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BEAKERS, *BERKEMEIERS*, AND ROEMERS: GLASS DRINKING VESSELS FROM
THE 17TH-CENTURY DUTCH SETTLEMENT OF FORT ORANGE,
NEW NETHERLAND

A Thesis Presented

By

KRISTINA STAATS TRAUDT

Submitted to the Office of Graduate Studies,
University of Massachusetts Boston,
in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

May 2022

Historical Archaeology Program

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ABSTRACT

BEAKERS, *BERKEMEIERS*, AND ROEMERS: GLASS DRINKING VESSELS FROM
THE 17TH-CENTURY DUTCH SETTLEMENT OF FORT ORANGE,
NEW NETHERLAND

MAY 2022

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This thesis examines 17th-century glass drinking vessel remains uncovered during the 1970-1971 Fort Orange excavations in Albany, New York. Fort Orange was a colonial outpost established by the Dutch West India Trading Company on behalf of the United Provinces of the Dutch Republic in 1624. The fort served as an important trading post within the colony of New Netherland. Drinking vessels are studied in order to determine any traceable patterns of preference in form, decorative elements, or use. Vessels of note include roemers, *berkemeiers*, goblets, and varying forms using Venetian and *Façon de Venise* decorative techniques. The analysis is separated into four distinctive periods and makes comparisons across time, space, and other material types revealing that the Fort transitioned from a ‘place of trade’ into a ‘place of dwelling.’ The author argues that colonists had a

relatively steady supply of drinkware over the roughly 40 or more years of the Fort's existence and that the types of European glassware owned and used by the settlers were relatively stable. Trends in form and decorative elements also reveal possible patterns of trade and usage. Lastly, connections to the relative stability and success of the colony under Petrus Stuyvesant's governance – along with the prosperity of the height of the Dutch Golden Age – are made to the growth in population of Fort Orange and its surrounding areas as well as the presence of these distinct glass drinking vessels with that of other contemporary sites in North America.

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Most importantly, I want to thank Paul Huey, whose original excavations, publications, and passion for the archaeology of New Netherland has spanned more than 50 years and without his dedication, I would never have been able to tackle this fascinating subject matter.

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CHAPTER 1

INTRODUCTION

This thesis examines the use of glass drinking vessels by the colonial peoples of New Netherland during the 17th century based on an analysis of the assemblage accumulated through the 1970-1971 Fort Orange excavations conducted in Albany, New York. It attempts to shine a light on the lives of those residing within the fort and surrounding area through an inspection of the glass vessel remains found at the frontier trading post and asks whether patterns can be seen over time and space relating to the presence of these delicate objects. It also presents a background for those who would have journeyed to New Netherland and a detailed look at the varied forms and decorative styles of drinking vessels uncovered. The assemblage is divided into four major time periods – pre-1624, 1624-1647, 1648-1664, and post-1664. Drinking vessels are analyzed within the parameters of each period followed by a combined analysis of the assemblage across time and space using comparisons with both ceramic and smoking pipe remains.

A major hypothesis of this thesis is that the glass data would support Paul Huey's argument (Huey 1988) that during the first two periods (pre-1624—1647) Fort Orange was mainly used as a place for trade, and during the second two periods (1648—post 1664) the fort and surrounding area were used mainly as places to dwell. Another is that as the population of the colony and surrounding area increased, the amount of glass drinking vessels would also increase and that this may have been connected to Petrus Stuyvesant's governance of the colony. Finally, this thesis presents clear descriptions, illustrations, and examples of Dutch and Germanic glass drinking vessel types and decorative styles. This

information can be used in future studies to aid in artifact identification and as a resource for those less familiar with Dutch colonial contexts.

New Netherland was founded in 1609 when Henry Hudson, commissioned by the Dutch Republic's governing body, sailed up the river that now bears his name. The colony was established to expand and support the Republic's vast trading empire and to stymie the efforts of its European colonial competitors. Traders and settlers slowly began to make the journey to New Netherland in the 1610s-1620s, and their numbers steadily increased until the colony was taken over by the English in 1664. A few years later, the Dutch settlers briefly took back the territory, but relinquished it once again to the English. At its height, New Netherland stretched north and west of Fort Orange – modern day Albany, New York – as far south as the current state of Delaware, and encompassed significant portions of Connecticut, New York, New Jersey, Pennsylvania, Delaware, and Maryland (Figure 1).

Those who lived in New Netherland were not all originally from the Netherlands, yet most journeyed from the Dutch Republic. These were people of varied backgrounds and motivations, who traveled to an unknown land across the Atlantic, formed communities, and developed a new cultural identity over time. Strong ties to the Dutch Republic were constant, due to the Dutch West India Company's involvement and its continuous efforts to make the colony as profitable as possible. Yet, interactions with Native Americans, adjustments to the region and environment, and the forming of local communities all contributed to the development of a New Netherlandish identity (Bradley 2007; Cantwell and Wall 2008; Huey 1988; Jacobs 2009; Jacobs and Roper 2014; Rink 1989; Romney 2014; Venema 2003).

Fort Orange was built in 1624 and was the northernmost trading post for the colony. It was the hub for trade with the region's Native American communities, specifically the

Mohawk and Mahicans, and was the main source of furs – the most lucrative trade good of the colony. The number of inhabitants within the fort and surrounding area grew, in the 1630s the encompassing patroonship of Rensselaerswijck was established, and by the 1650s the adjacent town of Beverwijck had taken form. By the time the English took control in 1664, an established community existed within the area and the archaeological imprint of their presence is substantial.

The Fort Orange excavations were led by Paul Huey and took place over a five-month period between 1970 and 1971. They uncovered some of the most significant 17th-century material culture from New Netherland found to date. The expanse of the excavation uncovered partial buildings, the fort moat, ravelin, and bastion wall. Over 20,000 artifacts were excavated and processed and are now held at the New York State Museum in Albany, New York (Huey 1988:546-549).

Surprisingly, only a small amount of analytical work has been done on the Fort Orange artifact assemblage since Paul Huey's groundbreaking 1988 dissertation *Aspects of Continuity and Change in Colonial Dutch Material Culture at Fort Orange*. One artifact type that holds great potential for further analysis and provides a deeper understanding of the lives of New Netherlanders is drinking vessel glass. Few studies have been conducted on the drinking vessels of New Netherland, and a major goal of this thesis is to contribute to the overall knowledge of these objects. These are the remains of items used frequently, if not daily, for consumption of liquids – mainly alcohol. Since there were no glasshouses that produced vessels in the colony, all drinking glass remains found during the Fort Orange excavations and discussed within this thesis would have been imported from Europe. It

would have taken great care for such delicate objects to make the journey across the Atlantic, and then to be transported to one of the northernmost frontier outposts in the colony.

Many household goods were carried by individuals as they made the Atlantic crossing or were sent from the Republic after they had settled. These items, especially those relating to consumption, were seen as necessities for daily living. Glass drinking vessels, however, were not a necessity or even very practical to ship, yet they were used in relative abundance in both *Patria* (the Latin word for ‘fatherland’ commonly used by the Dutch in the 17th century) and its various colonies. The prevalence and popularity of glass drinking vessels can be seen in the still-life and genre paintings of the era (Barnes and Rose 2002; Henkes 1994) as well as in archaeological assemblages in both the Dutch Republic and its various colonies. Roemers, *berkemeiers*, and decorated beakers were the most popular vessel forms found in the Fort Orange excavations and a closer inspection of these objects helps to provide a more detailed view of the lives of New Netherland’s colonists.

It is not enough to simply observe the abundance of these vessel types - it is important to understand the reasons behind their abundance. It may have been that these vessel forms and styles were carried over by individuals or sent by friends or family from Europe to be used in the relatively young colony. They may, however, have been supplied to the colonists in large part by the Dutch West India Company (WIC) and were simply all that was available to those who could afford the luxury of glass drinking vessels. The Dutch Republic was not the largest or most renowned producer of glassware in Europe, but Dutch glasshouses were influential, and with the Republic’s primacy in world trade, glass vessels were able to be transported throughout the world, connecting those using them to a collective yet intricate Dutch identity (Henkes 1994; Hulst and Kunicki-Goldfinger 2015). Also, during

the 17th-century, the Netherlands was a hub for trade, and glassware from Germany and France were likely to have been acquired to be used and transported across the Atlantic. Although many factors may have contributed to the distribution and variety of these vessels, any patterns and trends reflected in the data add to our overall understanding of those living within the 17th-century colony.

Major works consulted include those relating to the history of the Dutch republic (Blockmans 2006; Grayling 2016; Israel 1989, 1998; Van Deursen 2006; Wielenga 2015), the archaeology of New Netherland and other Dutch colonies (Bradley 2007; Cantwell and Wall 2001; Fisher 2003, 2010; Hartgen Archeological Associates 1985, 2002, 2005; Huey 1988, 1991, 2003, 2003a, 2003b; Moody 2003, Schrire 2014), and the history and archaeology of glass and glassblowing in the 17th century (Brongers and Wijnman 1969; Buechner 1952; Charleston 1990; Frank 1982, Grulich 2004; Haynes 1959; Henkes 1994; Hulst 2015; Klesse and Mayr 1987; Macfarlane and Martin 2002; McNulty 1971, 1972, 2004; Polak 1975; Vose 1980; Whitehouse et al 2010; Zerwick 199).

The first chapter of this thesis lays out the general context of the Fort Orange excavations and collection, and the research questions addressed in relation to its glass drinking vessels. The following chapter covers the historical background of the Dutch Republic, New Netherland, and the settlement of Fort Orange and surrounding region. This background is vital in providing context to the Fort Orange glass vessels and the lives of those who used them. Chapter three provides a brief history of glassblowing within Medieval and Renaissance Europe and presents many commonly found 17th-century drinking vessel forms and decorative techniques. These forms and decorations are used to classify those found within the Fort Orange excavations.

Chapter four begins with a description of the Fort Orange excavations in Albany, New York in 1971 conducted by Paul Huey, followed by a summary of the approach and investigation of the assemblage's glass drinking vessels. Then descriptions and data are presented by period and component. Chapter five provides data and analyses for all four major periods and examines the assemblage as a whole. Chapter six provides discussions and conclusions resulting from the analysis and topics for further study.

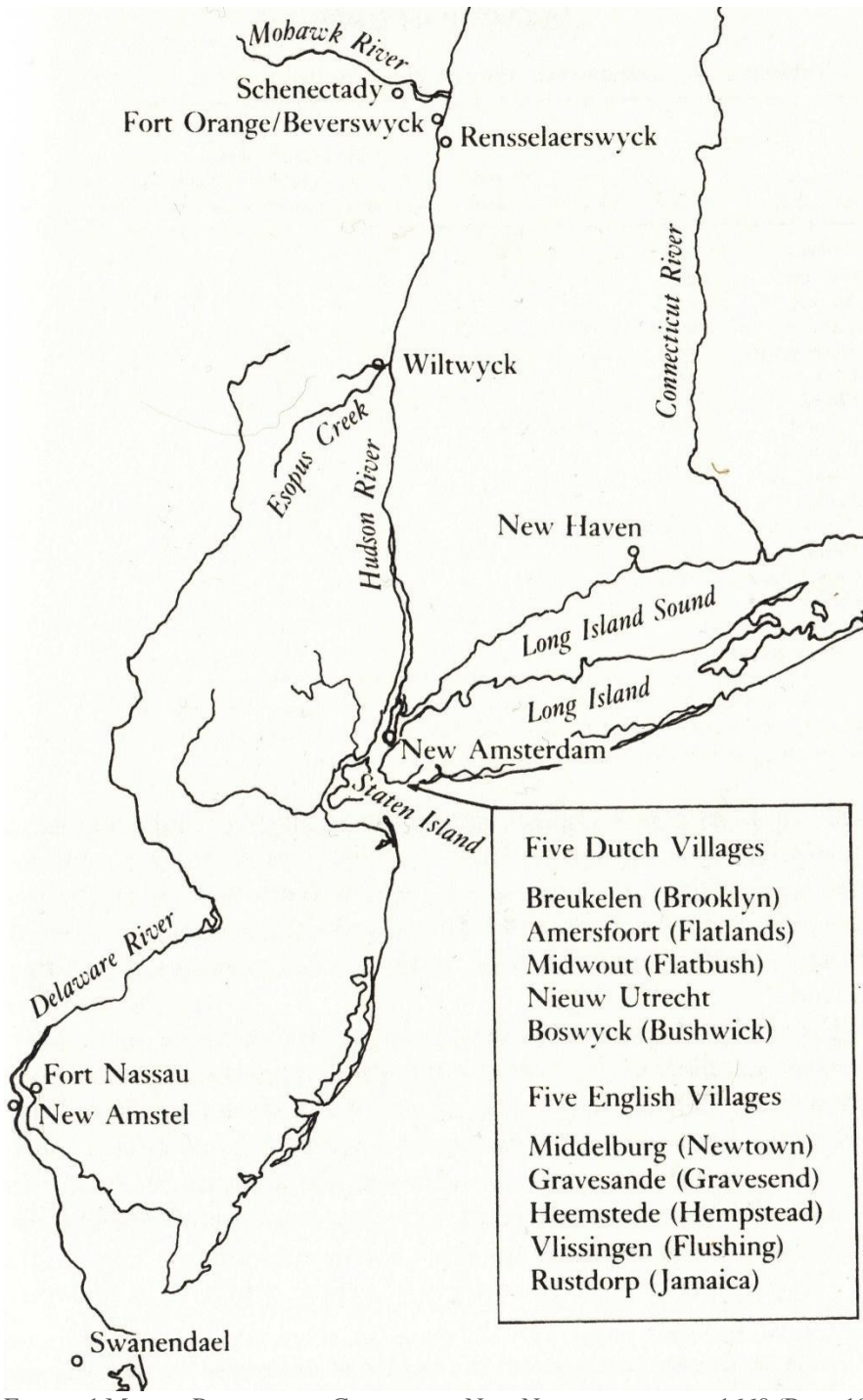


FIGURE 1 MAP OF POPULATION CENTERS OF NEW NETHERLAND, CA. 1660 (RINK 1989:145)

CHAPTER 2

HISTORICAL BACKGROUND: THE DUTCH REPUBLIC, NEW NETHERLAND, AND FORT ORANGE

The Rise and Fall of the Dutch Golden Age

To fully contextualize those living within Fort Orange and the extent of New Netherland, one must understand the culture and history of the Dutch Republic in the 17th century. The Low Countries (what is essentially now considered the Netherlands and Belgium) underwent a series of political, military, and religious upheavals throughout the 16th, 17th, and 18th centuries. Beginning the mid-14th century, the provinces of the Low Countries were under the rule of the Spanish Hapsburg Empire, yet to maintain firm control over such a complex economic and political landscape was no simple task. It was not until the 1560s when revolution truly swept across the provinces and began to change the landscape into what would eventually become a European colonial empire (Wielenga 2015:9-20).

The Union of Utrecht (1579) had a monumental and lasting impact on the Low Countries and Europe as a whole. It established a basic unity throughout the Northern Provinces and laid the groundwork for the economic and political powerhouse the Dutch Republic was to become. Tensions with Spain never completely ceased, but both European powers agreed on a Twelve Year Truce from 1609 to 1621 (Wielenga 2015:35-40). This truce, in conjunction with a fortuitous array of factors, enabled the Dutch Republic to establish itself as the dominant economic power in Europe.

The Twelve-Year Truce ended in 1621 and hostilities with Spain resumed, though not to the same level of violence as before. The Thirty Years War, The Eighty Years War, and

the Spanish-Dutch conflict were increasingly intertwined due to the internationalization of the period, and alliances and hostilities fluctuated constantly. By the 1630s and into the 1640s the Dutch held a strategic position within the European powers; influenced by an economic upturn, many citizens were calling for peace between the warring countries. This was eventually achieved with the Peace of Munster in 1648, the conditions of which were beneficial to the Dutch Republic (Figure 2).



FIGURE 2 MAP OF THE DUTCH REPUBLIC IN THE EARLY 17TH CENTURY (BRADLEY 2007:31, FIGURE 2.1)

The period between 1650 and 1672 represents the height of the Dutch Golden Age. The Republic by 1650 was made up of 6-8 percent foreign-born migrants with the percentage much higher in urban centers. These people were usually drawn to the Northern Provinces by employment opportunities and the lure of better living standards; immigrants commonly came from Germany, Scandinavia, Poland, England, and France. The Republic was also a haven for those fleeing the violence of the Thirty Years War or suffering from religious persecution. Although the Republic offered a great deal more tolerance than its neighbors, a

class system still very much existed, especially within the urban populations. One's status increasingly related to personal wealth and influence as opposed to nobility (Wielenga 2025:71-74). Yet, pragmatism was held in high regard by many, even more so than ideals of tolerance and freedom. Pragmatism was essential for maintaining the status quo, and successfully conducting business. This was also a time when a new Dutch self-image took form (Parente 2017). Many considered the Dutch Republic to be where the world's power and knowledge would centralize and its citizens unified themselves around the idea of belonging to a fatherland or *Patria*, a "prosperous, trading and peace-loving nation that had a primary interest in international peace, stability, and maintaining the status quo" (Wielenga 2015:77). These were idealized views that of course do not reflect the actions and motivations of all the people within the Republic and its empire.

The combined strength of France and England ultimately led to the downfall of Dutch dominance in world trade. Alliances between western European powers were ever fluctuating, and these complicated affairs had a direct effect on the Republic's political, social, and economic spheres. Throughout the first half of the 17th century, England and the Dutch Republic were on friendly terms, mainly due to their shared Protestant convictions. Yet, no longer wishing to play second fiddle to Dutch international trade, England passed the Navigation Act in 1651, which dictated that any goods sent to England had to be transported using English ships. This act directly impacted the variety and availability of goods in New Netherland. A year later the First Anglo-Dutch War (1652-1654) began. This conflict was mainly about who had control of maritime trade, and Dutch vessels were ill equipped to fight against the English Navy. The Dutch economy had almost stagnated by the time Johan de Witt took up the position of Grand Pensionary of Holland in 1653. De Witt used his political

prowess to keep the European threats at bay. By striking an agreement with Oliver Cromwell, de Witt brought the conflict with England to a temporary end (Wielenga 2015:77-79).

The Peace allowed for the Republic to build a new fleet and regain their extensive trade networks. In the following years, de Witt established an intricate system of treaties with other European powers in order to ensure growth in trade and international peace. Yet, when the Stuarts returned to the throne, De Witt was forced to establish a new series of treaties, which included those with France. England reinstated the Navigation acts in 1660 and began attacking Dutch ships and colonies. In 1664 English ships sailed to New Amsterdam and took control of the colony of New Netherland, renaming it New York.

The Second Anglo-Dutch war began in 1665 and ended in 1667 with a Dutch victory made official by the Treaty of Breda. The Republic then turned its attention to France, where a newly crowned Louis XIV had been sending greater numbers of troops to the Spanish Netherlands. Tensions grew both in the military and commercial realms between France and the Republic which meant that the Dutch were then acting defensively against two economic powerhouses. In 1672 the joint forces of the English Navy and French Army attacked the Northern Provinces nearly resulting in the dissolution of the country. William III was established as the new stadtholder and although he managed to lead with a fair amount of skill, the Republic would never reach the political and commercial heights it had before the Disaster Year of 1672 (Wielenga 2015:79-85).

Economics Overview of the United Provinces

The Lower Provinces had long flourished as the largest economic powers in Europe, with Antwerp at their center. This changed drastically when in the 1580s all ‘heretics’ (non-Catholics) were exiled from the Spanish Netherlands. About 200,000 people fled the region,

150,000 of which settled in the Northern Provinces. This resulted quickly in economic might shifting to northern cities such as Amsterdam, due in large part to the inclusion of those religiously exiled, many of whom were “skilled craftspeople, traders, intellectuals, and artists” (Blockmans 2006: 140). This massive migration is one of – if not *the* – largest contributing factors in the Dutch Republic’s rise to primacy in world trade (Israel 1998:308-311). The Northern Provinces were able, for the most part, to accommodate the influx of skilled craftsmen, merchants, and artisans who largely settled in the cities of Holland and Zeeland. It was also in the 1590s that the Dutch were able to force the Spanish naval presence out of their waterways, leading to the lifting of Spain’s embargo against Dutch commerce. The Republic had become “a viable base for large-scale investment in commerce and manufacturing processes” (Israel 1998: 311).

