildings (barn, machine shed, stable, garage), during which two more modest-size trash pits were found about 10 in below the surface. A main goal of this research was to chart the artifacts recovered from all of the above areas and, where feasible, to relate them to the life-styles of the three families that lived on the property between 1814 and 1964, when the residence burned to the ground.

Because of the prominence of Major General John Tayler Cooper and James B. Lyon II in the greater Albany area community and the state of New York, the archaeology team decided that a careful analysis of the paper trail was essential for this site, which would emphasize affluent life throughout the nineteenth and early twentieth centuries.

Physical Stratigraphy

The topsoil consisted of about 14 in of decayed vegetation followed by Lake Albany deposits with minor intrusions of till down about 5½ ft from the surface to the deepest levels of our test pits, four of which were along the foundation of the non-extant residence. Considerable yellow sand and some gravel were found as the archaeology team took sections of the foundation trench down around the 1814 home and the 1907 addition, confirming the "II-2, sand and gravel" classification of the soils in this area on a widely used engineering geology map (Regan et al. 1982b).

Features

The most prominent feature on the Lyon site was a large surface trash pit several hundred feet northwest of the impressive main dwelling, near a group of outbuildings. Anyone walking in the bushes back away from the road can see the "dump" today. As archaeologists removed the top layers of the feature, mentally typing the objects they picked up, it was easy to see that the "dump" had been used for many years. As change of season leaves, sticks, etc., mixed in with a gradually expanding amount of trash over the decades, the end result was a veritable slice of life-styles beginning with the last quarter of the nineteenth century, most of it deposited by several generations of the Lyon family and, possibly, some of it by Dr. Willis MacDonald, who lived in the Swiss chalet on the property. Archaeologists were careful to remove a representative sample of these materials for study in the laboratory. The items removed were labeled "MTP" (main trash pit) to keep them separate from finds elsewhere on the property.

Test pits dug a few dozen feet away from the main trash pit uncovered two additional but much smaller features, one of them containing a variety of bones: largely beef, chicken, and lamb, together with duplicates of some of the items found in the main trash pit. These refuse collections were probably buried in shallow pits to keep wild animals away from the bones.

As the areas around the foundations of the 1814 Boyd home and the 1907 J. B. Lyon II addition were uncovered, sewage and water pipe features appeared gradually, illustrating the probable piping of water from an exterior well through the use of a small-bore metal pipe, and sections of ceramic pipe with a much larger bore, which were needed to drain sewage and other forms of waste water away from the house (Figure 3). Only isolated fragments of artifacts were found above and below the pipes and these were few and far between.

Interpretations

The Early Period
Captain Hugh Boyd and His Family, 1814-1836

Four test pits along the foundation of the house constructed by Captain Hugh Boyd in 1814 produced evidence in stratum II of the earliest life on this property: a few fragments of lighter yellow creamware, a dozen fragments of blue, shell-edged pearlware, kaolin clay pipe stem and bowl

Figure 3. Excavated piping at S10 W10.

fragments, several sizes of machine-cut nails, and larger numbers of blue-white transfer-printed pearlware (Table 1). The archaeologists had no idea how the ceramic fragments got where they were found but it was difficult to avoid theorizing that Catheline Boyd cooked meals for the builders of the home and that some of the dishes were broken and left where they were dropped. Further, as a full-scale excavation evolved, the pattern of finds broadened to include a large U.S. penny dated 1819 (Figure 4), mold-created and hand-decorated creamware fragments, a few pieces of green, shell-edged pearlware, some annular, banded pearlware, slip-decorated pie-edged redware, lead-glazed redware, and two fragments of hand-painted creamware. Most of the dish fragments mentioned above are English:

> England's conquest of the world tableware market was through the vehicle of creamware. This ware is an 18th century product, and in that context it functions like any other ware, i.e., it is easy to identify through the characteristics of its glaze and paste. Out of creamware evolved pearlware in the 1780's. Later, stone china, ironstone, and whiteware were developed. These emerged out of creamware and pearlware and are not nearly as identifiable by differences of glaze and paste [Miller 1980:2].

Thousands of fragments of similar hand-painted pearlware were recovered by an archaeological team working at the Picotte site in downtown Albany, NY, in the late twentieth century (McLaughlin 2003:135-149), a late example of England's continued dominance of the ceramics trade in the United States long after its assumption of authority here in 1664. No porcelain was found around the foundation of the Boyd home, a small indication of modest family life, when compared to the ceramic collections found around homes of well-known affluent residents in Bethlehem such as the

Table 1. Lyon Site Artifacts. The Early Years: First home on the property constructed by Captain Hugh Boyd whose family lived there from 1814 to 1836.

1775-1820 lighter yellow creamware	60
1780-1820 mold-created hand-decorated creamware	12
1780-1840 hand-decorated creamware	34
1780-1820 underglaze hand-decorated pearlware	14
1780-1830 blue shell-edged pearlware	80
1780-1830 green shell-edged pearlware	13
1790-1820 annular banded pearlware	4
1800-1820 blue straight-edged pearlware	42
1795-1840 blue-white transfer-printed pearlware	142
1790-1840 kaolin clay pipe stem and bowl fragments	58
1805-1820 cut nails (found with blue straight-edged pearlware)	38
1800-1835 lead-glazed redware lid knob and bowl fragments	33

Nicoll-Sill families, where the use of fine-quality porcelain was common down through the centuries (Brewer 1990:10-26). However, Boyd's military rank indicates a man whose status in society was above the middling.

Little else has been learned about the Boyd family except the names of those present when the property was sold to John Tayler Cooper: Catheline Boyd; Barent Boyd and Eliza, his wife; John Boyd and Ellen, his wife; Margaret Boyd; Nancy Boyd; Catheline Boyd; Ann (Boyd) and Robert Haswell, her husband; Elizabeth (Boyd) and George Crook, her husband (Albany County, New York, County Clerk's Office 1836 #55: 361). The deed shows that for the sum of $7, 500, some 100 acres of land in Bethlehem were transferred to John Tayler Cooper (Figure 5) on October 13, 1836).

Middle years

Second owner, John Tayler Cooper, 1836-1878

A useful account of Cooper's career appears in an Albany County history:

> Gen. Cooper attended the best schools of Albany, and subsequently entered Union College, from which he graduated, after four years of study in 1818. Afterward, he entered the law office of Messrs. John V. Henry and James McKown and studied for the Bar, being admitted to practice in 1821 ... He had inherited a fine fortune from Gov. John Tayler, and was not, therefore, dependent upon his own exertions for a livelihood.
>
> Gen. Cooper was twice married. His first wife, whom he married in 1822, was ... Charlotte Henry [1803-

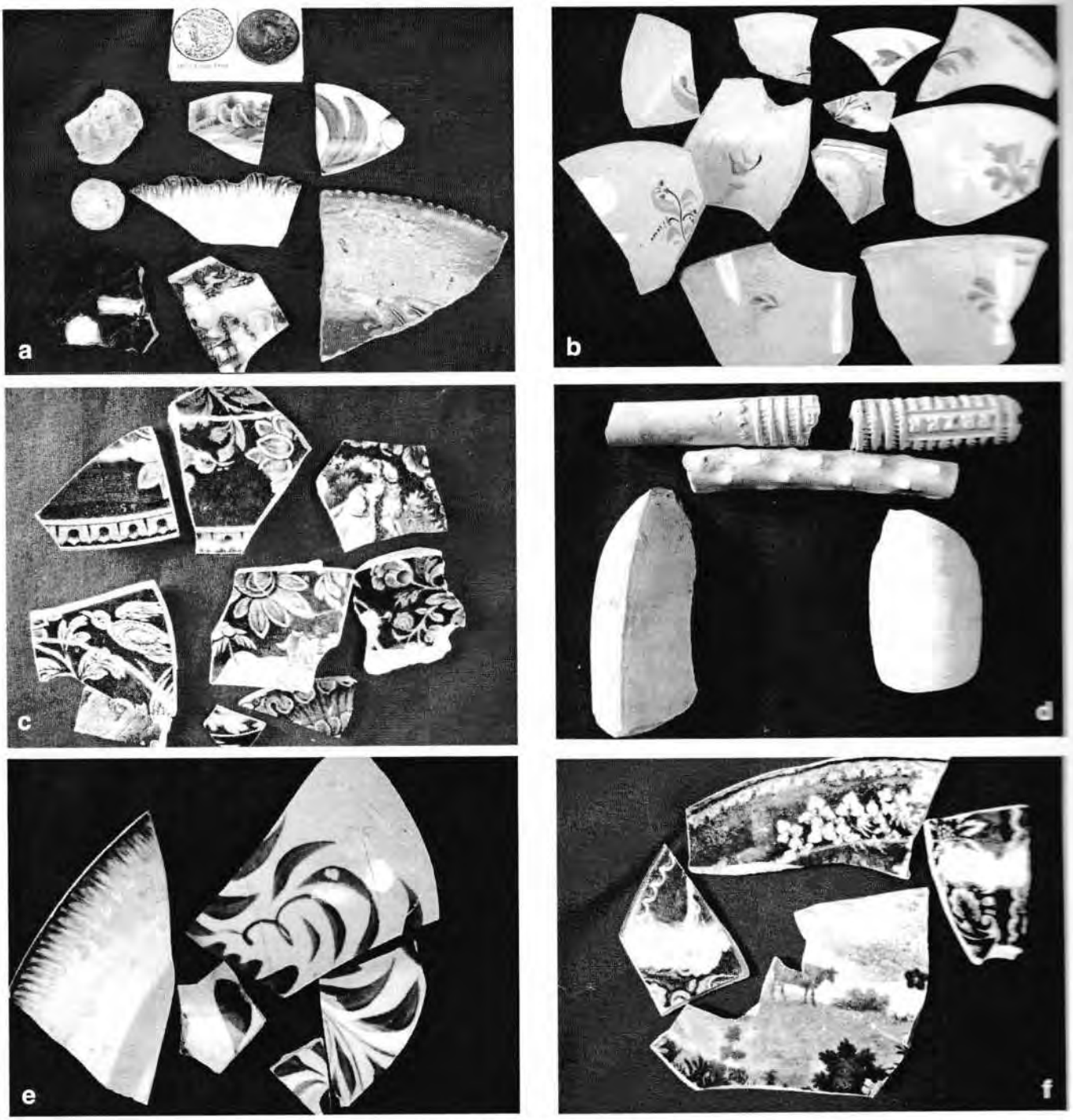

Figure 4. Artifacts dating to the Early Years (1814-1836) and Middle Years (1836-1896): **a**. U. S. coin 1819; bottle pontils; blue shell-edged pearlware; pearlware with brush-stroked decoration; black lead-glazed redware; Chinese export porcelain; slip-decorated redware. **b**. hand-painted pearlware 1790-1820. **c**. Transfer-printed pearlware 1795-1840. **d**. clay pipe "Peter Dorni" 1850-1870. **e**. blue straight-edged pearlware; brush-stroked decorated pearlware. **f**. blue Staffordshire.

1858], daughter of John V. Henry, the eminent attorney in whose office he studied law. She died childless, and some years later Gen. Cooper married the widow of Clarkson F. Crosby, of Watervliet, whose maiden name was Schuyler, and who was descended from the famous family of that name who bore so conspicuous a part in the early history ... of our country. There was no issue by this marriage [Howell and Tenney 1886:200]

Figure 5. General John [sic] Tayler Cooper (c. 1836). Photo from Howell and Tenney 1886.

General Cooper and Charlotte Henry moved to Bethlehem soon after they purchased the Boyd home in 1836. A map drawn by city surveyor Evert Van Alen some four years later shows the location of the Boyd/Cooper house on the 100-acre lot and the adjacent properties owned by their neighbors—several Winne and Van Wie families. Cooper is believed to have lived in his Bethlehem home from 1836 until his death in 1878 (Figure 6). His first wife, Charlotte, lived there from 1836 until her death in 1858. The record is unclear about when he remarried to Mrs. Clarence (Schuyler) Crosby, and how long she lived on the Bethlehem estate.

No trash pits were found dating to the second and third quarters of the nineteenth century, when the Coopers lived on the estate. However, a representative sample of artifacts dating to this period was selected from scattered finds in the topsoil around the 1814 house, believed to have been the Cooper residence for about forty years (Table 2).

Two coat buttons, one metal with an intricate design and the other made of polished bone, were found in the topsoil near the 1814 house. Others made from shell, pearl and horn, illustrate gradual improvements in fastener technology throughout the nineteenth century. Surprisingly, none of the twenty buttons recovered here appears to have been worn on

Figure 6. Cedar Hill home as remodeled by John Tayler Cooper (c. 1836). Photo courtesy of the Lyon family.

a military uniform, unless the metal button with a loop on the back and pictured as type 9 in Stanley South's button typology chart (South 1985:91) was used by the New York state militia. However, that possibility has not been confirmed.

Only three fragments of Peter Dorni clay pipes dating to the third quarter of the nineteenth century were recovered from the topsoil around the Boyd/Cooper house, suggesting that the Coopers and their guests smoked very little, if at all (Figure 4d). This information contrasts sharply with dozens of clay pipe fragments dating to the third quarter of the nineteenth century recovered from the topsoil around the Nicoll-Sill residence in Bethlehem, where the evidence shows considerable smoking (Brewer 1992:151-161).

While the sample is small, a token of affluence can be seen in the fourteen fragments of good quality Canton blue-white Chinese export porcelain, dating to the mid-nineteenth century and recovered from stratum two in several squares near the foundation of the Boyd/Cooper residence. Seven fragments of French porcelain were found in the same areas, some of which were decorated with a fine gold line around the rim and a delicate purple-green flower/leaf design. One of the authors of this article referred several times to his and his wife's careful handling of their own porcelain collection, which is used only on special occasions and never out-of-doors. Only three cups have been broken over the past forty years and all of the plates are intact. Could this have been General and Mrs. Cooper's habit as well?

Again, the evidence is slim, but a few attractive fragments of transfer-printed ironstone dating to the 1840s or later were recovered here and were very likely used on a daily basis. Yellowware bowls and stoneware containers were very popular during this time for storing food and bringing it to the table, a fact confirmed by finds in the topsoil around the Boyd/Cooper home.

Charlotte Cooper may have found it convenient to shop at the Cedar Hill Store in the early 1840s, less than a quarter of a mile from her home, near the Winne dock on the Hudson River. The yellowware bowls and stoneware containers mentioned above and other small items needed around the house could have been purchased there, along with food: "2 bush. of oats - .88; 14 buttons - .29; 1 ivory comb - .19; 1 doz. eggs - .13; 5 lbs. sugar - .50; 1 lb. pepper - .13; 1 broom - .19; 1 pt. brandy - .25; ½ gal. molasses - 2.50; 5 bush. corn - 4.38" (Cedar Hill Store Ledger 1840, unpaged). These are sample prices for people who charged their purchases. Mrs. Cooper is not listed in the book because she probably paid in cash. Eggs were cheap and the well-worn 1819 large penny recovered on this site could have been used to buy a few of them for Cooper breakfasts.

Table 2. Lyon Site Artifacts. The Middle Years; Boyd home purchased by Major General John Tayler Cooper and his wife, Charlotte Henry, in 1836. She died in 1858. He remarried the widow of Clarkson F. Cosby and both are believed to have lived in the Boyd home until Cooper died in 1878. Neither of Cooper's wives had children.

1820-1850	stoneware crock fragments with raised flower design	20
1820-1850	thin stoneware jar fragment with "Stone China" wording on base	1
1840-1855	hand-forged metal downspout stay	1
1837-1865	metal buttons, one with design on front and loop on the back	2
1835-1860	buttons made of pearl, shell, and horn	6
1840-1860	whiteware dish fragments	36
1850-1865	Peter Dorni kaolin clay pipe fragments	3
1850-1860	medicine vial base with rough iron pontil mark	1
1850-1860	probable olive oil bottle base with rough iron pontil mark	1
1850-1865	yellow ware pie dish fragments	2
1850-1870	yellow ware mixing bowl fragments with white stripe & medium blue band	3
1850-1870	porcelain deep serving dish with raised dot & gold leaf design on rim	2
1850-1870	Canton Chinese export porcelain fragments	14
1855-1875	porcelain saucer fragments with rose pattern & delicate design in gold	4
1855-1875	porcelain tea cup fragment with purple flower & gold dot design	1
1855-1875	ironstone plate fragment with gold rim & transfer printed flower design	1
1863-1887	hand-painted ironstone fragments produced in Maastricht, Holland	3
1865-1875	mold-created ironstone bowl fragments	2
1865-1875	transfer-printed ironstone plate fragments with white dots & pink design	3
1865-1875	transfer-printed ironstone serving dish fragments with flower design	2
1865-1875	metal straight razor blade without wooden handle	1

The Cooper Paper Trail

Although the artifact collection is slim, the paper trail for General Cooper is strong:

> Major General John Tayler Cooper was born in Albany in April 1798 and died August 13, 1878 in his eighty-first year. His father was Dr. Charles D. Cooper, who, in his time, was one of the most distinguished of Albany's physicians. His mother was the niece and adopted daughter of the wife of Gov. John Tayler, who was Lieutenant Governor of the State of New York from 1813 to 1822. ...
>
> (He lived through) the second war with Great Britain, and the exciting scenes of his boyhood imbued him with a martial spirit (which was manifested in) an active interest in military affairs. When the Marquis de La Fayette visited America in 1824, Col. Cooper was dispatched by the Common Council of the City of Albany to meet the great champion of liberty at Kinderhook and escort him to Albany, where high honors were paid him [Howell and Tenney, 1886:200].

When his business took him to New York City in the 1840s, General Cooper very likely took the Express stage, which made the trip in "12 hours and 40 minutes" (Reynolds 1906:542). On October 8, 1851, he was perhaps celebrating the arrival of the new Hudson River Railroad. "...1100 sitting down to dinner here, train coming from New York on the new road in 3:24 hours running time" (Reynolds 1906:613). For trips around Albany in the 1860s, Cooper undoubtedly used the local horse cars of the Albany Railway Co., which were twelve feet long and traveled three miles per hour from Broadway to State Street to Central Avenue and Northern Blvd (Reynolds 1906:629). He was appointed Major General, First Division of New York State Cavalry on February 15, 1839. He succeeded Stephen Van Rensselaer III, the last patroon, who died at age 75 in the same year (Reynolds 1906: 535-536). Cooper led the official delegation at Albany, which met the funeral cortege of:

> Col. Ephraim Ellsworth, Civil War officer and patriot (who was) shot in the breast while removing a Confederate flag from the roof of Marshall House in Alexandria, Virginia. ... Cooper headed a procession of 2,000 soldiers escorting the casket to the old Capitol, where it remained until 9 o'clock [Reynolds 1906:642].

Some ten years before his death, General Cooper became more active in St. Peter's Episcopal Church in Albany:

> The Rector of St. Peter's, Rev. Dr. Doane — having introduced some high church ceremonies, a very exciting canvass took place resulting in the following vote for church officers — for low warden, John T. Cooper [Munsell 1871:15-16].

One is left to wonder whether this election was in support of, or in defiance of, Dr. Doane.

When General Cooper settled near Cedar Hill, he would have found the lifestyle of his neighbors quite agreeable. The Sill family at Bethlehem House owned an extensive plantation. The Winne family of merchants and farmers operated the principal dock in the area through which agricultural goods were sent down the Hudson River to New York City.

Later Years

James B. Lyon II (1858-1929)

Cooper's successor on the property, James B. Lyon II, would have found a somewhat different situation. The Sill fortunes had declined and they had sold their property. Most of the neighbors of Lyon were industrious but ordinary farmers and mechanics. The Winnes were important only locally. In time, other notable Albanians would join Lyon in establishing comfortable retreats along the scenic river, but the interests of these transplants lay largely elsewhere and so they had little effect upon the rural character of Cedar Hill (Figure 7).

The mansion covered one acre of ground and had twenty-four rooms. The archaeology group found a number of pieces of marble as well as a globe for a gas wall fixture (Table 3A). The presence of marble was explained when it was determined that the upstairs bathroom had a sink with a marble top. The gas for the gas lighting in the home (including the attic) came from an outbuilding called "acetylene gas house." There were stalls for four horses in the carriage house, which, as a result of the fine construction, was still in good condition in 2003. At that early date only the wealthy could have had their homes lighted with gas, and had marble-topped sinks and an intercom.

Several hundred feet northeast of the house, archaeologists recovered dozens of items from a largely surface trash pit which the granddaughter of James B. Lyon II, (Figure 8) Mary Elizabeth Van Oostenbrugge, said was used by everyone in the family. Predictably, much of the material had been deposited by her parents and grandparents or their servants and possibly by Dr. Willis MacDonald, who lived in

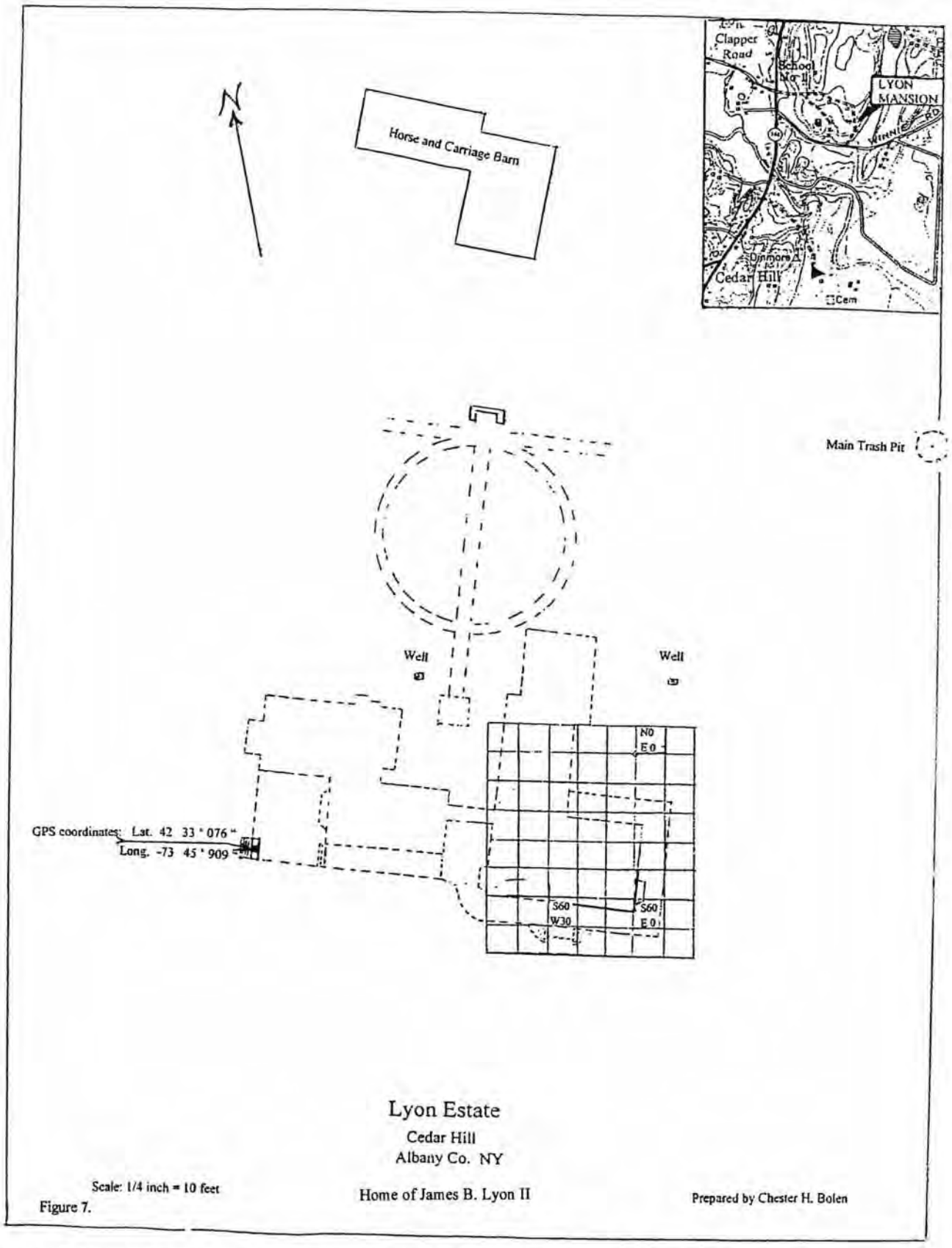

Figure 7. Grid map of Lyon Estate, Cedar Hill, Albany County, New York (prepared by Chester H. Bolen).

the Swiss chalet on the property.

The assemblage from the trash pit (Table 3B) contains one of the largest and finest collections of porcelain found on any site in the town of Bethlehem and suggests that fine quality porcelain was used daily in the Lyon household. Anita Thompson Lyon was known to shop regularly at the Charles Van Heusen store in downtown Albany, which carried porcelain marked "Austrian Imperial Crown China," "M Redon, Limoges, France," "Haviland of France," and "Victara-Carlsbad and Gruber and Schwalb," also made in Austria. Anita placed a special order with the Van Heusen Charles store to have the Haviland Company hand-paint her initials "ATL" toward the edge of the dinner plates just inside a heavy gold stripe along the edge of the plates and a thin gold stripe below the heavy stripe. This was an expensive process that very few customers could afford (Figure 9).

Table 3A. Lyon Site Artifacts. The Later Years: James B. Lyon II (1858-1929) purchased the property from General Cooper's heirs in 1896. Mr. Lyon and his wife, Anita Thompson Lyon (1869-1921) greatly enlarged the house in 1907.

1850-1900	metal bit for a horse	1
1850-1924	medicine bottle fragments	2
1860-1910	plain white ironstone china, "H. R. Wylie - Mercer"	33
1870-1882	porcelain platter fragments, "Haviland"	2
1870-1930	stoneware bowl fragment, green glaze with "copperish" overglaze	1
1870-1930	cup and dinnerware fragments, "Ridgeways"	3
1875-1900	hand-decorated porcelain cup fragments	2
1875-1907	English ironstone bowl fragments, "Dunn & Bennett Co., LTD"	36
1875-1924	wine and whiskey bottle fragments	121
1878-1910	child's porcelain mug, with picture of children dancing	1
1880-1900	ironstone mixing bowl fragments, blue stripes	3
1880-1914	candlestick, heavy clear glass	1
1880-1920	base of a glass vase, hobnail design	1
1880-1920	ironstone kitchen bowl fragments	12
1880-1924	glass stoppers for medicine bottles	3
1880-1925	early ceramic electrical (two wire) connectors	2
1880-1930	machine-made metal hasp for a door	1
1881-1896	Charles F. Haviland porcelain dinnerware fragments	37
1882-1896	porcelain cup and saucer fragments, "Limoges"	15
1882-1896	porcelain plate and saucer fragments, "M. Redon, Limoges"	37
1882-1896	porcelain plate fragments, "M. Redon, made for Charles Van Heusen, Albany	14
1885-1891	porcelain cup, possibly German, two gold stripes	1
1889-1905	Haviland porcelain plate fragments, initials ATL	18
1889-1910	amber glass champagne bottle, magnum	1
1890-1910	gold-edged porcelain fragments	4
1890-1910	Austrian porcelain fragments, "Victara-Carlsbad Gruber & Schwalb"	16
1890-1910	Italian porcelain fragments, "Firenze"	3
1890-1910	transfer-printed whiteware fragments, "Bluebird"	18
1890-1910	porcelain platter fragments, "Charles Field Haviland"	17
1890-1910	English small jar fragments, "bone china"	4
1890-1920	salt-glazed stoneware syrup jug fragments	2
1890-1920	white enamelware baby's potty	1
1890-1920	redware lid	1
1890-1930	porcelain fragments, "Waverly Noritake, Nippon"	4
1890-1930	household clear glass bottle fragments	37
1890-1930	globe for gas wall fixture	1
1890-1930	milk glass cold cream jar	1
1890-1930	ceramic lid for vaporizer	1
1890-1930	ironstone jars and fragments, Scottish "Dundee Marmalade"	29

A host par excellence, James B. Lyon II invited hundreds of his business and social contacts to his Bethlehem home. He built a cottage on the west side of the Hudson River, a mile or so south of the mansion (Figure 10) and used it as a base for his "men only" parties, which often featured a boat trip in his private launch. According to his granddaughter, Mary Elizabeth Van Oostenbrugge, Lyon in good weather used his boat to commute to his office building in Albany, a few miles up the Hudson River. "Various brands of imported spirits and local beers were enjoyed by Lyon guests, who stayed for delicious steak meals graced with Maggi sauce" (Brewer 1993:207). Several sizes of Maggi sauce bottles were recovered by archaeologists, suggesting that it was a popular condiment in the early twentieth century. At his parties Lyon served spirits bottled in Europe, such as Gordon's Dry Gin, which were popular with refined gentlemen. Teetotalers could have Orange Crush, which came in soda bottles with raised glass bands, or Coca Cola in the familiar green "Mae West" bottle (Table 3A). Following parties with an especially rich menu, guests who stayed overnight may have asked for any one of the magnesium-rich products in the Lyons' medicine chest, which included Citrate of Magnesium, produced between 1911 and 1929, and Milk of Magnesia, sold in deep blue bottles of various sizes and produced by the Charles H. Phillips Chemical Company in Glenbrook, Connecticut, after 1906 (Fike 1987:141). Those who stayed overnight might have sampled Mrs. Lyon's delicious toast topped with James Keiller & Son Dundee Marmalade, manufactured in Dundee, Scotland, and packaged in attractive grayish-white stoneware jars which held a pound of marmalade and were placed on the table for use by individual guests. Cream for a guest's coffee came in small, clear glass, half-pint bottles, with names such as "Norman's Kill Farm Dairy" and "Borden's Farm Products Co., Inc.," inscribed on them. It was transferred to modest-sized pitchers marked "Johnson Brothers, England, for use on the table (Figure 11).

Figure 8. James B. Lyon II (1906). Photo courtesy of the Lyon family.

Anita Lyon's health problems in the second decade of the twentieth century may have been one reason for the abundance of small, screw-cap medicine bottles recovered from the main trash pit on the Lyon estate. The pit contained Dr. Pierce's Golden Medicine Discovery bottles. "Dr. Ray Vaughn Pierce, M.D., of Buffalo, NY, introduced his Favorite Prescription, Medical Discovery ... ca. 1870, ... and established 'The World's Dispensary' in 1873" (Fike 1987:110). Archaeologists who found these and other medicine bottles couldn't help but wonder how the Lyons' physician, Dr. Willis McDonald, felt about the claims on the labels of some of these bottles. It was an age when medical hucksterism was rampant and when the high and the mighty were drawn in by exaggerated claims along with the low and the less educated. The Lyons bought Lydia E. Pinkham's Vegetable Compound, "which was manufactured at the company's plant in Lynn, Massachusetts, and contained 15% alcohol" (Fike 1987:150). With little question, the alcoholic content was the most attractive feature of this and many other bottled medicines in the last quarter of the nineteenth century and the first third of the twentieth century. This was a force in American culture that needed more government supervision and control. Ultimate control was not achieved until 1938, when a more comprehensive Food, Drug, and Cosmetic Act was passed by Congress (Encyclopedia Americana 1994:521).

In his time, James B. Lyon II may have been aware that really fresh vegetables and related food had to come from one's own garden. He hired two men from Middle Granville, New York where he grew up, to till the soil on his Bethlehem estate and keep his family cook supplied with garden-fresh foods. Some of it was canned and stored in the icehouse. Some of the canning jars used were embossed "ATLAS. Strong Shoulder Mason" and featured metal screw caps. Others, both pint and quart sizes, featured the familiar rubber seal under a clear glass cover with metal, wire-style cover holders that locked into place when drawn up over the

covers.

In addition to the practical vegetable garden, Lyon made certain that, in keeping with the size and character of his estate, there were also formal gardens. At the back of the house one garden had a masonry seat (still useable) at one end and two wells to supply water. The second formal terraced garden was reached by steps from an open deck at the west of the house. Figure 12 shows this garden as it was originally laid out and portions of the garden are still visible because of the stone construction, including steps.

Table 3B. Lyon Site Artifacts. The Later Years: Materials from trash pit used during the time of James B. Lyon II (1858-1929) and his wife, Anita Thompson Lyon (1869-1921) in the house.

1890-1920	"Gordon's" gin bottle	3
1891-1910	serving dish, "Gruber-Schwalb, Carlsbad"	2
1891-1910	whiteware, blue leaves with gold stripe around the center	1
1891-1930	Austrian porcelain plates and cup, "Imperial Crown China"	13
1892-1917	French porcelain fragments, "T & V Limoges"	3
1893-1930	Haviland porcelain dinnerware sold by Van Heusen Charles Co. Albany, NY	37
1896-1900	French serving dish, "Limoges, Van Heusen Charles, Albany, NY"	5
1896-1910	French porcelain cup fragments, "M. Redon, Limoges"	2
?	thick pieces of marble sinktop	7
1900-1920	mold-created pressed aqua glass fragment	1
1900-1920	whiskey bottles, "Lincoln Inn"	3
1900-1920	bedpan, "Royal China International"	1
1900-1920	children's bowl & plate fragments (German), Jack & Jill nurseryrhymes	6
1900-1920	carnival glass fragment	2
1900-1930	candle holder; clear glass fragment with leaf pattern	1
1900-1930	art pottery fragments; believed created by Anita Lyon in pottery class	24
1900-1930	pressed glass cruet fragment with handle	2
1900-1930	ink bottle, "Higgins Inks"	1
1900-1930	"Maggi" meat sauce bottles; various sizes	6
1900-1930	pitcher fragments, "semi-porcelain, Johnson Brothers, England"	2
1900-1930	mold-created ceramic doll head	1
1900-1930	transfer-printed porcelain saucer fragments	5
1900-1930	porcelain fragments, some marked "Selesia"	6
1900-1948	pale green glass bottle; beaver design embossed on base	1
1900-1946	milk glass cosmetic cream jar, "Manly James"	1
1905-1925	German art figurine; white, very thin porcelain	1
1908-1927	porcelain dish fragment, "Anchor Pottery"	2
1909-1929	medicine bottles, screw caps, complete	36
1909-1958	bitters bottle & fragment; "Angostura," J. B. Siegert & Sons	2
1910-1920	porcelain candy dish, complete	1
1910-1919	ironstone fluted saucer and fragments; "Homer Laughlin	48
1910-1930	flower bowl; milk glass interior, beige coating exterior	1
1910-1930	porcelain tray for condiments	1
1910-1930	toy blocks, colorless rubber	2
1910-1940	stoneware crocks with brown bands	2
1911-1929	lotion bottle, "Frostilla, Elmira, NY"	1
1911-1929	ketchup bottle, "Curtice Brothers, Rochester, NY"	1
1911-1930	porcelain saucer with thin, gold stripe, "Noritake M"	1
1916-1929	ceramic fragments marked "semi porcelain, Blackstone Ridgeways"	11
1916-1929	bottle made of crackled glass, "Wildroot" hair tonic	1
1920-1930	ironstone teapot with exterior gold flower pattern; white glaze interior	1

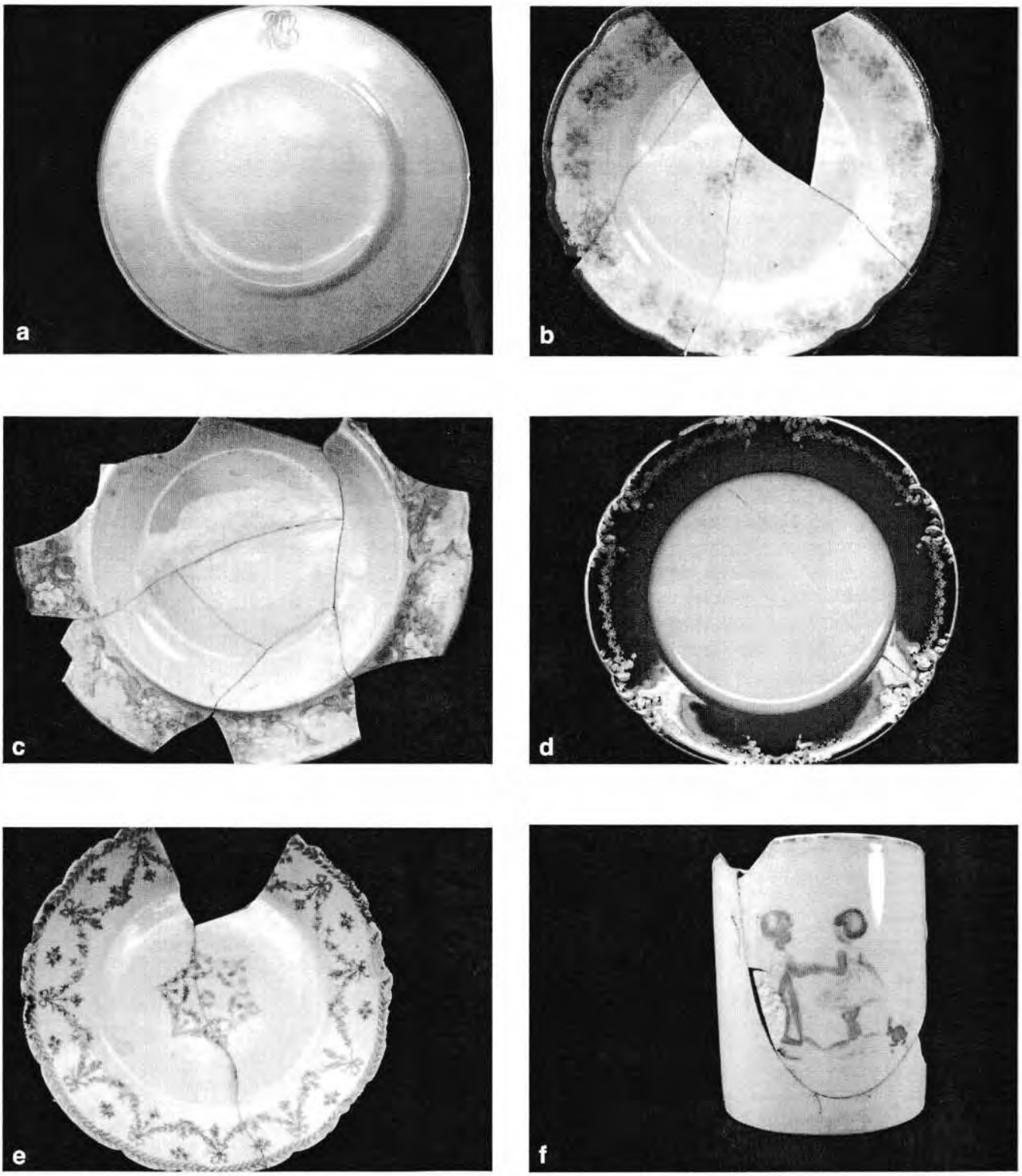

Figure 9. Artifacts dating to the Later Years (1896-1929): **a**. porcelain luncheon plate with initials "ATL" (Anita Thompson Lyon) "Haviland & Co. Limoges pour the Van Heusen Charles Co."; **b**. porcelain luncheon plate "Imperial Crown China, Austria"; **c**. soup dish, porcelain, "The Van Heusen Charles Co. Albany, N.Y. – ELITE – Limoges, France"; **d**. dinner plate, porcelain "Made for The Van Heusen Charles Co., Albany, MR France"; **e**. dessert plate, porcelain "DH Field Haviland, Limoges" **f**. child's cup, porcelain, "Arabia, Suomi, Finlandia, 95 Made in Finland."

The James B. Lyon II Paper Trail

Two biographical sketches pick up the story of James B. Lyon II. The first was published in 1898, toward the beginning of his rise to prominence, and the second in 1929, the year of his death:

> Born March 25, 1858, in Middle Granville, Washington County, New York, James B. Lyon II was a farmer's son. ... He began to work for his living at fourteen years of age, becoming a clerk in a bookstore in Gloversville, N.Y., where he remained five years. ...
>
> Mr. Lyon's first business venture (in Albany, N.Y.) involved selling stationery from office to office and store to store in 1876. ... (Later), he began selling blank books. ... The next year he became proprietor of an establishment consisting of himself and (one other) man and began to make blank books. ...
>
> In less than twenty years, (his business has become) one of the largest and best equipped printing and binding establishments in America, capable of handling with accuracy and promptness the vast amount of legislative printing of the state of New York, and of printing and binding thousands of books annually. ...
>
> In 1893, he organized a company with a capital of $100,000, of which he was the principal subscriber, for the purpose of attracting manufacturing industries to the city. He also built ... a factory supplied with heat, lights, and power; offering inducements to outside manufacturers, which resulted in the establishment of several new industries furnishing employment to hundreds of men. ...
>
> When not attending to business, he forgets its cares in the charms of rural life at his beautiful home (near) the banks of the Hudson River (in the town of Bethlehem) [Matthews 1898:82-83].
>
> Mr. Lyon was the type of businessman which (sic) has made Albany known throughout the world for its high standards of products, for its ideals of business honor, and for its progressive methods. ... Personally a man of pleasing manners, of cheery good nature, and loyal in his friendships, he made a host of friends. ...
>
> The business which still bears his name, though he retired from it ten years ago, developed under his direction into the largest individual printing plant in the country [Hills 1929: unpaged].

Although supportive of political figures, Lyon never aspired to political office. His business career was barely getting off the ground when Democratic candidate John Boyd Thacher was elected mayor of Albany on April 13, 1886 (Reynolds, 1906:678). Since Lyon regularly investigated ways to increase business opportunities in the city, it is safe to assume that he cultivated meetings with Thacher in the new City Hall, built in 1881. One intriguing program was "the J. B. Lyon Fund for Public Improvement (which) closed with the 100th subscriber (after reaching) $100,000 on May 10, 1893" (Reynolds 1906:726). In 1888, Lyon received his first printing contract from the state of New York. He incorporated his business interests under the name J. B. Lyon Company in 1889, and in 1900 the Albany plant of Wynkoop-Hallenbeck-Crawford, large and well-known printers, was absorbed. Since the International Brotherhood of Bookbinders of America convened in City Hall on May 1, 1894 (Reynolds 1906:731), it is reasonable to assume that Lyon was sharing some of his Public Improvement Fund money in Albany with the city and state.

Lyon had always had a reputation for honesty. However, his company's name was frequently mentioned in connection with a local scandal in the 1920s:

> The Albany Baseball Pool, which had originated as an in-house company pool at the J. B. Lyon Printing Company in 1905, had expanded into a multimillion-dollar business which the O'Connells (Daniel P. O'Connell was a local Democratic leader) virtually controlled. In 1927 Dan pleaded guilty in a Boston federal court to a minor violation of the anti-lottery

Figure 10. Home (c. 1915) as remodeled by James B. Lyon II in 1907 (Note incorporation of Cooper's 1836 home on the right). Photo courtesy of the Lyon family.

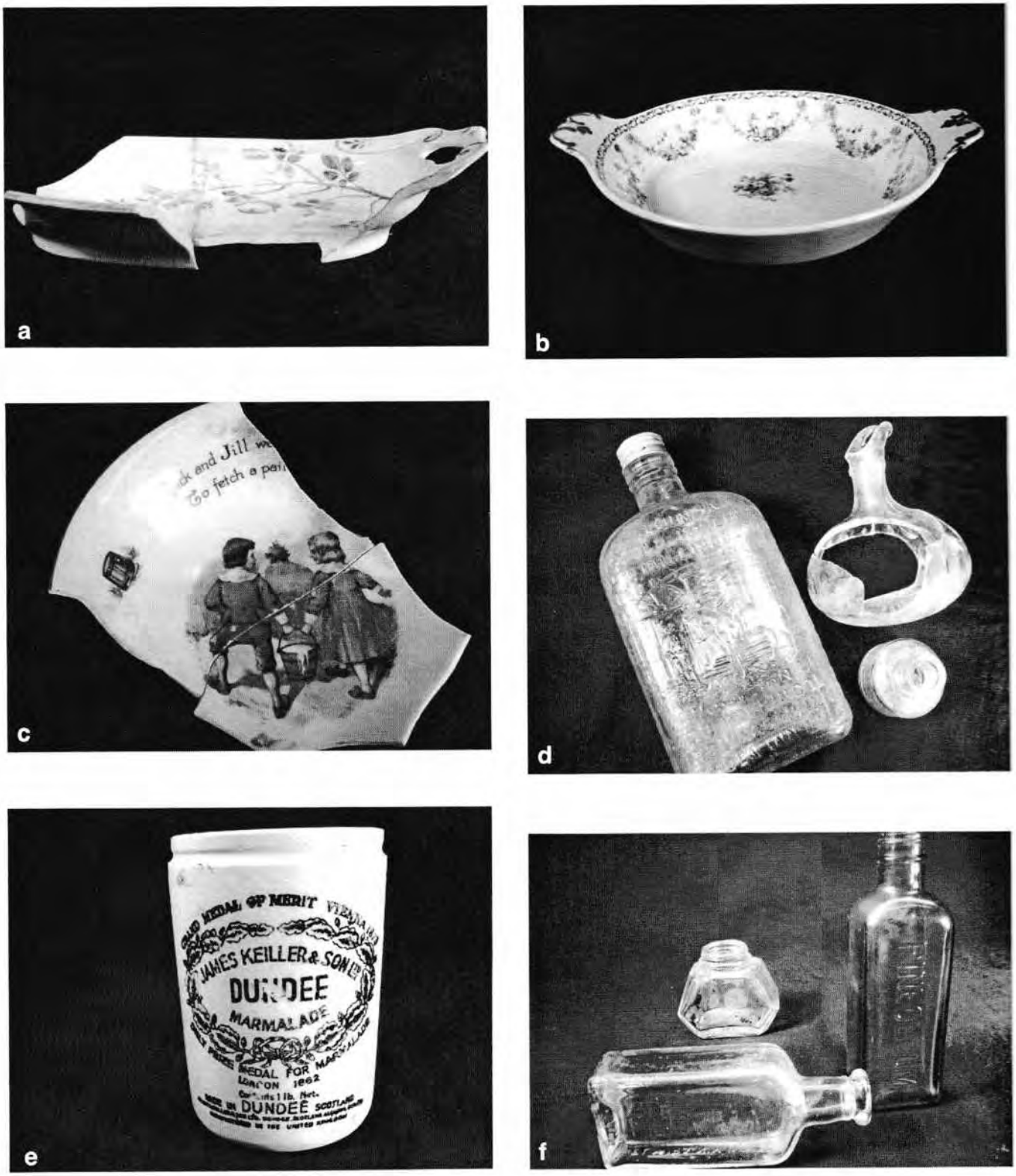

Figure 11. Artifacts dating to the Later Years Continued (1896-1929): **a**. serving dish, porcelain "Gruber Schwalb, Carlsbad"; **b**. candy dish "Porcelain a Feu for Richard Briggs Co., Boston"; **c**. children's porcelain bowl fragments "Germany" Jack andf Jill nursery rhyme; **d.** whiskey bottle "Lincoln Inn"; cruet (pressed glass); ink bottle "Higgins Inks"; **e**. jar, ironstone "Dundee Marmalade"; **f**. ink bottle "Waterman's"; medicine bottle "Pinoleum" "Frostilla" (Elmira, NY).

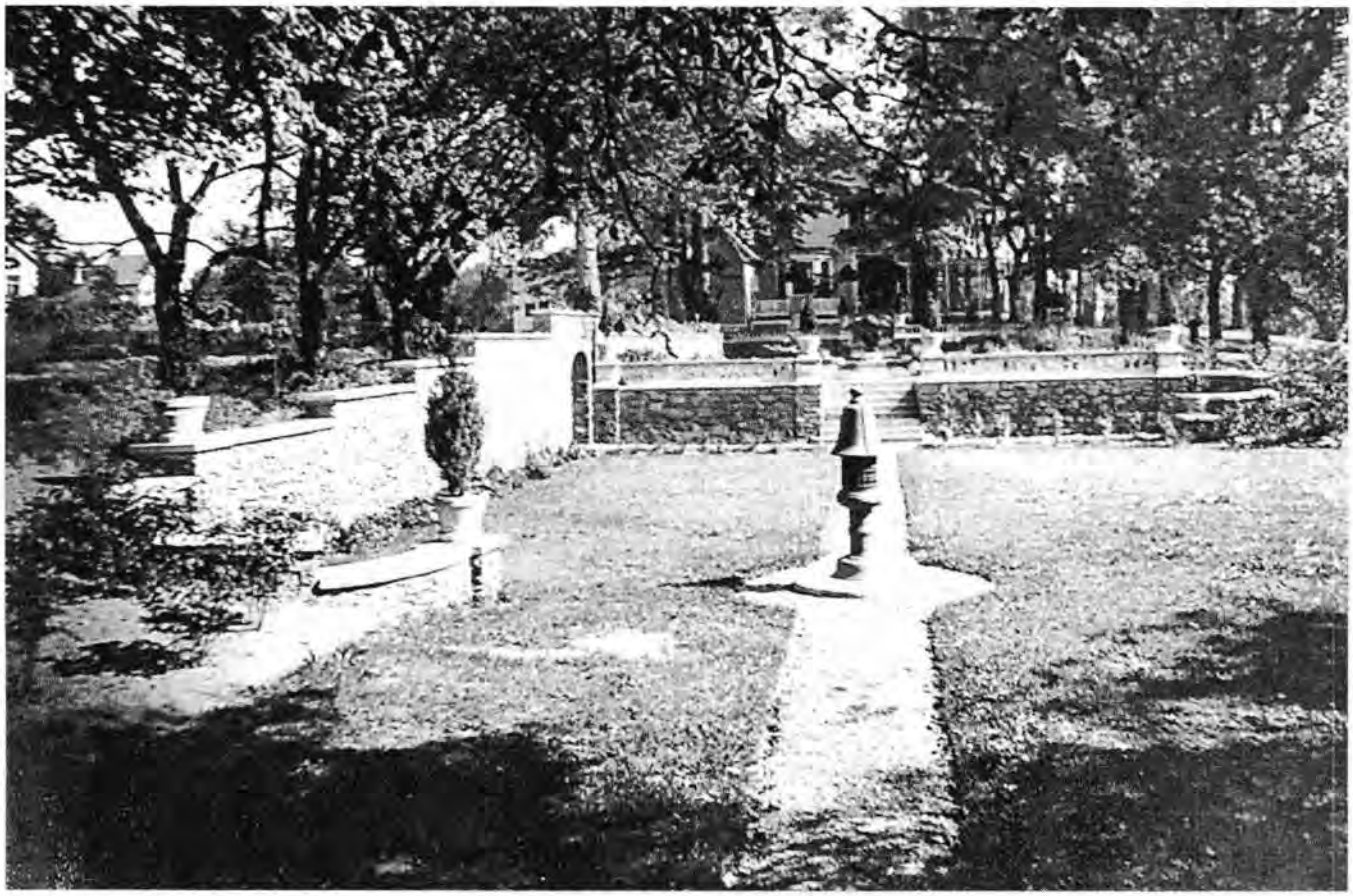

Figure 12. Lyon Estate formal garden. Photo courtesy of the Lyon family.

> laws and was forced to pay a fine of $750. In 1929-30 the gambling connection again surfaced, this time involving charges that the pool was crooked—rigged to favor O'Connell's henchmen, who would either force winners to split the proceeds of the pool with fictitious tying ticket-holders or would fix the pool in various ways so that party loyalists were in a better position to win. In 1929, Dan O'Connell served two days in a New York City jail for contempt of court. The next year he spent 90 days in jail, in an extremely luxurious incarceration that allowed him occasionally to be escorted to Broadway shows [McEneny 1981:154].

One of the Lyon company's major productions came in 1906:

> On April 16, 1906, the J. B. Lyon Company, a large printing firm in the city, astonished people by blowing a whistle loudly at 11 a.m. as an announcement of the completion in its entirety in eight days by three shifts, of the seven large volumes containing the report of the Armstrong Legislative Committee investigating insurance companies. (The Armstrong Report) comprised nearly 10, 000 pages. ... It involved the handling of twenty-seven tons of linotype and thirteen tons of stereotype metal. Three carloads of paper were transported in special cars from a point in northern New York.

Among the well-known sets (of books) which Lyon has printed and bound complete are the *National Encyclopaedia of American Biographies*, in 20 volumes, *McKinney's Consolidated Laws*, in 70 volumes, *The German Classics*, in 20 volumes, *The Nature Lover's Library*, in 6 volumes, *The Encyclopaedia Americana*, in 30 volumes, *Masterpieces of the World's Literature*, in 40 volumes, and *Library of the World's Best Orations*, in 10 volumes [Reynolds 1906:803].

When Mr. Lyon retired in 1916, the Lyon Block on Market Square, with more than 200, 000 (square) feet of floor space, was none too large for the company [J.B. Lyon Company 1920-29 unpaged and undated].

Shortly before his retirement, Lyon sold the business to a group which included his son James B. Lyon III, Earnest A. Barvoets, Daniel H. Winchester and Charles M. Winchester, who directed the planning and construction for a new physical plant in Menands, just beyond the North Albany boundary. For years, Mr. Barvoets had served as Mr. Lyon's right-hand man and knew the business inside and out. He became Vice President of the company after Mr. Lyon retired. Charles Winchester became President.

Long a fan of the Albany Club, Mr. Lyon spent even more time there after retirement, often with his son James B. Lyon III, the two Winchesters and Earnest Barvoets, endlessly going over ideas for the new physical plant in Menands which measured 500 ft x 212 ft and included more than six acres of floor space. The senior Mr. Lyon may have retired but he was forever a kindred spirit to those running the business after 1916, praising their ideas and making suggestions for implementing them. Unfortunately, Mr. Lyon died of pneumonia at age seventy on January 16, 1929, a few months before the new plant opened. His wife, Anita Thompson Lyon, had predeceased him on February 5, 1921.

A fellow printer described his feelings on Mr. Lyon's death and prepared a leather-bound record of his words to present to the Lyon family. A few salient excerpts:

> A very gentle and a very brave spirit passed from this world when James B. Lyon [II] of Albany answered the Great Roll Call. He touched life at so many points, was so active and helpful, that the force of his energy and wisdom was felt everywhere. No worthy cause was neglected by him, whether it was of great or small import. His time, his money, his advice and his sympathy were always at the service of the community as well as an army of employees and to a great number of men throughout the State [of New York]. ...
>
> In 1878 six employees constituted the force and a hundred dollars more than met the weekly payroll. At the time of his retirement in 1916, 1,000 hands made the wheels of the great establishment go around and more than $10,000 a week was in the payroll. ...
>
> A man with the polish of much travel and contact with people, Mr. Lyon was of high intelligence, well informed, and a most delightful companion socially, and in the business world he was equally popular and admired. He was of a kindly, genial disposition, devoted to his family, and the soul of uprightness ...
>
> Several times Mr. Lyon was offered public office but he declined to enter politics although he attended every Democratic state and national convention for many years. He was a widely known sportsman and at one time owned a large steam yacht. He numbered among his personal friends, President Grover Cleveland, former Governors David B. Hill, Roswell P. Flower and Martin H. Glynn; and former United States Senator Edward Murphy of Troy (NY) ... [Hills 1929: unpaged].

James B. Lyon II married Anita Thompson in 1889. Their first child, Roswell Lyon, died as an infant. Their second child, James B. Lyon III graduated from Albany Academy and Georgetown University. He served in World War I and later became Vice President and Treasurer of the Fischel Paper Company in Philadelphia. Eventually, he returned to Albany to work in his father's printing business.

James B. Lyon III married Jeannette Baker, with whom he had one child: James B. Lyon IV, who was killed in World War II. They divorced and James married Marie Jugelt, with whom he had three children: Mary Elizabeth Lyon, William Thompson Lyon, and Robert Leigh Lyon. The last three children all married. Mary Elizabeth had two children,, William Thompson Lyon had three, and Robert Leigh had two. James B. Lyon III died of a heart attack in 1939 at the mansion in Cedar Hill.

With three children of the Lyon family at the house during the later years, archaeologists working on the site expected to find evidence of toy usage and they were not disappointed. An intact, hand-made toy boat was recovered from the main trash pit, along with a hard rubber toy tractor, a metal wheel from a toy car and a toy revolver (Table 4). Several items for a little girl's dollhouse were recovered from the same trash pit, including a white porcelain toilet bowl, a plastic washing machine, and a plastic plate. Children of both genders would have enjoyed the hard rubber blocks, glass marbles with bright, swirling colors, and the novelty bottles which were once filled with perfume and tempting bits of candy (Figure 13). Porcelain figurines may have brightened mantle pieces in the house, since several broken figurines were recovered from the main trash pit. This was a growing niche in the American market and a bonanza for producing countries such as Japan and China.

The authors of this article grew up during this time period and were not surprised to see containers for products they had used in their own families: "Absorbine Jr.," manufactured by the W. F. Young Company of Springfield, Massachusetts; "Pinoleum;" "Antrol," produced by the A. S. Boyle Company of New Jersey, "Grape Drink," sold by the Monarch Nugrape Company; and "Vaseline Petroleum Jelly," created by the Chesebrough Manufacturing Company. The discovery of such containers on this site

brought remarks from archaeologists, such as "We used that in our home!" and "This product really worked!" It was, and still is, an age when it seemed that there was a solution for every human need in bottles, metal boxes, and related containers. All one had to do was describe a problem to the storekeeper and he or she would haul out any one of hundreds of products to solve it. Some came with unappealing names such as "Platt's Chloride Household Disinfectant," and others sought to sell their product with fancy words such as a baby bottle embossed with the word "Cleaneasy," both of which were recovered from the main trash pit on this site.

When she was shown the De Soto "Airscoop" automobile hood ornament found on this site, Mary Elizabeth Van Oostenbrugge immediately talked about her father James B Lyon III's love for cars:

Table 4. Lyon Site Artifacts, The Later Years: James B. Lyon III (1890-1939), his second wife, Marie Jugelt, and children remained in the mansion until 1959. James B. Lyon III died of a heart attack in 1939.

1929-1930	medicine bottle "Absorbine, Jr., W. F. Young, Springfield, Mass."	1
1930-1950	medicine bottle, green, "Pineoleum"	1
1930-1954	medicine bottle, "Rawleigh's"	1
1929-1960	gin bottle, "Gilby's"	1
1930-1960	bottles; ant poison, "Antrol, A. S. Boyle Co., Los Angeles & Jersey City"	3
1924-1934	toy homemade sailboat	1
1928-1940	white bisque mouse figurine, "Walt E. Disney, Made in Japan"	1
1930-1940	small, pressed-glass dish	1
1930-1940	solid metal wheel from a toy, flashes of red paint	1
1930-1940	clay pigeon for shooting skeet	1
1930-1940	sauce bottle, "St. Denis"	1
1930-1945	kitchen orange juicer, "Sunkist"	1
1930-1945	bottle, "Platt's Chloride Household Disinfectant"	1
1930-1950	Japanese porcelain flower holder; figurine of a bird in the middle	1
1930-1950	white porcelain toilet stool for a doll house	1
1930-1950	bottle, grape drink, "Monarch Nugrape Co."	1
1930-1950	white porcelain Japanese figurine of horses	1
1930-1950	metal toy revolver	1
1930-1950	novelty bottles, clear glass shoe, lantern & fire engine	3
1930-1960	petroleum jelly jar, "Vaseline, Chesebrough Mfg. Co., CD"	1
1930-1960	pressed glass bowl, embossed with shield & figure of a lion	1
1930-1950	glass marble with bubbles & orange swirl	1
1930-1965	early plastic toy washing machine	1
1931-1934	pink raised hobnail bowl fragments, "American Pioneer"	1
1931-1946	French porcelain teacup, "PL, Limoges, France"	1
1932-1986	bottle, "Madison Beverages, Albany, NY"	1
1933-1954	brandy bottle, "Le Roux"	1
1933-1954	amber whiskey bottle, "Heublein since 1875"	1
1933-1970	gin bottle "Old Bushmill's, Ireland" with embossed design	1
1935-1938	medicine bottle, "Lydia Pinkham's"	1
1935-1945	ceramic ceiling fixture for globe, pull-chain light	1
1935-1945	ceramic fragments of two umbrella stands, gaudy designs	5
1938-1946	ink bottle, "Waterman's"	1
1938-1986	bitters bottle, "Burnett's"	1
1939-1957	whiskey half pint bottle, "Christian Brothers, California"	1
1940-1960	aqua beer bottle, "Weber's Star Bottling Works, Albany, NY	1
1940-1960	white porcelain bear figurine fragments	2
1952-1954	De Soto car hood ornament, "Airscoop"	1

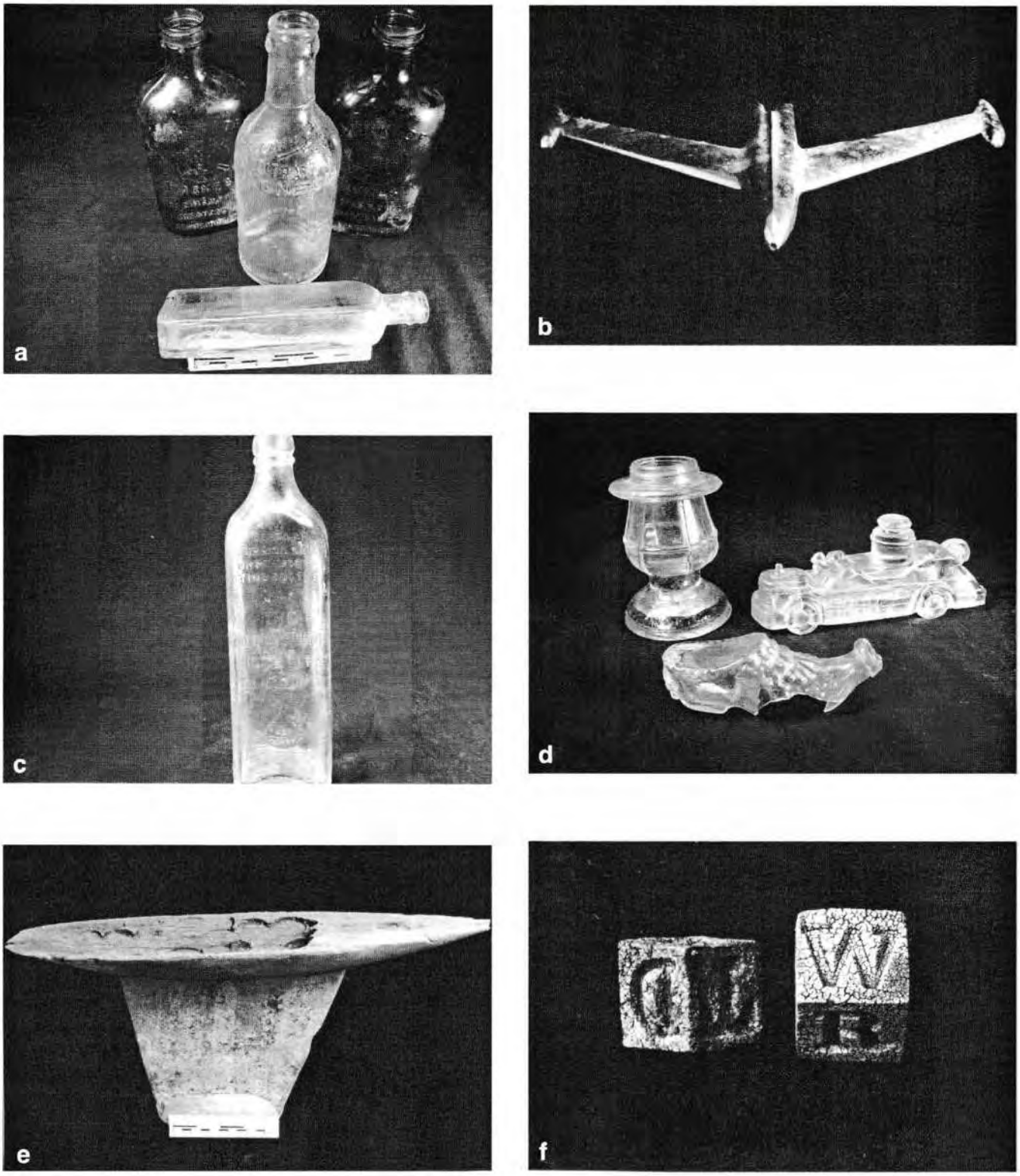

Figure 13. Artifacts dating to the Later Years Continued (1929-1959): **a**. medicine bottles, two "Milk of Magnesia," clear glass bottle "Pasteurized Citrate of Magnesia, The Ideal Saline Laxative. Dose – adults one half to one bottle as desired. Children in proportion to age"; flat bottle: "Chas. H. Fletcher's Castoria"; **b**. De Soto "Airscoop" automobile hood ornament; **c**. gin bottle "Old Bushmill's Distilling Co. Limited, Ireland"; **d**. glass novelty containers for candy. The glass shoe is a perfume bottle with "LM" embossed on the sole. **e**. sailboat, wooden hand-made toy; **f**. children's blocks (rubber).

> Cars were his big thing. He went to the Indianapolis 500 every year. He put on lavish parties for us kids and had a bus bring the guests (Mary Elizabeth Van Oostenbrugge, interview with Edward Homiller, archaeologist, March 17, 1986).

Gin was still the most popular drink at parties, although the brands used were no longer the expensive Gordon's. Toward the mid-twentieth century, guests were served gin bottled by Old Bushmill's of Ireland, and Gilby's of England. Now many guests preferred whiskey bottled by the Heublein and Christian Brothers companies, as well as beer bottled by the Weber's Star Bottling Works, Albany, NY, judging from containers recovered from the main trash pit on the estate.

Summary

The Lyon site has long been the home of persons of significance. First came Captain Boyd, who was succeeded by General Cooper with his statewide connections, and then by James B. Lyon II, who owned an important publishing house and had major political contacts. This house was in fact the country manor to which they would retreat from their public duties and responsibilities.

Acknowledgements

This paper was composed in large part by Floyd I. Brewer shortly before his death on November 8, 2005. Minor changes have been made for clarification by Peter R. Christoph, with advice from co-author Clark H. Galloway, who also prepared the photographs and layout, and from laboratory director Ann S. Jacobs. Field director Chester H. Bolen arranged the maps and drew the site diagram and grid.

A considerable debt is also owed to Mrs. Jacobs and Edward D. Homiller, who at the time of the Lyon dig were associate field directors, for their hard work and conscientious record-keeping, which moved the archaeological work along despite the heavy pressures involved in keeping three sites going between 1984 and 1987. Without their energetic contributions, this project would never have been completed.

Further, James B. Lyon's granddaughter, Mary Elizabeth Van Oostenbrugge, and her daughter, Jean Langdon, were continually helpful to the Bethlehem Archaeology Laboratory staff in providing information which rendered this report far more complete. Richard W. Hughes was responsible for the Geographic Positioning System work. James K. and Ann VanDervort aided in identifying ceramic artifacts. We are grateful to all these people.

In a similar vein, a number of regular volunteers did much of the excavation work along with sorting objects recovered from a huge trash pit: Roy Dietert, James T. Engleman, Benjamin and Virginia French, Amy and Lisa Gray, John and Rosemary Kohl, Bernard Lamica, Charles D. McKinney, Eleanor Norrix, William Wasserstrom, and Dorothy Zdgiebloski. Benjamin French took many pictures of work at the Lyon site; Charles McKinney photographed dozens of Lyon artifacts and Brian J. Gosselin worked long hours on the artifacts in the laboratory.

None of the many digs in the Town of Bethlehem which led to several published papers, nor for that matter the published town history, would have happened without the leadership of Floyd Brewer. First came the courses he taught at the local community college which produced a number of eager amateurs and led to his organizing the Bethlehem Archaeology Group and the current Bethlehem Archaeology Laboratory. All of the personnel were trained by Floyd Brewer. Archaeology was the subject matter that brought the people together, but the special reward for all of us was knowing Floyd.

References Cited

Albany County, New York, County Clerk's Office
1836 Full Covenant Warranty Deed, Book # 55, October 13, 1986.

Brewer, Floyd I.
1990 700 Years of Ceramics on the Nicoll-Sill Estate, Bethlehem, New York. *The Bulletin*, Journal of the New York State Archaeological Association 101: 10-26.

1992 Albert Bradt, Tobacco Planter, and the Smoking Pipe Story in Early Bethlehem, New York. In *Proceedings of the 1989 Smoking Pipe Conference*, edited by Charles F. Hayes, Connie Cox Bodner and Martha L. Sempowski, Research Records # 22, pp. 151-161. Rochester Museum & Science Center, Rochester New York.

Brewer, Floyd I. (senior editor)
1993 *Bethlehem Revisited, A Bicentennial Story 1793-1993*. Bethlehem Historical Committee, Bethlehem Historical Commission. Lane Press of Albany, New York.

Cedar Hill Store Ledger, Selkirk, New York
1840 Record of Customer Purchases, 1840: unpublished and unpaged. Name of grocer unavailable.

Dineen, Robert J.
1986 Deglaciation of the Hudson Valley Between Hyde Park and Albany, New York. In *Wisconsin Stage of the First Geological District, Eastern New York*, edited by Donald H. Cadwell, University of the State of New York, State Education Department, Bulletin No. 455: 102-105.

Encyclopedia Americana
1994 "Food, Drug, and Cosmetic Act of 1938" Volume 11:521.

Fike, Richard
1987 *The Bottle Book: A Comprehensive Guide to Historic Embossed Medicine Bottles*. Gibbs and Smith, Peregrine Smith Books, Salt Lake City.

Hills, Frederick S. (editor)
1929 *New York State Men*. The Albany Argus Art Press, Albany New York.

Howell, George R. (ed-in-chief) and Jonathan Tenney (ed)
1886 *Bicentennial History of Albany County, New York, From 1609-1886*. W.W. Munsell Printers, Albany, New York.

Knickerbocker News
1964 "Fire Wrecks Old Mansion," May 28, 1964.

J. B. Lyon Company
1920-29 *Evidence*: J. B. Lyon Company Newsletter, unpaged and undated. Albany, New York.

Matthews, George E. and Co. (publisher)
1898 *The Men of New York*, Vol II. George E. Matthews and Co. , Buffalo New York.

McEneny, John
1981 *Albany, Capital City on the Hudson: an Illustrated History*. Windsor Publications: History Book Division, Woodland Hills, California.

McLaughlin, Pegeen
2003 Painted Pearlware from the Picotte Site. In *People, Places and Material Things: Historical Archaeology of Albany, New York*, edited by Charles L. Fisher, Bulletin 499, pp. 135-149. New York State Museum, The University of the State of New York, State Education Department, Albany New York.

Miller, George L.
1980 Classification and Economic Scaling of 19th Century Ceramics. *Historical Archaeology* 14:1-40.

Munsell, Joel
1871 *Collections on the History of Albany From its Discovery to the Present Time*, Volume 4, Munsell & Rowland, Albany, New York.

Regan, Peter T., Robert H. Fickies and Robert J. Dineen
1982 a Engineering Geology Classification of Soils of the Albany, New York, 15 Minute Quadrangle, New York State Museum and Science Service, Map and Chart Series 36, Albany, New York.

1982b Geologic Hazards and Thickness of the Overburden of the Albany, New York 15 Minute Quadrangle, New York Museum and Science Service, Map and Chart Series 36. Albany, New York.

Reynolds, Cuyler
1906 *Albany Chronicles*, J. B. Lyon, Printer, Albany, New York.

South, Stanley
1985 Button Typology. In *Artifacts of Colonial America*, edited by Ivor Noël Hume, pp. 90-92. Alfred A. Knopf, New York.

Structural Variation among Oneida Longhouses Dating to the Sixteenth-Seventeenth Centuries

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Virtually all excavated remains of Oneida longhouses in central New York date to between the early sixteenth and middle seventeenth centuries. This article synthesizes various structural data recovered at 16 longhouses on 10 Oneida sites and reported by members of the Chenango Chapter of the New York State Archaeological Association for over four decades. The observations, interpretations, and longhouse floor plans made by the avocational archaeologists themselves are reproduced here to provide greater accessibility beyond the original reports published in the chapter bulletins. Given some limitations of the presented database, only a limited comparative analysis is possible concerning the structural variation among these longhouses.

Introduction

The purpose of this article is to synthesize available structural data on the excavated remains of Oneida longhouses in Madison and Oneida Counties of central New York. The information was collected by numerous members of the Chenango Chapter of the New York State Archaeological Association over more than 40 years, beginning in 1961.[1] These chapter digs have focused on reconstructing Native American settlement patterns in general and recovering evidence of the bark-covered structures in particular (Pratt 1991). Almost all the reports on Oneida longhouse excavations have been published in the *Bulletin of the Chenango Chapter of the New York State Archaeological Association*, with very limited circulation. This article will enable significant archaeological data on Oneida longhouses to be more accessible to a wider audience, thereby facilitating continued research on Iroquois structural remains.

Detailed information is presented here from a total of 16 longhouses uncovered at 10 Oneida sites dating to between the early sixteenth and middle seventeenth centuries (Figure 1). The remains of these buildings, most excavated completely, are represented in approximate chronological order in Tables 1, 2, and 3, which present a plethora of structural attributes, including various measurable dimensions. The tables also include more limited information on partially unearthed buildings (at Bach, Stone Quarry, and Cameron sites). Data on other longhouses, briefly discussed in the text, are not listed in the tables because incomplete excavation has resulted in even fewer structural details. All the information in the tables is summarized from observations and interpretations made by Chenango Chapter excavators, except for a few estimated measurements based on long-

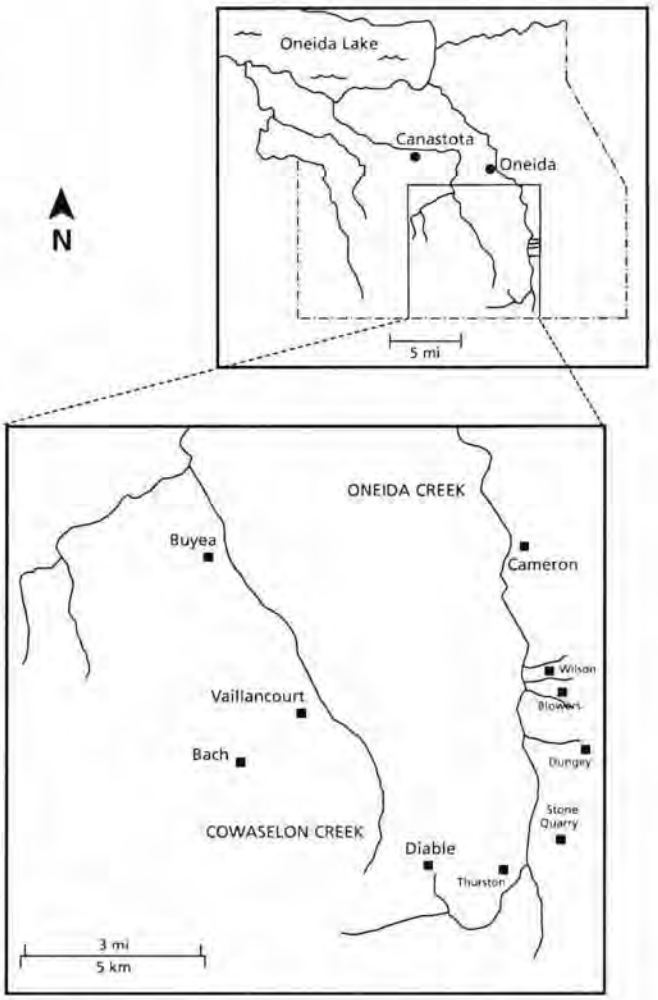

Figure 1. Location of Oneida sites discussed in the text (After Gibson 1971:Plates 1, 2; Gibson 1986:Figure 1; Pratt 1976:171; Wonderley 2006:4).

[1] Theodore Whitney, Stanford Gibson, Richard Hosbach, Alexander Neill (all four deceased), Edwin Gibson, Francis Hailey, Monte Bennett, Susan Young, Gerald Hayes, and Daryl Wonderly have been the principal Oneida longhouse excavators and authors from the Chenango Chapter. Bennett, Young, Hayes, and Wonderly are still actively excavating and reporting on Oneida longhouses.

house floor plans reproduced in this article (Figures 3 to 15).

The field techniques employed in excavating the 16 longhouses involved tremendous amounts of effort to expose large horizontal surfaces necessary to locate the presence of subsurface features (i.e., especially postmolds, but also hearths, storage and refuse pits, etc.). Different methods of removing the overburden to reveal traces of features consisted of entirely hand-shoveling and troweling standard unit squares (e.g., 5 x 5 ft, 1 x 1 m, or 2 x 2 m) or machine-stripping approximately 20-35 cm (7.9-13.8 in) of dark topsoil, followed by subsurface scraping by hand with shovels and trowels. In both cases, excavation stopped once culturally sterile subsoil was reached, usually in the form of a lighter colored clay deposit composed of hardpan. While all discovered features were mapped, not all presumed postmolds were excavated or even sectioned due to time constraints. In some cases, these unconfirmed postmolds were only probed with a metal rod to determine approximate depth. Sifting was not always utilized and rarely was flotation, so the recovery of artifactual, faunal, and floral remains

Table 1. Summary of Longhouse Statistics from Oneida Sites.

Site	Orientation	Length (m)	Width (m)	Door Width (m), Locus	Corridor Width (m)	No. of Features	No. of Hearths, Roasting Features, Fire Pits in Corridor
Buyea	NW-SE	36.0	5.25	2.2, N End 2.2, E End or 1.5, N End 1.5, N End 2.0, S End	2.0	13	13
Vaillancourt House I	NW-SE	76.0 or 63.0	6.0	NR	2.0	NR	NR
Bach	NW-SE	17.4*	4.6-5.5	NR, S End?	1.8	11	8
Diable	NW-SE	29.5 or 32.0	6.0	NR	2.0	18	8
Cameron House I	E-W	32.3	5.7-6.6	2.7, E End 1.5, W End 1.5, W End	2.2	13	8
Cameron House II	N-S	18.3-19.8	6.1	NR	2.0	8	2
Cameron House III	NR	30.5	8.2	NR	NR	NR	NR
Cameron House IV	E-W	14.0-13.7	5.9-6.0	1.5, E End 1.2, W End	NR	6	3
Cameron House V	E-W	19.96*	6.1-6.4	NR	2.1	NR	NR
Wilson	E-W	27.05-29.01	6.07	2.0, W End 1.29, E End	2.3	12	7
Blowers	NW-SE	25.9	5.9-6.1	NR	1.8-2.1	19	6
Thurston House I	NE-SW	15.2	7.6	NR	1.8	5	0
Thurston House II	NE-SW	19.5	6.1	NR	NR	10	6
Stone Quarry House I	NW-SE	7.0*	NR	NR	NR	NR	NR
Stone Quarry House II	N-S	11.6*	NR	NR	NR	NR	NR
Dungey	N-S	9.9	7.3	2.0, W Side 1.0, E Side 1.8, E Side 2.25, S End	4.0	6	4

NR not reported

* partial excavation of longhouse

Table 2. Summary of Longhouse Side Wall Statistics from Oneida Sites.