Johnathan Israel divides Dutch world trade primacy into four phases. Phase One (1590-1609) saw the introduction of ‘rich trades’ and long-distance traffic with its colonies. Phase Two (1609-1621), or the period of the Twelve Years Truce, saw a decrease in colonial trade and the salt markets but an increase in Mediterranean trade and the fisheries. Phase Three (1621-1647) was characterized by the renewal of the Dutch-Spanish conflict and the reinstatement of Spanish embargoes. This period saw growth in colonial commerce but a decline in European trade. The economic slump from 1621 to the early 1630s is labeled as a recession. The Republic recovered in the 1630s with growth in agriculture, textiles, colonial trade, and financial speculation (Israel 1998: 313-315). During Phase Four (1647-1672) the Dutch economy flourished, with an expansion of the ‘rich trades,’ a resuming of direct commerce with Spain, and a deeper penetration into European markets (Israel 1998: 610-

612). It was not until the Disaster Year of 1672 that the Republic's economic primacy took a fatal blow.

The Rise of the Dutch Colonial Empire

The Dutch colonial enterprise began during the last decade of the 16th century and expanded rapidly over the next hundred years. At first private trading companies were formed by the merchant elite, who outfitted small fleets that sailed to regions like the East Indies to establish and expand their presence in maritime trade. By 1601 there was such a high number of companies and fleets and so little regulation that the participating merchants requested the States of Holland and Zeeland "intervene to impose order on the traffic" (Israel 1998:321).

The Dutch Republic's unique system of government and the importance placed on civic autonomy allowed for a completely new commercial organization to be created: "a chartered, joint-stock monopoly strongly backed by the state which was, at the same time, federated into chambers which kept their capital, and commercial operations, separate from each other while observing general guidelines, and policies, set by a federal board of directors" (Israel 1998:321). Thus, the United East India Company (*Verenigde Oostindische Compagnie*, or VOC) was formed. The VOC focused primarily on Asian markets, where the populations were generally powerful and well organized politically and economically. Dutch trading posts in the East were typically small and the merchants were usually not focused on territorial expansion or colonial settlement (Jacobs 2009:20).

Dutch hostilities with Spain hampered their penetration into the Atlantic trade markets, and the Twelve Year Truce from 1609 to 1621 included a stipulation that the Republic would not form a company focusing on maritime trade in the west. However, this

did not stop the Republic from chartering several smaller companies such as the New Netherland Company (est. 1614) which was “a classic instance of cartel formation to eliminate competition and boost profitability” (Israel 1989:108; see also Jacobs 2014:7-8).

Once the Twelve Year Truce ended in 1621, the governing body of the Dutch Republic – the States General – officially established the West India Trading Company (*Geocroyeerde Westindische Compagnie*, or WIC). This monopoly was initially established for twenty-four years and divided into five chambers. Like the VOC, each WIC chamber kept separate capital and accounts which were all managed by a federal board of directors – the WIC board was titled the *Heren XIX*, or the Lords Nineteen (Israel 1998:326).

Unlike the VOC, the WIC was not formed for the sole purpose of expanding trade primacy. The initial purpose was to disrupt Spanish trade routes and inflict as much damage on Iberian colonial endeavors as possible. Establishing trading posts and forming colonial settlements began as background motivations but eventually came to the forefront of WIC objectives (Jacobs 2009:20). In order to achieve these goals, WIC employees focused on conquering enemy colonies and privateering enemy shipping. However, the WIC’s efforts to combine commercial business and military might spread their resources too thin and resulted in its weakening and ultimately its disbandment.

History of New Netherland and Fort Orange

The colony of New Netherland was established in 1609 by way of Henry Hudson’s explorations and remained in existence until 1664 at the onset of the Second Anglo-Dutch War. Henry Hudson was commissioned by the VOC to locate the Northeast Passage; when that proved too difficult, he took it upon himself to discover the Northwest Passage. He failed to locate either, yet his explorations up the river that would eventually bear his name piqued

the interests of Dutch merchants and traders (Jacobs 2009: 19-20). Shortly after Hudson's journey, voyages between the new colony and *Patria* began in earnest. This resulted in the collision of two very different groups, that of the Northeastern Native American tribes residing in the Hudson, Mohawk, Connecticut, and Delaware River valleys, and explorers, traders, and colonists traveling from the Dutch Republic – “a nation born out of bitter religious conflict and shifting economic realities” (Bradley 2007:2).

Dutch vessels had previously been sailing along the coast of New France, trading and privateering, but once news of fertile territory to the south reached their ears, many left to investigate. In the late 16th and well into the 17th century, beaver felt hats were highly popular, and northern European countries were unable to meet the growing demand and the prospect of new and plentiful sources of pelts in the Americas was an effective lure. Independent traders subsequently plied their trade throughout the Hudson Valley region conducting business and forging relationships with the Native populations.

It was during this period that the first fortified trading house was constructed in New Netherland on Castle Island near the mouth of Normanskill called Fort Nassau (Figure 3). Fort Nassau served as a year-round base for traders who resided in the colony and served as a meeting spot for the Mohawk and Mahican peoples coming and going to conduct business. By 1618 the New Netherland Company's monopoly expired, and for a brief period, trade within the colony reverted to an unregulated state. Fort Nassau soon fell into disrepair due to frequent flooding (Bradley 2007:33-35; Huey 1988:11-12; Jacobs 2009:24-27).

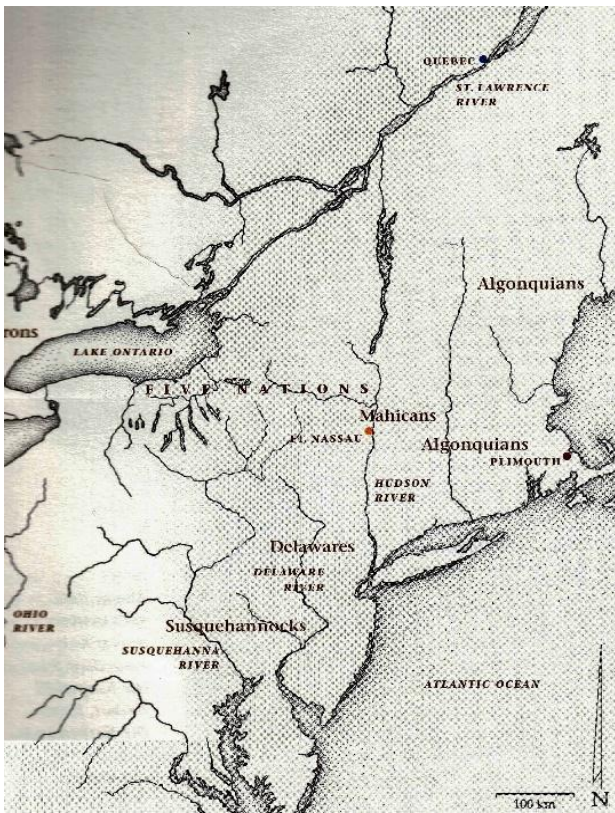


FIGURE 3 MAP OF THE NORTHEAST CIRCA 1620 (BRADLEY 2007:36, FIGURE 2.7)

In 1621, the States General issued the awaited patent for the WIC whose powers were then directed to all areas of Atlantic trade and competition. New Netherland was a small and relatively unimportant colony in the grand scheme of the Dutch empire's Atlantic exploits; the most lucrative areas were located further south where the Spanish and Portuguese laid claim. Yet, the prospect of creating new trading relationships with the Native Americans, and the wealth that could be acquired through dominance of the North American fur trade, was seen as a venture worth taking. The States General issued a charter granting the company a monopoly on all trade in America until the year 1645, which included the ability to make contracts and treaties with indigenous peoples; it also allowed for the building of fortresses and settlements (Huey 1988:14).

The English protested the Dutch presence in North America and argued that England technically held a claim over the New Netherland territory. The WIC disagreed vehemently and argued their position based on Dutch colonial practices. Company policy was intertwined with Dutch concepts of ownership and business; a governmental allocation of land based on discovery was not a legally binding form of possession in the Netherlands. “Only a claim supported by actually occupying an area by populating it with at least fifty colonists was valid. This line of reasoning made it necessary for the WIC to send a number of colonists to New Netherland” (Jacobs 2009:30). Although documentation of these first settlers is sparse, the WIC sent over a number of ships, and the trader-colonists most likely were dispersed throughout the region in order to lay claim to the whole area which stretched from Burlington Island on the South (or Delaware) River to where present-day Albany is on the North River and included Manhattan and a portion of the Fresh (or Connecticut) River (Rink 1986:73).

Although little archaeological evidence has been found relating to the ‘Independent Traders period’ of New Netherland, James Bradley demonstrates that by examining contemporary Native sites a clearer picture can be painted of the landscape and people at that time (2007:37-38). It was during this period that the Mahicans from the eastern side of the North River and the Mohawks from the western side came into serious conflict, both vying for better trade relationships with the Dutch. The resulting intertribal war was extremely violent and would not conclude for generations.

Bradley (2007:44-45) also examines contemporary sites from the Dutch Republic which provide a look into 17th-century urban development and the daily lives of those within the Provinces during the “Golden Age.” Sites in Amsterdam are especially rich show the growth of international trade and the increase in specialized production. Domestic sites,

inventories, and the cargoes of ships from the Republic and its colonies reveal that during this early period of maritime exploration and colonization, trade goods were eclectic. These goods included but were not limited to glassware, mirrors, beads, axes, adzes, knives, blankets, kettles, awls and combs. As their relationships developed, the Dutch learned what commodities were preferred and valuable to Native Americans and accommodated their preferences. From the beginning of the Independent Traders period –designated from 1609 to 1624, relatively little European material has been uncovered. As years passed, the amount and variety of European goods steadily increased (Bradley 2007:44-46).

In 1624, the WIC established four settlements in New Netherland: one on the South River, one in the lower Fresh River Valley, one at the mouth of the North River, and one roughly 150 miles north up the North River. It was this last settlement that would be the hub of not only the fur trade, but also most of trade conducted with the surrounding Native American tribes (Bradley 2007:56). The Dutch “planned to construct landscapes similar to those they were creating in their other overseas settlements...they built their forts in New Netherland facing outward, looking over the water to protect Dutch interests not from the Native Americans...but from their European competitors, who would arrive by ship” (Cantwell and Wall 2008: 319). It was also in 1624 when the WIC’s Amsterdam Chamber accepted a petition submitted by a group of Walloon families requesting to form a settlement in the New World. The conditions given to the roughly thirty families clearly demonstrate the WIC’s continued focus on solidifying its hold on trade in the region. Settlers could conduct trade within the interior of the colony but only if done through WIC representatives. The settlers were to follow the laws established by the Dutch Republic and WIC and to adhere to any treaties or alliances made by WIC representatives with other European colonies or

indigenous people in the region. In April 1624, the *Nieu Nederlandt* sailed from *Patria* and arrived at the Hudson in May, carrying among its cargo, roughly thirty families – most of whom were Walloons (Huey 1988:23-25; Rink 1989:76-79).

The location of the new defensive settlement was chosen carefully, considering both geographical elements and the tenuous relationships held with their Mahican and Mohawk neighbors. “The site chosen for the new fort was close to the west bank of the Hudson River on the inside of a wide bend, 2/3 mile north of Castle Island on a narrow but fertile, flat alluvial plain below a gently sloping hillside” (Huey 1988:26). The fort was to be placed within what was likely Mahican territory, but close enough to known Mohawk villages and trade routes. Dutch traders needed to prioritize good relations with their native neighbors not just because it was a core value within the Dutch mercantile machine, but also to ease tensions built up due to Dutch aggression and violence throughout the 1620s (Bradley 2007:36; Huey 1988:15).

The fort was named “Orange” after the current Stadtholder Maurits – a descendant of the house of Orange. The settlers built the fort with four bastions, erected a few dwellings, and planted various crops. By this time there were only about eighteen families and a small contingent of soldiers residing at the fort, the other families evidently had been dispersed amongst the other WIC outposts within the colony (Bradley 2007: 56; Rink 1989:79-80).

During the first few years after Fort Orange was constructed trade flourished and thousands of pelts were exchanged. The colonists had difficulties adjusting to a climate where seasonal extremes differed greatly from that of their European home countries, yet they managed to acclimate over time. Although this was a colony governed by a joint stock trading company, it was difficult for the *Heren XIX* to maintain regulated trade networks

from across the Atlantic. Individuals competed against one another and prices fluctuated constantly within the young colony (Jacobs 2009:30-31; Rink 1989:84-85).

By the second half of the 1620s, the colony had taken a different shape. The WIC began sending in a relatively steady stream of colonists, livestock, and crops, and the changes in population led to changes in settlement patterns. Continuing to spread the settlers out evenly between defensive outposts along northeastern waterways proved untenable; the colony needed to become more centralized and thus more organized. The various small settlements located on the South and Fresh Rivers were largely abandoned beginning in 1626. In the summer of 1626, Director Pieter Minuit ordered the beginning of construction of a new fort on Manhattan Island – which would come to be named Fort Amsterdam – as well as a number of suitable houses for the growing population (Huey 1988:29; Rink 1989:82-84).

At Fort Orange, things had taken a downward turn. Its location so far up the river and its isolation from other WIC settlements left its residents extremely vulnerable. Tensions between the Mahican and Mohawk tribes were also escalating. The Dutch Republic and the WIC strictly forbade company employees to take sides in any disputes between Native American tribes; they were also directed to treat all native peoples fairly. This was essential for maintaining good business relations and, for those living at Fort Orange, it was necessary for survival. Some individuals, however, ignored these policies, treating their neighbors disrespectfully, at times with violence, and relationships between the Mahicans, Mohawk and New Netherlanders greatly suffered often due to the European settlers' incompetence and disrespect (Bradley 2007:58).

By 1628, the Mohawk emerged victorious, forcing the Mahicans to give up their territory on the west side of the Hudson and to shift their villages further away from the

Dutch settlement, opening the door for the Mohawk to have exclusive trade with Dutch merchants (Figure 3). However, broader analysis shows that trade within New Netherland had petered almost to a halt. Compared to the income raised by the WIC's other colonial and maritime endeavors, New Netherland was failing to make a solid return on the Company's investment. Regulations on trade were not well enforced, trade goods were not provisioned in large enough supply, leaving the settlers to barter using their personal possessions, and continued altercations with the indigenous populations all contributed to a stagnating trade network (Bradley 2007:58-59; Rink 1989:87-88).

One of the few remaining defenders of New Netherland was a man named Kiliaen van Rensselaer, a businessman from Amsterdam who became one of the Lords Nineteen in 1625. His stalwart support of New Netherland was unmatched, and he dedicated his time and resources into transforming the colony into a functioning and profitable enterprise. This was also a period of transition within the Dutch Republic as stadtholder Maurits passed and was succeeded by Fredrick Hendrick. England was governed by a new leader in Charles I, and although both countries continued their joint efforts to hinder their Catholic enemies, economic competition between them continued to intensify (Bradley 2007:56-57). The ever-increasing pressures on trade alongside the continual losses in North America meant that the WIC needed to make significant changes to their colonial strategy. They needed to make New Netherland more lucrative, and to create real incentives for settlers to remain within the colony. Not long after he joined the Nineteen, van Rensselaer proposed a plan to "revive the floundering province with private capital" (Bradley 2007:59).

Van Rensselaer became one of the first to invest in the WIC. Due to the size of his investment, he was named as a principal shareholder in the Amsterdam chamber and became

a director of the chamber in 1625. Of the many possible options, he chose to sit on the commission responsible for making policy recommendations for New Netherland (Rink 1989:192-194). It was in this role that he became the main advocate of the Patroon System.

The debate on how best to fix the failing New Netherland colony split the Amsterdam chamber into two factions: those who argued the ‘company view’ – “which reflected a strict constructionist interpretation of the charter and its monopolistic grant of exclusive authority over colonial trade,” and the ‘patroon’s view’ – “which reflected a loose interpretation of the charter and sought to open up the colony to private enterprise, albeit limited in scope” (Rink 1989:96). Those who held the ‘company view’ felt that they had invested too much capital into New Netherland and that they should abandon colonizing efforts. Instead, they hoped to transform the colony into a system of strategic outposts with the strict purpose of trade with the Native Americans. Only company employees would be stationed within the outposts and the WIC would maintain its firm hold on the colony. This would cut down expenses as well as curtail smuggling and illicit trading. Those who held the ‘patroon’s view’ saw the opposition’s plan as shortsighted and problematic. They believed that it was the Company’s policy of trade restrictions that led to the Colony’s problems. They argued that colonists were not given the opportunities to thrive in their new home and that they had been governed by a series of incompetent leaders. What they needed, the patroon faction argued, was for the fur trade monopoly to be dissolved and for strong and competent leaders to be hired. This would create the incentive for more colonization and foster an environment of healthy and lucrative business (Rink 1989:97).

A compromise between the two factions was manifested in the Charter of Freedoms and Exemptions of 1629. A system was introduced where investors from *Patria* could buy

land within New Netherland and set up their own smaller colonies underneath the supervision of the WIC. These small colonies were called 'patroonships' and the owner, or 'patroon', was given control over various aspects of the land. A patroon could choose a tract anywhere within New Netherland if its location did not interfere with the WIC's business or larger constructions. Once the tract was approved the patroon could send settlers to colonize the territory. People living within the patroonship could trade freely except in furs (where fees to the Company were required), and the patroon had a rightful claim to all precious metals, pearl fisheries, and other resources within its borders, as long as transportation and trade fees were paid to the WIC. The patroons also held jurisdiction over civil and criminal cases within their settlements. This system, in theory, allowed for the financial burden of further colonization to be taken by private wealthy investors from the Netherlands and would hopefully remedy the colony's economic downturn (Bradley 2007:59; Huey 1988:31-32; Rink 1989:97-98).

Kiliaen van Rensselaer was among the first to apply for a patroonship within New Netherland. He claimed large tracts of land surrounding Fort Orange and along both sides of the Hudson and named it Rensselaerswijck (Figure 4). Although several other wealthy Amsterdam directors were granted patroonships, van Rensselaer's colony was the only one that had any long-term success. He had been clever in choosing its location, which encircled New Netherland's main trading post and extended to what is now most of Albany and Rensselaer Counties. His plan was to build an agricultural settlement that could facilitate trade inside and outside of New Netherland. He wanted a series of farms to be built on the rich soils along the Hudson River with a few central buildings located on the east side of the river opposite Fort Orange. After his settlers first arrived circa 1632, and a few farms were

established, van Rensselaer advised that a brewery or distillery be constructed for the purpose of selling to those in Fort Orange and beyond. He hoped to establish trade networks not only with the WIC settlers, but also with the local Native tribes and even with the English to the North and South. Yet, life in the Patroonship was often isolating and intensive; developing the ‘Colonie’ (as it came to be known) into the thriving enterprise van Rensselaer envisioned was no simple task (Bradley 2007: 59-60; Huey 1988: 32-34; Jacobs 2009: 70-72).

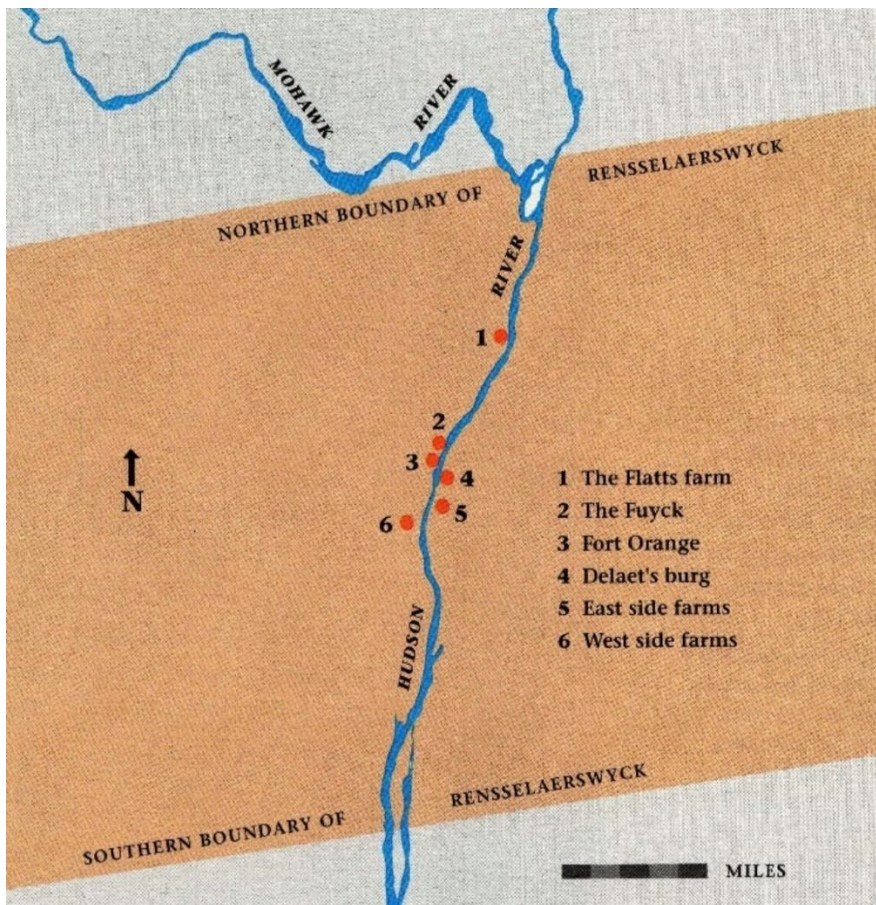


FIGURE 4 MAP OF RENSSELAERSWIJCK AND SETTLEMENTS DURING THE 1640S (BRADLEY 2007:87, FIGURE 4.1)

It was during this time that improvements had been made to Fort Orange; a map drawn in the early 1630s shows that the Fort was situated “on the edge of the riverbank in a wide bend, surrounded on three sides by fertile, cultivated river flats. The fort had four bastions, each having plain flanks at right angles to the curtain walls. The fort was entirely

surrounded by a wide moat except on the east side next to the river” (Huey 1988:34). There are limited contemporary accounts of Fort Orange’s early years, but the walls were most likely constructed of horizontal stacked hewn logs, with more solid bastions, possibly made from brick and filled with earth. James Bradley (2007:62-64, see also Jacobs 2009) postulates that early accounts of ‘huts of bark’ within the fort may have been semi-subterranean cellar houses that could later be improved upon by lifting the roofs and building more solid structures underneath. Between 1633 and 1638, under the direction of Director Van Twiller, a large house with a balustrade and latticework and eight smaller soldier’s houses were constructed within the fort walls, and several smaller houses and garden plots were built beyond the palisades. In April 1640, the fort suffered from a large flood and had to be temporarily abandoned, and these new buildings most likely suffered some damage as a result. The larger building almost certainly served as the Company’s trading house until it ceased operation in 1644 (Huey 1988: 37-42).

External pressures continued to plague the colony. The French and English were encroaching on Dutch-Mohawk trade routes and on the Republic itself, and the English were renewing their arguments laying claim to land within New Netherland. The violent wars waged by the English against the Pequot in the 1630s greatly hindered Dutch access to wampum, which had become an essential trade commodity. This was also a time of turmoil and change within native tribes in the region. War, disease, competition, changing alliances, and discord all impacted the shape of native cultures and the lives of native peoples (Bradley 2007: 60; Huey 1988: 34-35; Rink 1989:115-117, 127).

New Netherland’s financial situation had also become dire, so much so that the directors of the WIC were forced to revise the *Freedoms and Exemptions* and relinquish their

monopoly on the fur trade in 1639, making it open to all Dutch citizens. This had a significant impact on the colonists as well as those investors and private traders in *Patria*. The WIC's role had previously been to oversee the commercial and administrative aspects of the Colony, but after the introduction of the new *Freedoms and Exemptions*, they were forced to take a step back and focus mostly on administrative or governmental duties. Colonists then had a greater incentive to stay within New Netherland past their contracted terms which allowed for them to become free traders. The number of new arrivals with material interests continued to grow as well. Settlements were transforming with populations of permanent residents, forming concrete communities and a sense of local identity (Jacobs 2009:76; Rink 1989:135-136).

By 1637, Kiliaen van Rensselaer established a trading house right next to the Fort Orange moat enabling direct access to those traveling to and from and those residing within the fort - selling furs, grain, and various other goods. The influx of independent traders threatened Rensselaerswijck's business. In 1642, Rensselaerswijck enacted an ordinance forbidding private traders to enter the patroonship boundaries with merchandise intended for sale, also forbidding patroonship residents from conducting business with independent traders living in or near the fort. Yet the lure of receiving higher payments from independent traders was often too strong and illicit trade was common (Huey 1988:39-40).

Although Colony governor William Kieft brought an increased level of order, he is most well-known for his bloodthirsty actions and the series of violent wars waged against the region's populations. Discord between colonists and local indigenous peoples had been prevalent in the 1630s and 1640s, at times manifesting in altercations and violence. Policies were introduced by the council demanding tribute from the native tribes as payment for the

colonists' perceived protection and support. This was seen as a great insult by the tribes, most of whom refused to pay any such tribute. Irked by their lack of compliance, Director Kieft saw any act against his authority worthy of retaliation. Kieft subsequently ordered attacks on native villages mainly in the lower Hudson valley and Long Island, slaughtering all who stood against him. This, of course, led to retaliatory violence by the Native communities. The violence continued to escalate – much to the disapproval of Kieft's advisors – and the horror of the States General (Jacobs 2009: 76-80).

Killian van Rensselaer died in October 1643, and the patroonship passed to his son Johannes. In 1646, Brant van Shlichtenhorst was appointed as the new director of Rensselaerswijck and arrived in New Netherland in March 1648. Arent van Curler continued working for the patroon making strides toward bettering relationships between Dutch traders and the Mohawks, setting up a new trading post four miles north of Fort Orange. His efforts helped to ease tensions within the area, but they were by no means erased and intertribal and Dutch-Native conflicts persisted.

The WIC recalled Kieft in December 1644, and his replacement, Petrus Stuyvesant, arrived in New Amsterdam in May 1647. Unlike many of his predecessors, Stuyvesant was a competent leader and oversaw the Colony with relative success until its termination at the hands of the English in 1664. One of Stuyvesant's first acts was to establish his council of director, vice director and *fiscael* (a high WIC official and public prosecutor), and then to establish the 'Nine Men' - a committee made up of various members of the population to serve the purpose of an advisory board (Jacobs 2009: 81-84).

An account by the French Jesuit Isaac Jogues in 1643 described Fort Orange during this time as small and dilapidated, with residents focused primarily on trade. In this period of

increasing competition, Native and European traders moved freely throughout the fort, conducting their business. As more independent merchants settled in and around the fort, repairs and new construction surely increased. In 1647, Stuyvesant made his first visit to Fort Orange and reported that he believed it was in ‘bad condition.’ He took quick action, taking a firm stance against illicit trade and ordered new construction to improve the fort. Another devastating flood occurred in 1648, and to aid in repairs he ordered an increased architectural use of stone and brick. He also encouraged colonists to build houses within the fort, allowing traders and artisans to use their own expenses and who therefore would privately own their buildings. The ground on which these structures stood, however, belonged to the WIC. Several individuals took advantage of this offer between 1647 and 1651 including the carpenter Jean Labatie who constructed a house with the intention of using it as a brewery, Abraham Staats who built a house that was probably also used as a smithy, and Hendrick Andriessen van Doesburgh who built a house where he lived and worked as a gunstock maker (Bradley 2007: 91-96; Huey 1988: 40-42).

Changes were also being made in Rensselaerswijck, where van Shlichtenhorst had recently become director. One of his earliest actions was to build houses on the west side of the river along the walls of Fort Orange. He was planning on using the houses for direct business with the independent traders living within the fort, and to establish a *bijeenwoning* (closer settlement community) for those residing within the patroonship. However, Stuyvesant’s main concern was for the colony’s defense and ordered that the houses be torn down. He also ordered that no structures could be built within cannon shot of the fort. Van Shlichtenhorst refused to comply and over the next few years both men battled each other with a series of retaliatory actions. It was Stuyvesant who proved victorious in 1652 when

under the Company's authority he officially established Beverwijck, a settlement encompassing all land within 600 paces of the fort. This allowed the WIC to seize the roughly forty standing buildings belonging to the patroonship within the designated area (Bradley 2007: 92-93; Huey 1988 47-58; Venema 2003:18-19).

After 1648, Fort Orange underwent a series of physical and organizational changes. Buildings had been erected both inside and outside the fort walls. The old Patroon trading house was still a point of contention for Stuyvesant and van Shlichtenhorst. A dry moat and drawbridge were incorporated into the fort. The number of houses built just north of the fort that had been absorbed into the independent village of Beverwijck, and any future residents were then under the jurisdiction of the Fort Orange court.

External pressures also continued to mount. The Swedish settlement to the south and the French settlements to the north increasingly threatened Dutch trade, and the British passed the Navigation Act of 1651 forbidding the importation of any merchandise into England unless using English ships, or those from the country of the merchandise's origin. This was an intentional strike against Dutch trade and fueled the already growing discord between both countries. Earlier, in April 1651 the WIC placed heavy duties on merchandise imported on British ships to New Netherland but laid no duties on those ships transporting Dutch goods out of New Netherland. This helped to alleviate some of the monetary strain in the colony, but the Navigation Act dealt a serious blow to the overall Dutch economy (Bradley 2007: 93; Huey 1988: 56-58; Rink 1989: 249-250).

In the 1650s a set of reforms were introduced to New Netherland determined by the States General and the WIC. After the monopoly on the fur trade was dissolved, New Netherland moved significantly closer to becoming a settlement colony as opposed to a series

of trading posts. The WIC was forced to take less of a direct role, maintaining responsibility for major issues of defense, taxes, higher courts, and general administrative supervision. Settler animosity toward the WIC was alleviated through the establishment of small benches of justice and municipal governments throughout the Colony. Colonists were then able to take active roles in their communities and have their grievances voiced and crimes judged within those communities (Jacobs 2009:85-90).

In Fort Orange and Beverwijck, repairs and new construction were underway. Stuyvesant laid out a wide street leading up and west from the river and granted patents to individuals along the newly established road. A joint guard house and courtroom was built in 1652, and in 1653 construction of a redoubt began. Improvements in and outside of the fort were intensive and thorough, defense being a major concern for the director during these tense years of trade war with the English. Around the same time that the Dutch and English agreed on a temporary peace in 1654, another devastating flood hit Fort Orange, nearly wiping out the bastions, damaging houses, and washing away carefully planted gardens (Huey 1988: 66-67).

Matters in Rensselaerswijck had altered. Van Shlichtenhorst had been arrested by Company employees and sent back to the Dutch Republic, and his successor, Jan Baptiste van Rensselaer was sworn in as patroonship director in July 1652. Unfortunately for van Rensselaer, the largest community within the patroonship had just been seized and taken under the jurisdiction of the WIC. This community had contained most of the patroonship colonists including its tradesmen; thus, in one fell swoop, Rensselaerswijck lost much of its resources and influence (Venema 2003: 50-53).

The newly formed community surrounding Fort Orange – Beverwijck – was just beginning to flourish. Between 1652 and 1661, as many as 111 people were granted patents for lots in Beverwijck, and multiple buildings, gardens, and shops could be held within a single lot. Roads were laid out spreading both north and west of the fort, and bridges were built spanning the *kills* (small river branches) flowing near the community (Figure 5). In general, buildings in Beverwijck were smaller than those built in New Amsterdam and the Dutch Republic, constructed mostly out of wood, at times with the sides facing the street built out of brick or fieldstone. Chimneys were required to be constructed out of brick and houses often sported signs professing the trade of the owner or purpose of the building. Most owned gardens either within their own lots or alongside the river (Venema 2003: 53-80).

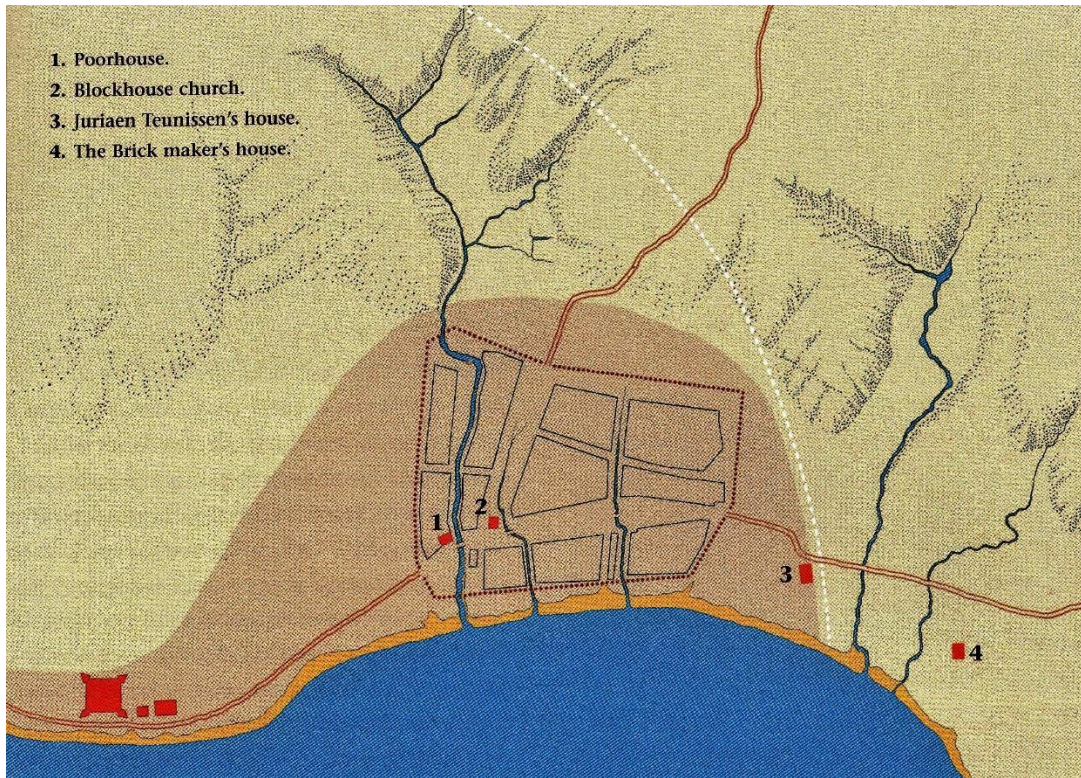


FIGURE 5 MAP OF BEVERWIJCK, CA 1664, SHOWING THE STOCKADE AND STREET PLAN (BRADLEY 2007:145, FIGURE 5.11)

Fort Orange was the largest structure in the community and the houses built in or adjacent to it benefitted from its commanding presence, but frequent flooding remained a continuous and costly problem. The court for the community was established in the WIC's trading house within the fort and some of the most affluent members of Beverwijck owned or lived in houses within its walls. Yet from the 1650s on, Fort Orange was in great decline, and with the new construction taking place outside its walls, the fort was soon becoming obsolete (Venema 2003:57-61).

The Abraham Staats house within the fort was sold in 1655 to Johannes van Twiller who lived in the structure for two years then left for the Republic in 1657. He passed the building over to Jeremias van Rensselaer who tried and failed to sell the property, reporting it as a loss in 1661. The house was largely neglected until it burned down in 1669; when Paul Huey excavated a portion of the structure and found that the archaeological record was well preserved (Bradley 2007: 139-140; Huey 1988). Another house within the fort uncovered in Huey's excavations belonged to Hendrick van Doesburgh and his wife, Marietje Damon. They most likely relocated to Beverwijck in 1657, leaving the old house in disrepair until it collapsed in 1664. These two homes reflect the dramatic shift Fort Orange underwent, transforming from the hub of the settlement community, into a rundown structure used mainly for distribution of goods from merchants traveling to and from New Amsterdam. It was also used for the storage of materials such as boards, bricks, and hardware. One of the only buildings that remained in use was the Fort Orange courthouse, which was torn down in 1657 and replaced with a more permanent building. The fort also appears to have been used for waste disposal as seen through the rubbish found most likely originating from Maria

Goosen's tavern just outside of the fort walls (Bradley 2007: 143-144; Huey 1988; Lucas and Traudt 2021).

After 1652, Fort Orange was no longer a single outpost, but part of a growing settlement community. The people who made up this community were as diverse and colorful as those living in the villages and towns of the Dutch Republic, the main difference being that they resided in a colonial frontier context and were exposed to and influenced by Native American and African cultures. New Netherlanders had become less transitory employees of the WIC and more permanent settlers, forming strong ties to the land and the communities they built. Colonists were beginning to see themselves as "citizens of a new country," one with strong and loyal ties to the Dutch Republic, but with a character all its own (Bradley 2007: 131; Cantwell and Wall 2008: 328).

A building serving as both blockhouse and Dutch Reformed Church was built in the center of Beverwijck in 1656, and by 1657 a house for the poor was completed. One of the most dramatic alterations to the Beverwijck landscape was the construction of the town palisade in 1659. This was done in response to heightened hostilities and violence between Dutch colonists and Native Americans in the Esopus region. Colonists were frightened that relations with their Mohawk neighbors might deteriorate and moved to better secure their community. The palisades effectively created separate and clear spaces between the Dutch settlers and native peoples (Venema 2003:93-97). Mohawk traders continued to be welcomed within the town walls and often stayed overnight, but the palisades changed the spatial dynamic between the native populations and Europeans. Not all structures were enclosed within the palisades; houses, taverns and shops had been built along the river, but with a boundary in place, the townspeople were able to further shape their community in a

European and specifically Dutch way (Bradley 2007; Huey 1988:77-80; Venema 2003:97-98).

Minor flooding took place at the fort in 1661, and although no significant damage was reported, rumors of French and English encroachment motivated the fort director, La Montagne, to repair the bastions and upgrade the fort's defenses. He chose to leave the various buildings within the fort as they were, stating that tearing them down or repairing them would not be financially beneficial (Huey 1988:96). The 1660s were a time of diplomatic negotiation for the officials at Fort Orange. With newly established settlements dotting the landscape, maintaining peaceful and profitable relations between the various native tribes and Dutch colonists was a primary concern. This was no easy task and although relations between those living in Beverwijck and Rensselaerswijck and their Mohawk neighbors continued to be relatively strong, this was not the case throughout the entire colony. The Esopus Wars from 1659 to 1663 are grim examples of how Dutch-Native relations went badly (Huey 1988: 96-97; Rink 1989: 259-260).

In July 1664, Governor Stuyvesant received word that an English fleet was on its way to conquer New Netherland. Due to a complex set of circumstances, the Dutch colony was not equipped to fend off the English force, and Stuyvesant was forced to sign articles of capitulation on September 6, 1664. The name of New Amsterdam was changed to New York, Fort Orange to Fort Albany, and Beverwijck to Albany. Fort Albany was abandoned in 1676, and a replacement was built by the English regime higher up on the hill behind the town of Albany. The townspeople continued to use the land around the fort for gardens, and in 1687 the land within and surrounding the remains of the old fort – called 'the pasture' – was sold to the Dutch Reformed Church of Albany. It took years for the English government and

colonists to make a discernible influence on the way that those in the upper Hudson lived their lives - many, for example, refused to learn the English language. Yet, by the 1680s the influence of English culture had become intertwined with that of the Dutch settlers and their native neighbors, adding to the intricate cultural mosaic of those living in the 17th century Hudson and Mohawk River valleys (Bradley 2007:167-191; Jacobs 2009:251-256; Rink 1989:250-266).

CHAPTER 3

GLASS DRINKING VESSELS IN THE 17TH-CENTURY LOW COUNTRIES

Brief Background of European Glassmaking

The medieval European glassmaking industry was primarily centered around Venice, and by the 1400s, Venetian glassmakers were rediscovering techniques that had been forgotten since the height of Roman glassmaking. These techniques were most likely introduced by eastern craftsmen traveling to Italy after the falls of Damascus and Constantinople. Venetian craftspeople often experimented with many aspects of the glassmaking process including furnace design, variations in composition, and advancements in decorative techniques (Vose 1980:69). This led to innovations such as *cristallo* - a thin, pure, colorless glass that could be shaped into intricate designs, *lattimo* – opaque white glass used either to form the vessel body or fused into canes, and *vetro a filigrana* – also known as filigree glass, a decorative technique with interior threads spun in differing patterns (Henkes 1994:173; Macfarlane & Martin 2002: 21-22).