Site	No. of North or West Side Wall Posts	No. of South or East Side Wall Posts	North or West Side Wall Post per Meter Ratio	South or East Side Wall Post per Meter Ratio	Avg. Spacing of North or West Side Wall Posts (cm)	Avg. Spacing of South or East Side Wall Posts (cm)	Avg. Diameter of North or West Side Wall Posts (cm)	Avg. Diameter of South or East Side Wall Posts (cm)	Avg. Subsoil Depth of North or West Side Wall Posts	Avg. Subsoil Depth of South or East Side Wall Posts
Buyea	29	41	0.8	1.1	125.0	89.0	9.0	8.0	28.0	28.0
Vaillancourt House I	104	104	1.3	1.3						
Bach*										
Diable										
Cameron House I	36	50	1.1	1.5	61.0	57.1				
Cameron House II					55.9	71.1	7.8	8.4	29.2	26.9
Cameron House III										
Cameron House IV	31	28	2.2	2.0			6.8	6.8	12.7	19.8
Cameron House V*										
Wilson	70	77	2.5	2.6	41.6	37.3	16.9	16.6	29.2	40.2
Blowers	46	34	1.7	1.3	67.8	73.7	8.3	8.1	29.2	36.0
Thurston House I										
Thurston House II	28	32	1.4	1.6			7.0	7.1	27.9	26.4
Stone Quarry House I*										
Stone Quarry House II*										
Dungey	19	14	1.9	1.4	65.6	81.3	8.5	9.1	28.6	23.6

Blank spaces represent data that are not reported or that cannot be calculated.
* partial excavation of longhouse

was inconsistent and not maximized. Also, some projects that incorporated sifting used one screen mesh size (¼ or ⅛ in), while others used both. In many excavations, only the mechanically removed backdirt piles were sifted, thereby compromising accurate provenience recording of the recovered objects. Further, precise counts and descriptions of specific retrieved materials often were not recorded, making comparisons with artifactual, faunal, and floral remains from other longhouses difficult, if not impossible. Given these limitations and biases inherent in the database, this article focuses on longhouse information that is restricted to structural variables (summarized in Tables 1-3) and not on artifactual, faunal, or floral remains recovered within the buildings.[2]

In the next section, various structural attributes of more than 16 Oneida longhouses are discussed in ascending order based on estimated site age. First a brief overview of longhouse components is presented. The focus is on longhouses constructed by people of the Iroquois Confederacy in New York, also called Haudenosaunee (namely Mohawk, Oneida, Onondaga, Cayuga, and Seneca), which differ in some respects from those built by Northern Iroquoians of Ontario. The following summary is based on material in Engelbrecht (2003:68,70,77), Kleinmartin (2005:138,148,154), and Snow (1995:126,128,129; 1996:41,43,44; 1997:70). As illustrated in Figure 2, the typical longhouse consists of a central corridor or aisle in which hearths are spaced at regular intervals. Hearths and other features (e.g., storage,

[2] Pointing out such problems with the database is not meant to detract from the hard work and important contributions of the many Chenango Chapter avocational archaeologists and authors.

Table 3. Summary of Longhouse Benchline Statistics from Oneida Sites.

Site	Length of North or West Benchline (m)	Length of South or East Benchline (m)	No. of North or West Benchline Posts	No. of South or East Benchline Posts	North or West Benchline Posts per Meter Ratio	South or East Benchline Posts per Meter Ratio	Avg. Spacing of North or West Benchline Posts (cm)	Avg. Spacing of South or East Benchline Posts (cm)	Avg. Diameter of North or West Benchline Posts (cm)	Avg. Diameter of South or East Benchline Posts (cm)	Avg. Subsoil Depth of North or West Benchline Posts (cm)	Avg. Subsoil Depth of South or East Benchline Posts (cm)	Avg. Width of North or West Benchline (m)	Avg. Width of South or East Benchline (m)
Buyea	27.7	28.8	27	25	0.9	0.8			16.5	14.5	33.0	30.0		
Vaillancourt House I	60.0	60.0	76	64	1.2	1.0								
Bach*													1.8	1.8
Diable													2.0	2.0
Cameron House I	21.2	19.5												
Cameron House II														
Cameron House III														
Cameron House IV														
Cameron House V *														
Wilson	23.4	23.3	44	34	1.8	1.4	57.7	70.6	16.6	16.5	37.2	36.3		2.0
Blowers														
Thurston House I														
Thurston House II														
Stone Quarry House I *														
Stone Quarry House II *														
Dungey	4.75	4.95	15	11	3.1	2.2	47.5	65.0	9.4	9.5	17.3	21.8	2.25	1.5

Blank spaces represent data that are not reported or that cannot be calculated.
* partial excavation of longhouse.

refuse, and roasting pits, etc.), however, also may be located almost anywhere within the structure. Each hearth is shared by two nuclear families (average 10 people), one on either side of the common aisle. Both families occupy a single compartment, which is as long as the house is wide. The compartment contains two opposing cubicles, or berths, which take up about ⅔ of the length of the compartment. While the compartment is the standard house segment, the cubicle is the basic residence block, the smallest definable unit of living space, within the building. The cubicle resembles an elongated box, walled on three sides but open toward the fire and center corridor. Cubicles consist of sleeping platforms, also called side wall benches or bunks. Within each compartment, alongside the cubicles, is additional space for storage and work areas. In some longhouses, however, such as those at the Onondaga Weston Site, the cubicles may be too narrow for living area and sleeping platforms but wide enough for shelf/storage space (Sohrweide 2001:14). Beyond the end compartment(s) is often a storage area, also known as a lobby. Within the remaining space at the very end(s) of the longhouse may be a porch, sometimes referred to as a vestibule, which also could be used for storage, especially in cold weather. The lobbies and porches act as insulation for the interior residential space. In addition, wind breaks or baffles occasionally are placed at either end of the longhouse, just beyond the doorway(s), for further protection in winter. One or more additional entrances may occur along the side(s) of the building.

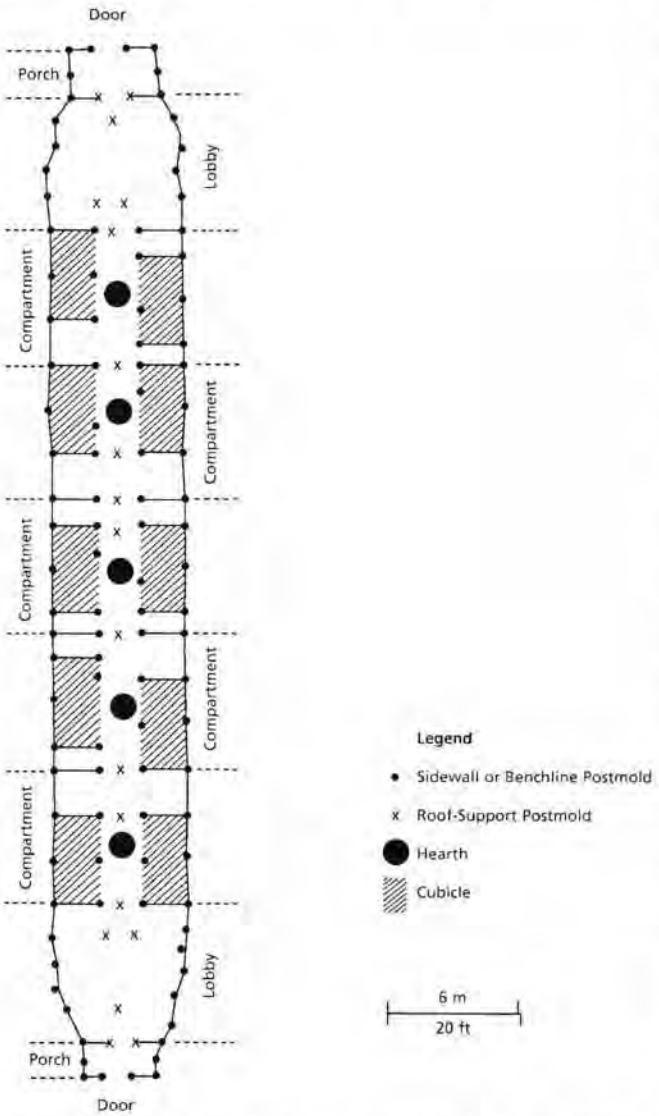

Figure 2. Schematic archaeological representation of longhouse floor plan (After Kapches 1993:148; Snow 1996:42).

The longhouse is often recognized archaeologically from four roughly parallel lines of postmolds representing the exterior side wall posts and the inner benchline support posts. Most interior postmolds represent the benchline posts among other posts that support the roof; benchline posts also may provide roof support. Each compartment, therefore, may consist of about 16 postmolds, four along either opposing benchline and four along either exterior side wall (Figure 2). As elaborated in the following section, the excavated Oneida longhouses possess several of these structural traits, though they do not conform entirely to the idealized pattern outlined here.

Oneida Longhouse Structural Data

Buyea Site

The Buyea Site (OND 13-3, a.k.a. Buyer) is the earliest known Oneida village that contains the remains of a longhouse.[3] Whitney (1970a:12) and Bennett (1999:21) estimate the age of the site to be c. A.D. 1520-1540. Buyea is situated on 1.2-1.6 ha (3-4 acres) (Pratt 1976:96). The remains of one longhouse were excavated by Theodore Whitney, Stanford Gibson, Richard Hosbach, Fred Chesebro, and other Chenango Chapter members during the late 1960s. Whitney (1970a:4) estimates that no more than a total of four longhouses were constructed at the site, given the amount of usable space.

The Buyea longhouse is 36 m (118.2 ft) in length and averages 5.25 m (17.2 ft) in width but narrows to a little more than 4.5 m (14.7 ft) at one point near a curve along the west (side) wall (Figure 3) (Table 1). The structure is oriented in a NW-SE direction (Whitney 1970a:2-3). While Whitney (1970a:5) identifies the presence of one doorway at

[3] According to Bennett (1979:10), an older longhouse was excavated partially at the Nichols Pond Site, which dates to approximately A.D. 1450-1475 (Pratt 1976:107,148; Wonderley 2006:1), but no additional information is available.

Figure 3. Floor plan of longhouse at the Buyea Site (After Whitney 1970a:5; 1970b:Plate 1).

each end, measuring the same 2.2 m (7.2 ft) in width, Hosbach (2006:3) reconstructs two entrances at the north end, each 1.5 m (4.9 ft) wide, and one door at the south end, some 2 m (6.6 ft) wide. Whitney (1970a:5) maintains that both ends appear to be square-cornered, although Hosbach (2006:2) states that the longhouse is oval-ended. Whitney's (1970a:3) interpretation of a row of postmolds, about 1 m (3.3 ft) outside the north doorway, as a wind shield or buffer makes sense given the prevailing northwesterly winter winds. Beyond this location, Whitney (1970a:3) notes a cluster of small postmolds that may have been used for drying racks. A larger postmold, situated 4.5 m (14.7 ft) from the north entrance, is suggestive of a signal or trophy pole (1970a:3), perhaps containing a clan symbol for the dwelling, similar to the painted animals on longhouse gables described by Van den Bogaert (1988:13) while visiting an Oneida village in 1634. The east (side) wall contains a total of 41 reported postmolds, which average 89 cm (35 in) in spacing between postmolds, 8 cm (3.1 in) in diameter, and 28 cm (11 in) in subsoil depth (Whitney 1970a:4) (Table 2). Only 29 postmolds are identified along the west wall. These features average 1.25 m (4.1 ft) in spacing, 9 cm (3.5 in) in diameter, and 28 cm (11 in) in subsoil depth (1970a:4). Similarly, the wall post per meter ratio for the east wall is 1.1, while that for the west wall is 0.8. Along the east wall are two loci consisting of small postmolds that suggest repair, according to Whitney (1970a:4): 1) a north locus curved out from the east wall, which may have been a small side entrance; and 2) slanting postmolds near the longhouse center along both the east and west walls, presumably providing additional structural support.

The central corridor is about 2 m (6.6 ft) wide and contains 10 "fire spots," 1 small hearth, and 2 roasting platforms, but no storage pits (Whitney 1970a:3) (Figure 3) (Table 2).[4] Hosbach (2006:2,3) tallies five compartments of varying lengths, each containing one hearth, and 18 center posts, mostly 5-8 cm (2-3.1 in) in diameter. A total of 25 postmolds represent the east bedline support posts, which average 14.5 cm (5.7 in) in diameter and 30 cm (11.8 in) in subsoil depth (Table 3). The length of the east bench sleeping platforms is 28.8 m (94.5 ft) (Hosbach 2006:26). The west bedline support posts consist of 27 postmolds, which average 16.5 cm (6.4 in) in diameter and 33 cm (13 in) in subsoil depth (Whitney 1970a:4). The length of the west bench sleeping platforms is 27.7 m (90.9 ft) (Hosbach 2006:26). The east benchline post per meter ratio is 0.8 and 0.9 for that of the west benchline. Whitney (1970a:3) further reports considerable irregularity in the placement of bed platform posts, as they do not match up in pairs, nor do they maintain a uniform distance from the outside walls. He (Whitney1970a:3) measures some of the better-defined bed spaces at approximately 2.4 m (7.9 ft) long and 1.5 m (4.9 ft) wide. According to Hosbach (2006:2), the longhouse contains a vestibule for food storage at the north (1.8 m [5.9 ft] long) and south (3 m [9.9 ft] long) ends, and a lobby (3 m long) near the south end. Whitney (1970a:3) speculates that the circular arrangement of postmolds in the southwest end of the longhouse (what Hosbach calls a vestibule) suggests an enclosure, perhaps a bear pen, as no evidence of storage was recovered. Van den Bogaert (1988:6) observed in 1634 that a captive bear, to be consumed when food was scarce, was kept inside a small Mohawk house.

Vaillancourt Site

Occupied around the same time as Buyea is the Vaillancourt Site (OND 19-3, a.k.a. Bigford Site), which dates to c. A.D.

[4] Whitney (1970a:3-4) does not provide a definition of "fire spots" but states that all those in the Buyea longhouse "were evidenced mainly by red burn of the soil" and "were quite clean of ash, refuse and fire cracked stones."

1525-1555 (Wonderley 2006:10). Wood charcoal samples from Pit I in House I (Beta-196913) and a storage/refuse pit in House VIII (Beta-195935) yielded the following results. House I sample: a conventional radiocarbon date of 310 ± 50 B.P. (A.D. 1590-1690) with a 2-sigma calibrated range of A.D. 1460-1660 (A.D. 1560 midpoint); and House VIII sample: a conventional radiocarbon date of 410 ± 60 B.P. (A.D. 1480-1600) with a 2-sigma calibrated range of A.D. 1420-1640 (A.D. 1530 midpoint) (Wonderley 2006:9). The overlap of the 2-sigma calibrated range midpoints is A.D. 1530-1560. Vaillancourt is approximately 4.8-8.9 ha (12-22 acres) in extent (Hayes et al. 1999:1) and contains the remains of eight longhouses excavated by Gerald Hayes, Daryl Wonderly, Edwin Gibson, Francis Hailey, Richard Hosbach, Alexander Neill and other Chenango Chapter avocational archaeologists beginning in 1997. Prior to this work, Theodore Whitney and others excavated an additional structure aligned east-west and located in the south portion of the site, but further detail is lacking (Hayes et al. 1999:1; Wonderley 2006:6).

Vaillancourt Site- House I

House I, oriented in a NW-SE direction, is the largest structure unearthed at Vaillancourt. It is 76 m (249.4 ft) long and 6 m (19.7 ft) wide, though the ends, as well as the presence of doors, are not clearly visible (Hayes et al. 1999:6) (Table 1) (Figure 4). As Engelbrecht (2003:73) and Snow (1996:44,48; 1997:70) reason, the ends of longhouses are often notoriously difficult to identify archaeologically, presumably because the smaller end posts were not driven as deeply into the subsoil as the larger weight-bearing support posts. This is especially true if the longhouses contain less substantial lobbies and vestibules. The four pits at the north end of House I, each used for cooking, appear to be beyond the interior of the dwelling per se. No evidence of a vestibule or lobby for storage in this space is discussed by the excavators. If one excludes these four pit features, the length of House I is 63 m (206.7 ft) (Wonderley 2006:7). Wonderley (2006:7) reasons that the occurrence of pits near the middle of House I resembling those at the north end implies that the north half of the structure may have been a later addition, although Hayes et al. (1999) do not mention any indications of longhouse rebuilding or repair. The authors (Hayes et al. 1999:6) do, however, raise the possibility that the longhouse actually may consist of two separate structures based on the decreased postmold density near the midpoint of House I, perhaps indicative of a break between two houses (Figure 4). Assuming that the structural remains represent a single building, Hayes et al. (1999:6) suggest the existence of a wind shield or drying rack at either end of House I. As indicated in Table 2, the east and west (side) walls of House I each contain 104 postmolds along a length of 76 m (249.4 ft). The diameter of the vast majority of these postmolds measures between 7 and 14 cm (2.7 and 5.5 in) (96 percent of east wall postmolds and 92 percent of west wall postmolds) (Hayes et al. 1999:6). The wall post per meter ratio for the east and west walls is the same, 1.3. The excavators (Hayes et al. 1999:4) do not report the depth of individual postmolds and other features, but they note that all of these remains have been uncovered between 20 and 35 cm (7.9 and 13.8 in) below ground surface.

The central corridor appears to be about 2 m (6.6 ft) in width based on the floor plan (Figure 4). Detailed information on the features discovered in the central corridor is not provided by Hayes et al. (1999), but the authors present

Figure 4. Floor plan of House I at the Vaillancourt Site (After Hayes et al. 1999:5).

specific data on the two bed platform lines and their associated postmolds. As seen in Table 3, a total of 64 postmolds were excavated along the east bedpost line and 76 postmolds along the west bedpost line. Hayes et al. (Hayes et al. 1999:6) calculate the length of the bedlines to be 60 m (196.9 ft). The postmold diameter of both bed platform lines is similar as most postmolds measure between 8 and 14 cm (3.1 and 5.5 in) (37 percent of east bedline postmolds and 43 percent of west bedline postmolds), and the fewest postmolds measure less than 7 cm (2.7 in) (15 percent along east bed platform line and 10 percent along west bed platform line) (Hayes et al. 1999:6). The post per meter ratio for the east bedline is 1.0 and that for the west bedline is 1.2. Hayes et al. (1999:6) note that no hearths or pits larger than 50 cm (19.7 in) appear in the south half of the structure. The excavators (Hayes et al. 1999:7) conclude that House I was used as living quarters and for meeting, work-related, and storage functions. In addition, ethnohistoric accounts indicate that the largest longhouses in Iroquoian villages were usually occupied by chiefs and their lineages and that political meetings and ceremonial activities occurred within these massive structures (Engelbrecht 2003:72; Knight 2002:31; Warrick 1988:35). The sheer size of Vaillancourt House I no doubt would have been impressive and would have reinforced the power and authority of the chief who likely resided inside (see Engelbrecht 2003:72; Kapches 1993:156).

Vailancourt Site Houses II-VI

Hayes et al. (2001:1-3) report on the recovery of postmolds on either side of House I, which they interpret as representing six additional buildings aligned in a NNW-SSE direction and situated about 4-5 m (13.2-16.5 ft) apart. Because these apparent longhouses were only partially excavated, detailed structural data are lacking. Nevertheless, the authors (Hayes et al. 2001:1-3) claim that the width of five of the buildings (Houses II, III, IV, V, and VI) is 6 m (19.7 ft), and each consists of four rows of postmolds separated by 2 m (6.6 ft) between the inner and outer rows. Similar to House I, the side wall postmolds of these five structures tend to be both smaller in diameter and closer together than that of the bedline postmolds, though precise measurements are not reported (Hayes et al. 2001:1-3). Only about a 5 m (16.5-ft) length of postmolds in House VII has been excavated, so further comparison with the other six buildings is not possible (Hayes et al. 2001:3). An eighth structure (House VIII), also excavated partially, is located about 28 m (91.9 ft) south of House I (Wonderley 2006:8). It differs from the other seven houses as it contains two, rather than four, parallel rows of postmolds, and it is oriented along an E-W axis. The rows, however, are separated by the usual 6 m (19.7 ft) between side walls (Wonderley 2006:8).

Bach Site

The Bach Site (MSV 8-1, a.k.a. Davis and Conklin) dates to approximately the mid to late sixteenth century. Bennett provides two dates: A.D. 1540-1555 (1984a:2) and A.D. 1580 (1999). The site is about 0.8 ha (2 acres) in size (Wonderley 2006:3). In the 1960s, Whitney (1967:7) and other Chenango Chapter members excavated partially the remains of one longhouse among possible remains of at least seven other houses (no information is provided for these additional structures). The uncovered portion of the one definite longhouse, oriented NW-SE, measures 17.4 m (57 ft) in length and varies between 4.6 and 5.5 m (15 and 18 ft) in width (Whitney 1967:7; 1970a:4) (Table 1) (Figure 5). The north end appears to be square-cornered, and a storage annex or entrance at the south end may be indicated by a narrowing of the building (Whitney 1967:7). While many of the detailed measurements are lacking, Whitney (1967:7) reports that the wall postmolds range between 7.6 and 25.4 cm (3 and 10 in) in diameter and between 12.7 and 38.1 cm (5 and 15 in) in subsoil depth. The central corridor is a little more than 1.8 m (6 ft) wide (Whitney 1967:7) and contains eight hearth/ash features and three pits. Whitney (1967:7) measures the width of the cubicles to be a little less than 1.8 m wide, but is unable to determine other dimensions of the berths (Table 3). The author adds that the average distance between postmolds in wall areas is 76.2 cm (2.5 ft) (Whitney 1967:7).

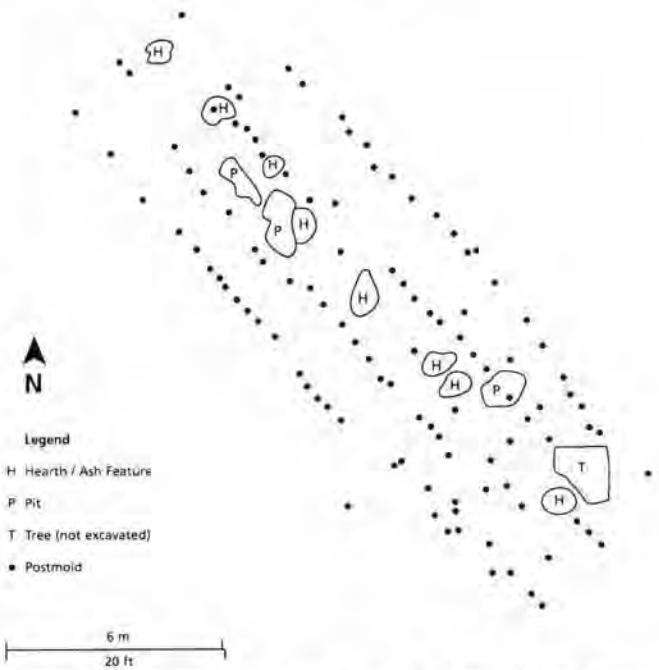

Figure 5. Floor plan of longhouse at the Bach Site (After Whitney 1967:Plate IX).

Diable Site

According to Wonderley (2006:3), the Diable Site (MSV 2–2, a.k.a. Stillman Site) dates to about the same period as the Bach Site—c. A.D. 1570-1590—although Bennett (1984a:2) estimates the age of the site to be A.D. 1555-1570. Diable is situated on approximately 1.2-2.2 ha (3-5.5 acres) (Bennett et al. 2007:42; Weiskotten 2007:75). One longhouse was excavated in the south area of the site, and two possible structures were partially excavated in the north area by at least 39 people, mostly Chenango Chapter avocational archaeologists. These include Stanford and Edwin Gibson, Theodore Whitney, Monte Bennett, Richard Hosbach, and Gordon Ginther, who worked at Diable between 1980 and 1988 (Bennett et al. 2007:41-43,49). The site may have contained as many as 11 or more longhouses (Bennett et al. 2007:48). Monte Bennett, Gerald Hayes, and Susan Young (2007) compiled the recovered data (from field forms) of the completely excavated longhouse, which are summarized below. It is important to note here that 18 one-meter square sheets within the structure were unavailable to Bennett et al.

Diable Site-House I

The dwelling consists of two rounded ends, but its length is not precisely known. Bennett et al. (2007:44) state that the length is either 29.5 m (96.8 ft) or 32 m (105 ft). The former is more likely because the longhouse width is a constant 6 m (19.7 ft) along the 29.5 m length (Bennett et al.2007:44) (Table 1). Perhaps the additional length represents a later extension to the northwest end, possibly a lobby or vestibule. It is also possible that the shorter length is a result of a subsequent contraction. As Engelbrecht (2003:73) cautions, distinguishing a house extension from a house contraction may be difficult. The location of doors is not clearly visible from the floor plan, which indicates a NW-SE orientation of the building (Figure 6). Bennett et al. (2007:44) count a total of 110 postmolds that represent the four exterior walls. These features average 8.2 cm (3.2 in) in diameter and 23.6 cm (9.2 in) in subsoil depth (Bennett et al. 2007:44).

The width of the center corridor, as well as each of the two bedpost lines, measure 2 m (6.6 ft) (Bennett et al. 2007:44) (Tables 2 and 3). The authors (Bennett et al. 2007:44) tally 22 interior support posts, which average 21 cm (8.3 in) in diameter and 39 cm (15.3 in) in subsoil depth. A total of 8 hearths, 1 roasting pit, and 9 refuse pits occur within the longhouse; seven hearths and the roasting pit are within the center corridor (Bennett et al. 2007 44-45). Based on the location of large diameter support posts and hearth and pit features, Bennett et al. (2007:44) identify six compartments within the residence.

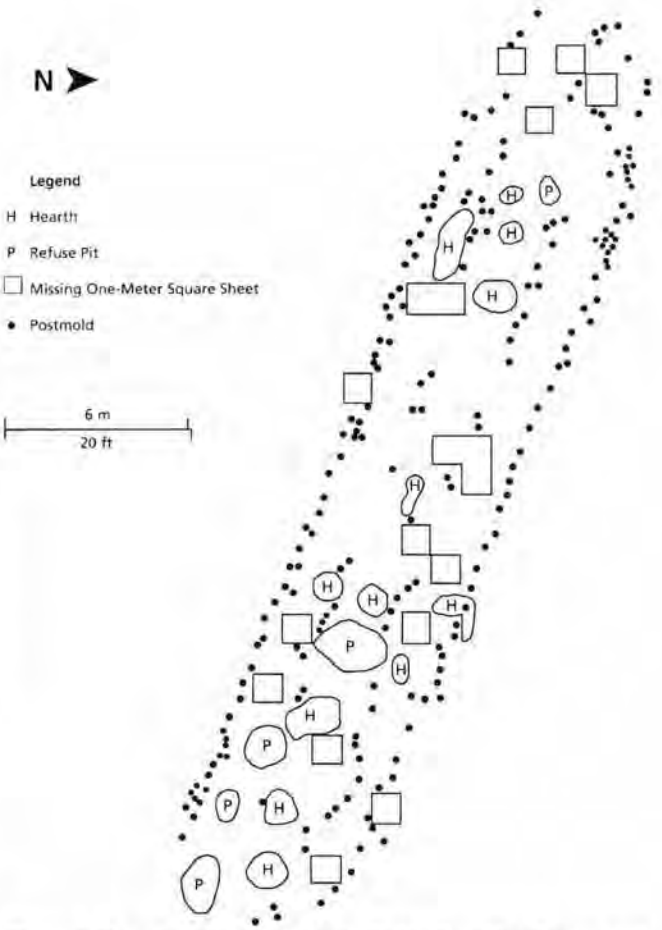

Figure 6. Floor plan of longhouse at the Diable Site (After Bennett et al. 2007:56).

Cameron Site

Dating to about the same time as Diable and shortly after is the Cameron Site (OND 8-4, a.k.a. Wayland-Smith Site), which was settled sometime around the end of the sixteenth and the beginning of the seventeenth centuries. The estimated dates vary from A.D. 1570-1595 (Bennett 1984a:2), A.D. 1580-1600 (Hosbach and Gibson 1980:140), A.D. 1614 (Hosbach 2006:1), and A.D. 1609-1626 (Clark 2004:149). A charcoal sample recovered by Kerber in 2006 from a pit feature in the west (lower) part of the site (Beta-222452) resulted in a conventional radiocarbon date of 300 ± 40 B.P. (A.D. 1610-1690) with a 2-sigma calibrated range of A.D. 1480-1660 (A.D. 1570 midpoint; intercept of radiocarbon age with calibration curve is Cal A.D. 1640 [Cal 310 B.P.]). Cameron contains the remains of five structures excavated by Monte Bennett, Susan Young, Henry Hatton, Rex Lane, and other Chenango Chapter members over the past 30 years (Bennett 1981:2; 1999:21; Bennett and Hatton 1988:2). Bennett (1981:2,6) estimates that at least nine longhouses could have been built at the 0.9-ha (2.3-acre) site.

Cameron Site-House I

The dwelling (House I) in the east (upper) portion of the site is 32.3 m (106.25 ft) in length and varies in width between 5.7 m (18.75 ft) and 6.6 m (21.75 ft), with an average of 6.1 m (20 ft) (Bennett 1981:6) (Table 1). Bennett (1981:6) counts a total of 50 postmolds along the south (side) wall and 36 postmolds along the weaker north (side) wall; both walls are oriented east to west (Figure 7). The south wall post per meter ratio is 1.5, while the ratio for the north wall is 1.1. Similarly, the south wall postmolds average 57.1 cm (22.5 in) in spacing, as compared to the north wall postmolds, which average 61 cm (24 in) (Bennett 1981:6) (Table 2). All four walls are represented by a total of 109 postmolds that range in diameter from 11.4 cm (4.5 in) to 3.8 cm (1.5 in) (average 8.4 cm [3.3 in]) and in subsoil depth from 45.7 cm (18 in) to 15.2 cm (6 in) (average 27.4 cm [10.8 in]) Bennett 1981:7). The location of longhouse doors is not discussed by Bennett (1981), but Hosbach (2006:4) suggests that an entrance, 2.7 m (8.8 ft) wide, is located at the east end, in addition to two doorways, each 1.5 m (4.9 ft) wide, that are at the west end. Bennett (1981:6) maintains that the building contains an extension measuring 3.4 m (11.25 ft) in length. It is also conceivable that the longhouse length of 28.9 m (94.8 ft) represents a subsequent contraction from the original length of 32.3 m, as is also conceivable for the Diable dwelling. Hosbach (2006:3) claims that Cameron House I is oval ended.

The center corridor is 2.2 m (7.2 ft) wide and contains eight hearths (Bennett 1981:6) (Table 1). An additional two hearths, along with three refuse/storage features, are located elsewhere in the longhouse. Bennett (1981:6) notes that the bed platform posts are irregular and do not measure a uniform distance from the outer wall. Hosbach (2006:26) calculates the length of the north bedpost line to be 21.2 m (69.5 ft) and that of the south bedpost line to be 19.5 m (64 ft) (Table 3). Bennett (1981:6) tallies a total of 47 interior postmolds, which vary in diameter from 19 cm (7.5 in) to 5.1 cm (2 in) (average 10.9 cm [4.3 in]) and in subsoil depth from 50.8 cm (20 in) to 20.3 cm (8 in) (average 31.5 cm [12.4 in]). Within the dwelling, according to Hosbach (2006:4), are five unequal compartments, a vestibule at the east (3.6 m [11.8 ft] long) and west (2.3 m [7.5 ft] long) ends, and a lobby (3 m [9.9 ft] long) near the east end.

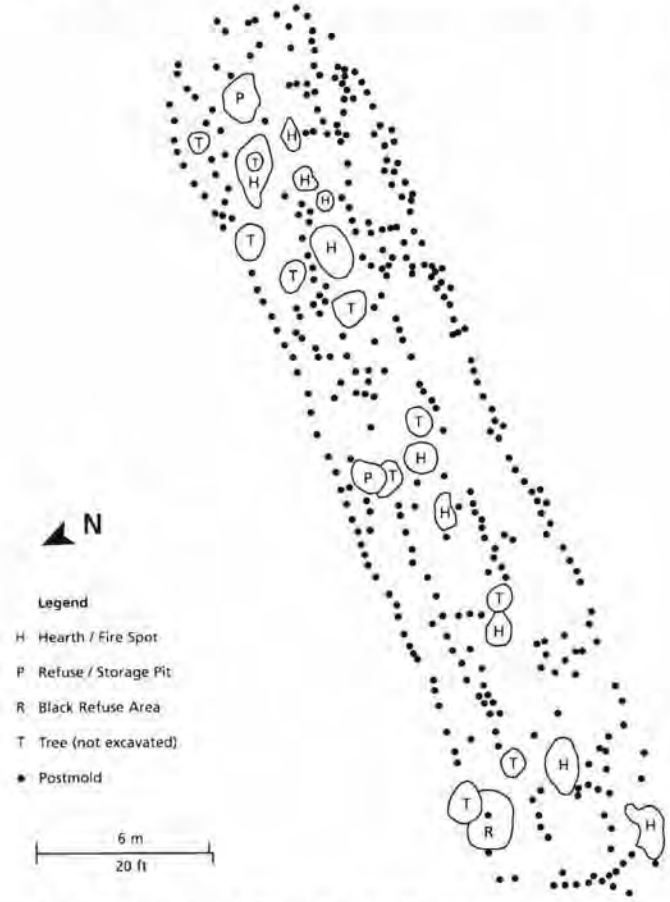

Figure 7. Floor plan of House I at the Cameron Site (After Bennett 1981:Plate 3).

Cameron Site -House II

Unlike House I, House II is situated in the west (lower) part of the Cameron Site and is oriented to the N-S (Figure 8). This structure is also smaller than House I as its west (side) wall is 19.8 m (65 ft) in length, and its east (side) wall is

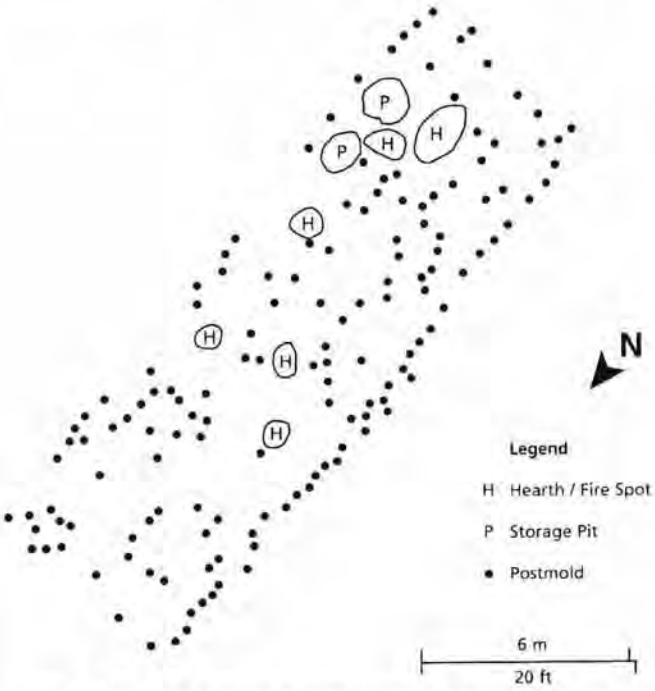

Figure 8. Floor plan of House II at the Cameron Site (After Bennett and Hatton 1988:Plate B).

18.3 m (60 ft) in length (Bennett and Hatton 1988:2) (Table 1). The longhouse width is not reported but appears to be approximately 6.1 m (20 ft) based on the floor plan (Figure 8). The west wall postmolds average 55.9 cm (22 in) in spacing, 7.8 cm (3.1 in) in diameter, and 29.2 cm (11.5 in) in subsoil depth (Bennett and Hatton 1988:2) (Table 3). The east wall postmolds average 71.1 cm (28 in) in spacing, 8.4 cm (3.3 in) in diameter, and 26.9 cm (10.6 in) in subsoil depth (Bennett and Hatton 1988:2). The authors point out that gaps along the east wall postmolds may be attributed to prior unrecorded excavation (Bennett and Hatton 1988:2). Door locations are not reported. The central corridor, which is not well defined, averages 2 m (6.6 ft) in width according to Bennett and Hatton (1988:2), who add that both bedpost lines are also poorly defined (Bennett and Hatton 1988:2). Two hearths are located within the center corridor, and four hearths and two storage pits are located in the bed area (Table 1). Additional information on this dwelling is unavailable due to previous disturbances noted by Bennett and Hatton (1988).

Cameron Site-House III

The third longhouse at Cameron, unearthed by Rex Lane, is situated in the east portion of the site (Clark 2004:158). The only available information on this building is its dimensions: 30.5 m (100 ft) long and 8.2 m (27 ft) wide (Bennett 1999:21).

Cameron Site-House IV

An additional two structures (Houses IV and V), excavated recently by Monte Bennett and Susan Young, are located on the west side of the Cameron Site. The House IV side walls, aligned along an E-W axis, differ in length as the north wall measures 13.7 m (45.1 ft) and the south wall 14 m (46 ft) (Bennett, personal communication December 2008) (Table 2) (Figure 9). The width of the longhouse also varies: 6 m (19.67 ft) at the east end and 5.9 m (19.58 ft) at the west end (Bennett, personal communication December 2008). The north wall consists of 31 postmolds that average 6.8 cm (2.67 in) in diameter and 12.7 cm (5 in) in subsoil depth, while the total 28 postmolds along the south wall average 6.8 cm (2.69 in) in diameter and 19.8 cm (7.8 in) in subsoil depth (Bennett, personal communication December 2008) (Table 2). The north wall post per meter ratio is 2.2, while that for the south wall is 2.0. The east wall postmolds average 5.8 cm (2.29 in) in diameter and 10.8 cm (4.27 in) in subsoil depth, in comparison to the west wall postmolds which average 7.6 cm (3 in) in diameter and 12.4 cm (4.9 in) in subsoil depth (Bennett, personal communication December 2008). Two doorways are clearly visible in the floor plan, one at the east end, measuring approximately

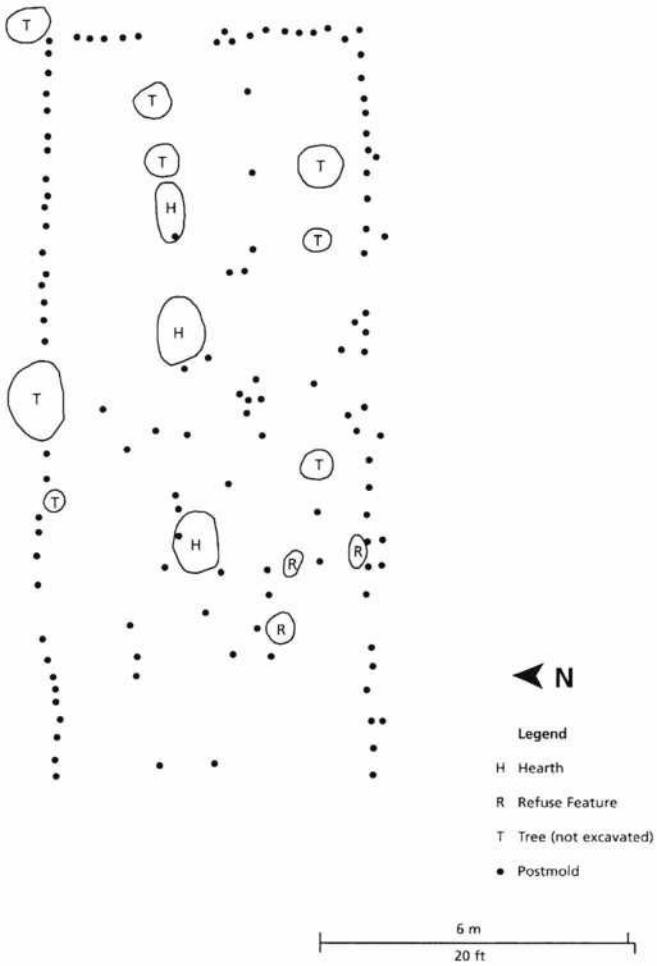

Figure 9. Floor plan of House IV at the Cameron Site (Bennett, personal communication December 2008).

1.5 m (5 ft) in width, and the other at the west end about 1.2 m (4 ft) wide (Figure 9). According to Bennett (personal communication December 2008), a vestibule is also located at the west end. Both ends of the longhouse appear to be square-cornered. Within the interior are a well-defined south bedpost line, three hearths situated along the central corridor, and three refuse features (Bennett, personal communication December 2008).

Cameron Site-House V

Less information exists for Cameron House V as excavation of this building is not yet completed. The length of the south (side) wall, oriented in an E-W direction, is 19.96 m (65.5 ft) (Bennett, personal communication September 2009) (Table 1). A smaller segment of the north (side) wall has been identified, which has enabled a measurement of the width of the longhouse to be 6.1-6.4 m (20-21 ft) (Bennett, personal communication September 2009). The width of the central corridor is 2.1 m (7 ft) (Bennett, personal communi-

cation September 2009). No further structural details are available.

Wilson Site

Settlement at the Wilson Site (OND 9, a.k.a. Van Tiller Site) occurs toward the end and immediately following occupation at the Cameron Site, c. A.D. 1595-1625 according to Bennett (1984a:2), A.D. 1600-1610 according to Hosbach and Gibson (1980:151), and A.D. 1620 according to Hosbach (2006:5). Two charcoal samples recovered by Kerber in 2002 from pit features at the site yielded the following results: a conventional radiocarbon date (Beta-169842) of 460 ± 70 B.P. (A.D. 1420-1560) with a 2-sigma calibrated range of A.D. 1560-1630 (A.D. 1595 midpoint; and a conventional radiocarbon date (Beta-169950) of 240 ± 60 B.P. (A.D. 1650-1770) with a 2-sigma calibrated range of A.D. 1490-1690 (A.D. 1590 midpoint). The overlap of the 2-sigma calibrated range midpoints is A.D. 1590-1595. The Wilson Site was investigated by Richard Hosbach, Stanford Gibson, and other Chenango Chapter excavators in the 1970s. The excavation of one longhouse is documented in detail by Hosbach and Gibson (1980), who speculate that the site, of unknown size, may contain two other longhouses (Hosbach and Gibson 1980:17).

Oriented along an E-W axis, the side walls vary in length: 29.01 m (95.2 ft) for the south wall and 27.05 m (88.7 ft) for the north (Hosbach and Gibson 1980:21) (Table 1) (Figure 10). The width of the building measures 6.07 m (19.92 ft) (Hosbach and Gibson 1980:25). The authors (Hosbach and Gibson 1980:29) count 77 postmolds along the south wall and 70 postmolds along the north wall (Table 2). The wall post per meter ratio for the south wall is 2.6 and for the north wall the ratio is 2.5. The south wall postmolds fluctuate in diameter between 6-10 cm (2.4-3.9 in) and 26-30 cm (10.2-11.8 in), averaging 16.6 cm (6.5 in), and the north wall postmolds range in diameter between 6-10 cm (2.4-3.9 in) and 36-40 cm (14.2-15.7 in), averaging 16.9 cm (6.6 in) (Hosbach and Gibson 1980:30,40). The vast majority (79 %) of both wall postmolds vary in diameter between 11 and 20 cm (4.3 and 7.9 in) (Hosbach and Gibson 1980:30,40). The subsoil depth of the south wall postmolds ranges between 16-20 cm (6.3-7.9 in) and 66-70 cm (26-27.5 in), averaging 40.2 cm (15.8 in), compared to the north wall postmolds which range in subsoil depth between 6-10 cm (2.4-3.9 in) and 51-55 cm (20.1-21.6 in), averaging 29.2 cm (11.5 in) Hosbach and Gibson 1980:31,40). The spacing between the south wall postmolds fluctuates between 0-10 cm (0-3.9 in) and 81-90 cm (31.9-35.4 in), averaging 37.3 cm (14.6 in), while the north wall postmolds vary in spacing between 0-10 cm (0-3.9 in) and 91-100 cm (35.8-39.4 in), averaging 41.6 cm (16.3 in) (Hosbach and Gibson 1980:32,40). Both ends of the longhouse appear to be square-cornered, although Hosbach (2006:1) claims they are oval ended. The east end consists of two parallel postmold rows that are 60 cm (23.6 in) apart (Hosbach and Gibson 1980:25). The outer and inner east walls contain six and eight postmolds, respectively (Hosbach and Gibson 1980: 34). Hosbach and Gibson (1980:25) identify the location of a door that is 1.29 m (4.2 ft) wide near the center of the outer east wall. The west end similarly is composed of two nearly parallel rows of seven postmolds separated by about 65 cm (25.6 in) (Hosbach and Gibson 1980:25). A second longhouse door is

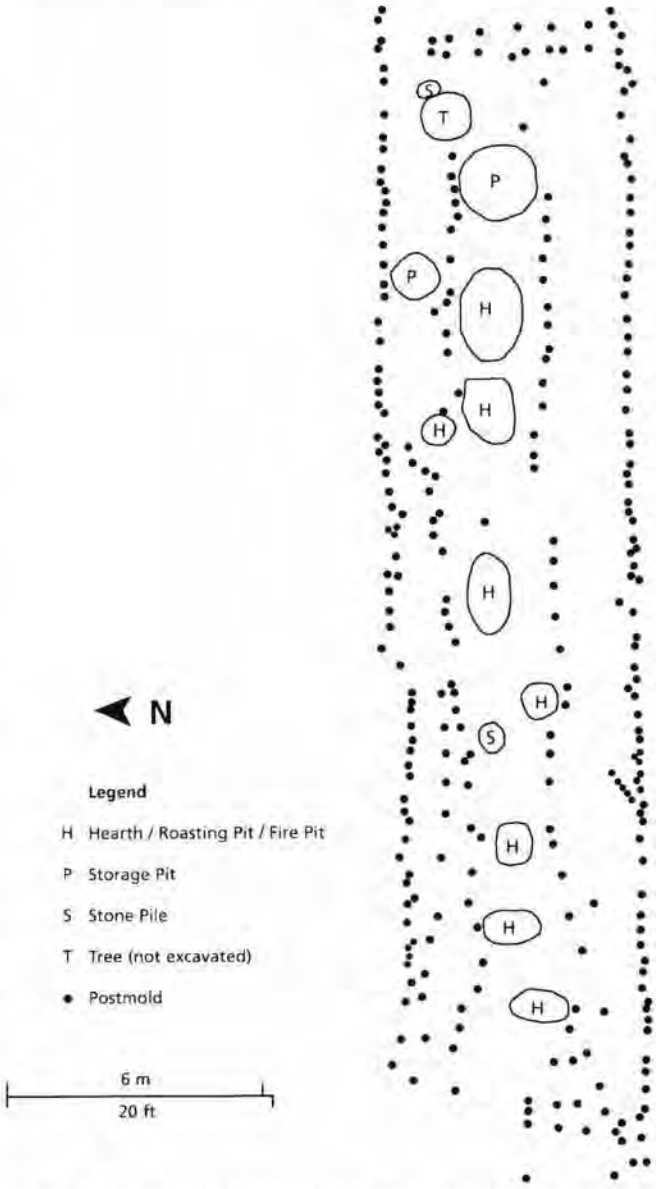

Figure 10. Floor plan of longhouse at the Wilson Site (After Hosbach and Gibson 1980:22).

located near the midpoint of the outer west wall and measures 2 m (6.6 ft) in width (Hosbach and Gibson 1980:25). The average distance between postmolds in both outer end walls is nearly equal: 69.1 cm (27.2 in) for the west wall and 74.8 cm (29.4 in) for the east wall (Hosbach and Gibson 1980:34). The same is true concerning the average distance between postmolds in both inner end walls: 63.8 cm (25.1 in) for the west wall and 57 cm (22.4 in) for the east wall (Hosbach and Gibson 1980:34). Similarly, the average width of postmolds along the both outer and inner end walls is almost the same: 17 cm (6.7 in) for the outer west wall, 13.6 cm (5.3 in) for the inner west wall, and 15 cm (5.9 in) for the outer and inner east walls (Hosbach and Gibson 1980:34). Also, the average postmold subsoil depth along the inner and outer east walls is about equal: 26.8 cm (10.5 in) for the outer east wall and 25.5 cm (10 in) for the inner east wall (Hosbach and Gibson 1980:34). The average subsoil depth for the outer and inner west wall postmolds is 39.6 cm (15.6 in) and 30.4 cm (11.9 in), respectively (Hosbach and Gibson 1980:34). Thus, the posts forming the outer west wall on average are deeper, larger, and closer together than those along the east wall, which, according to Hosbach and Gibson (1980:37), is evidence of the necessary support provided by the outer west wall against prevailing northwest winter winds. A possible wind baffle or shield, represented by four postmolds parallel to the outer west wall and located about 70 cm (27.5 in) west of the southwest end of the longhouse, would offer further protection to that portion of the structure (Hosbach and Gibson 1980:26).

The central corridor, which measures 27.1 m (88.9 ft) in length and averages 2.3 m (7.5 ft) in width, contains nine features (Hosbach and Gibson 1980:26); an additional three features are located elsewhere in the structure (Table 2). Seven of the features within the central corridor are hearths/roasting pits/fire pits, one of the features is a storage pit, and the other is a stone pile. Another stone pile is located in the bed area. Both are interpreted as piles of wedging stones that would be readily accessible to use against unstable house posts (Hosbach and Gibson 1980:27). The south bedpost line is 23.3 m (76.4 ft) long and consists of 34 postmolds (Hosbach and Gibson 1980:21,30) (Table 3). These bedline postmolds range between 6-10 cm (2.4-3.9 in) and 26-30 cm (10.2-11.8 in) in diameter, averaging 16.5 cm (6.5 in); between 21-25 cm (8.3-9.8 in) and 66-70 cm (26-27.5 in) in subsoil depth, averaging 36.3 cm (14.3 in); and between 11-20 cm (4.3-7.9 in) and greater than 100 cm (39.4 in) in spacing, averaging 70.6 cm (27.8 in) (Hosbach and Gibson 1980:30-32,40). The north bedpost line is 23.4 m (76.8 ft) and contains 44 postmolds (Hosbach and Gibson 1980:24,30). These bedline postmolds vary between 6-10 cm (2.4-3.9 in) and 36-40 cm (14.2-15.7 in) in diameter, averaging 16.6 cm (6.5 in); between 16-20 cm (6.3-7.9 in) and 81-85 cm (31.9-33.5 in) in subsoil depth, averaging 37.2 cm (14.6 in); and between 11-20 cm (4.3-7.9 in) and greater than 100 cm (39.4 in) in spacing, averaging 57.7 cm (22.7 in) (Hosbach and Gibson 1980: 30-32,40). The wall post per meter ratio for the south bedpost line is 1.4 and for the north bedpost line it is 1.8. The south wall and south bedpost line are separated on average by 2 m (6.6 ft) (Hosbach and Gibson 1980:21). A large support post in the central corridor between features 5 and 7 compensates for the lack of roof support resulting from a gap in the south bedpost line (Hosbach and Gibson 1980:21). Another unusual discovery is the line of five postmolds extending from the south wall into the bed area at a 40-degree angle, which is interpreted as a supporting structure (Hosbach and Gibson 1980:26). Situated between the north wall and north bedpost row is an auxiliary postmold line, consisting of 11 postmolds and running 8.8 m (28.9 ft), beginning west of feature 7 and ending in the west wall (Hosbach and Gibson 1980:24). The purpose of this auxiliary line may have been for additional support to the roof or bedposts or for storage shelving between this line and the north wall (Hosbach and Gibson 1980:24; Hosbach 2006:5). According to Hosbach (2006:5,29), the dwelling also contains five unequal compartments, a vestibule at the west (2.5 m [8.2 ft] long) and east (2.8 m [9.2 ft] long) ends, and a lobby (3.7 m [12.1 ft] long) near the east end. Within the presumed lobby are possible bed posts and a large storage pit (Feature 2) containing abundant amounts of maize remains, all of which lead Hosbach (2006:10) to speculate that the room is conceivably a private compartment for the clan mother, who would be the curator of the corn (cf. Pendergast 1990:25).

Blowers Site

The Blowers (OND 1-4, a.k.a. Beecher and Andrews) and Wilson sites are likely contemporaneous. While Bennett (1984a:2) dates both sites to A.D. 1595-1625, Hosbach and Gibson (1980:151) postulate settlement at Blowers (A.D. 1610-1620) to be slightly later than at Wilson (A.D. 1600-1610). Situated on 1.2 ha (3 acres), the Blowers Site contains the remains of one longhouse and possibly at least eight others (Bennett 1979:1,2). The single structure was excavated by Monte Bennett, Theodore Whitney, and other Chenango Chapter members in 1976 (Bennett 1979:25).

The Blowers longhouse is 25.9 m (85 ft) long and fluctuates between 5.9 and 6.1 m (19.5 and 20 ft) wide (Table 1), though Bennett (1979:6) admits an inability to define the east end postmolds because of the presence of trees. At the

west end, the author (Bennett 1979:6) notes a 2.4-m (8-ft) gap between the west wall postmolds and a series of smaller postmolds, which he interprets as a possible wind shield or drying rack in front of the west door (Figure 11). The building's orientation is NW-SE and appears to be square cornered. Bennett (personal communication December 2008) calculates a total of 46 postmolds along the north (side) wall and 34 postmolds along the south (side) wall; the latter number is artificially deflated because of the presence of trees along the south wall. The wall post per meter ratio for the north wall is 1.7 and that for the south wall is 1.3. The north wall postmolds average 8.3 cm (3.27 in) in diameter and 29.2 cm (11.49 in) in subsoil depth, while the south wall postmolds average 8.1 cm (3.19 in) in diameter and 36 cm (14.18 in) in subsoil depth (Bennett, personal communication December 2008). The spacing between the south wall postmolds ranges from 38.1 to 132.1 cm (15 to 52 in), with an average of 73.7 cm (29 in), and that of the north wall postmolds is 35.6 to 104.2 cm (14 to 41 in), with an average of 67.8 cm (26.7 in) (Bennett 1979:6) (Table 2).

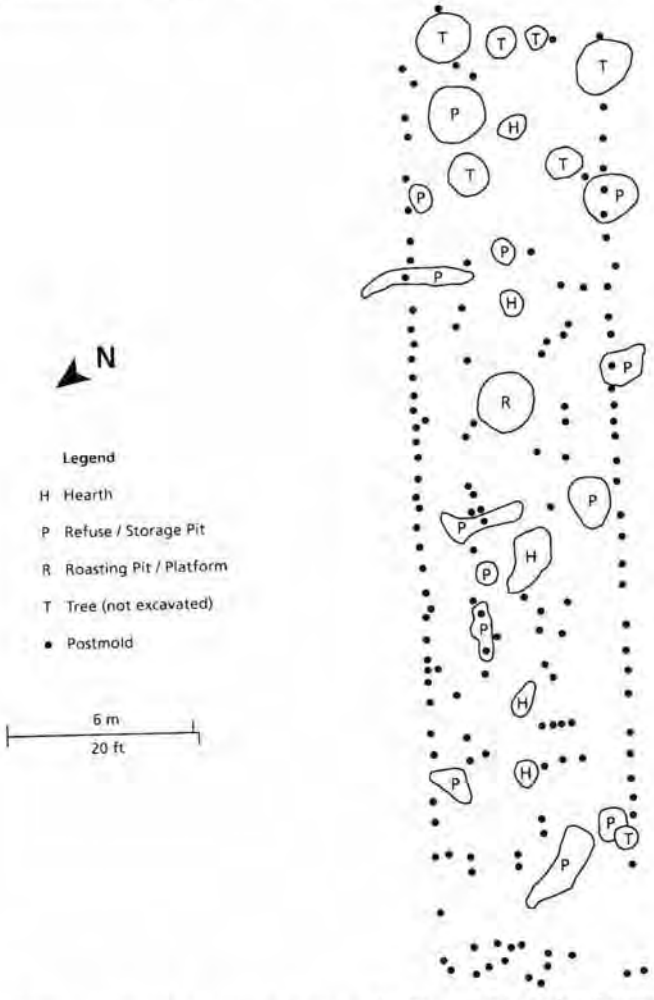

Figure 11. Floor plan of longhouse at the Blowers Site (After Bennett 1979:Plate 4).

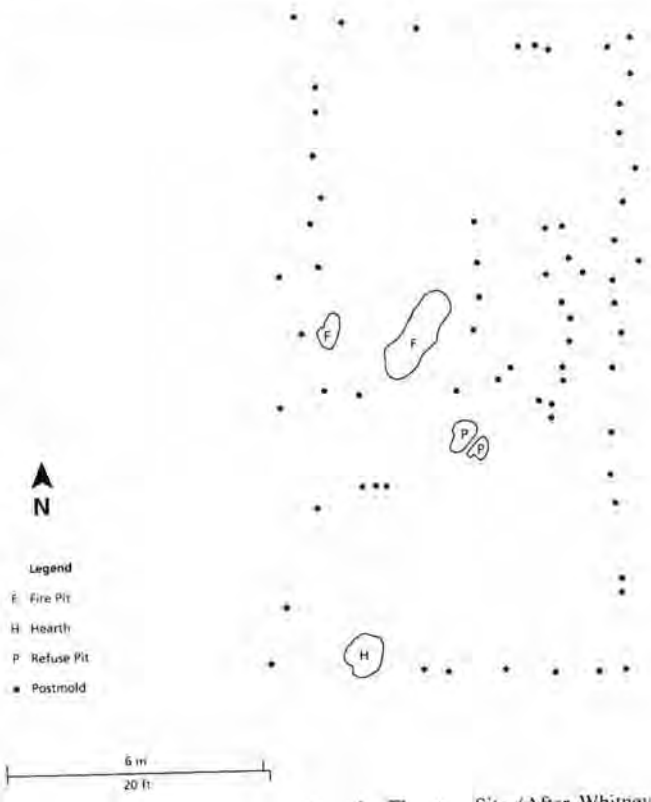

Figure 12. Floor plan of House I at the Thurston Site (After Whitney 1964:Plate 2).

The central corridor varies between 1.8 and 2.1 m (6 and 7 ft) in width (Bennett 1979:7) and contains nine features, of which five are hearths, one is a roasting pit/platform, and three are refuse/storage pits; ten other features, all refuse/storage pits, are located elsewhere within the longhouse (Bennett 1979:7-10) (Table 1). Both lines of bed platform postmolds are irregular and contain gaps (Bennett 1979:7). Several interior postmolds appear to be missing toward the east end especially, which may have been more open than the opposite end (Bennett 1979:7).

Thurston Site

The Thurston Site (MSV 1-2) was settled shortly after the abandonment of Wilson and Blowers—beginning c. A.D. 1625 and lasting until sometime between A.D. 1635 and 1640 (Bennett 1984a:2; Hosbach and Gibson 1980:151; and Whitney 1964:2). The site area is estimated to be either 1.1 ha (2.6 acres) (Bennett 1999:20) or 1.6 ha (4 acres) (Pratt 1976:129). Thurston contains the remains of at least two longhouses, one excavated by Theodore Whitney and other Chenango Chapter avocationalists in 1961-1964 and the second excavated by Monte Bennett, Susan Young, and Helen and Tyree Tanner in 1994-1995. Bennett (1991:14)

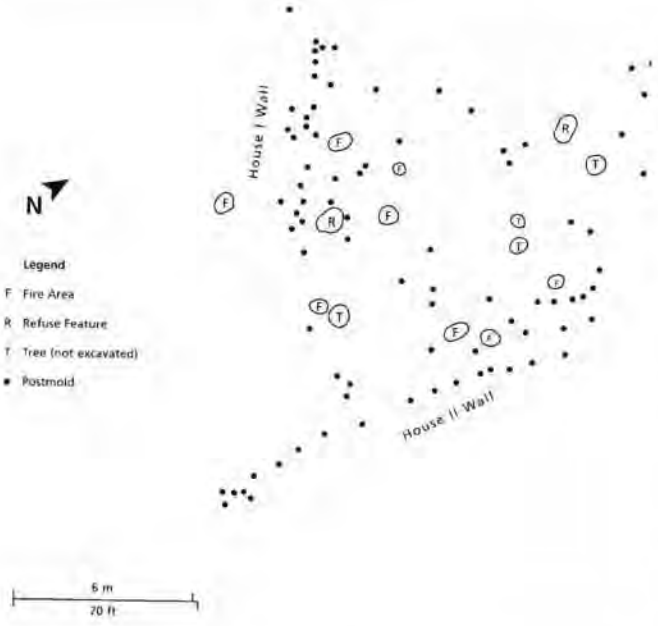

Figure 14. Floor plan of House I and House II at the Stone Quarry Site (After Bennett 1984b:Plate 2).

ered by Kerber in 1999 from a pit feature at the site (Beta-133087) resulted in a conventional radiocarbon date of 280 ± 50 B.P. (A.D. 1620-1720) with a 2-sigma calibrated range of A.D. 1480-1675 (A.D. 1578 midpoint; intercept of radiocarbon age with calibration curve is Cal A.D. 1645 [Cal 305 B.P.]). Richard Hosbach, Alexander Neill, Francis Hailey, Gerald Hayes, Daryl Wonderly, Theodore Whitney, Stanford Gibson, and other Chenango Chapter members excavated the longhouse between 1975 and 1980. The Dungey Site is about 1.8 ha (4.5 acres) in area (Hosbach et al. 2006:38).

The Dungey longhouse is the smallest of the known Oneida structures. Oriented along a N-S axis, the square-ended structure averages 9.9 m (32.5 ft) in length and 7.3 m (23.9 ft) in width (Hosbach 2006:6; Hosbach et al. 2006:38) (Figure 15) (Table 1). The length of the west (side) wall is 9.85 m (32.3 ft) and that of the east (side) wall is 9.75 m (31.9 ft) (Hosbach et al. 2006:39). The west wall contains 19 postmolds that average 8.5 cm (3.3 in) in diameter, with a range of 5-10 cm (2-3.9 in); 28.6 cm (11.2 in) in subsoil depth, with a range of 13-61 cm (5.1-24 in); and 65.6 cm (25.8 in) in spacing, with a range of 20-200 cm (7.9-78.7 in) (Hosbach et al. 2006:56) (Table 2). In contrast, the less sturdy east wall consists of 14 postmolds averaging 9.1 cm (3.5 in) in diameter and ranging 7-12 cm (2.7-4.7 in); 23.6 cm (9.2 in) in subsoil depth, varying 18-31 cm (7.1-12.2 in); and 81.3 cm (32 in) in spacing, with a range of 25-180 cm (9.8-70.9 in) (Hosbach et al. 2006:56). The wall post per meter ratio for the west wall is 1.9 and that for the east wall is 1.4. The south (end) wall contains a total of 12 postmolds and is 7.3 m (23.9 ft) long, while the north (end) wall consists of 19 postmolds and is the same length as the opposite end (Hosbach et al. 2006:39,58,59). The south wall postmolds average 11 cm (4.3 in) in diameter, with a range of 6-15 cm (2.4-5.9 in); 21.9 cm (8.6 in) in subsoil depth, with a range of 10-50 cm (3.9-19.7 in); and 117.5 cm (46.2 in) in spacing, with a range of 50-250 cm (19.7-98.4 in) (Hosbach et al. 2006:58). The stronger north wall is represented by postmolds that average 9.5 cm (3.7 in) in diameter, varying 6-13 cm (2.4-5.1 in); 27.8 cm (10.9 in) in subsoil depth, fluctuating 16-44 cm (6.3-17.3 in); and 54.2 cm (21.3 in) in spacing, ranging 25-100 cm (9.8-39.4 in) (Hosbach et al. 2006:59). The north and west walls are sturdier than the corresponding south and east walls because they must protect the longhouse against the prevailing northwesterly winter winds (Hosbach et al. 2006:39). According to Hosbach et al. (Hosbach et al. 2006:39), a 2-m (6.6-ft) postmold gap along the west wall, near the building's northwest corner, represents a door. The authors (Hosbach et al. 2006:39) also identify the possible location of two entrances along the east wall based on a 1-m (3.3-ft) postmold gap near the northeast corner of the longhouse and a 1.8-m (5.9 ft) gap along the midpoint of the east wall. A possible doorway at the south end is also suggested by a 2.25-m (7.3 ft) gap along that wall (Hosbach et al. 2006:39). Hosbach et al. (2006:46) note the exterior wall postmolds are vertical and frequently chinked on all sides with stones, including a flat stone often at the base of the postmold. No discernible storage cubicles are identified by the authors (Hosbach et al. 2006:47), though Hosbach (2006:6) notes the presence of a small vestibule (1 m [3.3 ft] long) at the south end.

The center post line is 9.8 m (32.1 ft) long and contains eight center posts that average 10.9 cm (4.2 in) in diameter, with a range of 9-15 cm (3.5-5.9 in); 23 cm (9 in) in subsoil depth, with a range of 19-32 cm (7.4-12.6 in); and 163.3 cm (64.2 in) in spacing, with a range of 25-480 cm (9.8-188.9 in) (Hosbach et al. 2006:40, 63). The center posts, along with the bedposts and other interior posts, help to support the roof, especially during heavy snowfall. A total of six features are situated inside the longhouse; four of these features are hearths located within the central corridor, which averages 4 m (13.2 ft) wide, and the remaining hearth and unknown feature are located elsewhere (Hosbach et al. 2006:41-43; Hosbach 2004:195) (Table 1). The west bedpost line measures 4.75 m (15.5 ft) long and consists of 15 postmolds (post per meter ratio of 3.1), while the length of the east bedpost line is 4.95 m (16.2 in) and is composed of 11 postmolds (post per meter ratio of 2.2) (Hosbach et al. 2006:39, 60, 61) (Table 3). The greater number of postmolds

along the west bedline provides additional frame support to bolster the west side of the house against strong winds (Hosbach et al. 2006:39). The west bedline postmolds average 9.4 cm (3.7 in) in diameter, varying 5-16 cm (2-6.3 in); 17.3 cm (6.8 in) in subsoil depth, ranging 7-25 cm (2.7-9.8 in); and 47.5 cm (18.7 in) in spacing, fluctuating 30-85 cm (11.8-33.5 in) (Hosbach et al. 2006:60) (Table 3). The east bedline postmolds average 9.5 cm (3.7 in) in diameter, with a range of 5-15 cm (2-5.9 in); 21.8 cm (8.5 in) in subsoil depth, with a range of 6-45 cm (2.4-17.7 in); and 65 cm (25.6 in) in spacing, with a range of 25-120 cm (9.8-47.2 in) (Hosbach et al. 2006:61). The width of the west bedpost line from the west wall is 2.25 m (7.3 ft), as compared to 1.5 m (4.9 ft) separating the east bedpost line from the east wall (Hosbach et al. 2006:46) (Table 3). The authors (Hosbach et al. 2006:48) reason that the south half of the structure contains two compartments, each housing perhaps one family. The remaining north portion consists of a third compartment, which contains a fourth compartment on the east side (Hosbach 2006:6). These two compartments may have been used for ceremonies, trading activity, and/or storage (Hosbach et al. 2006:48).

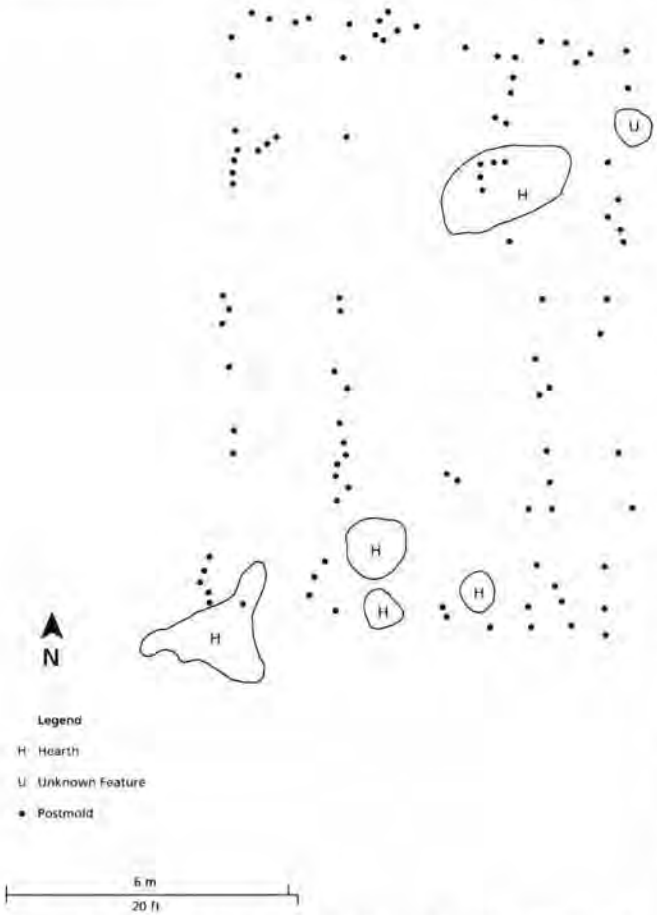

Figure 15. Floor plan of longhouse at the Dungey Site (After Hosbach et al. 2006:52).

Limited Comparisons

Based on the previously discussed structural data, some comparative and general statements can be made concerning the excavated Oneida longhouses. It bears repeating, however, that such data are necessarily biased, even occasionally inaccurate, and hence are not representative of all Oneida longhouses. This is due to several possible reasons, some of which are noted by the authors of the Chenango Chapter reports: 1) a limited sample of excavated longhouses; 2) partial excavation of a few of the longhouses; 3) variable field techniques employed to recover and record longhouse remains, as stated earlier; 4) prior disturbances (e.g., looting and plowing especially) to many of the excavated longhouses; 5) missing field forms; 6) mistaking soil discolorations (e.g., decomposed roots and rodent burrows) as actual postmolds; and 7) errors in mapping postmold locations. In short, as Wright (1995:20) succinctly states, "Attempting to reconstruct longhouses by simply looking at dots on an archaeological floor plan has its limitations."

The Bach longhouse, as well as Stone Quarry Houses I and II, Vaillancourt Houses II-VIII, and Cameron Houses III and V, are excluded from this analysis because these buildings have not been excavated completely, and insufficient structural information has been reported. Thus, no more than 11 Oneida longhouses are compared below. As indicated in Table 1, Vaillancourt House I is the longest known Oneida longhouse (76 m or 63 m), and the one at Dungey is the shortest (9.9 m). The remaining nine buildings vary in length from 13.7 m (Cameron House IV) to 36 m (Buyea), with a maximum average of 24.8 m. Generally speaking, house length in this sample decreased over time as the older structures are longer than the more recent ones. Longhouse length also declines at other New York Iroquois sites following the fifteenth century (Engelbrecht 2003:72; Kleinmartin 2005; Niemczycki 1984; Prezzano 1992:271; Sohrweide 2001:19; Tuck 1971). At Northern Iroquoian sites in southern Ontario, longhouses become shorter beginning about a century later (Dodd 1984:225,264,299; Lennox and Fitzgerald 1990:444-445; Warrick 1996:19; 2000:449).

The average width of the 11 longhouses is 6.2 m, and with a few exceptions, all of the buildings are about 6.1 m wide; the Buyea longhouse is narrower (5.25 m), while the Dungey dwelling and Thurston House I are wider (7.3 m and 7.6 m, respectively). Once again, the excavated Oneida structures share a pattern with that reported for other New York Iroquois longhouses as the width of these buildings tend to range between 5 and 7 m, with many remaining constant over time at approximately 6.1 m wide

(Engelbrecht 2003:71; Hayes 1965, 1967a, 1967b; Kleinmartin 2005; Prezzano 1992:269-270; Snow 1995:45; 1996:41). Ontario Northern Iroquoian longhouses are typically a bit wider, closer to 7 m on average (Dodd:1984:270,408; Finlayson 1985; Fitzgerald 2001:41; Kapches 1993:139; 1994:258; Knight 2002:27; Lennox and Fitzgerald 1990:445; Noble 2002:22; Ramsden 1990:378; Warrick 1984:57). The Dungey residence is the only known Oneida structure classified as a short longhouse, distinct from a cabin, based upon Kapches' (1984:64) criteria: length to width ratio between 1.25 and 2.0. The length to width ratio for the Dungey longhouse is 1.35.

The center corridor width measured for eight of nine Oneida longhouses is also consistent, fluctuating between 1.8 and 2.3 m. Excluding the 4.0-m figure from the Dungey house, the average corridor width of the remaining eight structures is 2.1 m, similar to the commonly reported 2-m corridor width within New York Iroquois longhouses (Snow 1996:41). Longhouse orientation is more variable, although the majority of the buildings are positioned along a NW-SE axis, parallel to prevailing northwesterly winter winds. As explained previously, such an orientation provides the least wind resistance against the side walls. Further, this positioning would offer increased ventilation in the summer by opening all longhouse doors. Other orientations may have been selected due to the site's topographic and soil conditions, space limitations, or for less obvious reasons. Not surprisingly, all 11 analyzed Oneida longhouses contain features, but only at Thurston House I are hearths, roasting features, or fire pits absent in the center corridor.

The exterior wall post per meter ratio provides a general indication of the strength of the two side walls of the longhouse: the higher the ratio, the stronger the wall, everything else being equal. The ratio, which was calculated for only eight of the structures, ranges between 0.8 (at Buyea, the weakest side wall) and 2.6 (at Wilson, the strongest side wall) (Table 2). For each of these eight longhouses, the ratio for both side walls is either equal or nearly the same. The average spacing between side wall postmolds, where reported, is highly variable, and no clear pattern is discernible. In contrast, both the average diameter and average subsoil depth of side wall postmolds are less variable than that of average spacing, but the lack of sufficient data reported for these attributes at most of the longhouses limits further discussion. The same also can be said concerning the paucity of information reported on benchline postmolds (Table 3).

In conclusion, nearly all the archaeological evidence of Oneida longhouses, recovered from ten sites in central New York, date to between the early sixteenth and middle seventeenth centuries. These remains were excavated and reported by members of the Chenango Chapter, NYSAA for numerous years. Many of the observations, interpretations, and longhouse floor plans made by these avocational archaeologists have been presented, along with a limited comparative analysis. Not unexpectedly, patterns of variability are revealed among some of the buildings' structural attributes. It is hoped that the increased availability of this data will contribute to further study of Iroquois longhouses.

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References Cited

Bennett, Monte R.

1979 The Blowers Site OND 1-4: An Early Historic Oneida Settlement. *Bulletin of the Chenango Chapter of the New York State Archaeological Association* 18(2):1-25.

1981 A Longhouse Pattern on the Cameron Site (Ond 8-4). *Bulletin of the Chenango Chapter of the New York State Archaeological Association* 19 (2).

1984a Recent Findings in Oneida Indian Country. *Bulletin of the Chenango Chapter of the New York State Archaeological Association* 21(1).

1984b The Stone Quarry Site (MSV 4-2): A Mid-Seventeenth Century Oneida Iroquois Station in Central New York. *Bulletin of the Chenango Chapter of the New York State Archaeological Association* 21(2).

1991 Onneyuttehage, Thurston, MSV 1: A Story of a Screened Sidehill Midden. *Bulletin of the Chenango Chapter of the New York State Archaeological Association* 24(3).

1999 A Longhouse Pattern on the Thurston Site (MSV 1-2). *Bulletin of the Chenango Chapter of the New York State Archaeological Association* 27(1):9-41.

Bennett, Monte R. and Henry Hatton

1988 The Cameron Site (Ond 8-4) Revisited. *Bulletin of the Chenango Chapter of the New York State Archaeological Association* 23(1):1-4.

Bennett, Monte R., Gerald Hayes, and Susan Avery Young

2007 The Diable Site (MSV-2-2): A Protohistoric Oneida Iroquois Village. *Bulletin of the Chenango Chapter of the New York State Archaeological Association* 30(1):41-73.

Clark, Lynn

2004 *Gender at an Early Seventeenth-Century Oneida Village*. Ph.D. dissertation, Department of Anthropology, Binghamton University, State University of New York, Binghamton.

Dodd, Christine F.

1984 Ontario Iroquois Tradition Longhouses. National Museum of Man, Mercury Series, *Archaeological Survey of Canada*, Paper 124:181-437. National Museums of Canada, Ottawa.

Engelbrecht, William

2003 *Iroquoia: The Development of a Native World*. Syracuse University Press, Syracuse.

Finlayson, William D.

1985 *The 1975 and 1978 Rescue Excavations at the Draper Site:Introduction and Settlement Patterns*. National Museum of Man, Mercury Series, Archaeological Survey of Canada, Paper 130. National Museums of Canada, Ottawa.

Fitzgerald, William R.

2001 Contact, Neutral Iroquoian Transformation, and the Little Ice Age. In *Societies in Eclipse: Archaeology of the Eastern Woodlands Indians, A.D. 1400-1700*, edited by David S. Brose, C. Wesley Cowan, and Robert C. Mainfort, Jr., pp. 37-47. Smithsonian Institution Washington, D.C.

Gibson, Stanford

1971 An Elevation Comparison of Iroquois Sites in Three Valleys of Central New York State. *Bulletin of the Chenango Chapter of the New York State Archaeological Association* 12(2):1-8.

1986 A Report on Two Oneida Iroquois Indian Sites (Ond. 12, Ond. 16). *Bulletin of the Chenango Chapter of the New York State Archaeological Association* 22(1):1-10.

Hayes, Charles F. III

1965 A Regional Approach to Archaeology-A Cultural Sample from the Cornish Site. *Museum Service, Bulletin of the Rochester Museum of Arts and Sciences*, May-June 38(5-6):45-54.

1967a A Prehistoric Iroquois Longhouse at the Reed Fort Site. *Museum Service, Bulletin of the Rochester Museum of Arts and Sciences*, Jan.-Feb. 40(1-2):25-31.