By the 16th century, Venetian glass had reached unrivaled popularity and international demand. Seeking new opportunities, hundreds of glassblowers left Italy and took up positions in glasshouses to the north and west including Austria, Germany, France, England, and the Low Countries. Italian glassmakers shared their expertise which resulted in the increased production of *a la façon de Venise* glassware – translates to ‘in the Venetian fashion’ or style (Grulich 2004:4). Although glasshouses in Bohemia, Lorraine, and Britain were more numerous, it was in the Low Countries where a larger-scale commercial enterprise of Venetian glassblowing took root. Many Italian glassmakers traveled to the Low Countries to either settle in one of their glasshouses or to make connections and gather intelligence

before moving on to one of the factories dotting the European landscape. *Façon de Venise* glassware was highly sought especially amongst the wealthier populations and wherever they set up shop, Italian influences on vessel styles can be observed. However, regional styles were also popular within European glasshouses. The participation of Italian glassmakers in western Europe allowed for a further mastering of the glassblowing craft and resulted in a great expansion of European vessel forms and decorative styles (Hulst and Kunicki-Goldfinger 2015: 547).

The first glasshouses in the Low Countries were recorded in the early 16th century (Hulst and Kunicki-Goldfinger 2015: 547) and were constructed in the Republic in increasing numbers as the 17th century progressed. Much of the successes of the Dutch glass industry were due in part to the country's bitter and violent relationship with Spain. Until the Truce of 1609, Spain had spent decades attacking the Southern Provinces. This resulted in a vast number of individuals – including merchants, craftsmen, and artisans – moving from what was then called the Spanish Netherlands to the Northern Provinces (Bradley 2006:30-32; McNulty 2004:1), and Amsterdam rapidly became “Europe's greatest merchandising center” (McNulty 1971:92).

Venetian and *façon de Venise* vessels are varied and complex, yet certain forms and styles are found more frequently within colonial Dutch sites. These forms consist primarily of the goblet and the beaker. Prior to and throughout the period when Venetian and *façon de Venise* glass was widely used, regional vessel forms and styles throughout Europe continued to be produced in large quantities. Throughout Germanic and Netherlandish glasshouses, *waldglas* (forest glass) and *varenglas* (fern glass) vessels were widely used. The difference between these two glass types is that *waldglas* ingredients were mainly procured from the

forests of Germany and *varenglas* from that of the Low Countries and France (Henkes 1994:123). Early *waldglas* and *varenglas* vessels were often free blown and simple in form, usually light green in color, but yellow and brown examples do exist. These types date to the early medieval period and their typical greenish tint related to chemical properties or ‘impurities’ within the locally procured raw materials. As time passed and technologies improved, the metal became sturdier, and glassblowers were able to construct more intricately designed vessels. Popular forms such as the *berkemeier*, roemer, and beaker were often examples of *waldglas* or *varenglas*, and these types continued to be used alongside *façon de Venise* glass into the 18th century (Haynes 1959: 49; Vose 1989: 26).

Popular Drinking Vessel Forms and Decorative Techniques

The term ‘beaker’ refers to wide-mouthed drinking vessels found within Medieval and Renaissance Europe, used primarily for alcohol consumption including wine, brandy, beer, and gin. They vary in shape and fluctuate in popularity throughout the decades. Most have a base directly connected to the beaker body that matches the shape of the vessel, but some possess an attached foot. Throughout the 17th century, beakers were decorated in multiple ways and are distinguished based on these techniques (Henkes 1994:123-276). Of note are the *gladde beker* (smooth beaker), *bandwurm* beaker (tapeworm beaker – Figure 6), *wafelbeker* (checkered spiral-trail beaker – Figure 7), *knobbelbeker* (bossed beaker – Figure 8), *netwerkbeker* (mesh-work beaker – Figure 9), *ribbelbeker* (ribbed beaker - Figure 10), beakers with encircled applied threads, *passglas* (tall, sometimes angular beaker – Figure 11), and filigree decorated beakers (Figure 18, 19, & 20).

The *gladde beker* is a simple beaker, the sides are smooth and without decoration and just like all other beaker types, can be made in various forms (Henkes 1994:124). *Bandwurm*,

checkered spiral trail, and latticed trail decoration on beakers are found throughout the Low Countries in more frequency beginning in the latter half of the 16th century and continued to be produced throughout the 17th century. During the blowing process, *bandwurm* beakers are adorned with spiral trails by winding hot threads of glass to the exterior of the vessel (Figure 6). If the glassblower then blows the vessel into a mold with vertical ribs, he or she would make a checkered spiral trail or lattice trail pattern (*wafelbekers* and *vlechtwerkbekers* – Figure 7) based on the thread thickness (Henkes 1994:132).



FIGURE 6 *BANDWURM* BEAKERS (HENKES 1994, CATALOG NOS. 30.2 AND 30.3)



FIGURE 7 *WAFELBEKERS* AND *VLECHTWERKBEKERS* - CHECKERED SPIRAL TRAIL AND LATTICED BEAKERS (HENKES 1994, CATALOG NOS. 30.7, 30.4, 30.6, 30.9 AND 30.1)

Knobbelbekers – or bossed beakers – are found in many different shapes and sizes and were used throughout the second half of the 16th century and well up to the end of the

17th century (Figure 8). Bossed beakers are distinctly different from pruned beakers in that the bossing or knobs are molded into the body of the vessel as opposed to being applied to the exterior after the body of the vessel has already been shaped (Henkes 1994:138).

Netwerkbekers (Figure 9) – or mesh-work beakers – were made in the 17th century either using a mesh pattern mold, or a mold with vertical ribs which were then tooled together with pincers (Henkes 1994:142). This style of beaker was used in vessel forms other than beakers though no examples were found in Fort Orange.



FIGURE 8 *KNOBBELBEKERS* – BOSSED BEAKERS (HENKES 1994, CATALOG NOS. 31.1, 31.3, AND 31.7)

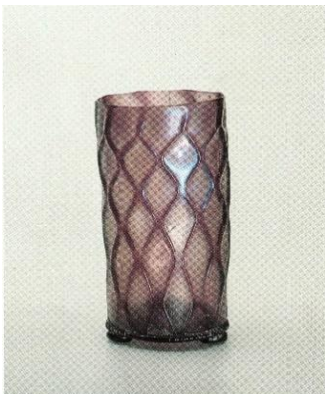


FIGURE 9 *NETWERKBEKER* – MESH-WORK BEAKER (HENKES 1994, CATALOG NO. 32.3)

Ribbelbekers – ribbed beakers – fall within the category of thin-walled relief decorated vessels (Figure 10). The ribs are molded into the vessel and can be formed into

horizontal, vertical, or spiral motifs. Some examples of molded ribs were found with the Fort Orange assemblage, but it is difficult to determine their vessel form. Ribbed vessel forms appear all throughout the Low Countries in the 16th and 17th centuries.



FIGURE 10 *RIBBELBEKERS* – RIBBED BEAKERS (HENKES 1994, CATALOG NOS. 34.1, 34.2, 34.4 AND 34.6)

The *stangenglas* (or pole glass) is a tall beaker popular throughout the 17th century and decorated in varied ways. One notable decorative technique used on the *stangenglas* was applied cylindrical threads spaced significantly apart, the tall beaker with this specific decoration was called the *passglas* (Figure 11). The *passglas* was designed to be used in an early drinking game where participants would attempt to imbibe the contents of the vessel only to the level marked by the horizontal external thread. If the participant was above or below the line, then he or she would have to attempt to drink precisely up to the next lower thread. This game and vessel form was popular amongst taverns and inns in the Netherlands, and *passglas* sherds have also been found in colonial Dutch sites. Examples found at this time were often in an octagonal shape, a fragment of which was found in component 98 (Period 2 – 1624-1647) in the Fort Orange excavations. (Huey 1988: 241-242). Other

examples and types of *passglases* included those that were smooth, and with knobs, prunts, and ribs (Henkes 1994:160-161).

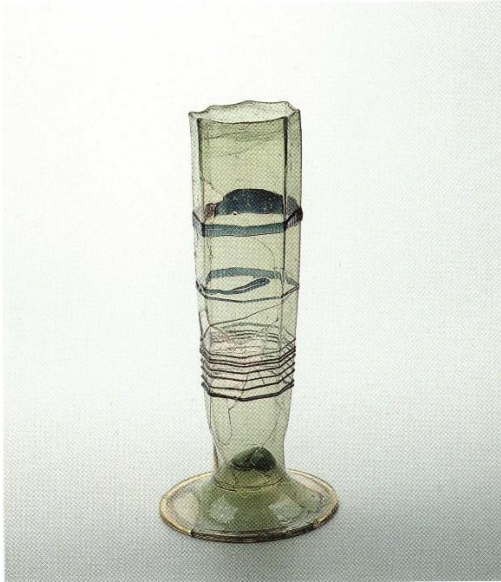
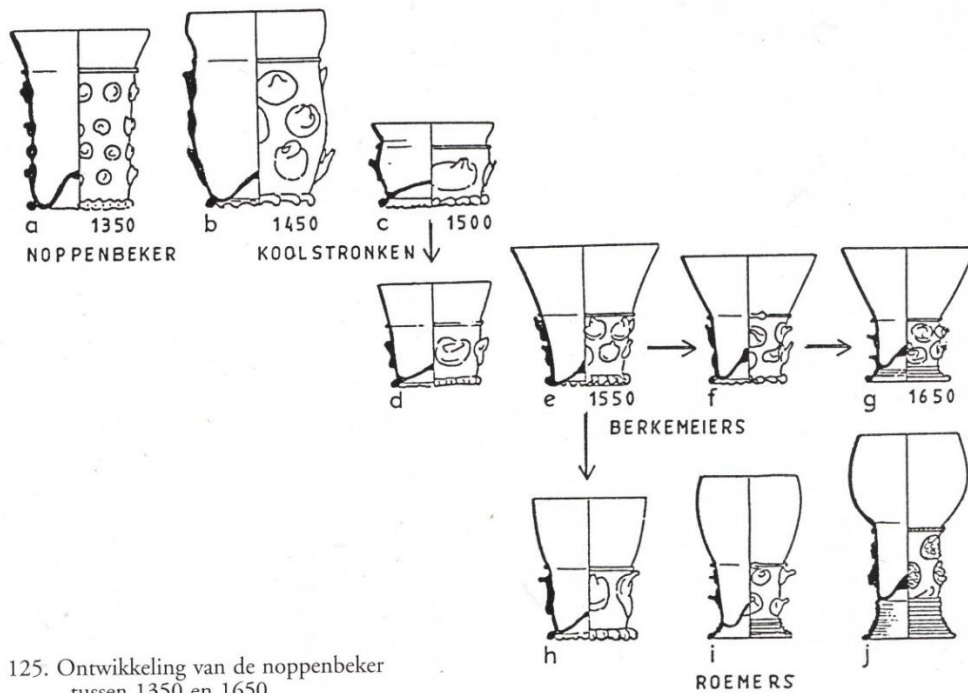


FIGURE 11 *STANGENGLAS* – OCTAGONAL *PASSGLAS* TYPE (HENKES 1994, CATALOG NO. 37.1)

Prunted beakers were common vessels throughout Medieval and Renaissance Europe especially in the Germanic and Netherlandish regions. Early forms were decorated with applied small gathers or prunts in a flat, circular shape. By the early 16th century these prunts sometimes were drawn out into pointed thorn shapes, and in the 17th century, the raspberry prunt became the most common. All three prunt styles were used interchangeably in the 17th century, some more frequently than others. Prunts were at times applied to other vessels, such as beakers, but the raspberry prunt seems to appear most frequently on roemers which can be seen in the Dutch still life paintings of the time and collections that exist today (Barnes & Rose 2002; Huey 1988; Kiers & Tissink 2000; Kleese & Mayr 1987) Also, in the Fort Orange excavations, if a context possessed both a raspberry prunt and a coiled string foot, the probability they both belong to a roemer vessel is extremely high. This is reflected in the sherd identifications.

The evolution of pruned beakers led to the *berkemeier* and roemer forms which became popular in the 17th-century Netherlands. The *berkemeier* form certainly preceded the roemer, but a somewhat hazy distinction exists between the two forms, especially in the transitional period in the early 17th century and an overlap in usage certainly exists (Henkes 1994:189). It is important to make the distinction between *berkemeiers* and roemers. For the sake of this thesis, the parameters laid out by Brongers and Wijnman (1968) are used to define what elements make up a berkemeier as opposed to a roemer:

“By berkemeier we mean a 16th century glass, of which the cup in cone shaped, the stem is adorned with glassdrops which are drawn out in the shape of a thorn. The foot is a ridged glassrim” (Brongers and Wijnman 1969:2). Although *berkemeiers* and roemers evolved from pruned beakers, due to the presence of a stem they are more often categorized as goblets.



Afb. 125. Ontwikkeling van de noppenbeker tussen 1350 en 1650.

FIGURE 12 PRUNED BEAKER, BERKEMEIER AND ROEMER TIMELINE (HENKES 1994:189, FIGURE 125)

Roemers vary in form and decoration, yet each one possesses a foot, stem, and cup. The foot is either formed into a conical shape by spun glass thread, or – as is commonly seen in the *berkemeier* forms – into a ridged rim or a base ring of tooled ‘toes’. The stem is a hollow cylinder possessing a small kick-up and is nearly always adorned with applied prunts which are generally arranged into rows. These prunts are typically shaped one of three ways: rounded drops, raspberries, or thorns (some believe there is a fourth prunt shape- the strawberry – but these are most likely flattened raspberry prunts). The roemer cup – or bowl – is shaped into a cone, half-barrel, barrel, or brandy glass (Figure 12). Cups are sometimes diamond engraved (Figure 13).

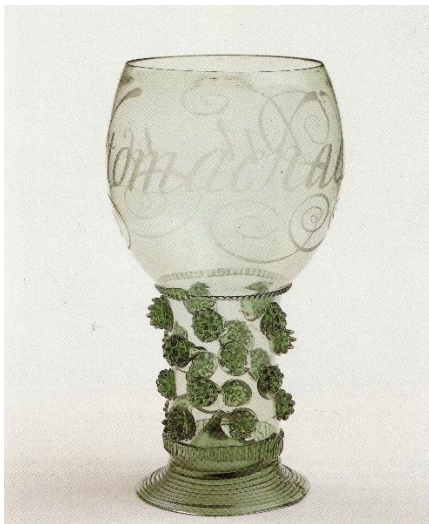


FIGURE 13 DIAMOND ENGRAVED ROEMER (CHRISTIE'S AMSTERDAM B.V., PLATE 65)

At the juncture between the cup and the stem is a ribbed, rouletted, or smooth glass thread. The glass itself is almost always light green and the hue is darker depending on the vessel's thickness. Through a comparison of representations of roemers in Dutch paintings, Brongers and Wijnman (1969) define fourteen different roemer forms and provide a general timeline for those forms. The paintings referenced date from 1590 to 1680 and some findings of note are: roemers with coiled string feet appear ns works ranging from 1600-1678, thorn

prunts appear on vessels from 1590-1662, raspberry prunts appear from 1634-1678, and a wide variety of bowl shapes are found throughout the extent of the study timeline (Brongers and Wijnman 1969:5).

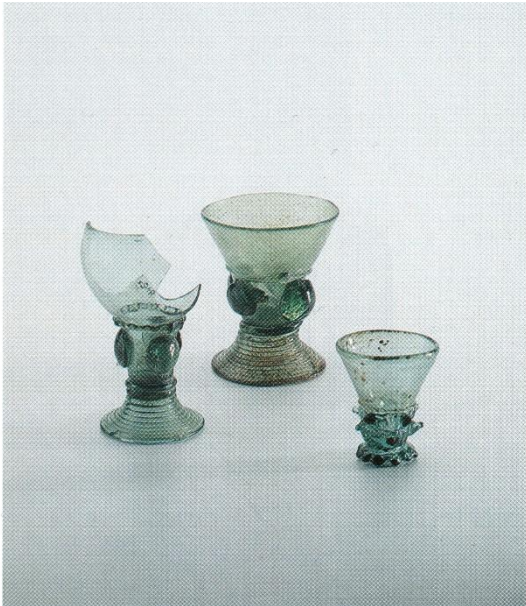


FIGURE 14 EXAMPLES OF ROEMERS AND *BERKEMEIERS* (HENKES 1994, CATALOG NOS. 45.8A, 45.8B AND 45.7)

Another major vessel form in this period was the goblet (Figure 15, 16 & 17) which was constructed out of colorless *cristallo* glass or various colored glass. All possess a stem and a foot, yet took many different forms such as knopped, baluster, fluted, winged, or serpent-stemmed (Figure 15). These vessels were primarily used for imbibing alcoholic beverages including, wine, brandy and gin (Henkes 1994:123)

Goblet stems were decorated using various elements, including knops (a solid or hollow bulbous addition), mereses (flat, sometimes sharper edged additions), balusters (tapered bulbous additions), cables (rods, sometimes twisted decorative stem additions), wings (flattened decorative stem decorations often resembling animal wings), and serpents/dragons (often a blend of twisted cables and wings that take serpent or dragon shapes along the stem). Stems could possess single, multiple, or a combination of elements

and therefore more than dozens of variations have been uncovered in both the Netherlands and its colonies over the years (Henkes 1994; Grulich 2004; Schrire 2014).

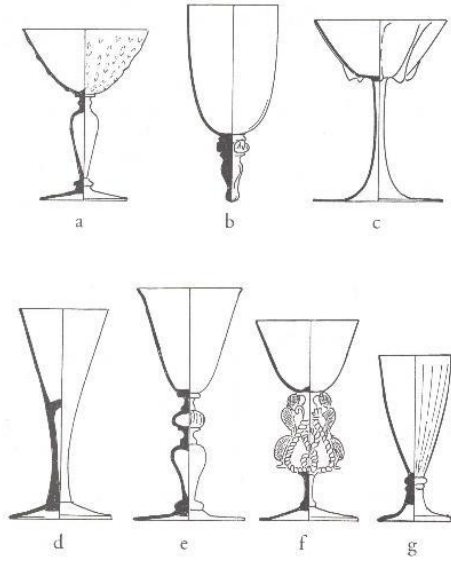


FIGURE 15 17TH CENTURY GENERAL GOBLET FORMS (HENKES 1994, FIGURE 6)



FIGURE 16 GOBLET WITH BALUSTER STEM AND *FAÇON DE VENICE* DECORATION (HENKES 1994, CATALOG NO. 46.2)



FIGURE 17 GOBLET AND FLUTE WITH DECORATIVE STEMS (HENKES 1994, CATALOG NOS. 48.2 AND 48.5)

Another popular decorative style used in 16th- and 17th-century European drinking vessels was the technique of filigree glass. This was first made in Venice and then introduced to the Low Countries by 1560 (Henkes 1994:173) and can be found in different vessel form including beakers and goblets. There are three main filigree patterns. The first is *vetro a fili*, “with threads of white or coloured glass that do not cross one another,” the second is *vetro a retorti*, white or coloured twisted threads, and the third is *vetro a reticello* which is a combination of the first two and makes up a network pattern within the glass (Henkes 1994:173).