1967b The Longhouse at the Cornish Site. In *Iroquois Culture, History, and Prehistory: Proceedings of the 1965 Conference on Iroquois Research*, edited by Elisabeth Tooker, pp. 91-97. New York State Museum and Science Service. New York State Department of Education, Albany.

Hayes, Gerald L., Daryl E. Wonderly, Larry Bates, Edwin Gibson, Francis J. Hailey, Richard E. Hosbach, and Alexander B. Neill
2001 Vaillancourt 1999/2000. *Bulletin of the Chenango Chapter of the New York State Archaeological Association* 28(1):1-5.

Hayes, Gerald L., Daryl E. Wonderly, Daniel R. Hayes, Edwin Gibson, Francis J. Hailey, Richard E. Hosbach, and Alexander B. Neill
1999 A Long Oneida Iroquois Longhouse at Vaillancourt. *Bulletin of the Chenango Chapter of the New York State Archaeological Association* 27(1):1-8.

Hosbach, Richard E.
2004 Carlo I and Carlo II Coins Found on Two New York Iroquois Sites. In *A Passion for the Past: Papers in Honour of James F. Pendergast*, edited by James V. Wright and Jean-Luc Pilon, pp. 193-204. Mercury Series, Archaeology Paper 164. Canadian Museum of Civilization, Gatineau, Quebec.

2006 The Structure of Four Oneida Longhouses over Time: Prehistoric (Buyea: OND-13), Early Protohistoric (Cameron: OND-8), Protohistoric (Wilson: OND-9), and Historic (Dungey: MSV-6). *Bulletin of the Chenango Chapter of the New York State Archaeological Association* 29(1):1-36.

Hosbach, Richard E. and Stanford Gibson
1980 The Wilson Site (OND 9): A Protohistoric Oneida Village. *Bulletin of the Chenango Chapter of the New York State Archaeological Association* 18(4A).

Hosbach, Richard E., Alexander B. Neill, Francis J. Hailey, Gerald L. Hayes, and Daryl E. Wonderly
2006 The Dungey Site (MSV-6): An Historic Oneida Village-A Short Longhouse. *Bulletin of the Chenango Chapter of the New York State Archaeological Association* 29(1):37-71.

Kapches, Mima
1984 Cabins on Ontario Iroquoian Sites. *North American Archaeologist* 5(1):63-71.

1993 The Identification of an Iroquoian Unit of Measurement: Architectural and Social/Cultural Implications for the Longhouse. *Archaeology of Eastern North America* 21:137-162.

1994 The Iroquoian Longhouse: Architectural and Cultural Identity. In *Meaningful Architecture: Social Interpretations of Buildings*, edited by Martin Locock, pp. 253-270. Worldwide Archaeology Series 9. Avebury, Aldershot, Hampshire, Great Britain.

Kleinmartin, Hex
2005 *A Spatial Analysis of Iroquoian Longhouses: Visualizing Diversity*. Ph.D. dissertation, Department of Anthropology, State University of New York at Buffalo, Buffalo.

Knight, Dean H.
2002 The Function of Longhouses: An Example from the Ball Site. *The Bulletin*, Journal of the New York State Archaeological Association 118:27-40.

Lennox, Paul A. and William R. Fitzgerald
1990 The Culture History and Archaeology of the Neutral Iroquoians. In *The Archaeology of Southern Ontario to A.D. 1650*, edited by Chris J. Ellis and Neal Ferris, pp. 405-456. Occasional Publications of the London Chapter of the Ontario Archaeological Society 5. London, Ontario.

Niemczycki, Mary Ann Palmer
1984 *The Origin and Development of the Seneca and Cayuga Tribes of New York State*. Research Records 17. Rochester Museum and Science Center, Rochester, New York.

Noble, William C.
2002 Historic Neutral Iroquois Settlement Structures. *The Bulletin*, Journal of the New York State Archaeological Association 118:19-26.

Pendergast, James F.
1990 Emerging Saint Lawrence Iroquoian Settlement Patterns. *Man in the Northeast* 40:17-30.

Pratt, Peter P.
1976 *Archaeology of the Oneida Iroquois, Vol. 1*. Occasional Publications in Northeastern Anthropology 1. George's Mills, New Hampshire.

1991 Oneida Archaeology: The Last Quarter Century. *The Bulletin*, Journal of the New York State Archaeological Association 102:40-42.

Prezzano, Susan C.
1992 *Longhouse, Village, and Palisade: Community Patterns at the Iroquois Southern Door (New York, Late Woodland).* Ph.D. dissertation, Department of Anthropology, Binghamton University, State University of New York, Binghamton, New York.

Ramsden, Peter G.
1990 The Hurons: Archaeology and Culture History. In *The Archaeology of Southern Ontario to A.D. 1650*, edited by Chris J. Ellis and Neal Ferris, pp. 361-384. Occasional Publications of the London Chapter of the Ontario Archaeological Society 5. London, Ontario.

Snow, Dean R.
1995 *Mohawk Valley Archaeology. Vol. 1: The Sites.* Institute for Archaeological Studies, University at Albany, State University of New York, Albany New York.

1996 *The Iroquois.* Blackwell Press, Oxford, Great Britain.

1997 The Architecture of Iroquois Longhouses. *Northeast Anthropology* 53:61-84.

Sohrweide, A. Gregory
2001 Onondaga Longhouses in the Late Seventeenth Century on the Weston Site. *The Bulletin*, Journal of the New York State Archaeological Association 117:1-24.

Tuck, James A.
1971 *Onondaga Prehistory: A Study in Settlement Archaeology.* Syracuse University Press, Syracuse, New York.

van den Bogaert, Harmen Meyndertsz
1988 *A Journey into Mohawk and Oneida Country, 1634-1635: The Journal of Harmen Meyndertsz van den Bogaert.* Translated and edited by Charles T. Gehring and William A. Starna. Syracuse University Press, Syracuse, New York.

Warrick, Gary A.
1984 *Reconstructing Ontario Iroquoian Village Organization.* National Museum of Man, Mercury Series, Archaeological Survey of Canada, Paper 124:1-180. National Museums of Canada, Ottawa.

1988 Estimating Ontario Iroquoian Village Duration. *Man in the Northeast* 36:21-60.

1996 Evolution of the Iroquoian Longhouse. In *People Who Lived in Big Houses: Archaeological Perspectives on Large Domestic Structures*, edited by Gary Coupland and E. B. Banning, pp. 1-26. Monographs in World Archaeology 27. Prehistory Press, Madison, Wisconsin.

2000 The Precontact Iroquoian Occupation of Southern Ontario. *Journal of World Prehistory* 14(4):415-466.

Weiskotten, Daniel H.
2007 Summary of Excavations Done on the Diable Site, MSV-2-2 (NYSM #665), Stockbridge, New York: Principally Those on the Southwest Point, September-November 1985. *Bulletin of the Chenango Chapter of the New York State Archaeological Association* 30(1):75-103.

Whitney, Theodore
1964 Thurston, Onneyuttehage? *Bulletin of the Chenango Chapter of the New York State Archaeological Association* 6(1).

1967 The Bach Site. *Bulletin of the Chenango Chapter of the New York State Archaeological Association* 8(4).

1970a The Buyea Site, OND 13-3. *The Bulletin*, Journal of the New York State Archaeological Association 50:1-14.

1970b The Buyea Site, OND 13-3. *Bulletin of the Chenango Chapter of the New York State Archaeological Association* 11(1).

Wonderley, Anthony
2006 Archaeological Research at the Oneida Vaillancourt Site. The *Bulletin*, Journal of the New York State Archaeological Association 122:1-26.

Wright, James V.
1995 Three Dimensional Reconstructions of Iroquoian Longhouses: A Comment. *Archaeology of Eastern North America* 23:9-21.

Archaic and Woodland Settlements Near the Modern Confluence of Canaseraga Creek and the Genesee River

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Field School students from SUNY Geneseo excavated a number of sites along the Genesee River, near the village of Geneseo, New York in the 1960s, 1970s, and 1980s. The field schools were directed by Dr. Wendell Rhodes, then chair of the Department of Anthropology at SUNY Geneseo. He called these sites the Macauley Complex. The existence of the Macauley Complex is well known but no detailed data about the sites have been published except Rhodes dissertation (1965) that discussed Mac 1 (Cda 16) and part of Mac 2 (Cda 10) (where they are called Viper Mound and Appleshed, respectively) and a recent, more detailed report on Mac 1 (Cda 16) based on Rhodes work (Maxson 2005). This paper is a report of the investigations at Mac 2 (Cda 10), Mac 3 (Cda 29), Mac 4 (Cda 30), and Mac 5 (Cda 31).

Although the excavations were carried out several years ago, the artifacts from these sites and records of their excavation are stored in the Department of Anthropology at SUNY Geneseo. It is the description of these artifacts together with the information in the extant records that form the basis of this report.

Mac 2 and Mac 3 are much alike in that they both show multiple occupations dating to the Late Archaic, the Early Woodland, and Late Woodland periods, covering a span of nearly 5000 years. Mac 4 and Mac 5 were occupied in the Late Archaic, the Early Woodland and the Middle Woodland periods, a somewhat shorter time span.

Site Descriptions

All the sites in the Macauley Complex are located near the modern confluence of the Genesee River and Canaseraga Creek (Figure 1). The Genesee River has its origin near the southern border of New York State; it flows through Letchworth Gorge where it descends from the Allegheny Plateau, and is presently dammed at the northern end of the gorge. The Macauley sites are a few kilometers downriver from the dam. Canaseraga Creek is an underfit stream that flows through the southern part of lowlands that are the bed of the peri-glacial Lake Geneseo (Muller et al.:126). North of the sites the former lake bed has become the flood plain of the Genesee. The plain is about 3 km wide at the sites.

Mac 3 (Cda 29) is on the first terrace on the east bank of Canaseraga Creek where it flows into the Genesee River. Mac 2 (Cda 10) is just south of Mac 3, separated from it by a narrow gulley. These two sites are about 180 m above sea level and the creek is about 15 m below them. The stream bank is very steep. Mac 2 and Mac 3 are bounded on the east by the bed of an abandoned railroad. Mac 4 (Cda 30) is east of the railroad bed and 10 m or so north of Mac 3. Mac 5 (Cda 31) is immediately north of Mac 4 and is separated from it by another narrow gulley. Mac 4 and Mac 5 are about 3 m higher in elevation than Mac 2 and Mac 3.

The terrain rises gradually from the river to a north-south trending ridge about five km east of the sites and about 175 m above them. It is probable that the gulleys that separate the Macauley sites were eroded by drainage from this ridge during early post-glacial times (R. Young, personal communication 2009).

The topsoils on the sites are Odessa silt loam, sloping phase and very gently sloping phase (USDA 1956:Map 3, 72, 73), underlain by what are the banks of the former lake or dunes from the beach sand (Muller et al 1988:126). At the time of the excavations the area was pasture and cropland. Contemporaneous photographs show that the land was quite open. At present brush and small trees cover the sites. Several years ago Interstate 390 was built just to the east of the sites and probably some of the present landforms are

Figure 1. The location of the Mac 2, Mac 3, Mac 4, and Mac 5 Sites. The map is copied from the USGS topographical map of the Geneseo quadrangle, dated 1978.

somewhat altered from the time when the excavations were made.

Sources of Data

This report is based on data gleaned from the following sources:

- The artifacts that are in the SUNY Geneseo collection.
- Tags in the artifact bags. The information on the tags was copied from the original paper bags in the 1990s.
- Unit Record sheets that were completed by the students doing the excavation. These sheets consist of a plan view of the unit showing the location of the artifacts and notes about or drawings of the artifacts or features.
- Inventory Record sheets that list the artifacts from each unit. These seem to have been completed a few days after the excavations were completed.
- Feature Record sheets that were completed by those doing the excavation, giving details of the features that were found.
- Student notebooks, usually written in diary-fashion by the field-school students.

Excavations

Mac 2 was excavated in the fall of 1964 and the summers of 1965 and 1966. Mac 3 was excavated in the summers of 1965, 1966 and 1967. Field school students did most of the work, although some off-season excavation was done by Dr. Rhodes, members of his family, a few students, and members of the community. Excavations at Mac 4 were carried out between 1965 and 1972, although not every year. Mac 5 was excavated in 1974 and 1978 and a surface survey of that site was completed earlier, perhaps in 1965. Most of the excavations consisted of five-ft by five-ft square units. The exceptions to this will be described as they become relevant.

There is no record of the mesh of the screens that were used in the excavations. From the size of the small artifacts that are in the collection, I infer that during the earlier years a ½ in mesh was used, and starting in the early 1970s a ¼ in mesh was used. This corresponds to the usual archaeological practices in those years. From the artifacts in the collection, it appears that chert flakes were discarded in the earlier excavations. They begin to appear in the artifacts from the excavations that were done in the early 1970s.

Macauley 2 Site (Mac 2) (Cda 10)

Macauley 2 excavations began in the fall of 1964 and were continued the next two summers. About 140 5 ft by 5 ft units were excavated. The depths to which they were dug were not recorded, nor were the depths at which most of the artifacts were found. The primary datum for Mac 2 was in the southeast corner of the site and the units were designated by their southeast corners. Field records for about 40% of the excavated units are extant.

Mac 2- Artifact Description

Lithic artifacts included chipped stone, ground stone, and rough stone artifacts. Table 1 presents the counts of chipped stone artifacts. Almost all of these artifacts were made of Onondaga chert. Some of the categories in the above table (and in similar tables later in the text) need a few words of explanation:

- Biface fragments are artifacts that are chipped on both surfaces but have no retouch or other evidence of use, as judged using a hand magnifier.
- Debitage from Mac 2 and Mac 3 consists of relatively large chert flakes with no retouch or other evidence of use. The collection contains no small chert flakes from these two sites.
- I have lumped all "pointed" artifacts together. They may be projectile points, knives, or have some other use that is not discernible without use-wear analysis.
- I find it difficult to distinguish between hammerstones and anvil stones; hence, I have lumped them together.

Table 2 shows the type and count of the ground stone artifacts from Mac 2 and Table 3 shows the counts for rough stone artifacts, which totaled 32. There were about 5000 potsherds in 203 bags. I sorted the sherds into four categories; the categories and counts for each category are given in Table 4. There were more than 300 pipe sherds recovered at Mac 2. Again these were sorted into categories and counts are presented in Table 5. The distribution of pipe sherds across the Mac 2 Site did not differ significantly from that of the pottery.

Mac 2 Features

The sole source of information about the features found at

Table 1. Macauley 2 Site (Mac 2). Chipped Stone Artifacts

Category	Count
Biface fragments	37
Debitage	82
Drills/fragments	6
Points/fragments	102
Point performs	7
Scrapers	9
Other	3

Table 2. Macauley 2 Site (Mac 2). Ground Stone Artifacts

Category	Count
Mano fragments	2
Pestle fragments	2
Ground/Polished fragments	1

Table 3. Macauley 2 Site (Mac 2). Rough Stone Artifacts

Category	Count
Chert nodules	2
Cores	1
Grindstones/sharpening stones	3
Hammerstones/anvil stones	3
Netsinkers/fragments	22
Nutstones	1

Table 4. Macauley 2 Site (Mac 2). Potsherds

Category	Count
Plain bodysherds	4673
Decorated bodysherds	110
Plain rimsherds	33
Decorated rimsherds	83

Table 5. Macauley 2 Site (Mac 2). Pipe Sherds

Category	Count
Stem sherds	78
Plain bowl sherds	251
Decorated bowl sherds	20

Mac 2 is the Unit Record sheets. If Feature Record sheets were completed, they are no longer available. Furthermore, only about 40% of the Unit Record sheets are extant. Thus, it seems likely that many features were found for which we have no information. Nevertheless a rich array of features was reported at Mac 2. These include postmolds, refuse pits, hearths, earth ovens, and a human burial.

The burial was found in Unit N70/W65. The body was in a flexed position with the head to the east. The body is of an adult, possibly female (B. Welker, personal communication 2004). The bottom of the pit was 55 cm below the mantle. There were several objects in the burial pit that seem to be associated with the burial:

- Shell fragments. The field notes read: "Shell fragments [starting at] 6 in. [below the mantle] continuing down to 20 in." Three of these shell fragments are in the collection; they are of a freshwater mussel, almost surely species *Anodonta* (Isidro Bosch, personal communication 2008).

- A fragment of a flared pipe bowl. The field notes read: "17 in. [below the mantle] one-half bowl rim, just above phalanges."

- A chert nodule. The field notes read: "Flint. 17 in. [below the mantle]—one large unworked piece." The nodule weighs 49.3 gm and is of Onondaga chert.

- These artifacts from the burial pit are depicted in the photograph in Figure 2.

Mac 2 Discussion

Period of Occupation

The types of projectile points found at Mac 2 tell us much about the period of site occupation. Table 6 lists the points and identifiable point fragments from Mac 2, along with the temporal period in which they cluster as per Noel Justice's (1995) cluster nomenclature. Included in this table are the time periods in which these clusters were widely used.

The ages of the projectile points from Mac 2 in Table 6 indicate that there are two groups of points distinguished by age: one group contains the Lamoka, Brewerton, and Meadowood clusters that date to the Late Archaic and Early Woodland and a second group, the Late Woodland Triangular cluster (Levannas and Madisons), that were used in the Late Woodland period. This leads to the inference that there were two periods of occupation at this site, one in the Late Archaic and Early Woodland and another in the Late Woodland. Of course, neither of these habitations was probably continuous; more likely there were many shorter occupations.

Figure 2. Artifacts from the burial at Mac 2; **a-c**. shell fragments; **d**. pipe fragment; **e**. chert nodule.

Table 6. Macauley 2 Site (Mac 2). Clusters of Points and Identifiable Fragments

Cluster	Count	Time Period
Brewerton Corner Notched	16	Late Archaic (Justice 1995: 115)
Genesee	8	Late Archaic (Justice 1995: 159)
Lamoka	15	Late Archaic Justice 1995: 127)
Late Woodland Triangular	11	Late Woodland (Justice 1995: 224)
Meadowood	1	Early Woodland (Justice 1995: 170)
Steubenville	2	Archaic (Ritchie 1971:51)
Susquehanna	1	Late Archaic/Early Woodland (Justice 1995: 167)

We know that there was occupation of the area in the Meadowood period, not only from the presence of Meadowood projectile points at the site, but also from the Meadowood burial at Mac 1, a few tens of meters from Mac 2 (Rhodes 1965, Maxson 2005) and from the Scaccia site (Wray 1965) that is just across the Genesee River flood plain about 3 km west of the Macauley Complex. The Meadowood culture ended about 500 B.C. and the Late Woodland began about A.D. 700. Hence there was a hiatus of at least 1200 years in the occupation of the site. One might speculate that the reason for this lapse in the occupation is that the course of either the Genesee River or

Canaseraga Creek changed and made the site less desirable. The Genesee has occupied much of the valley at one time or another in the past ten or twelve thousand years, so it is plausible that this was the reason for the time of no occupation.

Intensity of Occupation

Another observation about the occupation of the site comes from the relative proportions of different projectile point types at the site (see Table 6). There are about four times as many Late Archaic projectile points in the collection as there are Late Woodland points. However the Late Archaic and Early Woodland periods were longer than the Late Woodland. Justice (1995) dates the earliest Lamokas at 3500 B.C. (Justice 1995:115) and the latest Meadowoods at 500 B.C. (Justice 1995:171). He dates the earliest Levannas at A.D. 700 (Justice 1995:228) and the latest Madisons at contact (Justice 1995:224) around A.D. 1500 (Both the Levannas and the Madisons are part of the Late Woodland Triangular cluster). It seems plausible to assume that the number of points correlates with person-years of occupation, at least to within an order of magnitude. Thus, one could divide the 43 Late Archaic and Early Woodland points by 3000 years (= .01) and compare it with the 11 Late Woodland points divided by 800 years (= .01). From these numbers it seems reasonable to conclude that the site was used at about the same intensity during the two periods.

The Burial

The burial is, of course, a striking feature of the Mac 2 site. As stated above, the skeleton is that of an adult, possibly a female. I judge the burial to date to the Late Woodland. I base this conclusion on:

- The relatively good preservation of the skeleton. The acidity of the soils in this region makes it unlikely that it would have survived after 2500 years.
- The flared bowl of the pipe fragment dates from the Late Woodland (Ritchie 1980:312).
- The flexed burial points to the Late Woodland (Ritchie 1980:296).

Subsistence

The presence of netsinkers at the site indicates that fishing provided a portion of the subsistence of the inhabitants. Ritchie states (1980:278) that New York Indians practiced net fishing from Lamoka to Iroquois times. The presence of the mussel shell fragments in the burial indicates that shellfishing was also practiced and was probably a source of subsistence.

Site Organization

As suggested in the plots of lithics and sherd distributions across the site (Figures 3 and 4), there appears to be a tendency for the artifacts to be centered about an axis trending slightly in the northeast-southwest direction. (This assumes that the excavated units were chosen to recover most of the artifacts at the site. However, this seems to be the case, as evidenced by the smaller numbers of artifacts recovered near the periphery.) This tendency may be influenced by the topography of the site, but any present evidence of this difference in micro-topography was probably destroyed by earth-moving activity during the construction of Interstate 390.

Both Figures 3 and 4 show two concentrations of artifacts, one centered in the area around N100/W45 and the other to the southwest of this. At first glance this might be thought to be evidence of two secondary refuse deposits. However an analysis of the locations of the hearths, postmolds, and pits shows that they are all in an area bounded by N60 and N95 in the north-south direction and between W40 and W70 in the other direction. This places them in the same area as the more southwesterly concentration of artifacts. I infer that this latter area was a living area and the area to the northeast was a secondary refuse deposit.

To see if there might be a difference in the areas utilized during the two occupation periods the locations of the Late Woodland projectile points were plotted and compared with that of the Late Archaic points. Although these plots are not included in this paper, they showed no discernable difference between the scatter of Late Archaic points and the Late Woodland points. Further, a comparison of plots of the decorated potsherds relative to all the potsherds also showed no discernable difference. Although it would seem unlikely that the members of two occupying cultural groups would choose the same portion of the site to concentrate their activities, these data seem to indicate that this is the case. Of course the choice of an area in which to center activities might have been influenced by the micro-topography of the site or by some other factor that is not now evident at the site.

Macauley 3 Site (Mac 3) (Cda 29)

Mac 3 is just to the north of Mac 2 and across a gulley. In October 1964, the site was laid out in a five-foot by five-foot grid and "Test Hole No. 3" was excavated. This excavation comprised units N50/W10, N50/W15, N50/W20, and the southern halves of N55/W10, N55/W15, and N55/W20. The rest of the site was excavated in the summers of 1965, 1966, and 1967. The primary datum at Mac 3 was at the southeast corner. Thus, as was true for Mac 2, the units were designated by their southeast corners. About seventy units were excavated.

Mac 3 Artifact Description

Mac 3 excavations unearthed chipped, ground, and rough stone artifacts. The chipped stone artifacts are listed in Table 7. Nearly all these artifacts were made of Onondaga chert. The ground stone artifacts are listed in Table 8, and the rough stone artifacts are listed in Table 9.

There are 159 bags of potsherds in the Mac 3 collection. Table 10 lists the sherds by the categories into which I sorted them. A photograph of a vessel, partially reconstructed from sherds found at Mac 3, is reproduced in Figure 5. This pot seems to be an example of Carpenter Brook Cord-on-Cord (Ritchie and MacNeish 1949:108) except for the incisions around the neck. These may represent a local variation.

Other artifacts included a few pipe sherds, some bone and charcoal. The details of the pipe sherds are presented in Table 11. The Mac 3 collection contains twenty bags of prehistoric, calcined bone fragments, probably too small to allow for identification. Two bags of charcoal are also in the collection.

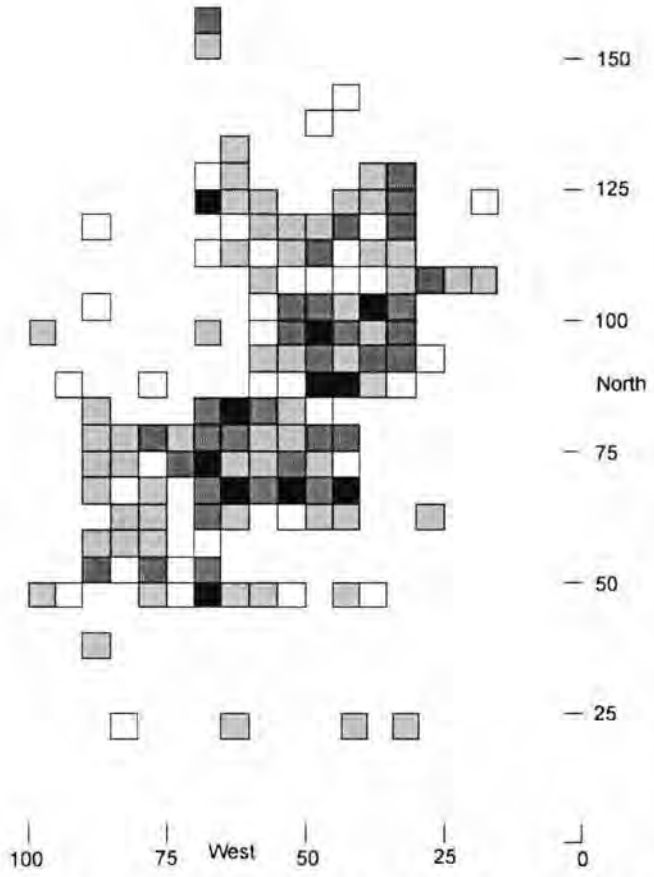


Figure 3. Distribution of the Mac 2 lithic artifacts: 25% shading denotes 1-2 artifacts; 50 % shading denotes 3-5 artifacts; 100% shading denotes 6-10 artifacts.

Mac 3 Features

The features found at Mac 3 include 11 hearths, six postmolds, and four "rock features." The extant information about these latter features is not complete enough to be certain of their character. Sketches in the field notes indicate that they may have been fire rings that had lost their annular arrangement during numerous freezing and thawing cycles. As at Mac 2, these features are concentrated in the northern part of the site, all north of N60 with the exception of one postmold.

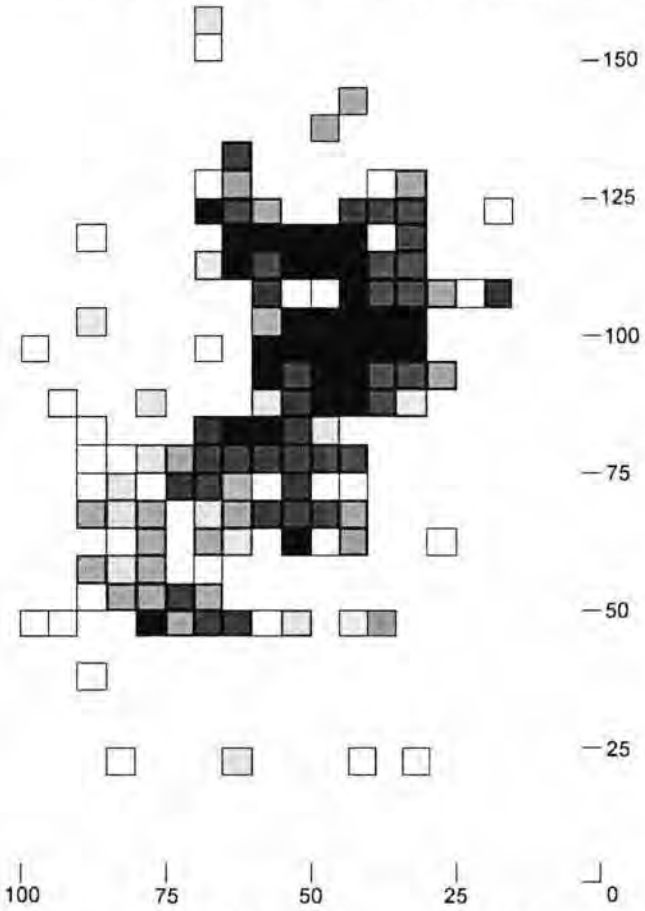


Figure 4. Distribution of the ceramic artifacts (except pipe fragments) at Mac 2: 20% shading denotes 1-4 sherds; 35% shading denotes 5-14 sherds; 60% shading denotes 15-55 sherds; 100% shading denotes 56-210 sherds.

Table 7. Macauley 3 Site (Mac 3). Chipped Stone Artifacts

Category	Count
Biface fragments	49
Debitage	60
Drills/fragments	12
Points/fragments	182
Point performs	12
Scrapers	30
Other	10

Mac 3 Discussion

Period of Occupation

Again, it is useful to classify the projectile points and identifiable point fragments by cluster and time during which they were in widespread use. This information is in Table 12.

Table 8. Macauley 3 Site (Mac 3). Ground Stone Artifacts

Category	Count
Adze/fragments	2
Manos	1
Pestle fragments	1
Polished fragments	2

Table 9. Macauley 3 Site (Mac 3). Rough Stone Artifacts

Category	Count
Hammerstones/anvil stones	22
Netsinkers/fragments	6
Hematite	8
Hoe	4

Table 10. Macauley 3 Site (Mac 3). Potsherds

Category	Count
Plain bodysherds	1475
Decorated bodysherds	51
Plain rimsherds	4
Decorated rimsherds	12

Table 11. Macauley 3 Site (Mac 3). Pipe sherds

Category	Count
Stem sherds	3
Plain bowl sherds	3
Decorated bowl sherds	1

As before, the data concerning time periods of use of each of these clusters come from Justice (1995). Table 12 shows two distinct groups of projectile points, those from the Late Archaic and the Early Woodland periods and a second group from the Late Woodland. This apparent lack of occupation from about 500 B.C—the end of the Meadowood culture—to about A.D. 700, the beginning of the use of Levanna style points, mirrors that of the adjacent Mac 2 site.

Intensity of Occupation

As was the case for Mac 2, the differences between the numbers of points from each of the three time periods of occupation made me wonder if they had any significance. All of the following dates are attributable to Justice (1995). The earliest Late Archaic points are the early Lamokas, which Justice (1995:127) dates to 3500 B.C. The latest Brewertons date to about 1700 B.C. (Justice 1995: 115). The earliest Meadowoods date to about 1300 B.C. (Justice 1995: 171) and the latest Adenas (Dickson cluster) date to about 300 B.C. (Justice 1995: 192). The earliest Levannas date to A.D. 700 (Justice 1995: 228) and the latest Madisons are at

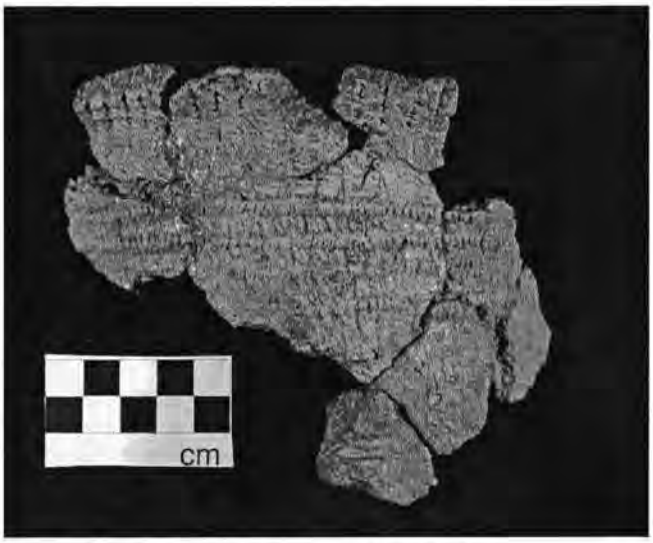


Figure 5. A partially reconstructed vessel from Mac 3.

Table 12. Macauley 3 Site (Mac 3). Clusters of Points and Identifiable Fragments

Cluster	Count	Time Period
Dickson	1	Early Woodland (Justice 1995: 189)
Brewerton Corner Notched	24	Late Archaic (Justice 1995: 115)
Genesee	3	Late Archaic (Justice 1995: 159)
Lamoka	76	Late Archaic Justice 1995: 127)
Late Woodland Triangular	5	Late Woodland (Justice 1995: 225)
Meadowood	3	Early Woodland (Justice 1995: 170)
Steubenville	2	Ritchie (1971:51) places these in Late Archaic

contact, about A.D. 1500 (Justice 1995: 224). Compilation of these data is shown in Table 13. A reasonable conclusion from these calculations is that the Late Archaic occupation was much more intense than the either the Early or Late Woodland occupations.

Subsistence

The presence of netsinkers at Mac 3 leads one to expect that net fishing provided some of the resources for the people that occupied the site. The field notes from Mac 3 contain at least one reference to shells that were found and apparently discarded. It seems probable that these were from freshwater mussels, as at Mac 2, and if so shellfish probably were a food resource as well.

Table 13. Macauley 3 Site (Mac 3). Intensity of Occupation.

Time Period	Duration	Point Count	Points/ Year
Late Archaic	3500 — 1700 B.C.	106	.06
Early Woodland	1300 — 300 B.C.	4	.004
Late Woodland	700 — 1500 A.D.	5	.006

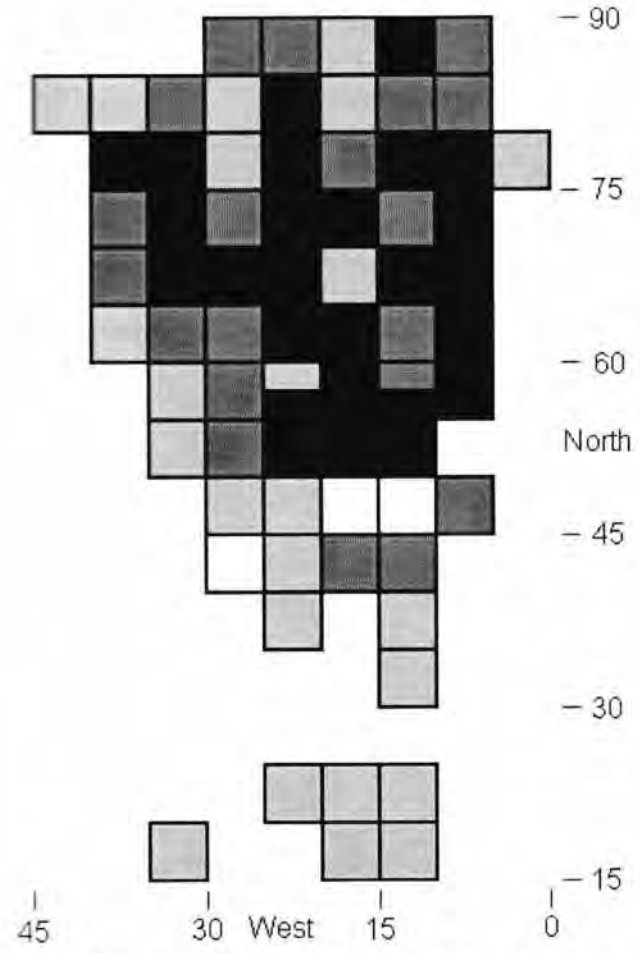


Figure 6. Distribution of the Mac 3 lithic artifacts: 25% shading denotes 1-3 artifacts; 50% shading denotes 4-7 artifacts; 100% shading denotes 8-19 artifacts.

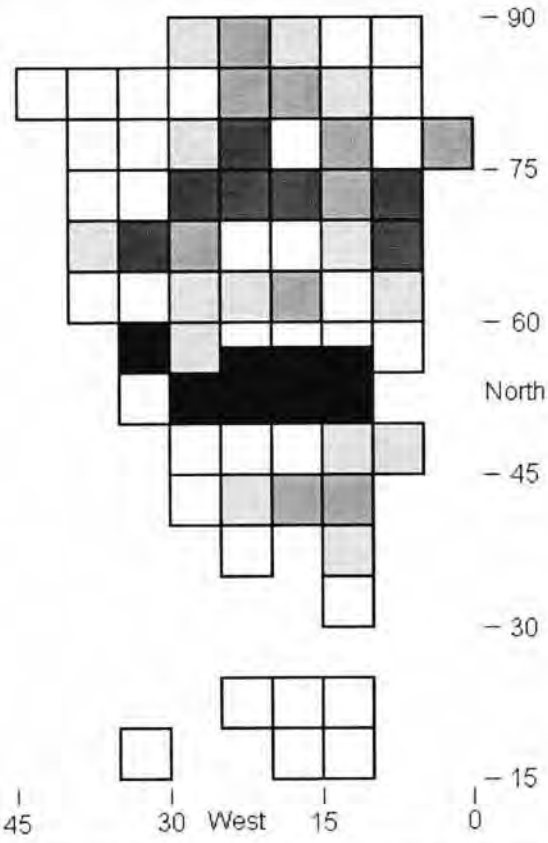


Figure 7. Distribution of the Mac 3 ceramic artifacts: 20% shading denotes 1-4 sherds; 35% shading denotes 5-19 sherds; 60% shading denotes 20-85 sherds; 100% shading denotes 86-373 sherds.

Site Organization

Comparison of the maps of distribution of lithic artifacts (Figure 6) and potsherds (Figure 7) and the above discussion of the location of features at Mac 3 leads one to conclude that the area north of about N60 was the area of primary habitation. There is a concentration of potsherds somewhat south of this, around N50/W25, and the lithics show some concentration there also. If one were to hypothesize that the majority of the potsherds and lithics in Test Hole 3 were found near the west end of that excavation, this concentration would be even more apparent. Perhaps this area represents a secondary refuse deposit.

Plots of the locations of the Late Archaic and Early Woodland projectile points relative to Late Woodland points show that most of the points from all time periods were north of N55. However, while the Late Woodland points were near the periphery of the site, the earlier points were scattered over most of the excavated units. (A caution about

putting too much weight on this observation: although there are a substantial number of points, 110, making up the plot of the Late Archaic and Early Woodland points, there are very few, only five, projectile points making up the map of the Late Woodland points.) A plot of the decorated pottery was compared with the plot of all pottery in Figure 7. There seems to be the same tendency for the decorated sherds to be nearer the periphery of the area north of N55. The significance of these observations is unclear; however, they do not seem to speak to different areas of habitation during the two time periods.

Similarities and Differences between Mac 2 and Mac 3

Mac 2 and Mac 3 share similar times of occupation. That may be a function, as discussed for Mac 2, of the course of either the Genesee River or Canaseraga Creek, or both. A striking dissimilarity between the sites is the number of pipe sherds excavated: 349 at Mac 2 and 7 at Mac 3. I can offer no explanation for this disparity, but it may have some significance. Another dissimilarity is that although Mac 3 is about half the size of Mac 2, about twice as many points and fragments were recovered at Mac 3 as at Mac 2. Again, I cannot find a reason for this in the data unless it can be ascribed to a higher intensity of occupation.

Macauley 4 Site (Mac 4) (Cda 30)

The Mac 4 Site is just downstream from the confluence of Canaseraga Creek and the Genesee and on the east side of the above-mentioned abandoned railroad bed.[1] There is a hand-drawn map with one-foot contours in the files that shows two low, east-west trending ridges that characterize the site. These low ridges are separated by a valley that is a meter or so deep. Robert Funk, excavated a trench on the northernmost ridge in the summer of 1965. The artifacts from this trench are not in the SUNY Geneseo collection, but there is a letter from Dr. Funk in the files that reports the artifacts that he found. The points are of the same ages as those in the SUNY Geneseo collection.