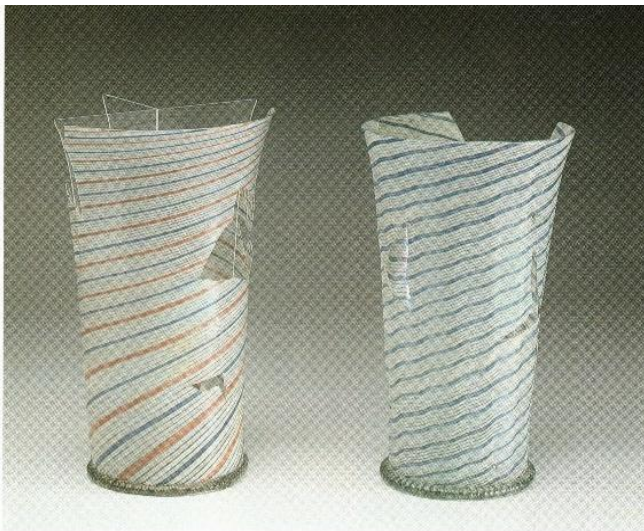


FIGURE 18 VETRO A FILI BEAKERS (HENKES 1994, CATALOG NOS. 41.9 AND 41.8)

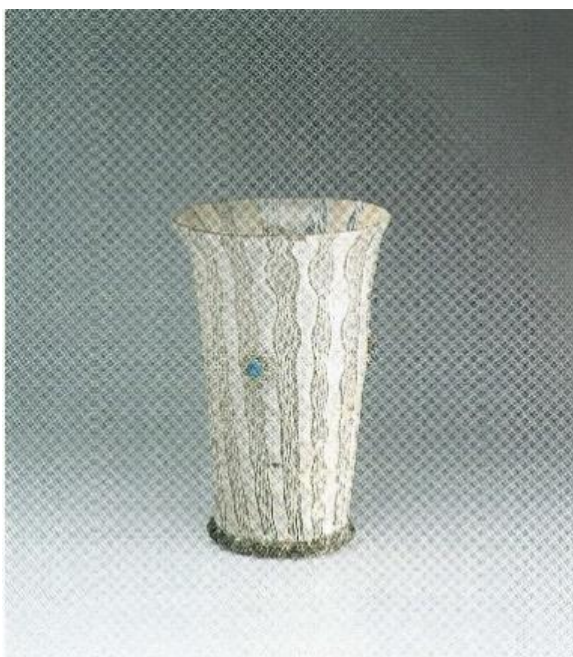


FIGURE 19 *VETRO A RETORTI* BEAKER (HENKES 1994, CATALOG NO. 41.11)

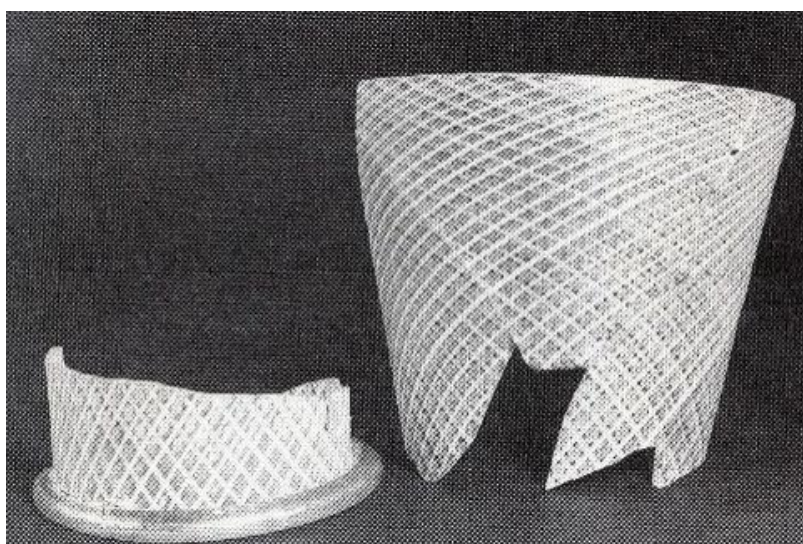


FIGURE 20 *VETRO A RETICELLO* BEAKER (HENKES, 1994:177, CATALOG NP. 41.14)

Michael Hulst and Jerzy Kunicki-Goldfinger (2015) present chemical and typological findings on glass vessels excavated in various 17th century glasshouses and cesspits throughout the city of Amsterdam. They found a wide variety of techniques and chemical compositions including *crystallo*, pruned beakers, pruned goblets, “plain beakers, vertically ribbed, ice glass, spotted or coloured, striped with several different designs and colours of

vetro a fili or even combinations” (Hulst and Kunicki-Goldfinger 2015: 551). These vessel types can be seen in the archaeological sites within the Netherlands itself, as well as in many colonial outposts, including New Netherland (Huey 1988; Bradley 2006:68-70; Hulst and Kunicki-Goldfinger 2015; Shrire 2014).

The 17th century was the Golden Age of the Dutch and their strength as merchants and traders was unparalleled. It is highly probable that within the shipments of glassware sent from *Patria*, a percentage originated from other European regions such as Germany or France. Yet Netherlandish glassmaking was a lucrative industry and based on the artistic and archaeological evidence, the Dutch tended to utilize glass objects made in their own cities, particularly when it came to drinking vessels (Brongers and Wijnman 1968; Buechner 1952). This can be seen through the chemical and typological analyses done by Hulst and Kunicki-Goldfinger (2017) and Huey’s background research on Fort Orange glass in his contributions in *Selected Rensselaerswijck Seminar Papers* (1991).

CHAPTER 4: METHODS AND DATA

Overview of the Fort Orange Excavation

The Fort Orange excavation took place from 1970 to 1971 and had been mandated for emergency purposes due to imminent I-787 highway construction through a portion of downtown Albany, New York. It was organized by the New York State Historic Trust and the Department of Transportation. The archaeological crew, led by Paul Huey, conducted research with primary documents and historic maps in order to determine where the actual fort was located. Testing began October 20th, 1970 at the documented location of Simeon DeWitt's 1794 house found at Madison Avenue and Broadway in the city of Albany. These test pits soon revealed 17th-century archaeological material. The excavation boundaries were expanded south and east and after the initial machine stripping, and the rest of the work was done by hand. The project lasted roughly five months and by the final day, "30 entire or partial 10 foot squares located within the southeast quadrant" were excavated as well as parts of two squares in the southwest quadrant (Huey 1988:192). Based on primary research, Huey was able to construct a conjectural map (Figure 21) of the layout of the fort with an overlay of the sections excavated (Huey 1988:168-181).

The excavations unearthed the remains of "the cobblestone-faced south moat and stone counterscarp or ravelin wall and, inside the fort, a part of the Hendrick Andriessen van Doesburgh house, parts of the foundation of a brewery...a pebbled pathway leading from the east entrance of the fort, and small sections of cellars of the houses of Abraham Staats and Hans Vos" (Huey 1991:330). More than 20,000 artifacts were found dating to the New Netherland period, and Huey states in his dissertation that he believes only roughly 5 percent of the fort's buried cultural material was excavated. However modern construction and

intrusions most likely damaged an additional percentage of what remains (Huey 1988: 546-552, Lucas and Traudt 2020:1-2).

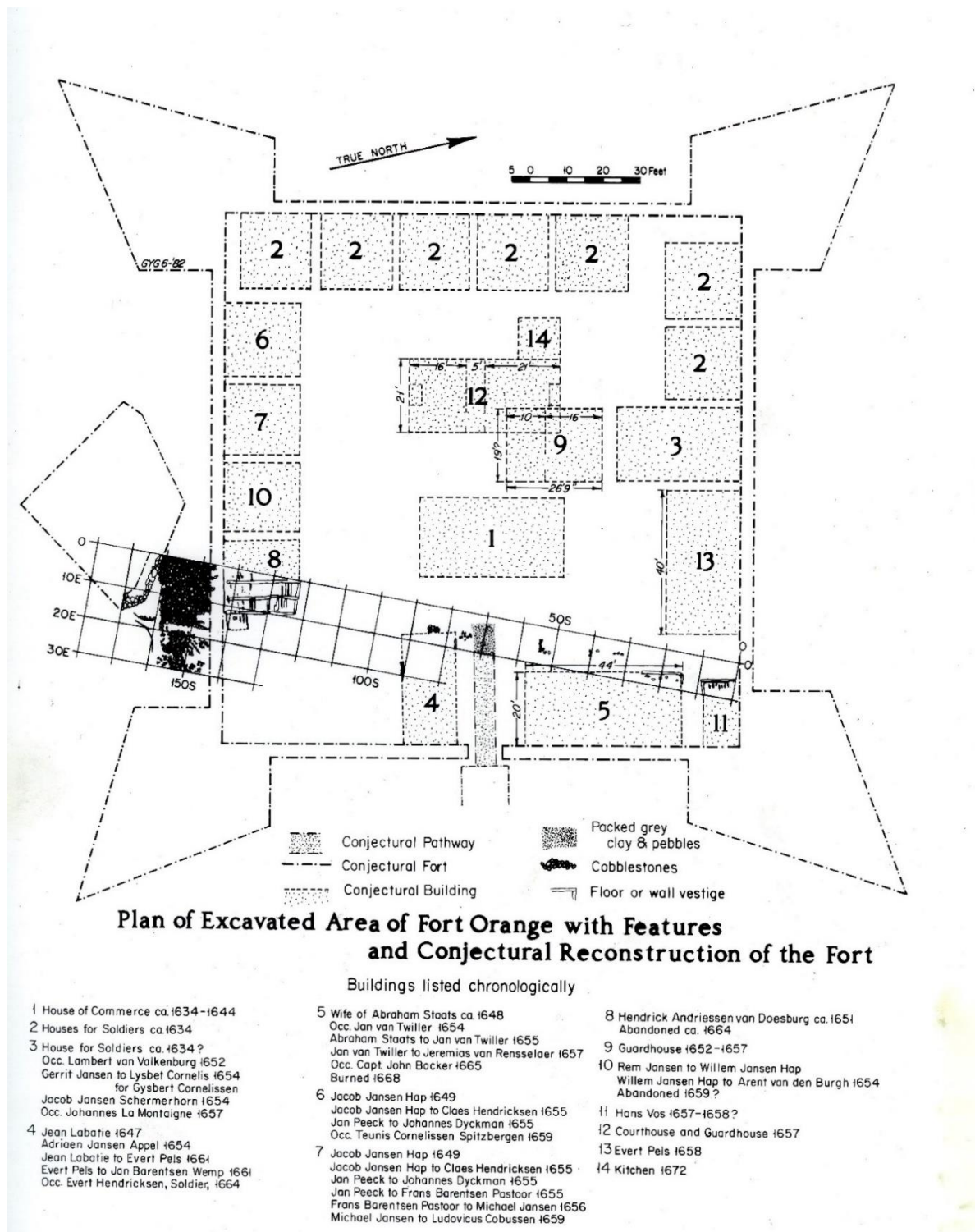


FIGURE 21 FORT ORANGE EXCAVATION PLAN VIEW (COURTESY OF NYSM)

Paul Huey explains how he and the crew organized the materials during excavation:

“Each separate soil deposit, stratum, or feature was given a unique number upon completion of the excavations. These numbers are only roughly in chronological sequence, and there are many irregularities in the numerical order. Starting with features such as those directly associated with structures known and dated through documentation, dateable events or periods of flood damage, new construction, or other change also known from documents were hypothetically correlated with each of the other components” (1988:549).

In his dissertation, he grouped the descriptions and analyses of the various components into three timeframes. First, pre-1624 - the time before Fort Orange was built – which includes the Independent Traders Period (1609-1624) and all earlier precolonial contexts. The second period, 1624-1648, represents the occupation between the fort’s construction and its flooding in 1648. The third period, 1648-1664 and beyond, picks up right after the flood and continues until its disrepair and gradual abandonment in the 1660s. The British took over the colony in 1664 and subsequently built a new fort a distance up the hill from the original. Huey also made distinctions between components that were linked to periods of construction and periods of occupation.

I veer slightly away from Huey’s distinctions and instead of a single period from ‘1649-1664 and beyond’ I designated two periods: 1649-1664 and post 1664. There are only a few components that fall within this ‘post 1664’ designation, and for the purposes of the glass analysis, I feel it is important to make the distinction due to the complete change in colonial governance and oversight as well as to potentially reflect the colonists’ struggle to adapt to a completely new system of governance and supply.

During the 1970s excavation, Huey differentiated various components or contexts and assigned them corresponding numbers. He used a catalogue number system based on the component number and day of excavation. After the artifacts were excavated in 1970-1971, they were subsequently cleaned, separated by artifact type, and placed within a brown paper field bag with the catalog number and component description written on the outside.

Huey's dissertation, *Aspects of Continuity and Change in Colonial Dutch Material Culture at Fort Orange, 1624-1664* presents his detailed analysis of the archaeological materials uncovered during the 1970s excavation. He provides quantitative analyses of these materials and compares similar materials found in related European and Native American contexts to address his research questions. He states that these questions, "focus on the transplantation and adaptation of Dutch material culture to New Netherland and the extent of its influence in other cultures" (Huey 1988:iii). He examines uses of different areas of the fort, house construction, changing diets, range and volume of material culture, and evidence of trade within the fort, colony, and North America (Huey 1988:iii-iv).

Huey continued to expand his study of the Fort Orange excavation material culture, writing various articles summarizing the additional findings scholars have made relating to the archaeology of the Albany region (Huey 1991, 2003, 2005a). Further excavations have taken place in Albany and surrounding locations in what used to be the colony of New Netherland. Excellent examples are the KeyCorp site, the DEC Headquarters, and the Quackenbush Square excavations (Hartgen Archaeological Associates 1985, 2002, 2005).

Fort Orange Glass Processing and Analysis

I began processing, cataloging, and analyzing the Fort Orange glass assemblage in July 2016, which at that time was being held at the New York State Parks Department

Headquarters at Peebles Island. In late October, the collection was transferred to the New York State Museum in Albany, and I continued my work within the building's Historical Archaeology laboratory. The entire collection had been examined and processed multiple times, and a digital database listing the artifacts had been made. This database was useful but provided only minimal information relating to the glass assemblage. I used the original database as a base reference for processing each field bag that contained glass material; this was necessary to determine any basic discrepancies or missing artifacts. I created a second database focusing solely on the glass materials and reexamined each piece still present in the collection and cataloged additional information, measurements and observations. The fields that made up the original database were site, year, catalog number, type, and description/form. In addition to the original fields, I added fields on date range, type of site, vessel form, fragment color, level of decomposition, decoration, number of sherds, minimum vessel count, size, weight, average thickness, and a comments section for descriptions and observations.

I separated the sherds into four major categories: window glass, vessel glass, tableware, and indeterminate. Window glass is qualified by any flat architectural glass. I define vessel glass as any sherd that likely originates from a bottle or other utilitarian vessel. Tableware sherds are those that belong to any form of drinking vessel. Indeterminate sherds are any that do not have enough distinguishing elements to discern whether they belong to one of the other three groups. Within each category more detailed information and categorization was made, but this thesis focuses solely on the tableware sherds.

In determining which sherds are tableware and which are vessel, I considered the general shape and curvature of the fragments, vessel portion, thickness, and color in order to

come to my determinations. Tableware glass is generally thinner, and more delicate. Certain styles of decoration, such as *as façon de Venise*, often distinguish a sherd as tableware; prunts were almost exclusively used for tableware glass, for example. If a sherd belongs to a thick cylindrical or square bodied vessel, or had a finish, I cataloged them as vessels.

Of the 3,188 associated glass artifacts processed, 1,721 were window sherds, 804 were curved or flat vessel sherds most likely from bottles, 594 were tableware sherds, and the remaining 69 sherds were indeterminate. It is important to note that although these are the numbers of sherds or fragments processed in total, they do not necessarily match the sherd counts within my analysis. Some sherds, for example, were bagged without any context, went missing, or were miscataloged.

I determined the minimum vessel counts (MVC) for each component. Components were stratigraphic contexts designated by Paul Huey and assigned corresponding numbers. Out of the collection's total of 59 components, 29 were assigned probable date ranges. I calculated MVC's by identifying diagnostic elements that represented individual vessels within each component. These diagnostic elements included rims, bases, color, decoration, and form. I examined all glass tableware fragments within each component, and established which sherds were representative of separate vessels and then assigned a number. For example, in Period 1 there are only two tableware sherds present. One sherd is colorless and one is light green. These each received one MVC because they originated from separate objects within their individual components.

A more complicated context is Component 82 (1648-1657) from the fort's east entrance and consists of 27 tableware sherds. The first step in identifying the minimum vessel count was to separate the sherds by color. Out of the 27 sherds, one was colorless

(with applied white string decoration) and 26 were light green. Although there was not enough of the colorless vessel to identify its form, I could assign it a minimum vessel number with confidence because it was the only sherd within the component that represents a colorless vessel. The next step was to separate the remaining 26 sherds by vessel portion. These consisted of 2 roemer stem sherds, 2 roemer foot sherds, 5 raspberry prunts, 1 hollow stem kickup, 4 curved bowl body sherds, and 12 indeterminate body sherds. The stem, foot, bowl, prunt, and kickup are all roemer sherds and could potentially belong to a single vessel, thus 1 MVC was given to one of these roemer sherds – the kickup – to represent the roemer vessel. The next step is to separate the sherds by decorative technique in order to parse out any additional vessels within the component. The remaining 14 sherds were all light green body sherds with no distinguishing decorative elements, and since they may also belong to the roemer, no additional vessel counts were assigned. Therefore, although this component contained a significant number of sherds (27), only two were added to the minimum vessel count.

The standards I used for determining MVCs can be found in Voss and Allen's (2010) guidelines for determining ceramic minimum vessel counts, and I adjusted them slightly so that they could be applied to analyzing glass vessels. The biggest adjustment I made was instead of separating sherds by ware type, I separated them by glass color. It is also important to clarify that, although Paul Huey determined and assigned the components within the site, some overlap may exist. Therefore, all minimum vessel counts made for the site should be taken with caution.

Below, I provide an account of the components excavated in the 1970-71 Fort Orange archaeological investigations that contained 17th-century glass tableware that could be

assigned a date range within a relative degree of certainty. Much of the summary is based on my observations along with Paul Huey's extensive documentation of each component. Following these in-depth descriptions, I provide an examination of the tableware data based on time period and type of site.

Period 1: Components Dating Before 1624

This period represents the time prior to the construction of Fort Orange. Any artifacts found would have either belonged to Native Americans or the Dutch traders traveling up and down the Hudson Valley region plying their wares and following their trading company employers' instructions.

Component 101

There were only two glass tableware sherds found in components dating before 1624 when the construction of Fort Orange began. This points to the fact that these glass vessels were most likely used as trade items with Native tribes in the area or were personally used by the merchant traders. One of the sherds was missing from the collection but is described as a "flat section of faceted vessel decorated with crimped or impressed pattern" (Huey 1988:231). The second sherd was a small rim possibly from a roemer bowl.

Period 2: Components Dating Between 1624 and 1647

These contexts represent the initial construction and occupation of Fort Orange and show the growth of the colonist population, the changing settlement patterns, and demographics of the New Netherland settlers. This period was largely influenced by the dismantling of the WIC's monopoly on the fur trade. New avenues of trade were opened, and

many illicit dealings quickly became legitimate. Observing the collection in total, this did not seem to impact the types or forms of vessels that were in demand, possibly only the quantity and availability. Components within this section were divided into 'Features' and 'Evidence of Occupation,' but I have combined them to avoid redundancies (Huey 1988:311).

Component 98

This feature was most likely related to the fort moat and had mixed light brown sandy clay above tan sand. This deposit was widespread across the site and possibly predates the April 1640 flood. The sherds present were one "pale green octagonal drinking glass encircled by a wide string or band with crimping" possibly from an octagonal *stangenglas* (Figure 11 and 22) and one sherd that was "hard clear glass from a curved vessel decorated *façon de Venise* with parallel threads of white and red glass to form a spiral pattern," dating roughly to 1600 and most likely from the Southern Netherlands (Huey 1988: 241-264). This sherd was likely from a filigree beaker blown in the *vetro a fili* pattern (Figure 18 and 23). This decorative pattern is found on drinking vessels in the Low Countries from the middle of the 16th and throughout the 17th century (Henkes 1994:173). This context reflected the early period of Fort Orange and was greatly disturbed.



FIGURE 22 OCTAGONAL DRINKING GLASS – COMPONENT 98 (PHOTO TAKEN BY

KRISTINA TRAUDT, COURTESY OF THE NYSM)



FIGURE 23 *VETRO A FILI* BODY SHERD – COMPONENT 98 (PHOTO

TAKE BY KRISTINA TRAUDT, COURTESY OF THE NYSM)

Components 96a, 96b, 96c

These components comprised three levels of a stratified pit feature. The first stratum was a thin charcoal lens with no tableware sherds (96a). Below the top lens was “a deposit of broken large red bricks” (96b) and below that was a small “remnant of what once must have been a very wide pit [96c]” (Huey 1988:256). Although a fragmented portion of the pit remained, the artifacts found represent the “earliest discreet artifact assemblages from the entire site” (Huey 1988:281). In addition to drinking vessel glass, the pit’s artifacts included European gunflint chips, lead bullet fragments, a lead bar, red bricks, smoking pipe fragments, faunal remains, a knife blade, European ceramics, square glass bottle sherds,

architectural nails, pan tiles, glass beads, wampum, needles, a comb, brass belt buckle, and a clay marble. These contexts reflect activities relating to construction, military, and community protection and trade with local Native American tribes (Huey 1988:265-281).

Fragments of drinking glasses were found in both lower levels. Most were roemer fragments, except for one *façon de Venise* sherd and one indeterminate tableware sherd. The roemer fragments consisted of three small body sherds, two thorn prunts, a decomposing kickup, and one rim sherd – all possibly belonging to a single roemer. All three components are combined in the analysis because they have the same date range and general cultural context (Huey 1988:265-281). The *façon de Venise* sherd is a curved clear glass fragment decorated with blue and white *vetro a fili* decoration. The last sherd is greatly deteriorated but appears to be from the body of a drinking vessel with raised bossed dots/circles such as can be found in a *knobbelbeker*.

Component 83

This component contained “crumbled brick debris perhaps from a structure built inside the fort following the flood of 1640” (Huey 1988:281) and potentially dates 1640-1647. This may have been located within the Labatie brewery or the building that predated it. The component surrounded the north/south wall of the building. Besides glass tableware sherds, artifacts found included various faunal remains, case bottle fragments, European ceramics, brick, plaster, architectural tiles, nails, glass beads, a glass button, brass thimble, smoking pipe fragments, brass mouth harp, lead shot, and flint chips. This context is dated to the period when the WIC monopoly of trade was disbanded. (Jacobs 2009:76)

There were a total of 19 tableware sherds, 7 of which originated from roemers or *berkemeiers* – vessel parts consisted of bowl body and rim sherds and raspberry prunts

(Figure 25). There were also examples of *façon de Venise* sherds with white, and red and white *vetro a fili* patterns (Figure 24). These may have originated from the same *vetro a fili* vessel with alternating internal glass canes such as is found in Figure 18. The remaining sherds were indeterminate (Huey 1988:281-311).



FIGURE 24 *VETRO A FILI* BODY SHERDS – COMPONENT 83 (PHOTO

TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)



FIGURE 25 RASPBERRY PRUNT – COMPONENT 83 (PHOTO TAKEN BY KRISTINA

TRAUDT, COURTESY OF THE NYSM)

Period 2: Summary

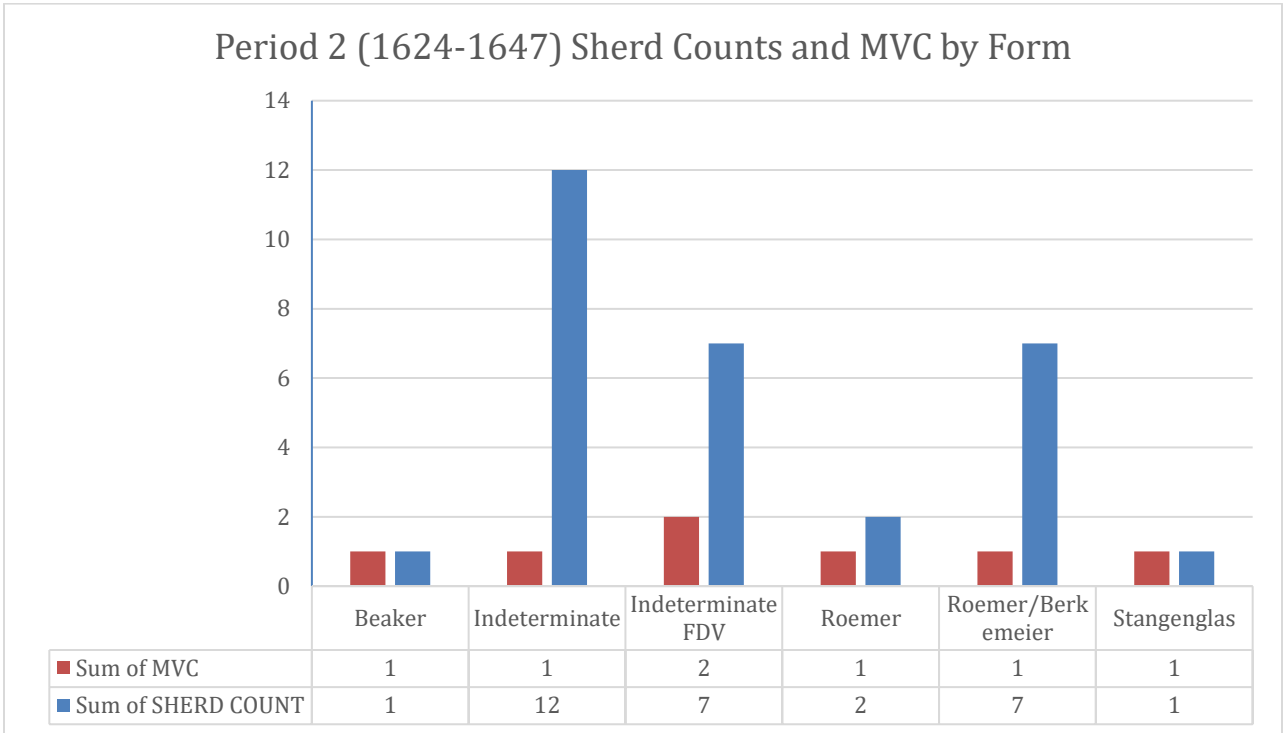


FIGURE 26: PERIOD 2 (1624-1647) SHERD COUNTS AND MVC BY FORM

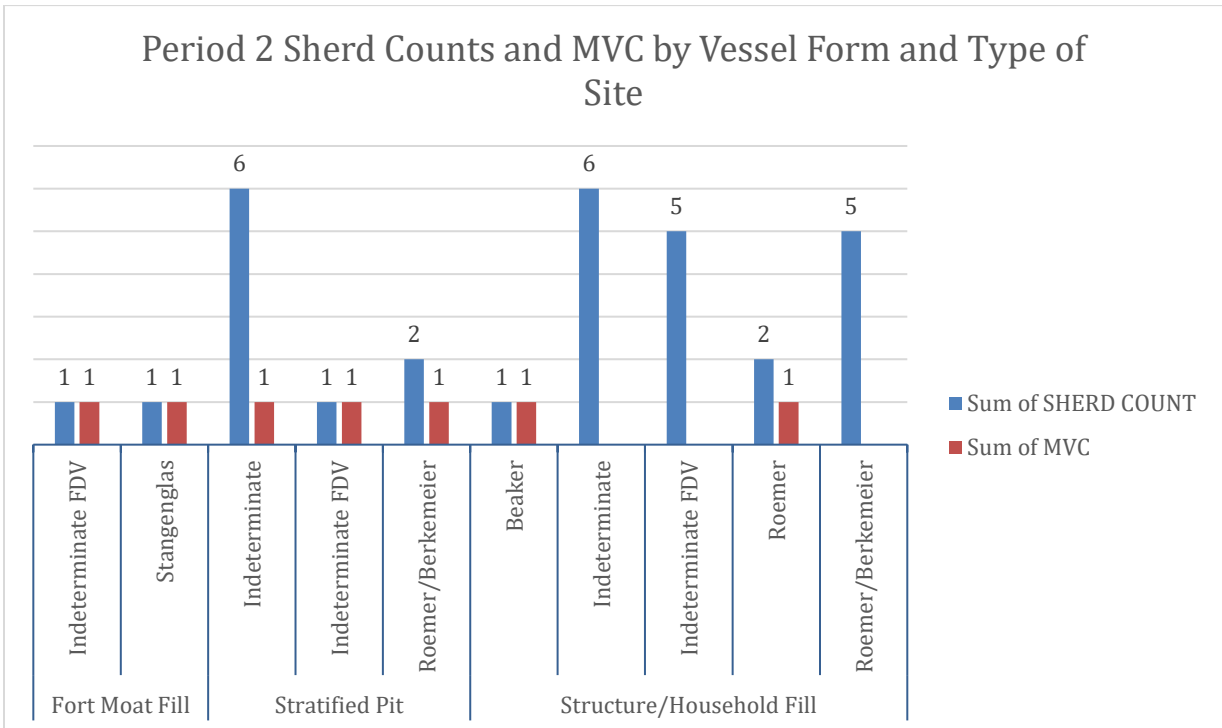


FIGURE 27: PERIOD 2 SHERD COUNTS AND MVC BY VESSEL FORM AND TYPE OF SITE

No roemer or *berkemeier* remains were found in the moat fill component, only those of an octagonal *stangenglass* and an indeterminate *vetro a fili* vessel. The stratified pit contained a roemer or *berkemeier* with thorn prunts and two indeterminate vessels, one with *vetro a fili* decoration and one bossed with rounded bumps. The structure/household context (Component 83) possessed the highest number of sherds, yet only two vessels could be identified with certainty, a *vetro a fili* beaker and raspberry prunted roemer. A variety of vessel forms and decoration are found within these components, possibly reflecting individual choices, preferences or tastes of those settling within the fort during the period's 23 years. However, vessels with *vetro a fili* decoration were found within all three site types, possibly reflecting its popularity or abundance at the time. It is difficult to discern clear trends within Period 2 due to the fact that it only possesses a minimum of 7 vessels, yet the imprint of drinking vessel use can clearly be seen in the assemblage. One thing that is clear is that the amount and variation in form and decoration significantly expanded in comparison to Period 1.

Period 3: Structural and Occupational Components Dating Between 1648 to 1664

In *Continuity and Change*, Huey separates his documentation of these components into 'Features' and 'Evidence of Occupation,' and again combines and describes them according to their cultural context. The period between 1648 and 1664 was a time of increased population and trade within the colony (Huey 1988:326). He argues that in addition to the opening of trade in 1639, the flood of 1648 and the threat of potential invasion/influence of the Swedes, French, and English all motivated settlers to participate more fully in New Netherland's landscape of trade. Also, Petrus Stuyvesant's impact on Fort Orange cannot be overlooked. He recognized the importance of the fort and the surrounding

area, and he made it his mission to repair and fortify the frontier outpost. This occupation period can be seen in the archeological record extending in certain components/contexts until 1664. In summary, Stuyvesant's influence, the rise and height of Beverwijck, and the fort's decline are all represented within these components.

Component 97b

This component was located in and around the south moat and southeast bastion. Due to external environmental issues during excavation, only an approximate component date was possibly, likely around the year 1648. Only one glass tableware sherd was recovered, a colorless European drinking vessel body sherd with blue and white raised applied strings (Fig. 28), possibly from the same vessel found in Component 97 (Huey 1988: 328-329, 764). This is potentially a much less commonly found decorative technique, and further research of this type may shine some light on its prevalence in 17th- century drinking vessels.

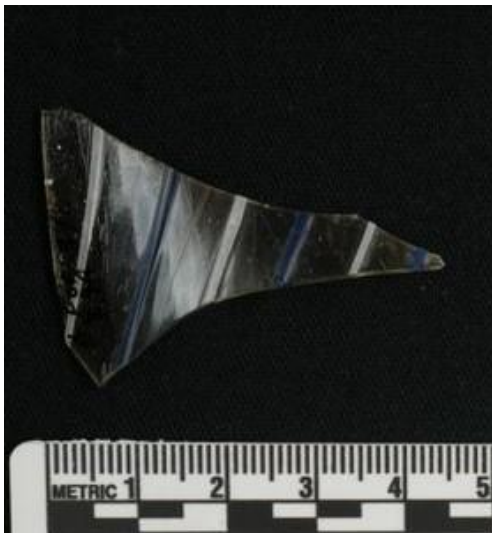


FIGURE 28 TABLEWARE BODY SHERD WITH APPLIED BLUE AND WHITE STRINGS – COMPONENT 97B (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)

Component 81

Huey describes this component as “[b]lue clay and pebbles adjacent to upper brick fragment layer (walkway)” (Huey 1988:761). This interrupted Component 78 dates roughly from 1657 to 1664. It was most likely the fort’s east entrance pathway and would have abutted the Staats-Van Twiller house along the south wall. There was only one tableware sherd within this context – a lovely *façon de Venise* sherd with red and white *vetro a fili* decoration, most likely from a beaker. Other artifacts included tin-glazed earthenware and stoneware sherds, bricks, window glass, architectural nails, glass beads, a brass thimble, a stamped bale seal, shoe buckle, smoking pipe fragments, a mouth harp, and a marble. This area of the fort would have had a high level of foot traffic and therefore is nearly impossible to connect the artifacts to specific people or activities. Yet the remains can still be narrowed down to an area and time period which is useful for comparative purposes (Huey 1988:334, 498-504, 761).

Component 79

This context is depicted as a “[p]it intrusive through lower brick fragment layer, 70S10E, near walkway” (Huey 1988: 761). It would have been located just “a few feet southwest of the southwest front corner of the house built about 1648 by Triejntje Jochems Staats, and the garbage within may represent the Staats occupation between 1648-1655 (Huey 1988:334-335). This component contained one thin tableware rim sherd and one body sherd. These two sherds were most likely from a roemer bowl. Huey also provides a brief

discussion of how the glass bottle sherds were most likely related to the sale and trade of alcohol to the nearby Native Americans.

Period 3: The Staats-Van Twiller House (89, 88a, 88, 87, 86a, 86)

Component 87

This was directly below Component 86 and a foot thick. It was a “packed brick fragment floor layer” from the Staats house feature (Huey 1988:337-339, 762). It contained only one tableware sherd - a roemer stem fragment that had a complete applied raspberry prunt, partial string and bowl body (Figure 29). This context dates to the original Staats and Van Rensselaer occupations (1648-1655).



FIGURE 29 ROEMER STEM SHERD – COMPONENT 87 (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)

Component 86

This component dates from 1655 to 1665 and was most likely the refuse from the Staats-Van Twiller house when Johannes Van Twiller owned the property and Jeremias van Rensselaer took responsibility over its care. The remains are typical for a domestic garbage pit. Artifacts included faunal remains from sheep, fish, fowl, pig, and deer, native pottery, European tin-glazed ceramics, case and cylindrical bottle fragments, bricks, window glass,

nails, straight pins, wampum, a silver coin, lead bale seals, and pipe fragments. Huey suggests that the artifacts found within this context reflect “an initial high degree of prosperity with no further purchases of newer or more fashionable ceramic wares” (Huey 1988:496). This context was most likely from the period before the house was sold to Van Twiller and had become a financial drain on the owner. However, it did continue to be used as can be seen from the variety of remains uncovered (Huey 1988:484-497).

Tableware sherds were date to when Van Twiller owned the house and included 2 colorless sherds – 1 base and 1 body sherd with molded body decoration – possibly from a *ribbelbeker* or *netwerkbeker*, 2 roemer sherds consisting of 1 foot rim and 1 body sherd, 2 *façon de Venise* body sherds with white and red string decoration that mended, and 1 indeterminate green body sherd (Huey 1988: 337-339).



FIGURE 30 SHERDS WITH MOLDED DECORATION – COMPONENT 86 (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)



FIGURE 31 ROEMER COILED STRING FOOT – COMPONENT 86 (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)



FIGURE 32 *VETRO A FILI* BODY SHERD – COMPONENT 86 (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)

No other components within this feature contained tableware sherds, but the evidence points to the house being used as a shop or smithy.

Period 3: The Hans Vos House (93, 92, 91a, 91, 90a)

Due to the location of this cellar feature and the lack of documentary evidence of it being either a company building or private residence it is impossible to say for sure who constructed or owned this building. Based on Huey’s research, the house most likely belonged to Hans Vos. This feature was located close to the fort’s northeast bastion. Vos moved to the fort in 1657 after he was caught and punished for selling alcohol to the local tribes. He repeated this offense during his time residing in Fort Orange as well. Documentary evidence shows that he bought a house in Kingston in 1664 which is most likely when his house in Fort Orange was abandoned (New Netherland Inferior Court of Justice 1990: 387-388; Huey 1988:341-342).

Component 91

This stratum was mixed alluvium with various artifact types including brick, pantiles, a small amount of faunal remains, ceramics and “a small piece of clear, hard glass vessel

with a ribbed or diamond pattern in relief” (Huey 1988:344), most likely from a *ribbelbeker* or *netwerkbeker* (Figures 9, 10 & 33). This cellar context dated roughly between 1657-1664 (Huey 1988:344-345, 763).



FIGURE 33 MOLDED SHERD – COMPONENT 91 (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)

Component 90a:

This component was the “fill between brick layers [of the] Vos(?) house” (Huey 1988:345) and was the “most recent deposit.” Amongst other artifacts, a single tableware sherd was found. A thin, curved glass roemer bowl fragment (Huey 1988:345-346, 762), with a projected date range of 1657-1664. No other components within this feature contained tableware artifacts.

Period 3: The Hendrick Andriessen van Doesburgh House (97c, 97, 96aa, 96, 66a, 66, 70, 71)

Component 97

This context consisted of the soil between the wooden floorboards running east and west within the structure and behind the wooden wall of the cellar (Huey 1988:388). Huey

considers this to be the Van Doesburgh house construction fill and dates it between 1649-1654 but believes it can be narrowed to 1651. Based on the ceramic remains he posited that it reflected an increase in Dutch influence on English goods (Huey 1988:397-398).

Drinking vessel remains consisted of one possible beaker sherd with an applied exterior string made of the same metal as the body, 2 *façon de Venise* body sherds with blue and white *vetro a fili* decoration and 7 roemer sherds (only 5 are present). The roemer fragments consisted of 2 foot rims, 3 body sherds, and 2 prunts – 1 round or beechnut shaped, and 1 raspberry (both are missing in the collection).

Component 96aa

This component is described as a “[h]ard packed brown soil area about 1 inch or 2 inches thick above Andriessen house floor level within 140S10E near southeast corner of square” and is dated roughly to 1651 (Huey 1988: 763). It contained a thin almost colorless drinking glass sherd with exterior string horizontal decoration. The sherd was heavily patinated but was most likely from a beaker or fluted vessel (Figure 34).



FIGURE 34 PATINATED SHERD WITH EXTERIOR STRING DECORATION – COMPONENT 96AA (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)

Component 96

This component is described as “[b]rown fill with garbage in Andriessen House” (Huey 1988:763) and is dated roughly between 1651-1664. Along with the glass tableware, artifacts included “concentrations of oyster shells, wood ash, charcoal, and bones” (Huey 1988:352). There were 41 tableware sherds (one missing) within this component: 6 definite roemer sherds – a raspberry prunt, partial hollow stem with a complete kick-up (Figure 38), body/stem sherds with applied thread decoration, and coiled foot rim sherds. There were 6 sherds – 3 bowl body and 3 bowl rim – determined to originate from at least one roemer or *berkemeier* (Figure 35). Other tableware types included the base of a cylindrical light green beaker (Figure 37), and bodies and rims from 2 separate indeterminate drinking vessels – one without any apparent decoration, and one with an applied thick thread made from the same metal as the body (Figure 36). There was also a small *façon de Venise* rim with red and white *vetro a fili* decoration, 12 *pasglass/stangenglass* sherds, and 13 indeterminate vessel body sherds (1 missing).

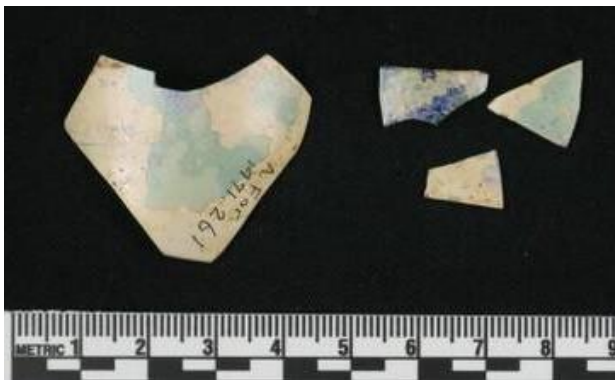


FIGURE 35 ROEMER/*BERKEMEIER* BOWL SHERDS – COMPONENT 96 (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)



FIGURE 36 POSSIBLE GOBLET SHERDS WITH APPLIED WIDE THREAD – COMPONENT 96 (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)



FIGURE 37 BEAKER BASE – COMPONENT 96 (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)



FIGURE 38 ROEMER/*BERKEMEIER* KICK-UP – COMPONENT 96 (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)

Component 66a

This component is described as “[d]ark brown fill below fallen bricks in Andriessen house” (Huey 1988:760) and is the upper level of the garbage fill directly above component

96 and dates roughly to 1651-1664. There were fewer artifacts found in this component, they concentrated along the east wall. The soil was “dark brown but was mixed with fine sand and bits of wood” (Huey 1988:352). Only one tableware sherd was unearthed – a raspberry prunt – and it has been removed for display.