That same summer, field school students began an excavation on the southern ridge. That excavation was called Locus 2 and excavation there continued for several seasons. The units in Locus 2 were 5 ft square. In addition, during the period of excavation at Mac 4, several "test blocks" were excavated. These were usually 15 ft square. Test Block 3 was extended to the north, south, and east of the test block itself. In addition there were several other excavations that were located in unknown areas of the site. Apparently, rather than establishing a datum point for the entire site, the datum stakes for the various excavations at Mac 4 were placed independently and no record exists of their relative locations. The 5 X 5 units at Mac 4 were designated by their southwest corners.

Mac 4 Artifact Description

In the interests of brevity, I have chosen to limit the Mac 4 data for this report to that from Locus 2. It is the largest, by far, of the excavations and hence is considered to be representative of the site. Excavations at Locus 2 yielded chipped

Table 14. Macauley 4 Site (Mac 4). Locus 2 Chipped Stone Artifacts

Category	Count
Bifaces/fragments	51
Debitage	89
Drills/fragments	20
Points/fragments	342
Scrapers/fragments	38

Table 15. Macauley 4 Site (Mac 4). Locus 2 Ground Stone Artifacts

Category	Count
Adzes/fragments	3
Celts/fragments	4
Choppers	2
Gouges	2
Ground/polished fragments	3
Hoes	2
Manos	3
Mortar/fragments	3
Mullers	7
Ornaments/fragments	4
Pestles/fragments	11

Table 16. Macauley 4 Site (Mac 4). Locus 2 Rough Stone Artifacts

Category	Count
Chert nodules/fragments	9
Hammerstones/anvil stones	74
Hematite	13
Netsinkers/fragments	7
Nutstones	3

[1] Mary Ann Niemczycki, in a paper in 1986, appears to conflate the Mac 4 Site and the Squashpatch Site, another of the sites in the Macauley Complex. The Squashpatch Site is a couple of km south of Mac 4 and was excavated a few years later than Mac 4. This discrepancy, however, does not influence the argument or the conclusions reached in her paper.

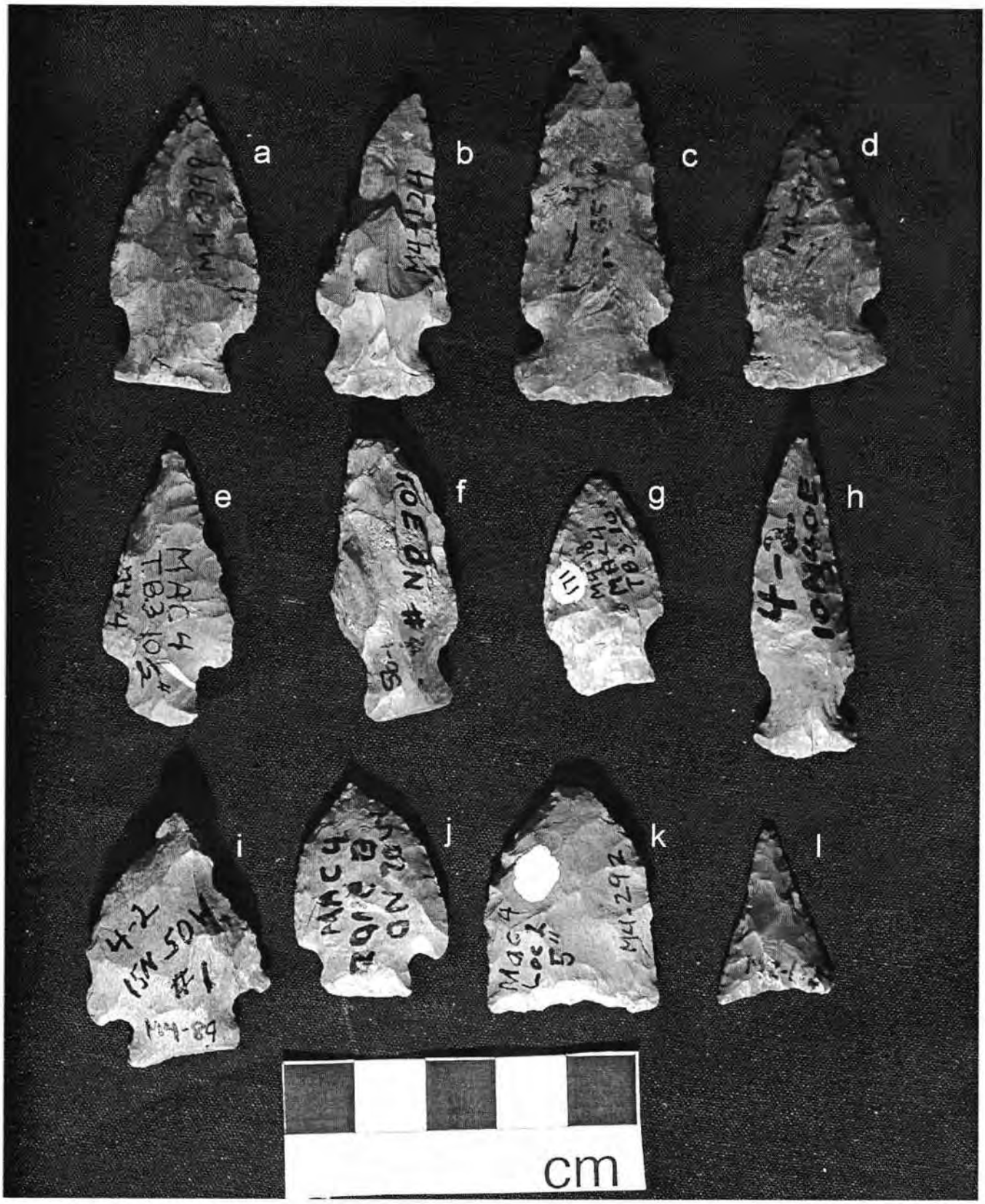


Figure 8. Representative projectile points from Mac 2 and Mac 4: **a**. Susquehanna Broad; **b**. Normanskill; **c-d**. Meadowood; **e-h**. Lamoka; **i-j**. Brewerton; **k**. Jacks Reef Pentagonal (a-k all from Mac 4); **l**. Madison from Mac 2.

stone, ground stone and rough stone artifacts. The details of these are contained in Tables 14, 15, and 16, respectively. The vast majority of the chipped stone artifacts were made from Onondaga chert. Figure 8 contains a photograph of representative projectile points from Mac 4. Figure 9 is a photo of some of the drills and scrapers found at Macs 4 and 5. Among the ceramic artifacts were a bead, and a few fragments of clay, round in cross section and a few centimeters long. These, I assume, were pieces of the coils from which pots were made. An unusual artifact was a fragment of an imitation of a Genesee projectile point made of fired clay (Figure 10). Most of the ceramics consisted of potsherds. Table 17 presents a description of the sherds found in Locus 2.

Other artifacts excavated in Locus 2 were 114 bags of calcined bone, 17 bags of charcoal, and two bags containing nuts. The bone consisted of pieces too small to determine their origin. The nuts probably are recent, left by an animal, since the acidity of the soil would seem to preclude their antiquity.

Mac 4 Features

The extant data about the features in Mac 4 is incomplete. There were 160 features recorded as being found in Locus 2. Of these 54 were hearths, 20 were postmolds and two were earth ovens. There are not enough data to make a confident identification of the remaining features. A plot of these 76 features is not greatly different from that of the lithic scatter shown in Figure 11.

Mac 4 Discussion

Period of Occupation

The occupation of Mac 4 is somewhat more complex than Mac 2 and Mac 3. Table 18 gives the details of the point clusters found at Mac 4. The clusters to which each of the projectile points belong and the respective time periods pertaining to each cluster have been taken from Noel Justice (1995). These data indicate that there were three periods of occupation: the Late Archaic, Early Woodland, Late Middle Woodland, and Late Woodland. This is borne out by the pottery from Locus 2. There are both Vinette I and Middle/Late Woodland types present. These will be discussed in more detail in the next few paragraphs.

Figures 11 and 12 are maps of the distribution of the lithic artifacts and the pottery sherds found at Mac 4

Figure 9. Scrapers and Drills from Macs 4 and 5: **a** and **f**. drills from Mac 4; **b**. scraper made from a Brewerton point; **c** and **e**. end scrapers; **d**. drill from Mac 5; **g**. scraper made from an Adena point.

Figure 10. An imitation point made of fired clay found at Mac 4. The right edge in the photo is broken.

Table 17. Macauley 4 Site (Mac 4). Locus 2 Sherds

Category	Count
Plain bodysherds	783
Decorated bodysherds	8
Plain rim sherds	20
Decorated rim sherds	11

Locus 2. They show a relatively uniform scatter of artifacts over the entire area. In order to see if the three posited occupation periods were separated in space at Locus 2, I plotted the projectile points (and identifiable fragments) separated into the three groups implied by the dates of the point clusters. Figure 13 shows these distributions. Examination of this plot shows a scatter of Late Archaic points present across most of the area. The Early Woodland points have a much more limited occurrence, both numerically and spatially; they appear only in the eastern and the far western portions of Locus 2. The Middle Woodland and Late Woodland points present yet a different picture; they are all in the western part of Locus 2. From these data one could infer that:

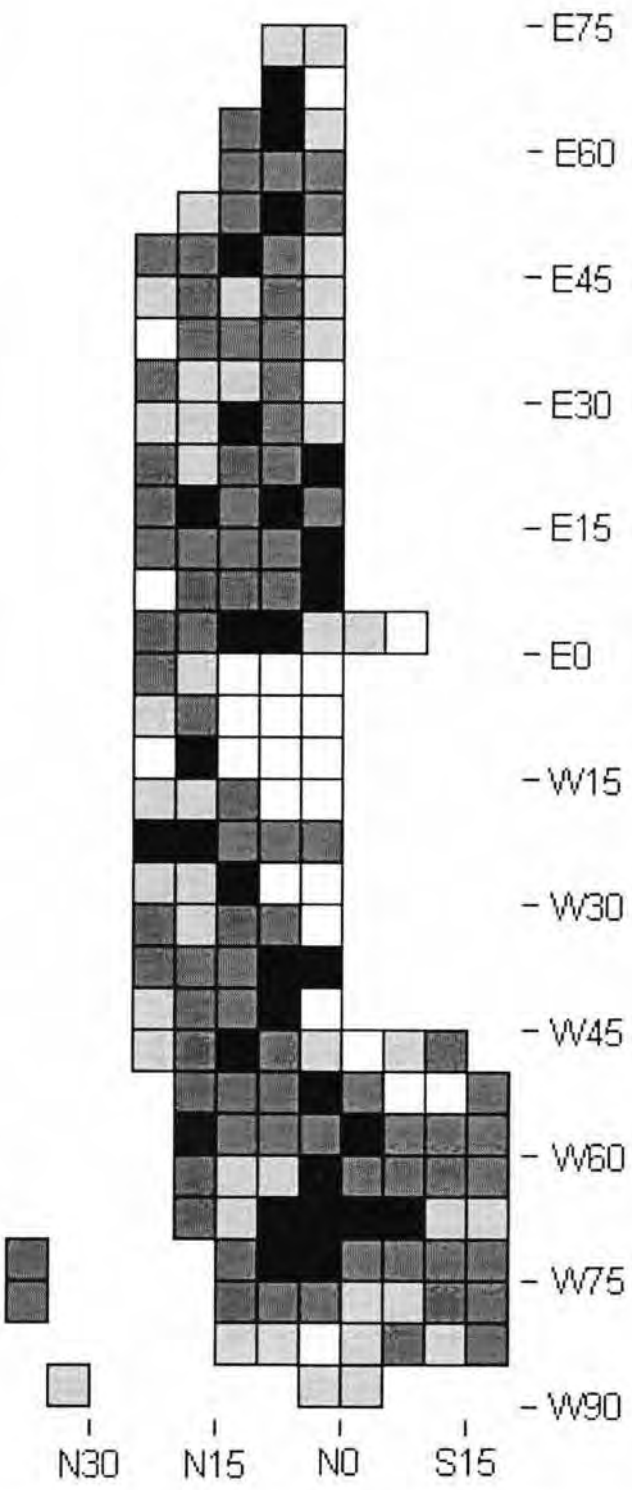


Figure 11. Distribution of the Mac 4 Locus 2 lithic artifacts: 25% shading denotes 1-2 artifacts; 50% shading denotes 3-6 artifacts; 100% shading denotes 7-16 artifacts.

- Late Archaic occupations covered most of the area comprising Locus 2.
- Early Woodland occupations were limited to the eastern and far-western portions of the area.
- Late Middle Woodland and Late Woodland occupations occurred in the western end of Locus 2

In order to see if the pottery distribution supported these inferences, I chose twenty-five bags of pottery from twelve units centered around N5/E20. There were 167 sherds in these bags. All these sherds were Vinette I as evidenced by their thickness and large grit temper (Ritchie and MacNeish, 1949:100). I also typed fifteen decorated sherds from Locus 2. Twelve of these were rim sherds and three were body sherds. The twelve rim sherds, from eight vessels, were from the Middle Woodland period (Wickham Incised, Wickham Corded, and Jacks Reef Dentate Collar). The three body sherds were from a single unit and were very boldly cord marked Vinette I. All these sherds came from units between W25 and W75. Thus the pottery does support the hypothesis that the later occupations were in the western portion of Locus 2.

A number of samples from Mac 4 were radiocarbon dated by the Isotopes Division of Teledyne Corporation. These dates are presented in Table 19. Some of the entries in the table require further elaboration:

- TB2 and TB3 refer to Test Blocks 2 and 3. Both of these excavations were on the southern ridge and east of Locus 2.
- Except for the last entry in the table all samples were charcoal taken from hearths or earth ovens.
- "The Mound" is at an unknown location at Mac 4. This date is interesting because it was derived from carbonized nuts.

Both the data from the projectile points and the pottery show three periods of occupation, separated in both space and time. The radiocarbon dates generally agree with the data from the points and pottery. The exception is the third entry in the table; it assigns a Middle Woodland date to a hearth east of N0/E0.

Intensity of Occupation

Following the rubric used in the discussion of Mac 2 and Mac 3, I made points/year calculations for the occupations at Mac 4. Again, the data for the duration of occupation for each of the time periods comes from Justice (1995). The earliest Lamokas date to 3500 B.C. (Justice 1995:127) and the latest Brewertons date to about 1700 B.C. (Justice 1995:115). The Meadowoods (Justice 1995:171) and Pomrankys (Meadowood Cache Blades [Justice 1995:145]) date from 1300 B.C. to 500 B.C. The Jacks Reef points began to be used about A.D. 500 (Justice 1995:217) and the Levannas were used until about A.D. 1200 (Justice 1995:228). These data are presented in Table 20. If we use these calculations as a basis for judging intensity of occupation, it appears that there was a much more intense occupation in Late Archaic times than in the later periods. This is borne out, qualitatively, by the plots in Figures 12 and 13 where the areas of the later occupations are much smaller.

Subsistence

As in both Mac 2 and Mac 3, the presence of netsinkers implies net fishing and the probability that fish from the river were part of the diet of the inhabitants. I found no record of mussel shells from Mac 4.

Site Organization

Figures 11 and 12, the plots of the distribution of lithics and pottery, show a fairly uniform scatter across all of Locus 2. The features at Locus 2, as mentioned above, also show a similar distribution. This leads me to believe that the entire area was used for habitation. There seems to be no evidence of a secondary refuse deposit in the excavated area. Perhaps such deposits were located in the shallow valleys on either side of the ridge where Locus 2 was located.

Table 18. Macauley 4 Site (Mac 4). Locus 2 Clusters of Points and Identifiable Fragments

Cluster	Count	Time Period
Brewerton Corner Notched	85	Late Archaic (Justice 1995:115)
Jacks Reef	7	Late Middle Woodland (Justice 1995:217)
Lamoka	114	Late Archaic (Justice 1995:127)
Late Woodland Triangular	2	Late Woodland (Justice 1995:224)
Meadowood	19	Early Woodland (Justice 1995:170)
Wadlow (Pomranky)	6	Early Woodland (Justice 1995:145)

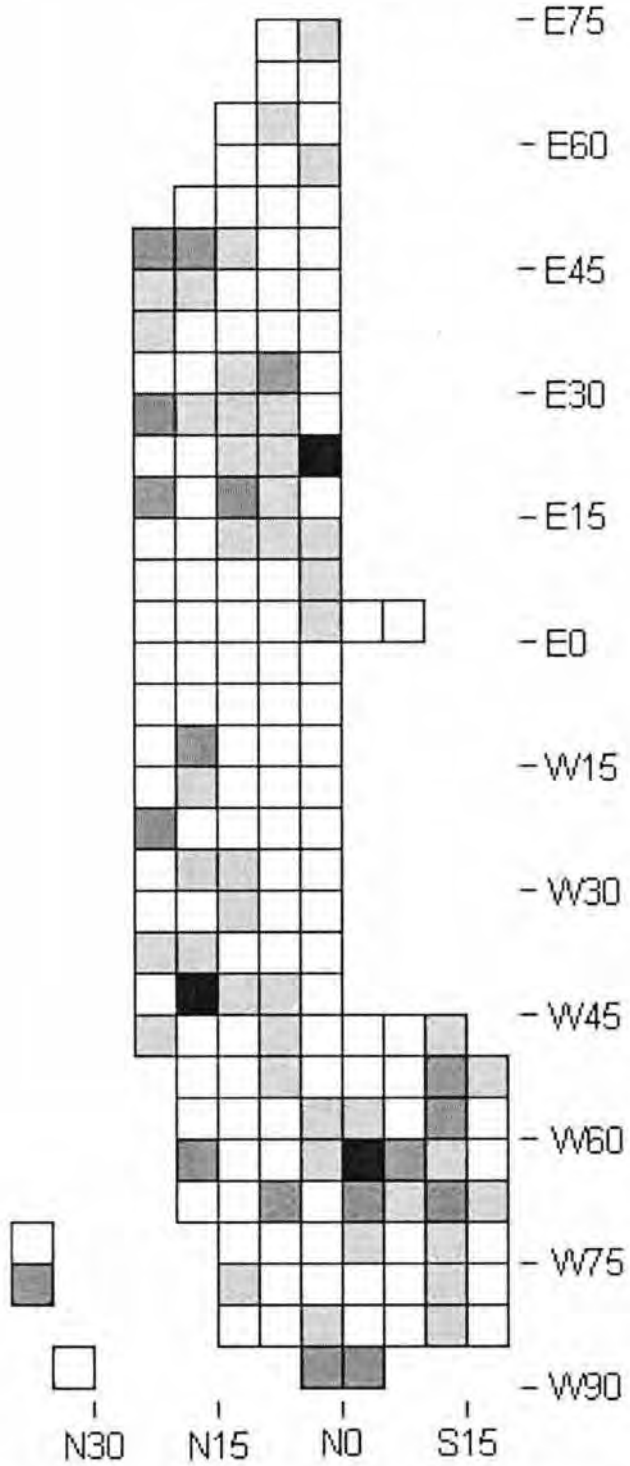


Figure 12. Distribution of the Mac 4 Locus 2 ceramic artifacts: 25% shading denotes 1-6 sherds; 50% shading denotes 7-38 sherds; 100% shading denotes 39-233 sherds.

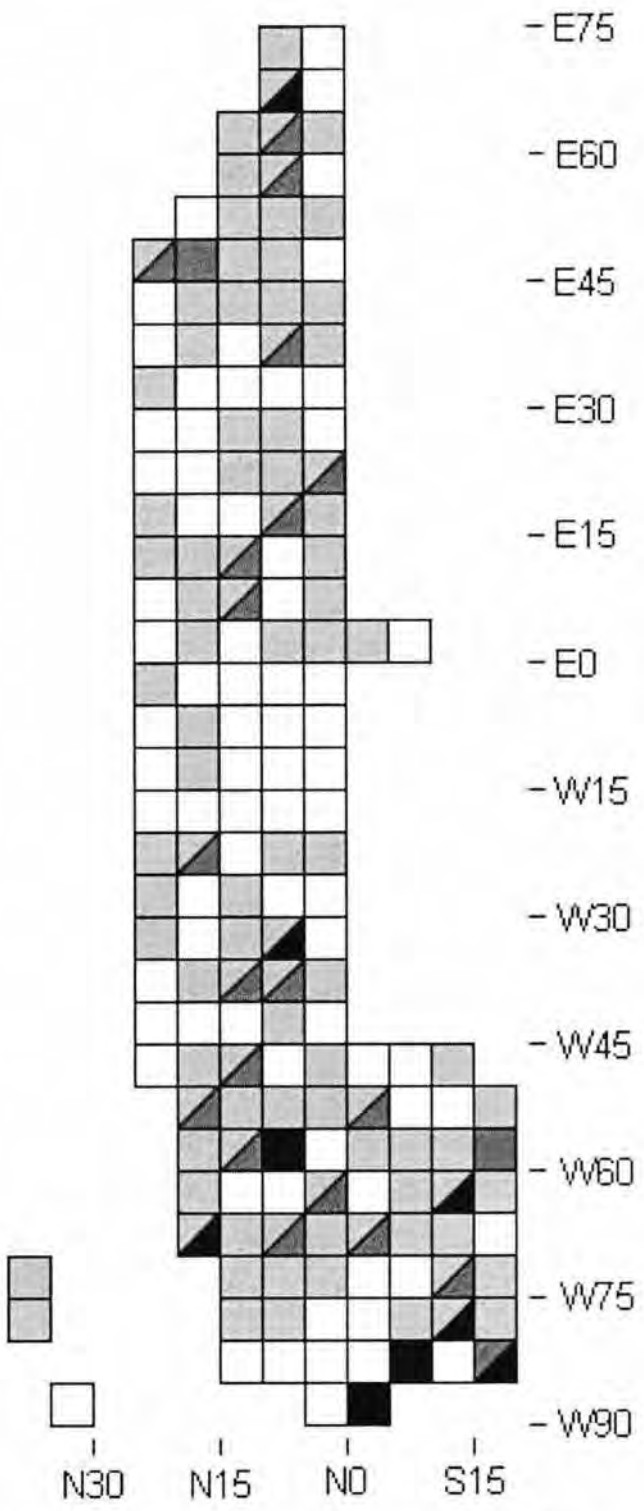


Figure 13. Distribution of projectile points at Mac 4 Locus 2: 25 % shading denotes units where Late Archaic points were found: 50% shading denotes units containing Early Woodland points; 100% shading denotes units containing Late Middle and Late Woodland points.

Table 19. Macauley 4 Site (Mac 4). Radiocarbon Ages

Unit	Sample No.	Uncorrected Age (BP)	Corrected Date Range*
Locus 2 N15/W70	I - 4515	2890 +/- 200	1315 – 892 B.C.
Locus 2 S15/W85	I - 6829	2540 +/- 90	695 – 539 B.C.
Locus 2 N0/E15	I - 6828	1315 +/- 85	639 – 782 A.D.
TB3	I - 6802	2740 +/- 90	980 – 809 B.C.
TB3	I - 6803	2910 +/- 115	1265 – 973 B.C.
TB3	I - 6804	4745 +/- 130	3647 – 3482 B.C.
TB3	I - 6805	3890 +/- 120	2495 – 2199 B.C.
TB3	I - 6806	2920 +/- 90	1262 – 1004 B.C.
TB2	I - 4558	2670 +/- 115	1005 – 753 B.C.
Unknown	I - 4267	3670 +/- 110	2202 – 1899 B.C.
"The Mound" I	I - 4364	3300 +/- 105	1691 – 1489 B.C

*Corrected using CALIB5.10.3 (Stuiver and Reimer 1993)

Table 20. Macauley 4 Site (Mac 4). Intensity of Occupation

Time Period	Duration	Point Count	Points/Year
Late Archaic	3500 — 1700 B.C.	206	0.11
Early Woodland	1300 — 500 B.C.	25	0.03
Late Middle/Late Woodland	500 — 1200 A.D.	9	0.01

Table 21. Macauley 5 Site (Mac 5). Chipped Stone Artifacts

Category	5 X 5 Units	Test Pits	Surface Survey	Location Unknown
Biface fragments	2	2	8	
Cores/expended cores	2	1	3	
Debitage (chert flakes)	1460	861	19	35
Drills/fragments	1		3	
Points/fragments	16	5	14	2
Point performs			1	
Retouched flakes		1	4	
Scrapers/fragments	2		4	
Utilized flakes	3			

Table 22. Macauley 5 Site (Mac 5). Ground Stone Artifacts

Category	5 X 5 Units	Surface Survey
Celts	1	
Unidentified	7	1

Macauley 5 Site (Mac 5) (Cda 31)

The Mac 5 site is directly north of Mac 4, separated from it by a gulley. This site is quite narrow in the north-south direction. Fifteen 5 ft by 5 ft units were excavated, ten during the 1974 field school and five in the 1978 field school. The 5 x 5 units are designated by their southwest corners. In addition to the 5 x 5 units, seven 2½ ft sq "test pits" were dug in 1974. The test pits were located from 210 to 360 feet east of the datum. Their north-south locations are not recorded. A surface survey of the site was also done, perhaps in 1965.

I was unable to find any information in the extant records that discussed the strategy for choosing the units to be excavated at Mac 5. There is a map of the results of a magnetometer survey of the site, but the excavated units do

not match the magnetic anomalies plotted on this map. Neither is there any indication that the locations of the artifacts discovered in the surface survey were recorded. Hence the sampling strategy is unknown.

Mac 5 Artifact Description

Chipped stone artifacts from the three recovery efforts are detailed in Table 21. Almost all these artifacts were made of Onondaga chert. Ground stone artifacts are detailed in Table 22 and rough stone artifacts are itemized in Table 23.

The ceramics in the collection include 317 potsherds and one sherd from the bowl of a flared pipe. A total of 163 potsherds came from the excavated units and 120 from the surface survey. The other 34 came from unknown locations. The pipe sherd was found in the surface survey. All the identifiable sherds from the 5 x 5 units were Vinette I (Ritchie and MacNeish 1949:100). The surface survey provided a few sherds that were Wickham Incised or Jacks Reef Corded as described by Ritchie and MacNeish. These sherds are shown in Figure 14.

Table 23. Macauley 5 Site (Mac 5). Rough Stone Artifacts

Category	5 X 5 Units	Test Pits	Surface Survey	Location Unknown
Hammerstones	4	1		1
Netsinkers/fragments			11	

Mac 5 Features

The features that were excavated at Mac 5 included three hearths and one "rock feature." There were four incidences of charcoal, three of which are described in the field notes as "scatters." These may have been hearths or may be the result of wildfires. The small number of excavated units makes it difficult to make a reasoned comment about the distribution of features across the site.

Mac 5 Discussion

Plots of the distribution of the lithic artifacts from Mac 5 and the ceramic artifacts from the 5 x 5 units at Mac 5 are shown in Figures 15 and 16, respectively. As with the features, mentioned above, because of the small number of units excavated and without an idea of the sampling strategy, it is difficult to make a meaningful comment about their distribution.

Figure 14. Decorated sherds from the Mac 5 surface survey.

Period of Occupation

Most of the points and identifiable point fragments date to the Late Archaic. Only two Early Woodland points were found at Mac 5—a Meadowood at N0/E185 and an Adena (Dickson cluster) found in the surface survey (this point had been reworked to form an end scraper—item "g" in Figure 9). No points from later time periods were found. The Vinette I pottery from the 5 x 5 units again indicates an occupation during the Early Woodland. One might infer from these data that there was no later occupation of the site. However the Wickham Incised and Jacks Reef Corded from the surface survey point to another occupation in Middle Woodland times. Thus it appears that the occupation at Mac 5 follows the pattern at the adjacent Mac 4 Site.

The combination of the sparsity of the excavations and our ignorance of a sampling strategy makes it very difficult to say much more about the people who used the Mac 5 site. Perhaps the only other clue to their lifestyle is the netsinkers that were recovered in the surface survey.

General Conclusions

Mac 2 and Mac 3 seem to be much alike in their times of occupation and so do Mac 4 and Mac 5. All four sites were utilized in the Late Archaic and Early Woodland periods. Macs 4 and 5 were also occupied in the Middle Woodland period and Macs 2 and 3 were occupied in the Late Middle Woodland and Late Woodland periods. If the preference for a stream-side location was paramount to the peoples of the Archaic through at least the first part of the Late Woodland period, and if the course of the streams changed, as posited in the discussion of Macs 2 and 3, it must have been for a shorter time than suggested there. Accepting a date for the introduction of Jacks Reef points to be A.D. 500 (Justice 1995:217) and a 500 B.C. date (Justice 1995:171) for the disappearance of the Meadowood culture there is an apparent one millennium period of no occupation. As information from the other Macauley Complex sites become available they may throw more light on this apparent hiatus in occupation.

The Macauley Complex first appears to have been inhabited about 5500 years ago. No artifacts have been found there that date to the Early or Middle Archaic periods; the earliest artifacts date to the Late Archaic. Although there were Paleo-Indians a few tens of kilometers from the Genesee Valley (Gramly 1999), they were almost certainly temporary inhabitants of the region. Funk (1997) reviewed the archaeological history of New York and the Northeast, and although he listed a number of instances of Early and Middle Archaic artifacts being found, all the sites are far from the Genesee Valley. The nearest are three sites he excavated along the Susquehanna River, some 225 kilometers from Macauley (Funk 1998:181, 411, 466). Future archaeologists may find earlier Archaic sites nearby, or perhaps they will be able to trace the migration of the Lamoka tradition people from some point of the compass.

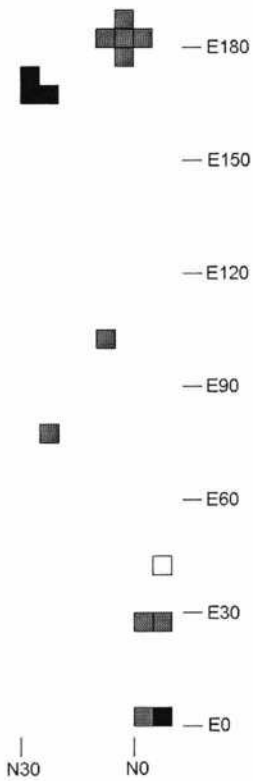


Figure 15. Distribution of lithic artifacts (except chert flakes) at Mac 5: 50% shading denotes 1-3 artifacts; 100% shading denotes 4-8 artifacts.

Figure 16. Distribution of pottery at Mac 5: 25% shading denotes 1-5 sherds; 50% shading denotes 6-23 sherds; 100% shading denotes 24-109 sherds.

Acknowledgements

My thanks to Ellen Kintz and Rose Marie Chierici for making it possible for me to have access to the artifacts and files from the Macauley Complex at the SUNY Geneseo Department of Anthropology. Richard Young has supplemented my meager knowledge of geomorphology and I thank him for that. Paul Pacheco has been of great help in many ways, from identifying what were to me strange artifacts, to helpful comments on this paper. Many students in the Department of Anthropology measured artifacts, typed and proofread databases, and were helpful in all sorts of ways. I couldn't have managed without them.

References Cited

Gramly, Richard M.
1999 *The Lamb Site: A Pioneering Clovis Encampment*. Persimmon Press, Buffalo, New York.

Funk, Robert E.
1997 An Introduction to the History of Prehistoric Archaeology in New York State, *The Bulletin*, Journal of the New York State Archaeological Association 113:459.

1998 *Archaeological Investigations in the Upper Susquehanna Valley, New York State*, Vol.2, Persimmon Press, Buffalo, New York.

Justice, Noel D.
1995 *Stone Age Spear and Arrow Points of the Midcontinental and Eastern United States*. Indiana University Press, Bloomington, Indiana.

Maxson, Richard N.
2005 A Meadowood Site in Livingston County, New York, *The Bulletin*, Journal of the New York State Archaeological Association 121:1-9.

Muller, Ernest H., Duane D. Braun, Richard A. Young, Michael P. Wilson
1988 Morphogenesis of the Genesee Valley. *Northeastern Geology* 10:112-133.

US Department of Agriculture (USDA)
1956 Soil Survey: Livingston County New York. USDA Soil Conservation Service, Series 1941, No. 15.

Niemczycki, Mary Ann
1986 The Genesee Connection: The Origins of Iroquois Culture in West-Central New York, *Northeastern Archaeologist* 7(1):36.

Rhodes, Wendell D.
1965 *Archaeological Investigation of Two Prehistoric Sites in Livingston County, New York*. Ph.D. Dissertation, Syracuse University, University Microfilms, Ann Arbor.

Ritchie, William A.
1971 *New York Projectile Points: A Typology and Nomenclature*. New York State Museum Bulletin 384, Albany, New York.

Ritchie, William A.
1980 *The Archaeology of New York State*. Harbor Hill Books, Harrison, New York.

Ritchie, William A. and Richard S. MacNeish
1949 The Pre-Iroquoian Pottery of New York State. *American Antiquity* 15:97-124.

Stuiver, M. and P.J. Reimer
1993 Extended C-14 Data-base and Revised Calib3.0 C-14 Age Calibration Program. *Radiocarbon* 35:215 - 230.

Wray, Charles F.
1965 An Early Woodland Site near Cuylerville, NY. *Morgan Chapter Newsletter* 5:3-6, Rochester, New York.

Williamson Ware on Staten Island, New York

Scott F. Kostiw, Metropolitan Chapter, NYSAA

A sherd of Williamson Ware ceramics has been identified from the Arlington Place A-1 Site, located on Staten Island, New York. The sherd is in the archaeological collection of the late Albert J. Anderson and the late Donald L. Sainz. Metric data and analysis of this sherd is provided in this report. This information contributes to our knowledge of the Early Woodland period in southern New York State.

Introduction

The Anderson-Sainz collection has been the subject of previous studies (Ritchie 1980:145-149; Ritchie and Funk 1971: 45-59). The Arlington Place A-1 Site is mentioned in Ritchie's (1980:146, 147-148) volume on New York State prehistory. The ceramic artifacts from the Arlington Place A-1 Site and the Anderson-Sainz collection, however, have not been previously described.

Williamson Ware

Williamson Ware has been identified and described by Hummer (1991) from his work at the Williamson Site

Figure 1. Williamson Ware sherd cross-section showing rim, vessel wall, and base. The thickness of the base can be seen in comparison to the wall. Note the heel in the lower right.

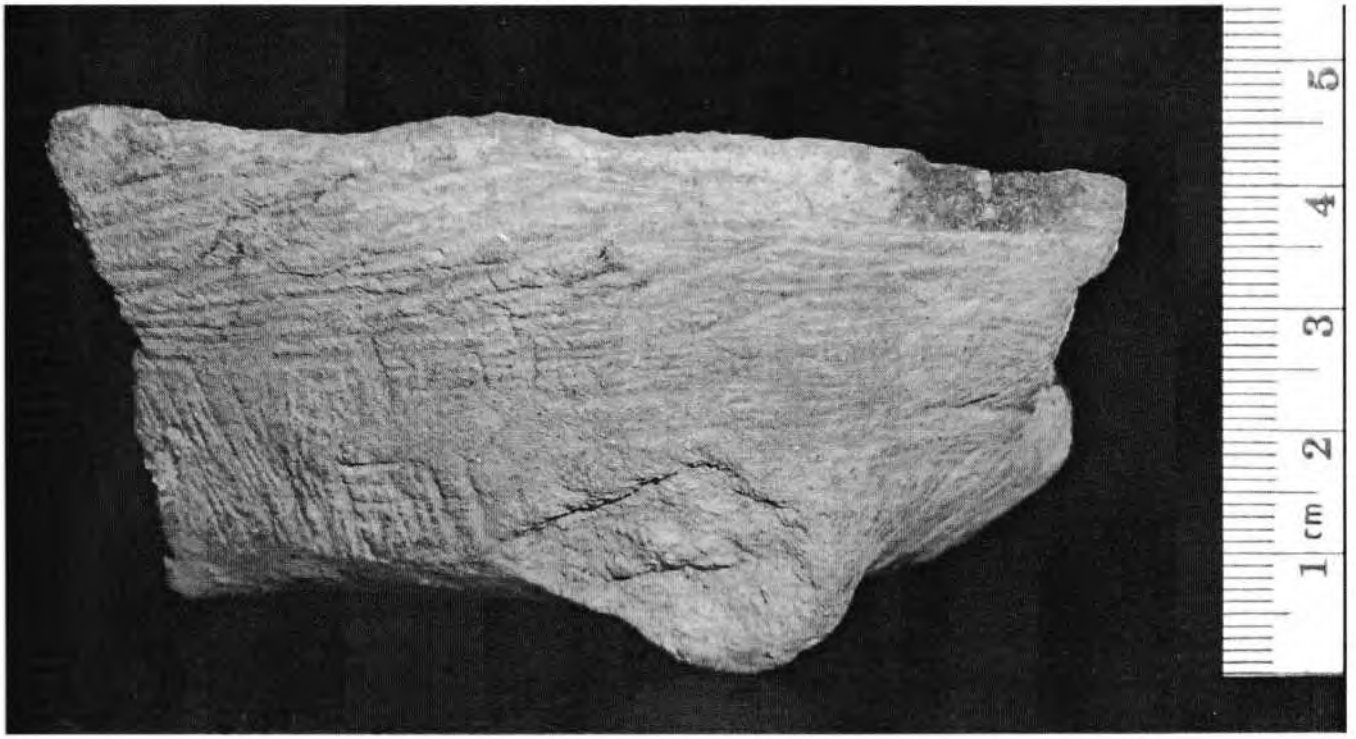


Figure 2. Williamson Ware sherd showing rim, exterior vessel wall, and heel. Note the characteristic scratches on the vessel wall. The upper part of the heel is broken.

Figure 3. Williamson Ware sherd cross-section showing rim, vessel wall, heel, and base. The corner of the vessel can be seen in this illustration.

located in Hunterdon County, New Jersey. This ware has a highly specific set of characteristics, which includes vessels with thick, generally straight walls which may be vertical or at an angle to the base, a conspicuous protruding heel which is present at the juncture of the vessel wall and base, and tempering materials that are relatively large and are often made of quartz.

Williamson Ware is related to and shares some characteristics with Marcey Creek and Ware Plain ceramics (Kraft 1970; Manson 1948; McCann 1950 in Hummer 1991:63). Williamson ceramics, however, typically do not contain lugs and are much more variable in form. Surface treatments are corded or smoothed. Williamson vessels are described as having a general tub shape (Hummer 1991:63).

Description and Metric Data

This sherd from the Arlington Place A-1 Site (Figures 1-3) includes the rim, vessel wall, and base. The heel is also present. The rim measures 7.8 cm in length. The vessel wall is 3.9 cm in length and is 7 mm thick. The base measures 3.6 cm in length. The base ranges in thickness from 7 mm to 1.3 cm. The vessel wall is straight and the angle of the wall in relation to the base is 115 degrees. The angle suggests that the vessel was tub shaped or possibly tray shaped. A heel is present at the juncture of the vessel wall and base. Part of the upper portion is broken away. The basal portion of the heel is intact. Since the heel, and most importantly the basal portion of the heel, is still present, the sherd will sit upright on its own. The length of the heel from the base is 5 mm. I estimate the size of the heel to be an oval approximately 23 mm high and 20 mm wide.