Components 96 and 66a represent the Van Doesburgh house occupation levels and date roughly between 1651 to 1664 (Huey 1988:398-467). Table glass fragments were varied and included two roemers, one light green beaker, one green *pasglass/stangenglass* and one *façon de Venise* vessel of indeterminate form. *Stangenglasses* were often associated with “peasant or rustic life” (Huey 1988:420), and their presence provides an interesting look at the variations of vessel types used by the Fort Orange community. Evidence also revealed a decline of deer and an increase in pig and cow remains compared to earlier components. This possibly reflects a more stable lifestyle for the settlers and that the house occupants were wealthy enough to consume proteins more highly sought by the average European (Huey 1988:463-464).

Ceramics revealed the expansion of European trade with Spain and China along with the usual Dutch majolica and delft. Huey observed that the overabundance of red earthenware reflected the importance of kitchen activities within the house. Objects found also point to the occupants’ relative affluence including high-quality decorated windows, spectacle glass, finer quality architectural nails, and fancy drinking vessels. This collection of material may also reflect the growth and relative success of the trading community within the colony – simply, they were able to provide and access a wider variety of goods (Huey 1988:466).

Component 66

This stratum is described as, “[b]ricks fallen in Andriessen house, mixed with dark brown fill” (Huey 1988:760) and is estimated to date to 1664. There were 11 roemer and roemer/*berkemeier* sherds including a coiled string foot rim, 3 raspberry prunts – one of which is possibly a strawberry prunt (Figure 40) - and multiple bowl body and rim sherds; these made up a minimum of at least 2 vessels. The third was a delicate drinking vessel, possibly a goblet or beaker, with a slightly flared rim and thinly applied threads along the bowl body (Figure 39).



FIGURE 39 BEAKER OR GOBLET WITH APPLIED THREADS – COMPONENT 66 (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)

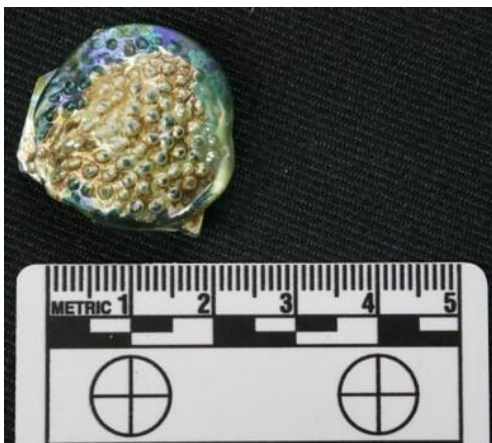


FIGURE 40 RASPBERRY OR STRAWBERRY PRUNT – COMPONENT 66 (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)

Component 70

This stratum roughly dated to 1664 and was listed as, “[c]rushed brick in Andriessen house wall (Remains of fireplace?)” (Huey 1988:760). Only 5 drinking vessel sherds were unearthed in this context and reflected an MVC of 2 – 1 indeterminate *façon de Venise* vessel with *vetro a fili* decoration, and one indeterminate light green vessel.

Component 71

Huey describes this component as, “[l]ower ash and charcoal in Andriessen house” and dated it to 1664 (Huey 1988:760). It possessed only 1 drinking vessel fragment, a small indeterminate light green body sherd.

Period 3: Dark Brown Sandy Loam (Labatie House & East Entrance)

Component 82

This stratum consisted of “[b]rown loam below upper brick fragment layer, mostly Labatie house area” (Huey 1988: 761) and stretched roughly 80 feet in a north to south direction. The context extended to “both sides of the east entrance way location” (362). Huey dates this component roughly between 1648-1657. The entryway would have been a busy area during the time of occupation, and evidence reflects the diversification of materials used by those living within the fort. Along with tableware, this component contained round glass bottle fragments, lobed delft dishes, sgraffito ware, marbles, various styles of smoking pipes, tin glazed earthenware, stoneware, architectural nails, glass beads, gun flints, lead shot, and enough iron slag and cinders to indicate ironworking (Huey 1988:361-388, 761).

The component contained 27 tableware fragments – 14 roemer sherds, 1 *façon de Venise* sherd with an applied white string on the exterior, and 12 indeterminate body sherds. The roemer sherds consisted of 5 raspberry prunts, 1 kick-up, 2 stem sherds, 2 foot sherds and 4 body sherds, all potentially belonging to the same vessel (Figure 41).



FIGURE 41 ROEMER STEM SHERDS – COMPONENT 82 (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)

Period 3: Drinking House Deposit

Component 77

This component is described as the “[s]outh Moat Lower Blue Clay Fill Deposit” (Huey 1988: 467-483) and was the deepest component in the site; however, 19th- and 20th-century intrusions made it difficult to answer concrete questions relating to the stratum. Materials uncovered included faunal remains (mostly deer and pig), Native pottery, sherds from an Iberian storage jar, redware, salt-glazed stoneware, tin-glazed earthenware, likely pieces of an iron kettle, and remains from both paneled and round glass bottles. Building materials included nails, pan tiles, floor tiles, brick, mortar, and window glass. There was a noticeable lack of evidence relating to clothing and/or personal adornment, and the only recreationally related objects were smoking pipe fragments. There was a single gunflint found and metal slag possibly related to nearby iron working. This component differs from

most of the other occupational components, with significantly greater amounts of glass drinking vessels.

Huey postulated that the remains within Component 77 most likely reflected a tavern or drinking house, which he suggested could be the one historically belonging to Adrien Appel (Huey 1988: 467-483). However, based on Janny Venema's (2003) intensive research and spatial reconstruction of the settlement, Lucas and Traudt (2021) hypothesize that Component 77 belonged to the tavern first owned by Lysbeth and Gysbert Cornelisz. The couple had resided on the property roughly from 1647 to 1653. Afterward the tavern was transferred to Maria Goosen who ran the drinking house from 1654-1655 named *De Vrouwe Maria* or "The Woman Maria." The timeline for the component by Huey and the spatial research done by Lucas and Venema led to the conclusion that Component 77 most likely dates to the period when Maria Goosen ran the drinking house between 1654-1655. Her tenure at the property was so brief because she was caught selling brandy to the local Native Americans and was then banned from selling alcohol within the colony. Her marriage to Steven Jansz, which was likely tenuous prior to this incident, ended soon after (Lucas and Traudt 2021: 81-86).

This component had the highest percentage of glass drinking vessel fragments yet had relatively small percentages of artifacts relating to smoking and food consumption. Steven Jansz liquidated a portion of his property in 1655, and the documentation from the sale of these goods shows that beer made up 37 percent of the sale value for the drinking house. Drinking glass remains consisted of roemers and *façon de Venise* vessels, most likely beakers. Component 77 demonstrates how these vessels were used out of necessity but also the settlers' preference for these vessel forms and styles (Huey 1988:482-483).

There are a total of 40 tableware sherds, 30 (one missing) of which are roemer sherds originating from at least two different roemers, one with raspberry prunts, and one with thorn prunts on the stem. The *roemer* sherds included body, stem, foot, kickup and prunt sherds (Figures 42, 43 & 44).

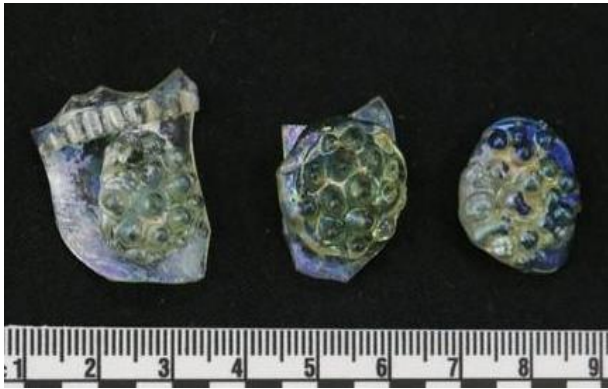


FIGURE 42 THREE ROEMER RASPBERRY PRUNTS – COMPONENT 77 (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)



FIGURE 43 ROEMER STEM WITH KICK-UP AND ATTACHED PRUNT – COMPONENT 77 (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)



FIGURE 44 ROEMER/BERKEMEIER THORN PRUNTS – COMPONENT 77 (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)

This component also included a lovely *façon de Venise* beaker with white spiraled *vetro a fili* decoration (Figure 45).



FIGURE 45 *VETRO A FILI* BEAKER SHERDS – COMPONENT 77 (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)

Period 3: Upper Dark Brown Alluvium and Debris (1657-1664)

Component 78

This component is likely contemporaneous with Component 81 – the fort’s east entrance – and dates from 1657 to 1664. For the latter part of this period the fort was likely unoccupied and in a state of disrepair. Component 78 was large and extended 76 feet across the site and contained the greatest amount of artifacts. The remains are consistent with a garbage dump and construction activity, but due to the disrepair and multiple intrusions this component likely contains “a mixture of artifacts from different periods” (Huey 1988:504). Besides tableware, some artifacts of note are a deer skull with its antlers sawn off, redware colander sherds, bellarmine sherds, Dutch majolica and delft, round and square bottle fragments, an iron knife blade, architectural nails, window glass, both red and yellow brick, glass beads, wampum beads, two coins, three brass buttons, straight pin fragments, a thimble, comb fragment, broken bale seal, evidence of three mouth harps, four marbles, smoking pipe

fragments, gun flint chips, a piece of a dagger blade, lead shot, a piece of white coral (which was most likely a trade object), and a quartz crystal almost definitely found locally (Huey 1988:504-520).

The glass tableware uncovered in this component consisted of 46 total sherds and an MVC of 8. There were 17 roemer sherds: one roemer decorated with thorn prunts and one with raspberry prunts (Figures 46, 47 & 48). The feet were all coiled and vary in diameter



FIGURE 46 ROEMER STEM SHERD WITH APPLIED THREAD – COMPONENT 78

(PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)

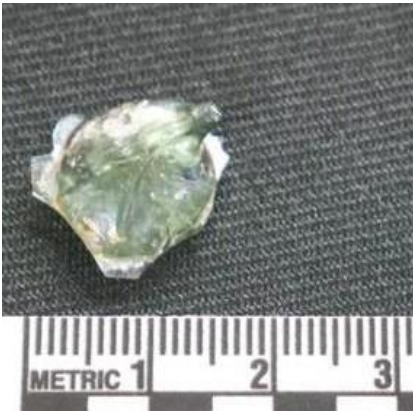


FIGURE 47 ROEMER THORN PRUNT – COMPONENT 78 (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)

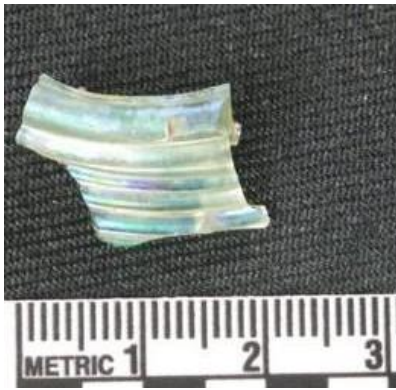


FIGURE 48 ROEMER/*BERKEMEIER* STEM/FOOT SHERD – COMPONENT 78
(PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)

The 11 *façon de Venise* sherds were all most likely from beakers. The first had applied external blue or white threads (Figure 51) in what was likely a twisted pattern and had a sturdy rouletted basal foot or heel (Figure 48). The second vessel was decorated with a white spiral *vetro a fili* pattern, and the third had a white and blue spiral *vetro a fili* pattern (Figure 49).

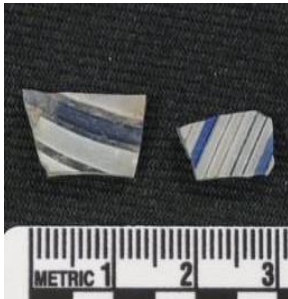


FIGURE 49 BLUE AND WHITE *VETRO A FILI* BODY SHERDS – COMPONENT 78 (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)



FIGURE 50 ROULETTED BEAKER BASE WITH APPLIED WHITE THREADS COMPONENT 78

(PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)

Two other vessels were found within component 78: a light green beaker with a ribbed base (Figure 51) – similar to the *façon de Venise* beaker but without the white threading – and a colorless vessel decorated with a molded wavy pattern (Figure 52) – possibly from a ‘*ribbelbeker*’ (Figure 10) as seen in *Glass Without Gloss* (Henkes 1994:148-149).



FIGURE 51 ROULETTED BEAKER BASE – COMPONENT 78

(PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)



FIGURE 52 BODY SHERD WITH MOLDED WAVY PATTERN, POSSIBLE *RIBBELBEKER* – COMPONENT 78 (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)

There were 16 indeterminate sherds. Both colorless and light green sherds were present, and all most likely belong to the roemers and beakers within the component. One

sherd of note was a light green thread that would have either been wound around the body of a drinking vessel or possibly part of a footring.

Period 3: Dark Brown Silty Clay Fill of the Southeast Bastion (~1663)

Component 74

This component was found within Component 77 and overlain with rotted wood remnants which is related to the repairs done by fort director La Montaigne in 1663. It is described as “[d]ark brown silty clay fill of the southeast bastion” (Huey 1988: 521). Besides the tableware artifacts, this component contained small amounts of deer, pig, and cow remains as well as clam and oyster shells. It also held Native American and European ceramic sherds, round and square glass bottle fragments, red and yellow bricks, one piece of red floor tile, mortar, architectural nails, and smoking pipe fragments. This component did not show evidence of anything other than being a garbage pit (Huey 1988:333, 521-525, 761).

Four drinking vessel sherds were unearthed in this context, all roemer fragments – one smooth and round or beechnut prunt (Figure 53) and two raspberry prunts – with one missing (Figure 54). There was also an impressive roemer base/stem fragment with an intact kick-up and partial spiral threaded foot (Figure 55).



FIGURE 53 ROUND OR BEECHNUT PRUNT – COMPONENT 74 (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)



FIGURE 54 RASPBERRY PRUNT – COMPONENT 74 (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)

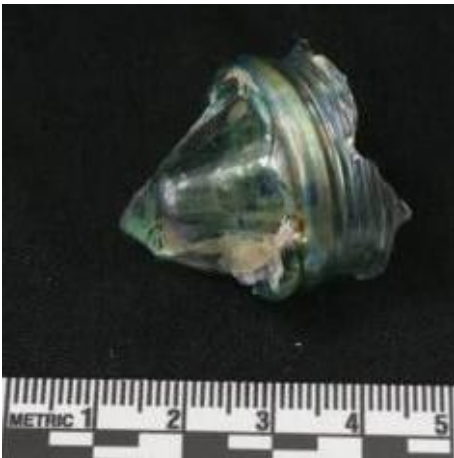


FIGURE 55 ROEMER STEM WITH KICK-UP AND PARTIAL FOOT – COMPONENT 74 (PHOTO TAKEN BY KRISTINA TRAUDT, COURTESY OF THE NYSM)

Period 3 Summary

Huey cites a reference suggesting that one source for the supply of roemers within components 66a and 96 (1651-1664) – and most likely throughout Fort Orange – was the merchant Jan Thomassen van Wely who, in his correspondence with Jeremias van Rensselaer, stated:

The market upriver for a shipment of glasses had been poor because there had been no wine to drink there and therefore no demand for glasses. However, now there was wine upriver, and he had already sold seven or eight beavers' worth of the glasses. Van Wely hoped to make at least 2 per cent on his glassware. The demand for wine glasses suggests that they were broken and consumed almost as rapidly as the wine (1988: 422)

This also suggests that the Dutch settlers had a preference of drinking their wine out of glasses made specifically for its consumption, which would have been goblets, roemers, or *berkemeiers*. It also provides further evidence of the settlers' holding on to certain aspects of Dutch culture and the potential connection they felt to the fatherland.