This sherd also represents a corner section of the original vessel. Along the vessel wall there is a sharp turn. This was apparently a somewhat square or rectangular shaped vessel. The basal area and interior are smoothed. The wall contains scratches, as if the maker was shaping the vessel as the clay was hardening. Scraping along the vessel walls is a characteristic seen on the ceramics at the Williamson Site (Hummer 1991:70). The scratches also help define the juncture of the vessel wall and the vessel base. The tempering material is quartz. There are observable pieces of quartz that are 3 mm in width. There is no evidence of coil manufacture.

Comparisons

This sherd is similar to those found at the Williamson Site. Dr. Chris C. Hummer graciously viewed photographs of the Arlington Place A-1 sherd. He has concluded this sherd "would seem right at home in the Early Woodland collection at Williamson" (personal communication, January 25, 2009).

This sherd is part of a vessel with specialized and technological innovations that differentiate it from all Marcey Creek, Vinette, and other vessel types. The Arlington Place A-1 sherd is most similar to the type Williamson Flat-bottom Plain. The wall of this vessel, however, is shorter than those found at the Williamson site.

Acknowledgements

I would like to thank Dr. Chris C. Hummer for viewing the photographs and helping with the analysis of this sherd. I would also like to thank George Anderson for allowing me to study and photograph the Anderson-Sainz collection.

References Cited

Hummer, Chris C.
1991 *Biface and Ceramic Assemblage Variability in the Early Woodland: Continuity and Change at the Williamson Site, Hunterdon County, New Jersey*. Ph.D. dissertation, Temple University. University Microfilms International, Ann Arbor, Michigan.

Kraft, Herbert C.
1970 *The Miller Field Site*, Part 1. Seton Hall University Press, South Orange, New Jersey.

Manson, Carl
1948 Marcey Creek Site: An Early Manifestation in the Potomac Valley. *American Antiquity* 13(3):223-227.

McCann, Catherine
1950 The Ware Site: Salem County, New Jersey. *American Antiquity* 15(4):315-321.

Ritchie, William A.
1980 *The Archaeology of New York State*. 2nd rev. ed. Harbor Hill Books, Harrison, New York.

Ritchie, William A. and Robert E. Funk
1971 Evidence for Early Archaic Occupations on Staten Island. *Bulletin of the Society for Pennsylvania Archaeology* 41(3):45-59.

An Overview of the Excavations at the Old Dutch Road Dairy Bank Barn

Kyle Somerville, Powers and Teremy, LLC/University of Pennsylvania, University at Buffalo
With Contributions from Jennifer C. Teremy, Powers and Teremy, LLC

In 2005 Powers and Teremy, LLC conducted a field school for students from the University of Rochester along Old Dutch Road in Fishers, west of the Village of Victor. It involved archaeological investigation of a "bank barn" on an historic farm. The field school presented the student excavators with an understanding of archaeological methods, and how material culture is produced and reflected within an historically rural context. Powers and Teremy, LLC returned in the fall of 2006 for follow-up excavations at the site. The Old Dutch Road site is an example of one of the many early farms located in the outlying areas of Victor Township, and its history can be traced back to some of the earliest settlers in Ontario County. The site is also an excellent illustration of how the documentary and archaeological records both provide the historical archaeologist with a clearer picture of the past.

Introduction

This article provides an overview of excavations of a "bank barn" on an historical property located along Old Dutch Road in Fishers New York. It includes a history of the property and that of the region in which it exists. Details of the excavations performed by Powers and Teremy, LLC and University of Rochester undergraduate students, as well as an analysis of the materials recovered, are described within. In many ways, this site is an example of how archaeological and documentary evidence complement one another.

The excavations performed at the site were focused around the foundation of a demolished dairy bank barn. The bank, "side-hill," or "Yankee" barn was a variation of the boxy, gabled English-style barn common throughout western New York (Figure 1) Fink 1987). Early barns, those built prior to the 1820s, were constructed on very low foundation walls and were little more than large storage sheds for hay and grain. The first English barns in western New York were also relatively small, measuring only 20 by 30 ft. Later barns were slightly larger at 30 by 40 ft (Fink 1987).

By the mid 1800s, advances in farm mechanization and transportation, such as that offered by the Erie Canal, led to increased production of crops that could be sent to ever more distant markets (Fink 1987). These improvements also spurred the growth of the dairy industry in New York State. Farmers were increasingly turning to dairy farming in an attempt to stabilize and/or increase their income. While less profitable than crop farming, dairying was less susceptible to price fluctuations and poor growing seasons (Ankli and Millar 1982). Furthermore, dairying was possible on lands where crops could not grow, particularly in the southern part of Ontario County (Fink 1987). Therefore, farmers began to

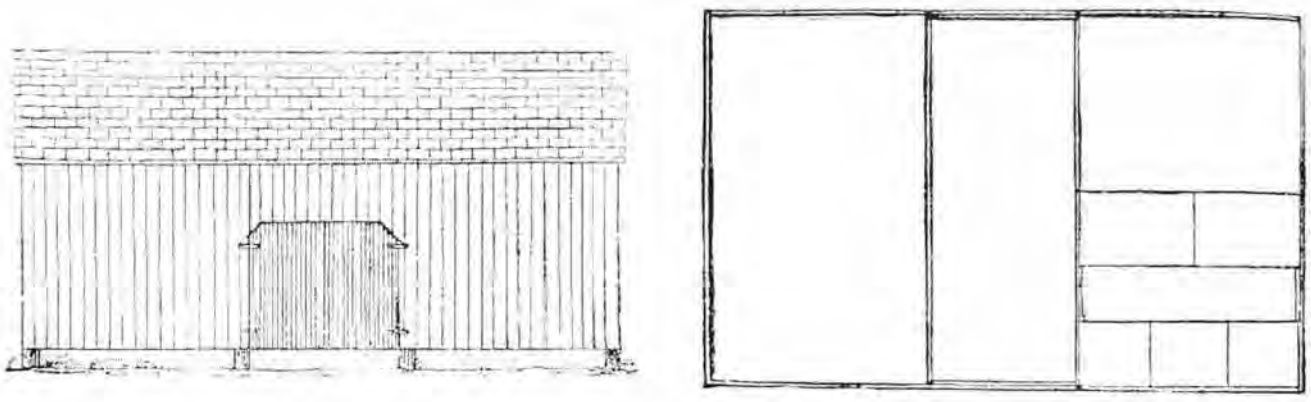


FIGURE 5-1. Common English three-bay barn. American Agriculturist, April, 1884.

Figure 1. English-style Barn, "side-hill", or "Yankee" Barn (after Fink 1987 with permission of publisher).

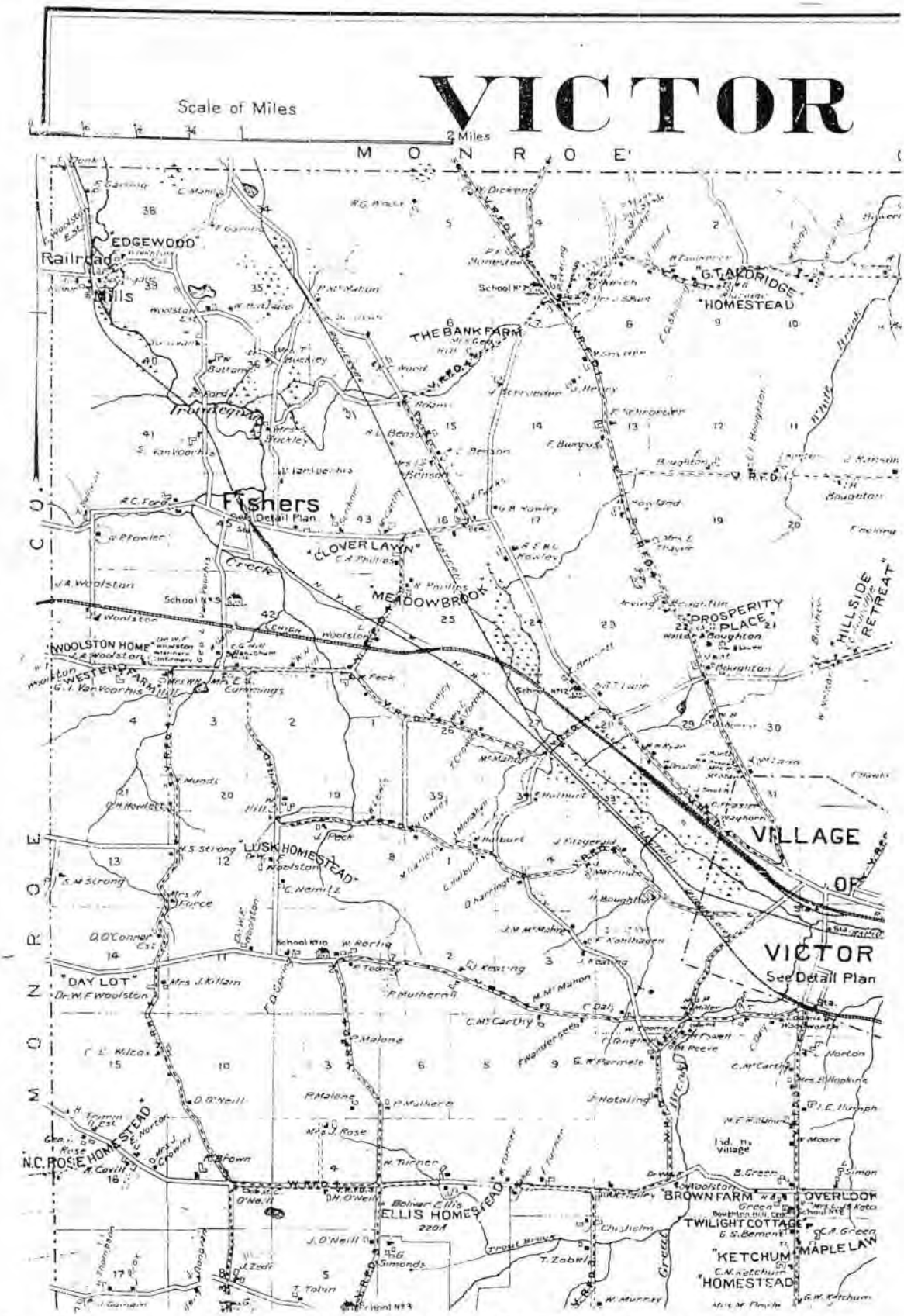


Figure 2. From 1904 Map of Northwest Victor. Historic Maps of Ontario County in New York State. Electronic document (Repard n.d.)

modify traditional barn designs to manage these new developments, with special attention given to improving the quality of life for dairy herds. In many ways, the popularity of the bank barn appears to parallel the growth of dairy farming in New York State around 1850 (Fink 1987). The need to take care of livestock, therefore, required modifications to the ubiquitous English barn.

Regional Setting

The Old Dutch Road site is located west of the Village of Victor, Ontario County in the Hamlet of Fishers, a former post and rail station near the Ontario/Monroe County border (Figure 2). Despite the growth of suburban developments the area still retains a rural character, with gently rolling hills and numerous patches of wild deciduous forest. Soils consist of alluvial silt loam and silty clay loam deposits, primarily from the Genesee and Schoharie soil series, respectively; these are moderately well to well drained (USDA 2007). The mild climate and abundant sources of game and fresh water, such as nearby Irondequoit Creek and its many unnamed tributaries, have drawn humans to the area for centuries, as reflected in the great number of recorded archaeological sites (Table 1).

A Brief History of Victor, New York

The Town of Victor is located in northwestern Ontario County, just east of the city of Rochester. Originally part of the Town of Bloomfield, Victor became its own entity in 1812 (Conover 1893). Prior to the arrival of Europeans, the people of the Seneca Iroquois Nation inhabited the area. In the late 1600s, their principal settlement of Gannagaro (or Ganondagan) was located on what is today known as Boughton Hill, one mile south of the Village of Victor. French missionaries passed through the area in 1656 and

Table 1. Sites located within a two-mile radius of the Old Dutch Road site.

NYSOPRHP Site Number	Additional Site Number	Site Distance from Project Area m/ft	Site Cultural Time Period	Site Type
A069-15-0004/ RMSC MAC 026	Follett 434	805 m / 2,641 ft Northeast of Site	Archaic/ Late Woodland	Campsite
RMSC MAC 089/ AR 62	Sheldon Fisher 12	1590 m / 5,217 ft Northeast of Site	Late Archaic	Lithic Scatter
A069-15-0017/ RMSC MAC 090	ANR-223 Zinselmeier 2 Sheldon Fisher 12	1620 m / 5315 ft Northeast of Site	Late Archaic/Late Woodland	Campsite, Workshop, Lithic Scatter
A-069-15-0016/ RMSC MAC 091	ANR-222/AR 46 Zinselmeier 1 VanVoohi Sheldon Fisher 10	1630 m / 5348 ft Northeast of Site	Early Archaic/Late Archaic/Transitional/ Late Woodland	Campsite, Workshop
RMSC MAC 095	Fisher 17	Adjacent to Site	Undifferentiated Prehistoric	Lithic Scatter
RMSC MAC 096	Fishers Cemetery	820 m / 2,690 ft East of Site	Undifferentiated Prehistoric	Cemetery
RMSC MAC 097	Fisher 16	1207 m / 3960 ft East of Site	Landka/Meadowood/ Adena/Brewerton/Geneseo	Lithic Scatter
RMSC MAC 098	Sheldon Fisher 22	840 m / 2756 ft East of Site	Historic Native American	Burial
RMSC MAC 099	Sheldon Fisher 21	800 m / 2625 ft East of Site	Undifferentiated Prehistoric	Lithic Scatter
A06915.000007	McVicker (ANR-122)	1,656m /5,433ft Northeast of Site	Unknown Prehistoric	Workshop
A06915.000018	McVicker Terrace Site (ANR-234)	1,568m/5,144ft Northeast of Site	Late Archaic/ Transitional (Lamoka, Susquehanna)	Workshop
A06915.000019	Strong (Anr-224)	2,042m /6,699ft Northeast of Site	Unknown Prehistoric	Isolated find
	NYSM 1250 Baker Site	2,845m /9,334ft North of Site	No Information	No Information

Table 2. Deed holders for the property located on Old Dutch Road.

Date	Grantor	Grantee
August 2001	Nancy Young	Jonathan Friedlander
January 1983	Chauncy H. Young	Nancy Young
December 1977	Chauncy H. Young Elizabeth C. Young	Allen S. Katkamier and Nancy Katkamier
1952 Sold the Remainder of the Ford's Property	Ambrose Ford Jr. Mary Ford Edna L. Prosseus	William I. Searless Blanche Searless
October 1947	Edna L. Prosseus	Elizabeth C. Young
March 1945	Andrew C. Gutberlet Laura F. Gutberlet	Edna L. Prosseus
1932 Sold a Section of the Property	Ambrose Ford Jr. Mary Ford	Andrew C. Gutberlet Laura F. Gutberlet
1927	Ambrose Ford Jr. Mary Ford	Robert C. Watson Esq. Land Tenent
1924 Sold a Section of the Property	Ambrose Ford Jr. Mary Ford Edna L. Prosseus	William I. Searless Blanche Searless
April 1917 Sold a Section of the Property	George P. Fowler Addie B. Fowler	Andrew C. Gutberlet Laura F. Gutberlet
1917 Majority of Property Sold	William Perry Fowler Eliza Fowler	George P. Fowler Addie B. Fowler
1904 Sold Section of Property	William Perry Fowler Eliza Fowler	George P. Fowler Addie B. Fowler
1903 Sold a Section of the Property	Adrian Ford	William Perry Fowler Eliza Fowler
1874	Erastus Ford Jr.	Adrian Ford
1866 Sold a Section of the Property	Erastus Ford Jr.	Henry Van Voorhis
November 1833	Erastus Ford Sr.	Erastus Ford Jr.
1833	Sarah Deall	Erastus Ford Sr.
June 1828	Effingham Embree	Sarah Deall
1827	Lewis Deblois	Effingham Embree
1817	Effingham Embree	Ambrose C. Ford
1813	Abraham Franklin, William Robinson; Seized by Sheriff	Effingham Embree
1808	Abraham Franklin	Effingham Embree
1799	Thomas Morris	Effingham Embree
1793	Lewis Deblois	Effingham Embree Abraham Franklin
1792	Jonathan Ball	Lewis Deblois
1790	Phelps and Gorham	Enos and Jared Boughton

1687, and several Seneca villages were destroyed by the Marquis de Denonville's military expedition of 1687 (Conover 1893). The Seneca people took refuge with the neighboring Cayuga.

Although a few Seneca families returned to the area in years following, the area would remain mostly uninhabited. In April 1788, after a long and convoluted dispute between Massachusetts and New York over conflicting land claims was resolved, Oliver Phelps and Nathaniel Gorham made their famous purchase of 6,000,000 acres of New York land from Massachusetts, an acreage that essentially encompassed the entire area west of Seneca Lake (Mau 1958). The Phelps and Gorham Purchase was the first step in opening the region to Euro-American settlement. The two men were further authorized to extinguish Indian claims to the land, which they did with their purchase of 2.6 million acres of Seneca land in July of that same year, a tract that included what today is Ontario County. Phelps and Gorham subsequently parceled out their land for sale to land speculators and settlers (Mau 1958). Enos Boughton was one of the first to purchase land from Phelps and Gorham, acquiring Township Number 11, Fourth Range—what would soon be known as Victor—for the sum of 20 cents an acre, the money furnished by his father Hezekiah Sr. (Fagan et al. 1976). Enos and his brother Jared visited the family's new holdings in the spring of 1789, and built a small cabin in the southern part of what is today Victor. Jared and Enos' brother Hezekiah, Jr and their cousin, Jacob Lobdell, arrived shortly thereafter at the cabin, bringing with them cattle and farming equipment (Fagan et al. 1976). The quartet cleared land around the cabin, surveyed and parceled the lands for future sale and raised a small yield of crops (Fagan et al. 1976).

In the fall of that year, the brothers returned to Stockbridge, leaving Lobdell to stay behind. In February 1790, Jared Boughton and his family left Massachusetts and arrived at the cabin on March 7th, becoming the first pioneer family of Victor (Conover 1893). The Boughton family would go on to become important fixtures in the young village's development, and even bestow upon it the current name of Victor, in honor of the War of 1812 veteran Claudius Victor Boughton (Conover 1893). Other settlers from New England quickly followed the Boughtons, and a small village at the Boughton Hill crossroads was established. By the first decade of the 1800s, Boughton Hill lost its popularity with new settlers, due to the establishment of a carriage route from Canandaigua to Rochester passing through the blossoming village of Victor in the valley below and the growth of the region itself (Huber 1997).

Agriculture, particularly potato farming and dairying, was an important part of early Victor. Several farms were established in the area, grist and sawmills were constructed along the various creeks in the settlement of Scudderville (East Victor), and the post and rail station of Fishers was established in 1817 northwest of the town (Conover 1893). The Township of Victor and its outlying areas prospered, and with the construction of the New York State Thruway (begun in 1946) became an appealing location for business, manufacturing, high-tech industry and shopping (Huber 1997).

History of the Property at Old Dutch Road

After Enos and Jared Boughton surveyed their purchase in 1790, they began to parcel out lots for sale. Some were purchased by settlers, who moved in and began to work their new properties. Others were snatched up by land speculators and changed hands several times. This appears to be the case with the Old Dutch Road property (see Table 2).

In 1792, Jonathan Ball sold the property to Lewis Deblois, a Boston merchant living in New York (Waters 1913). Deblois later became a purser for the United States Navy and was eventually dismissed from that position due to gross incompetence and suspicion of embezzlement (Sharp 2008). The property then passed to Abraham Franklin, a Quaker merchant from New York City (City of New York 1755) and Effingham Embree, a wealthy and well-known clock and watchmaker from Flushing who, in addition to owning a large estate outside New York City, was "the owner of many thousands of acres of land in Kentucky, Pennsylvania, and the northern part of New York State" (Pelletreau 1907:321). Interestingly, the property seems to have been kept within the same family, as Embree, Franklin, Robinson and Sarah Deall were all related through blood or marriage (Haley 2005, Pelletreau 1907, Roper 1997). In 1799 the property came into the possession of Thomas Morris, son of the Revolutionary War financier Robert Morris, as part of the younger Morris' purchase of 3.8 million acres of Seneca land for the Holland Land Company. The land then passed back to Abraham Franklin and William Robinson, until Sheriff Stephen Bates seized it for reasons that are unclear, and eventually it fell into the possession of Sarah Deall. Despite the near-constant changing of hands, there is no evidence that any of the aforementioned deed holders lived on the plot or built a structure on it.

The property is perhaps best associated with the Ford family, who had one sort of connection or another to the property for over a century. Ambrose C. Ford, of Stockbridge, Massachusetts arrived in the Hamlet of Pompey, New York, southeast of Syracuse, with his wife, Caroline Stephens, in 1802 (Fowler 1940). The couple had two children: Erastus, born in 1803 and Ambrose Jr. in 1805. Caroline died shortly after Ambrose Jr.'s birth, and Ford then married Naomi Brewer in 1807, and the couple had three

Figure 3. Photograph of Old Dutch Road Homestead, looking northwest, unknown date (Photo courtesy of property owner).

Figure 4. 1859 Town of Victor map showing Ford and neighboring properties. Electronic document (Repard n.d.).

more children. In 1816 the Ford family moved to Victor, where they likely cleared land for a house (extant) and had three more children (Fowler 1940). Ford established himself within his new community with the purchase of a gristmill in 1816, and also became a contractor on the Erie Canal, responsible for overseeing the construction of an embankment at Bushnell's Basin just outside of Victor (Fowler 1940). Ford then went to Lockport, a small community near Buffalo, to work on the construction of the canal. Unfortunately, he died there during a cholera epidemic in August of 1823 and was buried in a mass grave with dozens of other victims (Fowler 1940).

In 1833, Ford's son, Erastus, became the property's owner (MacIntosh 1876). Like his father, Erastus had his hands in local milling concerns, as records in the Victor Historical Society dating from 1860 indicate that Ford owned a flourmill and a sawmill. In addition, Erastus

Figure 5. 1874 Beers' Map of Victor, showing property owned by A. Ford (Beers 1874).

appears to have worked in agriculture, as his occupation is listed as "Farmer" in both the 1874 Town of Victor Business Notice (Beers 1874) and the 1876 Town of Victor Business Directory (MacIntosh 1876). It is uncertain what type of farming he specialized in, and although a photograph (Figure 3) appears to show corn south east of the farmhouse, it is unknown if this was Erastus' main crop. An 1859 map (Figure 4) is the earliest pictorial reference to the Ford farmstead, though it does not differentiate between the structures on the property. By 1876 Ford was 73 years old, and though he was still listed in the 1876 Directory, the 1874 map (Figure 5) shows that an A. Ford owned the property; probably Adrian, Erastus' adopted son. Ford himself died in 1888 at the age of 84 (*Ontario County Journal* 1888).

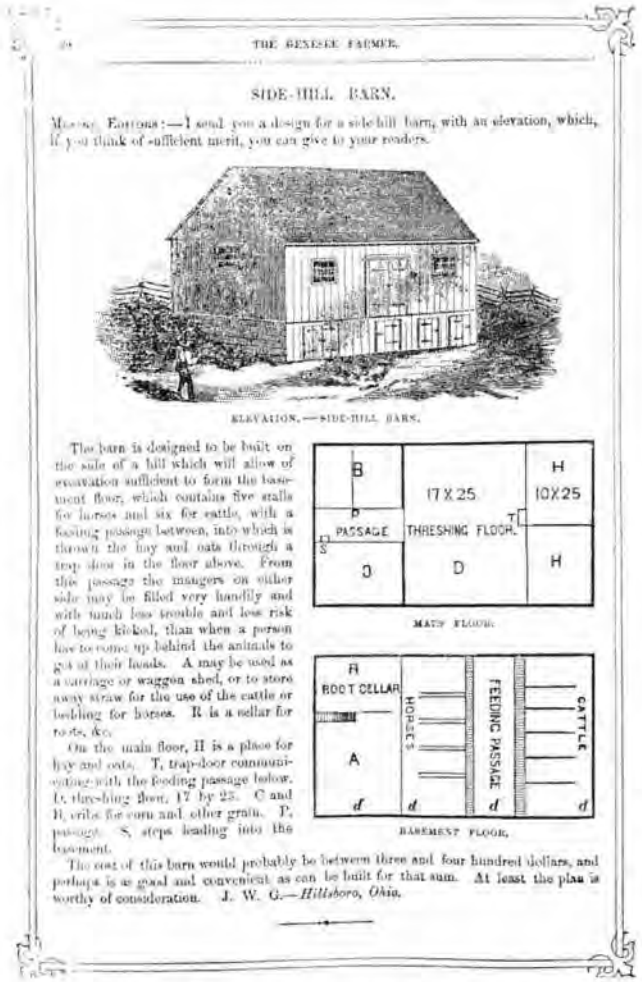
The property eventually passed to William Perry, a "popular and respected citizen" of Victor who "For some years was engaged in the milk business in...Fishers" (*Ontario County Journal* 1888), and his wife Eliza, a granddaughter of Ambrose C. Ford on her mother's side. Their son George, who, in addition to farming, also ran a general and farm supply store in Fishers and served as Postmaster of that community, and his wife Addie then owned the property until 1917, when it was transferred to Andrew and Laura Gutberlet, a farm family from the neighboring town of Macedon (Orange Judd Company 1914). It appears that the Ford family's connection to the property ended in 1952, when Ambrose and Mary Ford sold the remainder of the property to William and Blanche Searless. The property passed through four different owners over the next 50 years until finally coming under the current ownership of the Friedlander family in 2001.

Bank Barns

A bank barn is a barn built into the side of a natural hill or

an artificial bank of soil (Fink 1987). In contrast to its rather squat forebear, the bank barn was built on high foundation walls, creating a two-leveled structure. The basement level contained stalls for cows or horses radiating from a central feeding passage, a root/manure cellar and storage space large enough to hold a carriage or wagon. The upper level of the barn contained the threshing floor and crop storage, easily accessed by wagons driving over the earthen bank. Trap doors in the floor allowed the farmer to drop fodder into the livestock stalls below, a "clear labor-saving improvement, permitting larger herds to be handled" (Fink 1987:351). In many early bank barns, narrow-end sidewalls were constructed from stone or brick with windows or roof shafts for ventilation (Johnson and Visser 1995).

A sense of the interior dimensions and layout of an average barn can be found by once again turning to historical documents. The 1840 *Cultivator's Almanac and Cabinet of Agriculture* noted that "A good cellar under a forty foot barn is easily provided by a farmer, when he is building, if he has a good team, and rocks in plenty", while "[a] large bay, 20 ft sq, and eight ft deep, below the floor, will hold an immense quantity of hay- one foot in height holding one ton of hay of the solid kind-and the carter is enabled to throw off his loads without any assistance..." (as cited in Fink 1987:138-39). A helpful reader of the January 1852 issue of *The Genesee Farmer* submitted a design of a bank barn (Figure 6), detailing a 17 by 25 ft threshing floor, and four 10 by 25 ft rooms for grain and crop storage (as cited in Fink 1987 :139). Many barns, particularly those associated with dairying, were expanded as the number of livestock did and soon became multiple storied structures with space for storing winter feed (Johnson and Visser 1995). Bank barns were usually constructed with the long side parallel to, and on the southern side of, the hill or bank. This positioning gave livestock maximum exposure to the sun during the winter months (US Department of Interior 2004). The earthen bank, while giving wagons and carts easy access to the upper level, also had the added advantage of providing drainage for the root cellar. Lastly, in order to reduce winter drafts, traditional vertical board siding was replaced by more weatherfast board-and-batten, clapboard or shingle sidings (Johnson and Visser 1995). The bank barn became a common structure on farms across the northeastern United States, and was the "logical evolution of the English barn in the Genesee Country; with their advent the term 'English' began to disappear" (Fink 1987:137).



THE GENESEE FARMER.

SIDE-HILL BARN.

Messrs. Editors:—I send you a design for a side hill barn, with an elevation, which, if you think of sufficient merit, you can give to your readers.

ELEVATION.—SIDE-HILL BARN.

The barn is designed to be built on the side of a hill which will allow of excavation sufficient to form the basement floor, which contains five stalls for horses and six for cattle, with a feeding passage between, into which is thrown the hay and oats through a trap door in the floor above. From this passage the mangers on either side may be filled very handily and with much less trouble and less risk of being kicked, than when a person has to come up behind the animals to get at their heads. A may be used as a carriage or waggon shed, or to store away straw for the use of the cattle or bedding for horses. R is a cellar for roots, &c.

On the main floor, H is a place for hay and oats. T, trap-door communicating with the feeding passage below. D, threshing floor, 17 by 25. C and B, cribs for corn and other grain. P, passage. S, steps leading into the basement.

B H 17 X 25 10X25 P PASSAGE THRESHING FLOOR. T S D D H

MAIN FLOOR.

R ROOT CELLAR HORSES FEEDING PASSAGE CATTLE A d d d d

BASEMENT FLOOR.

The cost of this barn would probably be between three and four hundred dollars, and perhaps is as good and convenient as can be built for that sum. At least the plan is worthy of consideration. J. W. G.—*Hillsboro, Ohio.*

Figure 6. Design of bank barn submitted to January 1852 issue of *The Genesee Farmer*. (As cited in Fink 1987: 139, with permission of publisher).

Figure 7. Foundation of bank barn, now a patio, looking north.

The Old Dutch Road Bank Barn

Although it is no longer extant, a photograph of the barn reveals a structure that is much larger than the earliest bank

Figure 8. North sidewall of bank barn.

Figure 9. Partial foundation wall of bank barn, looking northeast.

barns (Figure 7), suggesting a fairly prosperous dairy operation. The barn appears to be similar to those dating from the 1820s-1870s, built according to the English design with its characteristic box-like main body, gabled roof (with possible hay hood), and ventilation windows. Tellingly, these barns also lack the elaborate roof cupolas common to barns

Figure 10. Old Dutch Road Dairy Bank Barn, c. 1850s-1920 (Photo courtesy of property owner).

constructed in the latter part of the nineteenth century (Johnson and Visser 1995). The barn was situated on the south side of a man-made earthen bank. Surrounding excavations has revealed that the roof of the barn, and likely the roofs of its outbuildings, was covered in sheet metal. The structure was built on a very robust fieldstone, brick and cement foundation, as revealed both by excavation and a partially standing wall, and measured approximately 17 ft x 28 ft (Figures 8 and 9). The basement was very shallow but clearly dug. Figure 7 also shows the basement entranceway to the livestock stalls.

The barn is part of a small complex of at least three structures, one of which appears to be attached to the barn on its western side (Figure 10). A small foundation adjacent to the southwest corner is all that remains of this larger complex. One of the structures was almost certainly a milkhouse, an "unmistakable trademark of the dairy farm" where cans and bottles of milk were stored (Noble and Creek 2004:140). The milkhouse is a small, insulated structure usually adjacent to or attached to the barn, but has its own outside entrance, not through the barn itself (Noble and Creek 2004). A springhouse was also a common feature on nineteenth-century farms. It was usually a small masonry structure, set at the bottom of a hill or slope far away from the rest of the barnyard, and used to cool and preserve milk products for long-term storage, in addition to providing drinking water (Fink 1987). Other possible structures include a granary for the storage of small grains such as wheat, barley and oats, a corncrib, used for drying and storing corn, and chicken houses, which come in a variety of styles and floor plans (Noble and Creek 2004). Unfortunately, no evidence for a privy was found during the excavation. The bank barn was designed with livestock in mind, and its existence on Old Dutch Road strongly suggests a profitable dairying enterprise, coinciding with a wider

demand for dairy products and an ability to meet that demand.

2005 Field Season

In 2005 Powers and Teremy, LLC conducted an archaeological field school for students from the University of Rochester. A total of four test units (1 m x 1 m) and three shovel test pits were excavated during the field season. All units were excavated by hand.

Shovel Test Excavations-2005

Shovel Test #1 was located west of the bank barn structure approximately 12 ft to the east to serve as a control test of natural stratigraphy for comparison of the soil layers excavated within the four test units. Shovel Test #2 was located inside the outbuilding foundation, and Shovel Test #3 inside the basement of the existing residential property, as requested by the homeowner. There were a total of 24 artifacts recovered from the shovel test excavations belonging to the following three functional groups: Architectural (20%), Kitchen (75%), and Miscellaneous (5%).

Test Unit Excavations-2005

Four test units were excavated adjacent to and within the bank barn foundation. Datum was specific to each test unit and was typically the highest corner of the unit, above ground surface. Three stratigraphic layers were encountered in Test Unit #2, while either one or two layers were encountered in the remaining three test units. Layer I was generally a black (Munsell 10YR 2/1) to a very dark brown (Munsell

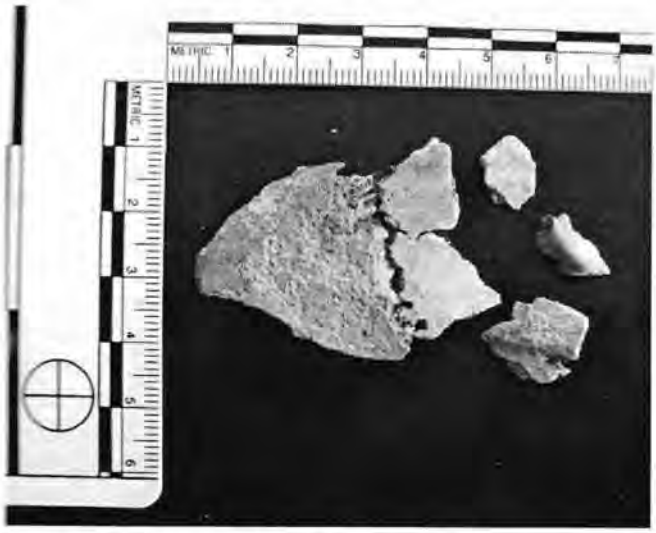


Figure 11. Six fragments of human sub-adult cranial fragments (3 pcs. articulate). Recovered from Test Unit One, Layer I, Level 2.

Figure 12. Test Unit Three, Layer II, Level 1, looking northwest. Exhibits sheet metal, possible barn roofing.

10YR 3/1) silt loam. Layer II exhibited a very dark gray (10YR 3/2) silty loam and Layer III exposed yellow brown (Munsell 10YR) clay. All soils encountered are typical for Ontario County. Maximum excavation depth was reached in Test Unit #3 at 50 cm/19.5 in below ground surface.

Test Unit #1 was located 2 m southwest of the barn foundation, near a deciduous tree base and was oriented west to east. Datum elevation for Unit #1 was 10 cm/4 in above ground surface in the northwest corner of the unit. The unit contained two stratigraphic layers and three levels and had a maximum depth of 36 cm below datum. Six human subadult cranial fragments (Figure 11) were recovered from this unit (see further discussion below).

Test Unit #2 was located inside the barn foundation and was oriented west to east. Datum elevation for this unit was 10 cm/4 in above ground surface in the southeast corner of the unit. The unit contained three stratigraphic layers and four levels, and reached a maximum depth of 42 cm below datum. Several ceramic fragments, architectural remains including brick and window glass, and a single fragment of unidentified bone were recovered from this unit.

Test Unit #3 was located near the northeast corner of the barn foundation and was oriented west to east; it exhibited a number of field stones within the second soil layer, not in original provenience. There were six faunal fragments recovered from Test Units #1, #2, and #4.

Test Unit #4 was located at the northwest corner of the barn foundation and was oriented west to east. Test Unit #4 contained two stratigraphic layers and two levels and had a maximum depth of 26.5 cm below datum. A disproportionate number of artifacts emerged from this unit.

A total of 513 cultural artifacts were recovered from the 2005 excavations, primarily belonging to the Architectural

Figure 13. Test Unit 4 Layer II, Level 2, metal valve lever.

Table 3. Comprehensive summary of artifact functional groups from 2005 and 2006 field seasons at Old Dutch Road site (Including shovel tests) (605 artifacts).

Functional Group	Number of Artifacts/ Percent of Assemblage	
Architectural	467	(77.2%)
Kitchen	43	(7.1%)
Personal	11	(1.8%)
Human Remains	6	(0.98%)
Faunal	6	(0.98%)
Floral	24	(4%)
FCR	1	(0.16%)
Miscellaneous	47	(7.7%)
Total	**605**	

category. The architectural artifacts included: window glass, square-cut nails, metal hinges, brick, mortar, and ferrous metal. In addition to modern ceramic tile recovered, only three pieces of salt glaze stoneware (brown interior), Albany slip glaze, gray exterior (1800-1900) were recovered from the four test units. Of special note are: an eroded flat metal (possible roof shingle) recovered from Test Unit 3 (Figure 12) and a brass valve lever from Test Unit 4 (Figure 13).

2006 Field Season

Powers and Teremy, LLC returned to the Dutch Road site in October of 2006 to conduct follow-up excavations within and adjacent to Test Unit #1, in order to investigate and mitigate the presence of any additional human remains (see below) (Powers and Teremy 2006). A total of three units and one shovel test were excavated. Unit 1A and Unit 3A measured 2 m x 50 cm, and Unit 2A measured 1 m x 1 m. All units were excavated by hand. Test Unit 1A was located at the southwest corner of the barn foundation and was oriented west to east. Test Unit 1A contained three stratigraphic layers and had a maximum depth of 92 cm below datum. Test Unit 2A contained two stratigraphic layers and had a maximum depth of 89 cm below datum. Test Unit 3A had three stratigraphic layers and reached a maximum depth of 98 cm below datum. No further human remains were recovered from the second season's excavation of the bank barn.

Artifactual Analysis-2005 and 2006

A total of 605 artifacts were recovered during the two seasons. These fall under eight functional categories: Architectural, Kitchen, Personal, Human Remains, Faunal, Floral, FCR, and Miscellaneous (Table 3). The vast majority (77.2%) were classified as Architectural, including square-cut nails, bricks, metal hinges, metal roofing, brick, mortar, and glass window fragments. Kitchen-related materials, including glass bottles and ceramics, are notably low, comprising only 43 pieces (7.1%) of the total. Floral remains, consisting exclusively of black walnut shells, make up 4% of the total. Personal artifacts, consisting of a clay marble, pieces of a serrated farm tool, and an eyeglass frame make up 1.8%. Lastly, miscellaneous finds, consisting primarily of modern trash, make up less than 8% of the total assemblage. Datable materials were sparse and, seemingly like all other information regarding the site, ambiguous. For those reasons, a date for the barn's construction and operation is supported through indirect evidence, discussed below.

The artifact density (calculated by dividing the total number of artifacts by the total volume of soil excavated and multiplying by 100) can reveal areas and depths within an archaeological context which produce higher quantities of artifacts recovered. The concentration of artifacts can be indicative of a cluster, the relative size of a site, a possible historic refuse locale, as well as how deep an area needs to be excavated based on the probability of recovering artifacts within each layer. A total of 605 artifacts were recovered from approximately 1440.5 liters of soil during the 2005 and 2006 Field Seasons; therefore the estimated artifact density for this site is 42%. The total area excavated was 425.9 sq ft/ 39.5 sq m. The majority of artifacts were recovered from Layer I of each unit. Layer I, level 1 (LI/l1) thickness ranged from less than 1 in/2.54 cm to a maximum thickness of 10.5 in/26.6 cm below ground surface. Taking into consideration the relatively small size of the surface area excavated and the concentration of artifacts recovered from a relatively thin soil layer in all of the test units, an artifact density of 42% is relatively significant. Test Unit #4, located in the northwest corner of the barn foundation, was unusual, in that

a total of 342 artifacts were recovered within less than 1 ft from topsoil-thus representing an artifact density of 66%.

Architectural Artifacts

Among the most common artifacts from the site are several different types of nails, with modern wire and carpenter nails constituting most of the finds. Introduced much later (c. 1850), these were probably associated with later expansion or maintenance of the barn. However, several nails which exhibit the square head and uniform thickness characteristic of later (c. 1820 to present) machine-cut nails were also recovered (Sutton and Arkush 2006, Noël Hume 1969). Also striking is the lack of hand-finished nails, introduced around 1790 and disappearing around 1820, when nail heads were also machine finished (Noël Hume 1969). This evidence suggests that the barn probably did not exist until 1820 at the earliest and very likely was erected much later, probably after 1850.

Further, although no less vague, is evidence presented by a carriage bolt found in Test Unit 2A. The bolt is of a type used for connecting structural components, such as heavy timbers, to one another (Correct Deck.com 2009). While nuts and bolts were invented in France in 1568 (Carriage Museum of America-Library 2001), the American manufacture of them did not begin until a Connecticut blacksmith named Micah Rugg invented two bolt-cutting machines and began to produce them. However, by 1839 his annual output was only three thousand bolts, sold mostly to his neighbors. Taking Martin Barnes as his partner, the Rugg and Barnes firm began to produce 500 bolts a day. Selling the bolts to a larger market was difficult, as hardware dealers were suspicious of the new fasteners, believing them to be only "pot metal" made malleable by a shrewd 'Yankee trick' (*Hardware Dealers' Magazine* 1910:1283). Eventually, of course, the bolt was accepted as a legitimate piece of hardware but, reportedly, much of the early mistrust of the bolt was due the fact that:

> The bolts and nuts were too good, too neatly made, and the price too low. They were ahead of their time. Previous to 1838, no bolts or nuts had been put on the market, hence the mistrust [*Hardware Dealers' Magazine* 1910:1283].

The bolt most likely dates later than 1839, indicating that the barn was built after this date.

Ceramic Artifacts

The ceramic assemblage is very small, comprising of only six pieces: three Albany slip fragments, at least one of which is salt glazed on the outside and three modern whiteware tile fragments. The Albany slipware is perhaps the most useful in dating the Old Dutch Road site. One fragment each of Albany slip stoneware was recovered from Units 1, 2A, and 3A. Production of Albany slipware began in the first decade of the nineteenth century. It is characterized by a hard, deep brown to black glaze, which was applied to either the interior or exterior of a vessel. Although it eventually found use in functional applications such as glazing sewer pipes and porcelain electrical insulators, it is often associated with more utilitarian applications such as food storage as its hard, durable finish was easy to clean (Ketchum 1970). By the 1840s, numerous manufacturers in the Albany, New York area made and sold the ware, and advertisements touted the Albany clay that formed its major component as an alternative to the lead glazes commonly used on vessels of the period, another reason for its popular use in food storage vessels (Zamek 2006). Production of Albany slip vessels tapered off around 1910, as it was replaced by other varieties of slips, and became rare after 1940 (Stelle 2001). None of the pieces are marked or suggestive of any specific type of vessel. However, the fragment recovered from Unit 1 is clearly salt glazed, a common finish on food-related vessels of the time. Taking the farm's past as a dairy into consideration, it is possible that the fragments may have belonged to a vessel related to milk processing, such as a butter churn.

Glassware

The base of a clear blue canning jar and fragments of a milk bottle recovered from the outbuilding foundation, are easily datable and provide a broader temporal range for dairying activities. The canning jar base is very clearly machine made, as shown by the valve mark made by a press-and-blow type machine. During manufacture, a push-rod valve ejected the partially formed bottle out of the blank mold into the blow mold, leaving a raised circular mark in the center of the base. These marks are almost always found on wide mouth, food related vessels, including canning jars and milk bottles, made from the early 1900s through the 1940s, but most commonly on those made between the 1930s and 1940s (Lindsay 2009).

The milk bottle yields a similar date; the fragments including the mouth and lower neck of the bottle, were recovered from the outbuilding foundation (Shovel Test 2). The neck is marked "(D)EPOSI(T)" in red pyroglaze. Prior to the 1930s, markings on milk bottles were produced during manufacture by embossing the bottle with a plate mold or "slug plate" placed in the bottle mold (Lockhart 2001). From that decade onward, pyroglaze (or applied color label) was used to mark bottles. By the 1960s, the milk bottle was largely replaced by paper, and later plastic containers (Lockhart 2001). The recovery of the bottle and canning jar

from the unknown outbuilding also provides evidence of the structure's former use as a milk or springhouse.

Faunal Materials

Faunal fragments comprise a very small amount of the total artifact assemblage from the Old Dutch Road site, with less than 1% of the total. Six skeletal elements (MNU) were recovered, four of which could not be identified at the species or genus level. The distal portion of a cow tibia (*Bos taurus*) was found. The bone was very clearly sawed approximately 1½ in above the growth plate and showed evidence of having been gnawed. Based on the known fusion rates of cow bones and the lack of a seam between growth plate and articulating facet, the animal appears to have been over 2½ years old. An upper molar from a cow was also recovered, and based on dental eruption rates and its very worn appearance, the animal appears to have been well over 2 years old, the age at which molars erupt (Pipes 1997). It is unknown if the bones belonged to the same animal. Therefore, it is likely that the animal was an old milk cow(s) slaughtered for meat. Four fragments of unidentified mammal long bone shaft fragments were recovered, one of which showed evidence of having been cut with a sharp instrument (Saunders 2006).

Human Remains

Excavations in Unit 1 revealed six human skull fragments (Figure 11) from a young child (approximately 2 to 3 years of age). Each fragment measures approximately .35-.40 cm in thickness, and three of the six articulate. The other three fragments were badly eroded but all appeared to be related to the same skull (Saunders 2006). The fragments were found in context with large mammal bones, including a possible rib fragment showing evidence of cut marks, and fragments of a cervical vertebrae and a long bone. The cranial fragments were not found in original context, as evident by the 2006 excavation which failed to yield any additional remains. It is speculated that the remains were either dug up when the barn foundation was excavated or dragged to their location by a field plow. The skull fragments were returned to the current property owner for reburial along Irondequoit Creek. No other human remains were recovered. According to the RMSC Archaeological Site files (n.d.), there are two known (previously recorded) cemetery/burial sites within a 2 mi radius of the Old Dutch Road site. The two sites recorded by Sheldon Fisher (Sheldon Fisher 22 and Fishers Cemetery), are both ½ mi east of the bank barn. The Sheldon Fisher 22 Site is a Historic Native American burial site and the Fishers Cemetery is recorded as Undifferentiated Prehistoric

Figure 14. University of Rochester field school students, Fall 2005.

affinity. Unfortunately, temporal or cultural affinity cannot be assigned to the subadult cranial fragments recovered from the bank barn excavation.

Conclusions

Based on the preceding archaeological and documentary evidence, little can be said definitively about the bank barn on the Old Dutch Road site, including its date of construction. The barn was probably cleared of anything valuable or reusable before it was demolished; hence the paucity of artifacts found in and around it. The Old Dutch Road bank barn itself does appear to represent evidence for participation in the wider economic and social changes associated with dairy farming in the mid-nineteenth and early twentieth centuries. As previously mentioned, the bank barn was designed and built with livestock in mind, and its presence around New York State reflects how a "growing number of farmers had demonstrated that dairying provided a reliable, although modest return on land," where traditional crops failed to grow (Ankli and Millar 1982:208), and the consequent shift toward the better care of livestock. This information, in conjunction with the preceding archaeological evidence, suggests that the Old Dutch Road bank barn was built around the mid-nineteenth century, probably by Erastus Ford Sr. However, neither the archaeological or documentary evidence provides a definitive answer, as it is also possible that it was built by another, later owner of the property, William Fowler, who was involved in the local dairy trade at the time of his death in 1904 (*Victor Herald* 1904). Further excavations hold great potential in revealing how broader social and economic changes such as these affected the Old Dutch Road site, its early history, and the daily life of its past occupants.

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References Cited

Ankli, Robert E. and Wendy Millar
1982 Ontario Agriculture in Transition: The Switch from Wheat to Cheese. *The Journal of Economic History* 42(1) 207-215.

Beers, F.W.
1874 Map of Victor, New York and Business Directory. In *Atlas of Ontario County, New York*. F.W. Beers and Associates, Philadelphia.

Carriage Museum of America-Library
2001 Nuts and Bolts. *Annual Newsletter* Winter 2001:1-6.

City of New York
1755 *Quakers of New York City, Jamaica, Queens Co., New Town, Hempstead, Oyster Bay. Enrolled in the office of Town Clerk of and in the City of New York, in Lib. No 1 of Quakers &c. Pursuant to an Act of Assembly, Entitled an Act, for Regulating the Militia of the Colony of New York; made & Published the 19th day of February Last, To the 19th of May 1755 Augt V. Cortland Clk Co*. Electronic document, http://www.olivetreegenealogy.com/nn/census/quakers1755.shtml, accessed July 15, 2009.

Conover, George S. (editor)
1893 *History of Ontario County, New York*. D. Mason and Company, Syracuse, New York.

Correct Deck.com
2008 *Glossary of Decking Terms*. Electronic document, http://www.correctdeck.com/products/faqs/glossary.htm, accessed July 10, 2009.

Fagan, Rose Marie, Anne Guiffre, and Mary Joan Snyder
1976 *A History of Victor, New York*. The History Committee of the Bicentennial Commission, Victor, New York.

Fink, Daniel
1987 *Barns of the Genesee County, 1790-1915*. James Brunner, Geneseo, New York.

Fowler, Clara M.P.
1940 Original unpublished genealogy on Ford family. Electronic document, http://boards.ancestry.co.uk/surnames.ford/319.1337.1342.1348.1351.1352/mb.ashx, accessed June 26, 2009.

Hardware Dealers' Magazine
1910 *Pioneer Nut and Bolt Makers*. June:1283-84.

Haley, Ronald
2005 Haley/Laurence/Saunders/Cotter Genealogy Portal. Electronic Document, http://www.haleycentral.com/phpgedview/index.php?command=gedcom, accessed July 15, 2009.

Huber, Babette
1997 *Victor-A Brief History*. Electronic Document, http://www.victorny.org/aboutvictor/history/, accessed June 25, 2009.

Johnson, Curtis B. and Thomas D. Visser
1995 Historic Barn Types. In *Taking Care of Your Old Barn: Ten Tips for Preserving and Reusing Vermont's Historic Agricultural Buildings*. University of Vermont Historic Preservation Program. Electronic document, http://www.uvm.edu/~vhnet/hpres/publ/barnb/bbhbty.html. Accessed June 27, 2009.

Ketchum, William C, Jr.
1970 *Early Potters and Potteries of New York State*. Funk and Wagnalls, New York.

Lindsay, Bill
2009 *Historic Glass Bottle Identification & Information Website*. Electronic document, http://www.sha.org/bottle/dating.htm, accessed June 27, 2009.

Lockhart, Bill
2001 Dating Milk Bottles. In *You Can Whip Our Cream, But You Can't Beat Our Milk: The Dairies of Otero County, New Mexico, 1889 to 1977*. Reprinted, New Mexico State University, Alamogordo. Originally published as "From Barrett's Jersey Dairy to City Dairy: Otero County Dairies 1889 to 1977" *The Pioneer* 1999 2(3):1-22.

MacIntosh, W.H.
1876 *History of Ontario County*, New York. J. Lippincott and Company, Philadelphia.

Mau, Clayton
1958 *The Development of Central and Western New York From the Arrival of the White Man to the Eve of the Civil War As Portrayed Chronologically in Contemporary Accounts*. F.A. Owen, Dansville, New York.

Munsell
2009 *Munsell Soil Color Charts*. Distributed by X-Rite Inc., Grand Rapids, Michigan.

Noble, Allen G. and Richard K. Creek
2004 *Old Barn Book: A Field Guide to North American Barns and Other Farm Structures*. Rutgers University Press, New Brunswick, New Jersey.

Noël Hume, Ivor
1969 *A Guide to Artifacts of Colonial America*. University of Pennsylvania Press, Philadelphia.

Ontario County Journal (New York)
1888 Erastus Ford's Obituary. January 13th. Electronic document, http://ontario.nygenweb.net/FortoFosobituaries.htm, accessed June 25, 2009.

Orange Judd Company
1914 *Ontario and Wayne Counties: A Rural Directory and Reference Book Including a Road Map of the Two Counties Covered*. New York City. Electronic document, http://wayne.nygenweb.net/macedon/1914macedondir.html, accessed June 27, 2009.

Pelletreau, William Smith
1907 *Historic homes and institutions and genealogical and family history of New York*. Lewis Publishing Company, Chicago.

Pipes, Marie-Lorraine
1997 *Faunal Coding System*. Victor, New York.

Powers and Teremy, LLC
2006 Unpublished field notes on Old Dutch Road Site. Manuscript on file. Powers and Teremy, LLC Cultural Resource Management Services, Rochester, New York.

Repard, Jake
n.d. 1904 Map of Northwest Victor. Historic Maps of Ontario County in New York State. Electronic document, http://freepages.history.rootsweb.ancestry.com/~ontariocounty/images/1904/1904Victor_43_NW.jpg, accessed July 15, 2009.

n.d. 1859 Town of Victor Map, Electronic document, http://freepages.history.rootsweb.ancestry.com/~ontariocounty/maps.htm, accessed July 15, 2009.

Rochester Museum & Science Center
n.d. Archaeological Site Files. Regional Heritage Preservation Program. Rochester, New York.

Roper, David
1997 *Franklin Family Researchers United.* Volume 22, April. Electronic document, http://freepages.genealogy.rootsweb.ancestry.com/~ffru/Docs/.../vol22.pdf, accessed July 15, 2009.

Saunders, Lorraine P.
2006 Original unpublished field notes on human cranial fragments. Notes on file, Powers and Teremy, LLC Cultural Resource Management Services, Rochester, New York.

Sharp, John
2008 *Washington District of Columbia Biographies: Louis Deblois.* Electronic document, http://genealogytrails.com/washdc/bio_deblois_1.html, accessed July 15, 2009.

Stelle, Lenville J.
2001 *An Archaeological Guide to Historic Artifacts of the Upper Sagamon Basin, Central Illinois, U.S.A.* Electronic document, http://virtual.parkland.edu/lstelle1/len/archguide/documents/arcguide.htm, accessed June 28, 2009.

Sutton, Mark Q. and Brooke S. Arkush
2006 *Archaeological Laboratory Methods: An Introduction.* Kendall Hunt Publishing Company, Dubuque, Iowa.

United States Department of Agriculture
2007 *Ontario County (NY 069) Soil Map.* http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

United States Department of Interior, Office of Archeology and Historic Preservation
2004 *The Preservation of Historic Architecture.* Technical Preservation Services Division, 1st edition. The Lyons Press, Boston, Massachusetts.

Victor Herald [Victor, New York]
1930 Eliza Fowler's Obituary. August 22. Electronic document, http://www.newspaperabstracts.com/link.php?action=detail&id=2374, accessed June 25, 2009.

1904 William Perry Fowler's Obituary. April 8. Electronic document, http://ontario.nygenweb.net/FottoFoz.htm, accessed June 25, 2009.

Waters, Henry Fitz-Gilbert
1913 The New England historical and genealogical register. *New England Historic Genealogical Society* LXVII:16.

Zamek, Jeff
2006 Pottery Production Practices: Sourcing Raw Materials: A Cautionary Tale. Electronic document, http://www.ceramicindustry.com/Articles/Feature_Article/BNP_GUID_9-5-2006_A_10000000000000063601, accessed July 1, 2009.

In Memoriam

Robert A. Navias (1925-2010)

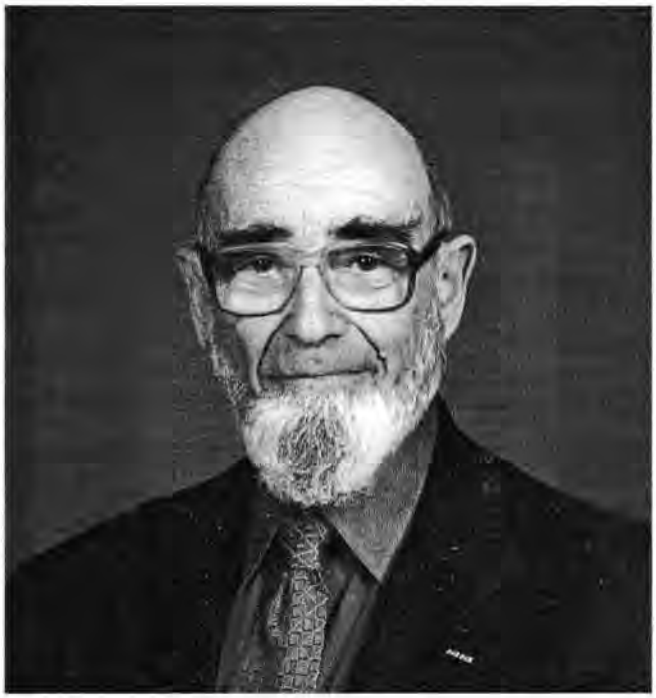
On February 1, 2010, Robert Navias of Honeoye Falls, New York passed away. He was a member of the New York State Archaeological Association's Lewis Henry Morgan Chapter since 1987. From 2002 to 2007 he was Morgan Chapter Treasurer, and also served several terms of office as a member of the Executive Committee. The contributions that he made were numerous, but especially noteworthy was the forging of communication between archaeologists and geologists in current research. In 2005, he received a Certificate of Merit from the NYSAA.

Robert Navias was born April 18, 1925, in Schenectady, New York to Louis and Adelaide Navias. He married Elaine Kaufmann in 1951. After decorated service in the United States Army in World War II in Germany, he went on to receive a Bachelor of Science degree in Geology from Union College in Schenectady in 1950, a Master of Science degree in 1952 also in Geology from Pennsylvania State University in State College. In 1961 he was awarded another Masters degree in Geology from Harvard University. His preofessional geology background was varied and included employment in the Department of Mineralogy at Harvard and the Climax Molybdenum Company in Colorado. In the Rochester area, he became a consulting geologist specializing in sand and gravel operations and as an expert witness in judicial trials.

It is during the years in western New York that his dual interest in Archaeology and Geology enabled him to become active by conducting individual research, publishing papers, and presenting papers at the monthly meetings of the Morgan Chapter and the Annual Meetings of the NYSAA. He frequented the Rochester Museum & Science Center's Research Division, and made a detailed study of Iroquois projectile points. This research was later published in 1995, as well as papers on lithic materials and soil analysis (2006a,b). An interesting paper on Seneca villages and Jesuit Missions was published in 1990. Additional papers presented at NYSAA Annual Meetings included:

1996 Flint, Chert Myths, Legends
2003 The Bifurcated Base Projectile Point Enigma
2006 The Early Archaic Projectile Points of New York State

Robert Navias participated in other organizations in the Rochester area including Camera Rochester, the Honeoye Falls Historical Society, and the Honeoye Falls Planning Board. His photographic skills contributed considerably to the operations of these groups. Bob and his stimulating research and varied interests will be greatly missed. He is survived by his wife, Elaine, four children, fourteen grandchildren, a great grandchild, and a brother, Eugene.



Robert A. Navias. Photograph courtesy of Elaine K. Navias.

Charles F. Hayes III
Dale G. Knapp

References Cited

Navias, Robert A.

1990 Western Seneca Villages and Jesuit Missions-1550-1710. *The Iroquoian*, Lewis H. Morgan Chapter, New York State Archaeological Association 17:14-15.

1995 Iroquois Lanceolate Projectile Points. *The Bulletin*, New York State Archaeological Association 109:28-33.

2006a Soil Classification for Archaeologists. *The Iroquoian*, Lewis H. Morgan Chapter, New York State Archaeological Association 29:5-10.

2006b Problems of Lithic Sources in the Glaciated Terrain of Western New York State. *The Iroquoian*, Lewis H. Morgan Chapter, New York State Archaeological Association 29:17-19.

NEW YORK STATE ARCHAEOLOGICAL ASSOCIATION

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Minutes of the Concurrent General Business Meeting
And Executive Committee Meeting
NYSAA 93rd Annual Meeting
Woodcliff Resort & Spa, Rochester, NY
April 17, 2009

Opening:

NYSAA President Bill Engelbrecht called to order the regular meeting of the General Business meeting at 7:10 pm on April 17, 2009 with opening remarks and thanks to the hosting chapter.

Present:

Officers Present:
President, Bill Engelbrecht; *Corresponding Secretary,* Bill Bouchard; and *Recording Secretary,* Lori Blair.

Chapter Roll Call:
Present: Adirondack, Auringer-Seelye, William M. Beauchamp, Chenango, Frederick M. Houghton, Finger Lakes, Long Island, Lewis Henry Morgan, Mid-Hudson, Incorporated Orange County, Incorporated Upper Susquehanna, Thousand Islands, Triple Cities, and Van Epps-Hartley.

Absent: Lower Hudson and Metropolitan

A. Reports of the Officers

President: Bill Engelbrecht—report on file.
- Executive Committee Meeting was held October 11, 2008 in Syracuse.
- NYSAA now has a presence on Facebook.

Vice-President: Sissie Pipes—no report.

Treasurer: Report—on file; presented by Fred Stevens
- Generally, there is an increase in assets over last year.

Corresponding Secretary: Bill Bouchard—Report on File.
- The membership numbers presented include carrying previous numbers from those chapters which haven't yet reported their memberships.
- Some chapters are not forwarding their dues.
- Bill is asking for copies of individual chapter bylaws and constitutions for archiving.
- Bill will not be seeking re-election as Corresponding Secretary.

Recording Secretary: Lori Blair—Report on file.
- The minutes of the April 2008 General Business meeting were reviewed and approved with minor revisions at the October 2008 Executive Committee Meeting.
- The minutes of the October 2008 Executive Committee Meeting were reviewed.
- Motion made by Sherene Baugher to accept the minutes as written, 2nd by Vicky Jayne. Passed.

B. Report of the Committees

Chapters and Membership—Sherene Baugher, Chair
- A new membership category was brought up and opened up to the floor for discussion. The membership category would cost $10 but would not include a bulletin. There was discussion as to whether there would be an interest in being a

member of NYSAA without receiving the Bulletin. Sherene thought there may be. The question was raised about the insurance liability which covers all chapter activities and guests. Creating a new membership category would require a change in the by-laws.

Publications—Charles Hayes—report on file.

- Bulletin 2007 (No. 123) has been distributed.
- Bulletin 2008 (No. 124) is in progress—there are 6 articles that are all set.
- Need submissions for No. 125—2 papers have been submitted so far.

Research and Transactions—report is on file.

- Major efforts by Martha Sempowski and Gian Cervone. Includes some Dutch material as well which is in timing with the 400th anniversary of Henry Hudson voyage.
- The publication is going green by using recycled paper.
- Hopefully it will be out this summer.
- One thought for the future includes online publications.

Finance—Fred Stevens—report is on file.

- Committee put together a 0-based budget (see packet).
- We have 2 cds—one with 2.71% interest and one with 3.2% interest which matures in November.

Legislative—Doug Mackey.

- No report but Doug had stated earlier that there was no new legislation of concern.

Library—Long Island Chapter.

- No report but the recent newsletter has an article by Ellen Barcel. They hope to have an online catalog available soon.

PROGRAM FOR 2010—Ray Decker.

The 94th NYSAA annual meeting will be hosted by the Incorporated Orange County Chapter; the program is in the early stages but the venue has been selected. The meeting will take place April 23-25th.

Special Appointees

ESAF Liaison—Tim Abel .

- The 75th annual meeting was November 6-9, 2008, in Lockport, NY and was hosted by NYSSA. It was well attended.
- The 76th meeting will be in Johnstown, PA November 5-7—see ESAF website for information.

NYAC Liaison—presented by Ann Morton.

- The archaeology season posters are available; they were put together by Paul Huey, Mike Rohdes and Lois Feister Huey of OPRHP.
- Upcoming posters will be by Hartgen Archeological Associates in 2010 and then Panamerican.
- NYSAA is responsible for 2013.
- Archaeology season events can be posted on the NY Archaeology website. Contact Ann or Doug Mackey.

Funk Foundation—Wayne Lenig.

- There have been two proposals for the Spring cycle of the foundation. One is related to historic archaeology in the Mohawk Valley and the other is an archaic site. They are under review. The committee should be meeting in the next few weeks.
- Avocational applications accepted in the Fall cycle; maximum grant is $2,000.

Society for Pennsylvania Archaeology—Fred Assmus.

- The meeting was held two weeks ago at the Harrisburg Museum; 104 attended meetings, 77 attended the banquet.
- Next year's meeting is during the 2nd week in April.

ASPI—Ann Morton—

- Brochure is being updated; Please let Ann know if chapter contact information changes.
- It's been pretty quiet however stimulus money becoming available will probably result in more "digging out there."

NEW BUSINESS

➢ **Motion by Sherene Baugher, 2nd by Bill Bouchard to donate $300 to each—The Funk Foundation, the Fisher Fund and to Archaeology Season. Voted, accepted and Passed.**

Establish a Liaison to PANYC

Meeting is this weekend. Diana Wall, President of the Metropolitan Chapter which is up and running, has said she is willing to act as Liaison.

➢ **Motion by Scott Stull, 2nd by Abigail Herlihy to appoint Diana Wall as NYSAA liaison to PANYC. Voted, and Passed.**

Establish an Archives Committee

➢ **Motion by Abigail Herlihy, 2nd by Dave Elliston to form an Archives Committee. Passed.**

Bill Bouchard has agreed to be the chair.

Establish a Public Service Award Committee

Bill Sandy of the Orange County Chapter approached Bill Engelbrecht to give an award for a non-NYSAA member for help in saving a site. Peter Pratt of the Awards committee is ok with the idea; it's different than our existing categories.

➢ **Motion by Jack Lee to form a Public Service Award Committee, 2nd by Ruth Wakeman. Passed.**

A Committee to Establish Guidelines for High School Archaeology Clubs

Christina Reith of the NYSM has prepared guidelines for students to be involved with archaeology without digging. It was prepared as part of public outreach from the NYSM. Christina R. has agreed to serve on this committee which would function as a sub-committee to the Membership Committee. Copies of the guidelines are available. Christina invites comments on the guidelines.

A New Membership Category

Discussion was opened up to the floor. Bill E. has expressed that he is open to the idea but remains neutral. Wayne Lenig suggested that the Membership Committee draft a by-laws amendment to be brought to the Executive Committee Meeting in the fall.

➢ **Motion by Vicky Jayne to adjourn, 2nd by Sherene Baugher. Passed.**

The meeting adjourned at 8:20 pm.

Respectfully submitted,

Lori J. Blair
NYSAA Recording Secretary

Guidelines for Manuscript Submissions

General

The Bulletin is a journal devoted to the dissemination of scholarly articles relating to the archaeology of New York State and its environs. It is published annually by the New York State Archaeological Association. Authors should submit an original and two copies of each article, including an abstract and a complete list of references cited in the text, to the editor, Charles F. Hayes III, 246 Commodore Parkway, Rochester, NY 14625-2032. The editor may reject or return an article to the author for revisions, on the basis of either content or style. Authors may request peer rreview of their article. Upon acceptance, authors are asked to submit their article in electronic format—either Windows or Macintosh format. Most current word processing programs can be accommodated. Please see section on *Figures*, below for requirements for electronic submission of images.

Manuscript Organization

Please organize your manuscript as follows:

- Title, author, institutional or chapter affiliation
- Abstract - a single paragraph of 100 to 150 words
- Text
- Acknowledgements
- References cited
- Tables (with captions)
- Figures (with captions listed on a separate page)

Manuscripts should be written as clearly and succinctly as possible. They should be unjustified and double-spaced, on one side of 8 1/2" x 11" paper. Only one space should follow periods and pages should be numbered in the upper right hand corner. Endnotes are to be used instead of footnotes, but they should be used sparingly.

Headings

Primary headings should be flush left, bolded, and at the same font size as the text, with only the first letter of each word capitalized. Secondary headings should be flush left, unbolded, and at the same font size as the text, with only the first letter of each word capitalized. Tertiary headings should be flush left, in italics, and at the same font size as the text, with only the first letter of each word capitalized.

Measurement Units

In order to avoid errors in translation, measurements may be in either English or metric units, as appropriate to the content of the article; however, for further clarification, one may wish to include conversions in parentheses. Commonly used units of measurement such as feet, yards, miles, meters, centimeters, kilometers, and hectares are abbreviated as follows (without periods):

inches	in	meters	m
feet	ft	centimeters	cm
yards	yd	kilometers	km
miles	mi	hectares	ha

In-Text Reference Citations

In-text reference citations should follow the simple *American Antiquity* style within parentheses immediately following the material to which the citation refers (for particulars, see *American Antiquity*, Volume 57, number 4, pp. 749-777). Simple citations should include author's last name and year of publication unseparated by a comma, and if appropriate, the page number(s) preceded by a colon (Smith 1978:222) or Smith (1978:222). Citations involving two authors should include both names; those involving three or more authors should use the first author's name followed by et al. (e.g., Brown et al. 1987). Where more than one publication is being referenced, they should be ordered alphabetically within the parentheses and separated by semi-colons (e.g., Barton 1986; Davis 1975; Wilson 1999). Where there are several references for the same author within a set of parentheses, these are separated by commas (e.g., Adams 1975, 1985; Brown 1988).

Quotations

Quotations of five lines or less should be included in the text; double quotation marks are used. The citation should follow the form indicated above for in-text reference citations, but should always include page number(s). Quotes of more than five lines should be inset in a block and double spaced without quotation marks. Citations, including page numbers, should follow in brackets.

Tables

If at all possible tables should be set up in the same word processing format as the text. They should be as simple as possible and include a short descriptive title above the table itself. Tables should be numbered consecutively as they will appear in text. All tables should be referenced in the text.

Figures

All photos and line drawings are designated as figures and numbered consecutively as they are referred to in the text. **Captions should be submitted on a separate page, not as part of the illustration**. A light pencil marking on the back of the photo or drawing should identify the particular illustration. Photos and drawings should be high quality images reproducible at sizes appropriate to the journal. Authors bear the responsibility for obtaining written permission for the reproduction of any materials protected by U.S. copyrights. Film-based photographic prints and original drawings are preferred, but figures may be submitted as digital image files *if they are suitable for publication*. Digital image files which do not meet the following specifications will be rejected. Photographs should be submitted as rgb or greyscale tiff or pdf files only, 8" x 10" or 5" x 7" at a minimum of 300ppi. Line art should be submitted as bitmap tiff or pdf files at a minimum of 1000ppi. **No other formats, such as jpg, doc, etc. will be accepted.** If the graphic was created in digital form, **submit individual files, not printouts, and do not include the images in a Word document**. Contributors may be required to provide photographic prints or hard copy drawings if digital image files are not useable for publication. Photocopies are never acceptable.

References Cited

The list of references cited should include all references cited in the text (except personal communications), and conversely, only references cited in the text should be listed. **Authors bear the responsibility for double-checking the accuracy of each and every citation used.** The list should be alphabetized by the author's last name, then first name and middle initial. Multiple entries by the same author should be in chronological order with the earliest first. Do not use n.d. unless absolutely necessary—if the date is truly unknown. The format for references should follow the *American Antiquity* Style Guide (see *American Antiquity*, Volume 57, number 4, pp. 749-777). Examples of the most commonly needed formats are listed below:

1. Book with single author
Bradley, James W.
1987 *Evolution of the Onondaga Iroquois: Accommodating Change 1500-1655 A.D.* Syracuse University Press, Syracuse, New York.

2. Book with multiple authors
Burt, William H. and Richard P. Grossenheider
1976 *Peterson Field Guides: Mammals*. 3rd ed. Houghton Mifflin, Boston.

3. Edited book (author is editor)
Morris, William (editor)
1978 *The American Heritage Dictionary of the English Language*. Houghton Mifflin, Boston.

4. Translated book
van den Bogaert, Harmen Meyndertz
1988 *A Journey into Mohawk and Oneida Country 1634-35*. Translated and edited by Charles Gehring and William Starna. Syracuse University Press, Syracuse.

5. Reprinted book
Hale, Horatio E., editor
1963 *The Iroquois Book of Rites*. Reprinted with an Introduction by William N. Fenton, University of Toronto Press, Toronto. Originally published 1883, D.G. Brinton, Philadelphia.

6. Multivolume set
Thwaites, Reuben G., editor
1959 *The Jesuit Relations and Allied Documents: Travel and Explorations of the Jesuit Missionaries in New France, 1610-1791*. 73 vols. Reprinted, Pageant, New York. Originally published 1896-1901, Burrows Brothers, Cleveland.

7. Titled volume in a series
Wray, Charles F., Martha L. Sempowski, and Lorraine P. Saunders
1991 *Tram and Cameron: Two Early Contact Era Sites*. Charles F. Wray Series in Seneca Archaeology, Vol. II, edited by Charles F. Hayes III. Research Records No. 21. Rochester Museum & Science Center, Rochester, New York.

8. Article in an edited book
Wade, Mason
1988 French Indian Policies. In *History of Indian-White Relations*, edited by Wilcomb E. Washburn. Handbook of North American Indians, Vol. 4, William G. Sturtevant, general editor, pp. 20-28. Smithsonian Institution, Washington, D.C.

9. Article in a journal
Murray, Jean E.
1938 The Early Fur Trade in New France and New Netherland. *Canadian Historical Review* XIX:367.

10. Article in edited volume in a series
Noble, William C.
1992 Neutral Iroquois Smoking Pipes. In *Proceedings of the 1989 Smoking Pipe Conference*, edited by Charles F. Hayes III, Connie C. Bodner, and Martha L. Sempowski, pp. 41-49. Research Records No. 22. Rochester Museum & Science Center, Rochester, New York.

11. Presented paper
Ceci, Lynn
1985 Shell Bead Evidence from Archaeological Sites in the Seneca Region of New York State. Paper presented at the Annual Conference on Iroquois Research, Rensselaerville, New York.

12. Dissertation or thesis
Drooker, Penelope B.
1996 *The View from Madisonville: Continuity and Change in Late Prehistoric Protohistoric Western Fort Ancient Interaction Patterns*. Ph.D. dissertation, State University of New York, Albany. University Microfilms, Ann Arbor, Michigan.

13. Manuscript in press
Brown, William T.
2000 Early Days in Livingston County. New Horizons Press. In Press.

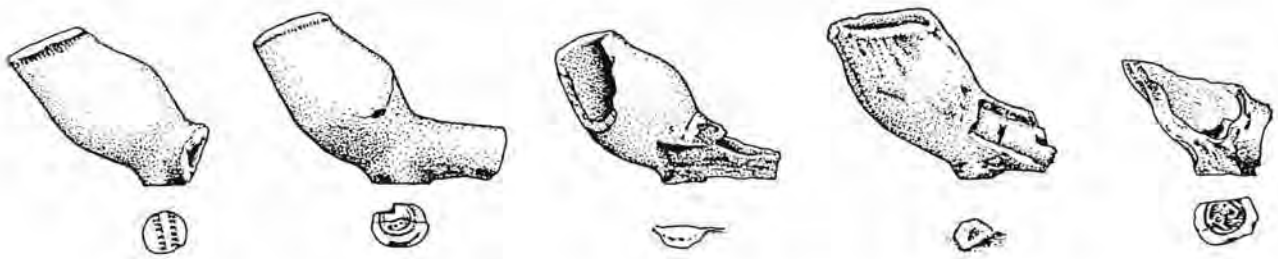
14. Unpublished manuscript
Wray, Charles F.
1978 Field notes: Fugle Site. MS on file, Rochester Museum & Science Center, Rochester, New York.

15. Web pages and electronic documents
Sharp, John
2008 *Washington District of Columbia Biographies: Louis Deblois*. Electronic document, http://genealogytrails.com/washdc/bio_deblois_1.html, accessed July 15, 2009.

NEW YORK STATE ARCHAEOLOGICAL ASSOCIATION

The Archaeology of Maspeth, Long Island, New York and Vicinity

The New York State Archaeological Association is proud to announce the sale of its latest Researches and Transactions publication, Volume XVIII, Number 1. This issue is entitled *The Archaeology of Maspeth, Long Island, New York and Vicinity*, by Stanley H. Wisniewski and Ralph S. Solecki. 104 pages. 59 illustrations. The cost is $10 for NYSAA members, $15 for non-members, plus $2 shipping and handling. Make checks payable to NYSAA and mail to William Engelbrecht, 16 Atlantic Avenue, Buffalo, NY 14222.



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- Bert Salwen

Lorraine P. Saunders

- Harold Secor

Martha L. Sempowski
Dean R. Snow
David R. Starbuck
David W. Steadman

- Audrey J. Sublett

James A. Tuck
Stanley G. Vanderlaan
Paul L. Weinman
Thomas P. Weinman

- Marian E. White
- Theodore Whitney

Anthony Wonderley

- Charles F. Wray
- Gordon K. Wright

Certificate of Merit

Tim Abel
Thomas Amorosi
Roger Ashton
Charles A. Bello
Monte Bennett
Daniel M. Barber
Malcolm Booth
James W. Bradley

- Ralph Brown

Art Carver
Leonard Cohan

- William Davis
- Gordon De Angelo

Robert DeOrio
Harold R. Decker
Elizabeth M. Dumont
Lewis Dumont

- William F. Ehlers

Dolores N. Elliott
Garry A. Elliot
Lois M. Feister
John Ferguson

- Robert E. Funk

Joan H. Geismar

- Stanford J. Gibson

Gwyneth Gillette
Robert J. Gorall
R. Michael Gramly
George R. Hamell
Elaine Herold
Franklin J. Hesse

- Richard E. Hosbach

Paul R. Huey
Vicky B. Jayne
Barry Kass
Dale Knapp
Albert D. La France

- Kingston Lamer

John R. Lee CSB
Edward J. Lenik
William D. Lipe
Kelly Lounsberry
Adrian O. Mandzy

- John H. McCashion

Ellis E. McDowell-Loudan
Dawn McMahon
Jay McMahon
Ann Morton
Brian L. Nagel

- Robert Navias

Annette Nohe

- Alton J. Parker

Marie-Lorraine Pipes
Marjorie K. Pratt
Peter P. Pratt
Louis Raymond
Beulah Rice

- William H. Rice

Saul Ritterman
Lucy Sanders
William Sandy
Barbara Sciully
William E. Scott

- Harold Secor

Annette Silver
Gregory Sohrweide
Mead Stapler
David W. Steadman
Marilyn C. Stewart
Kevin Storms
Tyree Tanner
Donald Thompson
Neal L. Trubowitz
Justin A. Tubiolo
George Van Sickle
Charles E. Vandrei
James P. Walsh
George R. Walters
Alvin Wanzer

- Beth Wellman
- Henry P. Wemple

Roberta Wingerson

- Stanley H. Wisniewski

Susan Young

• Known deceased