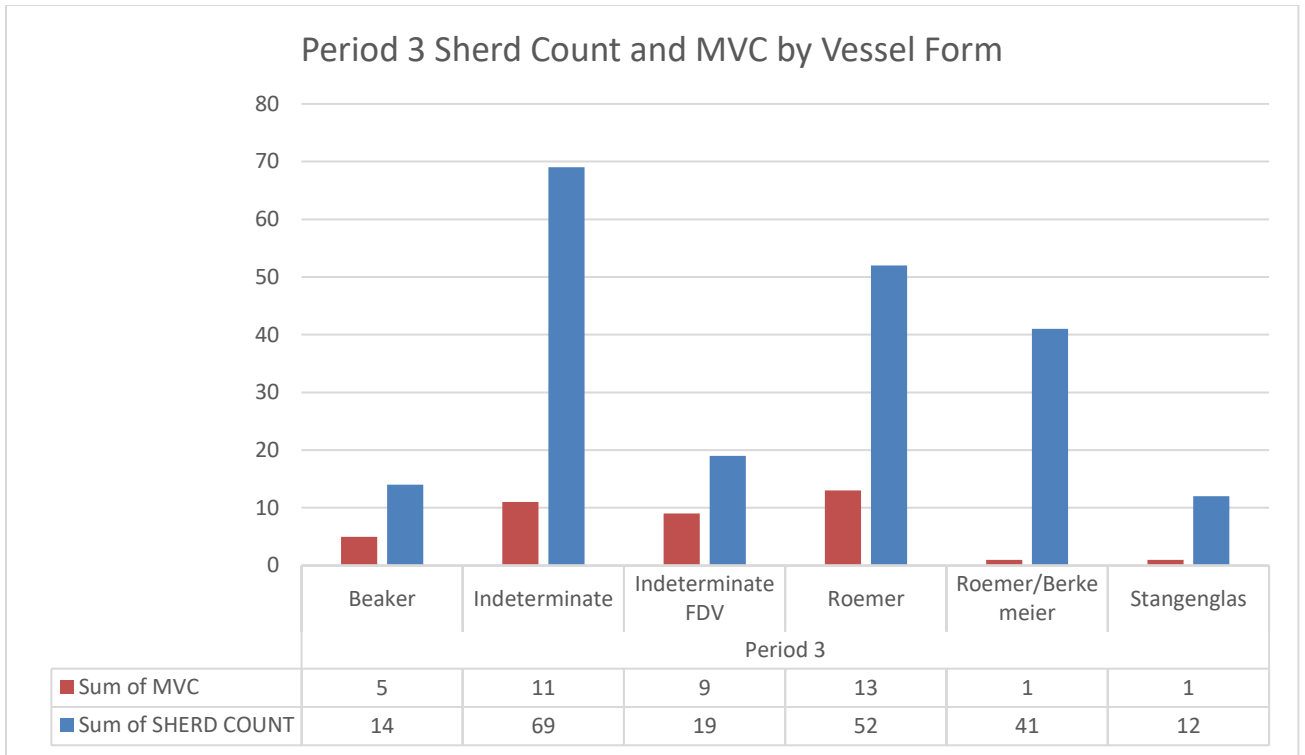


FIGURE 56: PERIOD 3 SHERD COUNT AND MVC BY VESSEL FORM

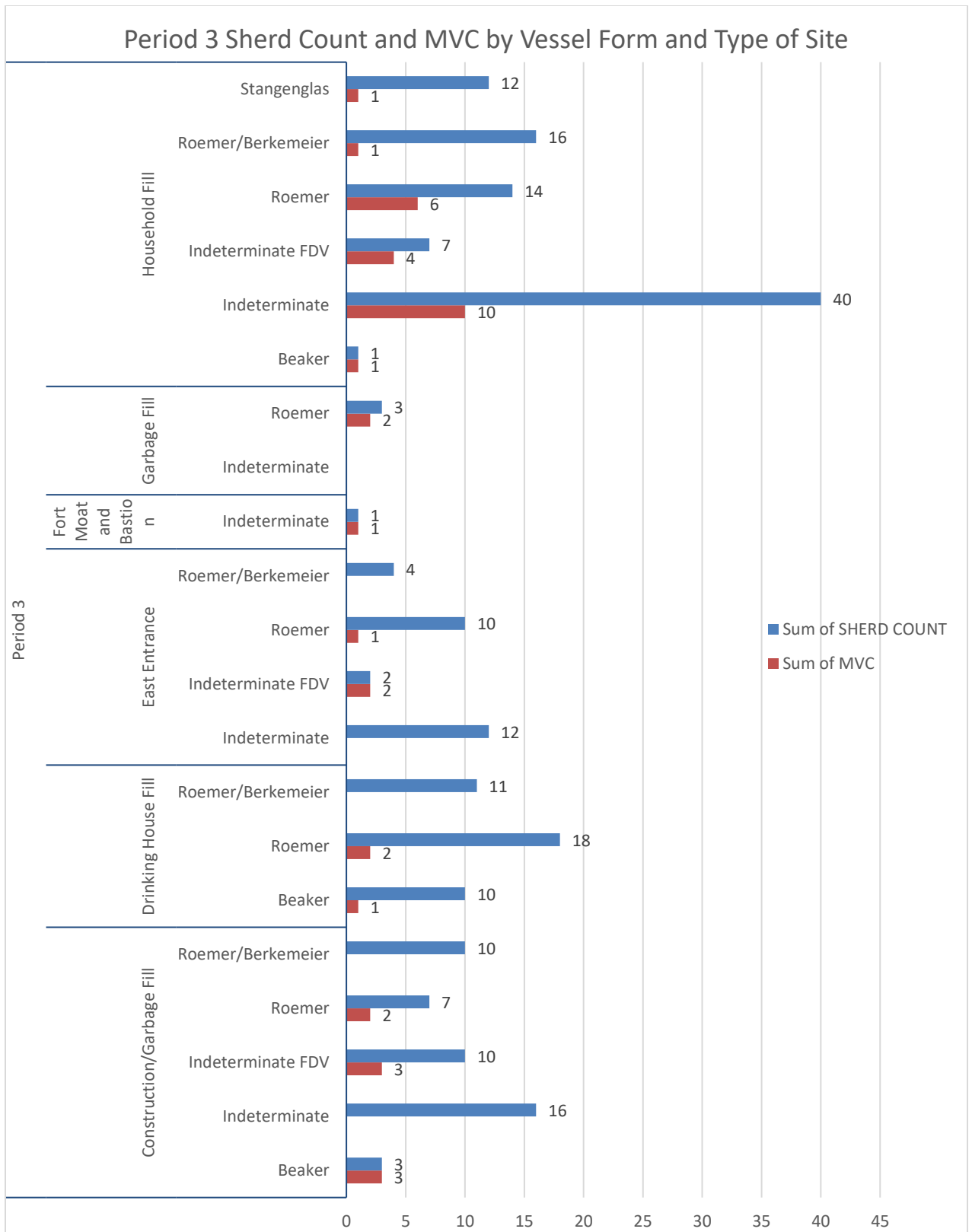


FIGURE 57: PERIOD 3 SHERD COUNT AND MVC BY PERIOD, SITE, AND VESSEL FORM

Roemers were found in all site types except the fort moat and bastion, and most were found within households, though two were found within the drinking house component. *Façon de Venise* vessels were also found in all but one site type including beakers and vessels of indeterminate form. This shows that these drinking vessels may have been used both within households and taverns, and possibly out in open more public areas. It seems more likely that these items were supplied in larger quantities by the WIC, patroonship, or merchant traders based on their quantity and similar form and decoration. A minimum of one *stangenglas* was uncovered within a household context, perhaps indicating that this vessel form was less abundant or popular within the colony. Individuals who owned these items may have brought them from Europe personally or bought/traded for them based on their personal preferences.

Period 3 has the largest MVCs and overall sherd count. This can be linked with the fact that New Netherland during this period was at its most populous. Even by making the most general assumptions, one would suppose that with more European settlers in the area, a higher percentage of European objects (glass drinking vessels included) would be present. However, trends relating to form and decoration still have the potential to provide insights about those living within the colony's frontier outpost.

Period 4: Structural and Construction Remains After 1664

Although Huey chose not to incorporate the components dating after 1664 within his dissertation, he provided probable date ranges and brief stratigraphical descriptions of these components. I provide brief accounts of the drinking vessel remains within these components.

Component 65

Huey described this component as “[d]ark sandy brown fill above Andriessen house ruin, and possibly also fill in log wall trench” (Huey 760) and dated it from 1671-1676. It held only 3 sherds with a MVC of 2 – 1 roemer stem sherd and 1 indeterminate body sherd with applied white thread decoration.

Component 64

This component is described as “[l]ight brown clay fill in moat above Andriessen house ruin and possibly also fill in log wall trench” (Huey 1988: 760). It dates roughly to 1676 and contained 13 tableware sherds with an MVC of 2. There were 4 roemer sherds including a raspberry prunt, and a coiled string foot. There was also a *façon de Venise* basal sherd, most likely from a beaker with applied white threads twisted into a spiral. There were 8 indeterminate sherds.

Component 67

Huey labeled this component as “[d]ark brown clay fill above blue clay and cobbles in moat” (Huey 1988:760) and dated it to 1671-1676. A total of 19 sherds were found with and MVC of 3. This consisted of 3 roemer sherds (at least 4 additional sherds were missing from the collection) – two raspberry prunts, and one coiled string foot fragment. There was also a roemer/*berkemeier* body sherd. Additional vessel fragments included 14 *vetro a fili* sherds all likely belonging to the same beaker, and 1 indeterminate light green vessel base.

Component 72

This component is described as “[l]ight sandy alluvium below brown fill layers, above wood fragments and bastion” (Huey 1988:761) and probably dates to 1676. It holds only a single light green sherd, possibly from a roemer since *berkemeiers* were rarely made during this period (Figure 12).

Component 73

This component’s description is as “[w]ood fragment layer, bastion area (rebuilding of bastion)” and is dated to 1671 (Huey 1988:761). Only one drinking vessel fragment was found – a cylindrical hollow stem sherd most likely from a roemer or *berkemeier*.

Component 84

This component is described as “Light brown fill above cellar.....Staats house” and dates approximately to 1676. A total of 2 drinking vessel sherds were unearthed with an MVC of 2 – one indeterminate light green body sherd with no decoration, and one colorless sherd with an applied red thread.

Period 4 Summary

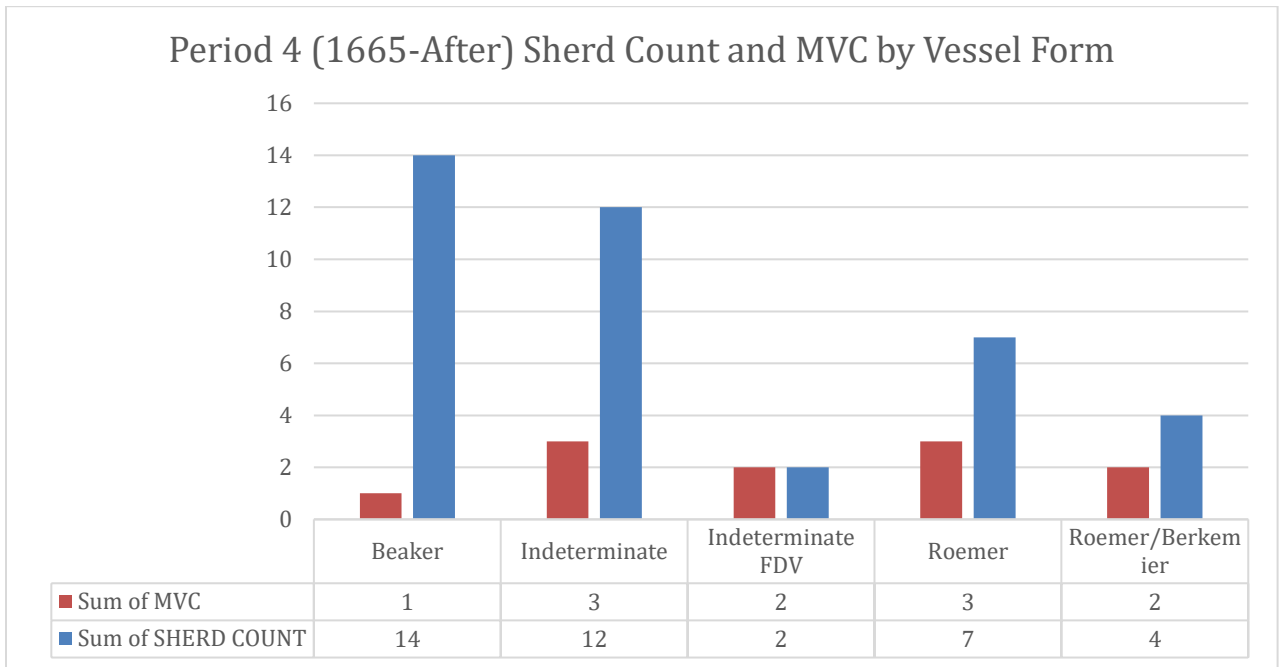


FIGURE 58: PERIOD 4 SHERD COUNT AND MVC BY VESSEL FORM

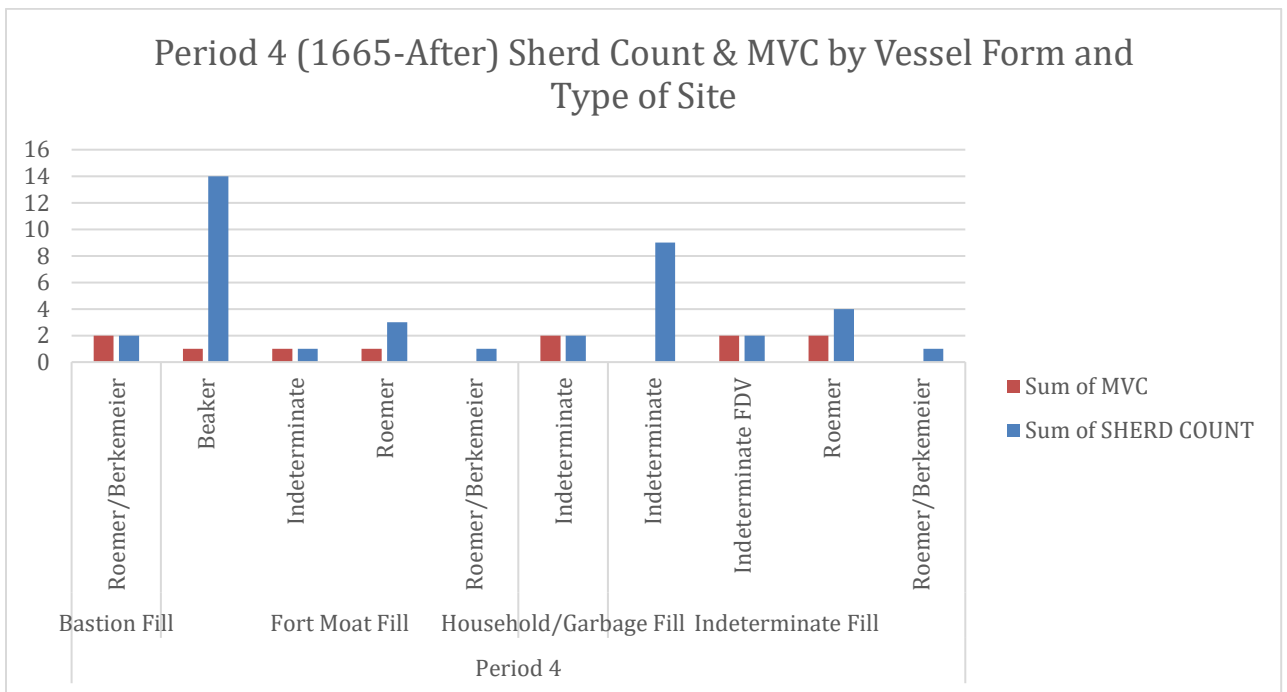


FIGURE 59: PERIOD 4 SHERD COUNT & MVC BY VESSEL FORM AND TYPE OF SITE

Period 4 had a total MVC of 11 and sherd count of 39. All components fall within the date range of 1671-1676, leaving a gap from 1665-1670 with no obvious tableware sherds. This five-year absence of glass drinking vessels may simply be due to the fact that the fort was documented to have been in a state of disrepair and no longer used as a hub for the settlement ; however it may also reflect the major changes taking place within the colony. New Netherland had been taken over by the English and renamed New York, and documentation on the Dutch colonists within the area at this time tell stories of their continued allegiance to their homeland and refusal to abandon their Dutch colonial way of life. This dedication to *Patria* and New Netherland may explain why ten years after the English took administrative control, evidence of Netherlandish glassware was still found within Fort Orange. Trade between the United Provinces and England was complicated during this time, and access to these items may have been much more difficult. Roemers and roemer/*berkemeiers* were found in 3 out of the 4 site types, 3 *Façon de Venise* vessels were found across two site types – one of which was a white *vetro a fili* beaker, one an indeterminate vessel with applied white thread, and one with applied white thread. The remaining vessels were indeterminate, some possibly English but too fragmentary to identify. This gap in time may also be due to changes after the transferal from Dutch to English control, reuse and repurposing of drinking vessels, or some gap in the uncovered archaeological materials.

CHAPTER 5

ANALYSIS AND CONCLUSIONS

An analysis of the glass drinking vessels within the assemblage reveals that the variation in vessel form and decorative techniques found over time and across space was relatively stable, and the proportion of vessels over time was relatively consistent. The sample size uncovered from the 1970-71 excavations with assigned date ranges is relatively small, consisting of 275 sherds and 59 MVCs. The total sherd count numbers 500, with an MVC of 119. Based on the available data, the following conclusions can be made: (1) the amount and overall variation in vessel form and decoration became more diverse in periods 2, 3, and 4 compared to period 1; (2) the presence of two drinking vessels in Period 1 is significant based the size of the assemblage; (2) period 2 held slightly less glass vessels than would be expected as is shown in a comparison to pipe fragments; (3) glass vessel data from period 4 suggests that the fort was still being used to an extent and not wholly abandoned after the English took control; (4) more glass drinking vessels were found in domestic or household related contexts than other site designations including a tavern feature; (5) roemers were found in each period and in nearly every type of site; (6) vessels with decorative elements associated with *berkemeiers* were less common than those associated with roemers, (5) *vetro a fili* and applied string decoration were the dominant Venetian and/or *façon de Venise* styles represented, and (6) colorless stemmed vessels or goblets were virtually absent from the assemblage. These conclusions present patterns and possible choices made by those living within the Dutch colony, as well as those who supplied it. When these patterns are observed together, a clearer picture can be seen of a frontier trading post gradually transforming into a thriving settlement community.

Paul Huey states that a comparison between Fort Orange's ceramic and glass vessel forms to those found across Northern and Western Europe reveals a significant degree of continuity (1988:577) and my analyses of the glass drinking vessels uncovered within the 1970-71 excavations agree with his original hypothesis. He also establishes that the datable artifacts uncovered were largely consistent with their corresponding datable components, showing that Fort Orange's occupants were able to "obtain goods and furnishings in the current vogue at any particular time" (1988:577). For example, a wide variety of ceramics were found in components dating to 1640 and earlier, much of which are similar to wares found in England and the Netherlands. Tin glazed and red earthenware were found in the highest percentages within these components. In 1640-1647 North Holland slipware and Rhenish sherds were also found along with roughly the same wares uncovered previously. After 1651, porcelain appeared, and delft was found in higher numbers than majolica (majolica being tin-glazed on the interior and lead glazed on the exterior, and delft being tin-glazed on both sides). Most of the ceramics found dating from 1651-1664 were uncovered in the Van Doesburgh cellar components. Huey associates these contexts with a kitchen midden and posits that the presence of porcelain and higher percentage of delft reflects affluence (1988:556-560). After 1654, the array of ceramics stayed essentially the same without many unique sherds appearing. It is difficult to make the same conclusions regarding the drinking vessel glass due to small vessel counts and the fact that most vessel forms and decorative types appear across many contexts. A high percentage of vessel remains were uncovered within the Van Doesburgh contexts, and this greater amount may point to a higher degree of wealth or affluence. Also, like the ceramic assemblage, most glass forms and decorative

elements were introduced by the mid-1650s, and few unique sherds were uncovered within the later periods.

During the 1600s, drinking vessels including the roemer, *berkemeier*, beaker, goblet, and *stangenglas* were used within households and public spaces such as taverns to imbibe liquids which were, most frequently, alcoholic. These vessel types have been found in 17th-century archaeological sites across the Netherlands and Dutch colonial settlements as well as in much more limited quantities in English and other colonial related sites (Huey 1989, Schrire 2014; Nelson 2018). This thesis posits that as Fort Orange and the surrounding area transitioned from a location primarily used for trading into one primarily used for dwelling, and that as the population grew the amount and variety of glass drinking vessels increased. It also argues that those contexts within the fort and surrounding area used as households and taverns would have greater amounts of these materials visible in the archaeological record. Smaller trends of decorative popularity or preference are discernable within these contexts, but the small sample size must be acknowledged. Most importantly, the remains uncovered from Fort Orange reflect a relatively stable array of drinking vessel form and decoration throughout the time that it was occupied. A comparison to ceramics within the contexts with higher percentages of glass drinking vessels aids in the overall picture of trading outpost to dwelling place transition and an additional comparison with smoking pipe fragments found within the same contexts provides a way to look at the volume of these glass sherds within each period.

I originally cataloged 594 glass vessel sherds; those that were identifiable within my analysis numbered 500 tableware sherds and with a minimum vessel count of 119. The dateable tableware sherds numbered 275 with an MVC of 59 and the undated numbered 225

with an MVC of 60. Table 1 presents the sherd counts and MVCs of vessel forms found in all four periods as well as those that could not be dated.

Period	SHERD COUNT	MVC
Period 1	2	2
Indeterminate	2	2
Period 2	30	7
Beaker	1	
Indeterminate	12	1
Indeterminate FDV	7	3
Roemer	2	1
Roemer/Berkemeier	7	1
Stangenglas	1	1
Period 3	204	39
Beaker	13	4
Beaker – FDV	1	1
Indeterminate	69	11
Indeterminate FDV	19	9
Roemer	49	12
Roemer/Berkemeier	41	1
Stangenglas	12	1
Period 4	39	11
Beaker	14	1
Indeterminate	12	3
Indeterminate FDV	2	2
Roemer	7	3
Roemer/Berkemeier	4	2
Indeterminate	225	60
Beaker	5	5
Indeterminate	141	23
Indeterminate FDV	21	16
Passglas/Stangenglas	1	
Roemer	19	10
Roemer/Berkemeier	29	3
Stemmed Drinking Vessel	2	
Tumbler	7	3
Grand Total	500	119

TABLE 1 FORM, SHERD COUNT, AND MVC FOR ALL PERIODS

Commonly found vessel forms included the ‘beaker’ – a straight sided cylindrical or slightly conical vessel with varied possible decoration , ‘*stangenglass*’ – a tall sometimes more narrow beaker, ‘*berkemeier*’ – a hollow stemmed goblet with applied thorn prunts, crimped foot, and conical bowl, and ‘roemer’ – a hollow stemmed goblet with applied prunts

of varying motif, coiled string foot, often possessing a crimped ring around the bowl base, and a bowl of varying shape, and indeterminate – anything not quite identifiable. Sherds identified as roemer/*berkemeier* certainly belong to one of the two forms, but do not possess enough distinguishing elements to make a conclusive determination. For example, fragments from a hollow stem, thorn prunts, or curved light green goblet bowl sherds could originate from either a *berkemeier* or roemer. Raspberry prunts and coiled string feet are specific elements from roemers, yet roemers could also have thorn or round prunts. The *berkemeier* sherds identified within this thesis only possess thorn prunts and do not have a coiled string foot. This analysis also makes a distinction between indeterminate sherds and indeterminate *façon de Venise* sherds. Those plain, or undecorated indeterminate sherds were separated from those *façon de Venise* sherds with indeterminate vessel form so that trends within Venetian style glass over time and space could be better observed.

Due to the extremely fragmentary manner of the collection, including the fact that no single complete glass vessel exists within the assemblage – as is the case for many 17th century archaeological collections – there are limitations to the extent of identification that can be made. It is important to note that all trends and statistics reported here only reflect a fraction of the materials owned and left behind by those Fort Orange and Beverwijck settlers. The presence of certain vessels often reveals more than the relative abundance of them

Vessel Forms by Period	Sum of SHERD COUNT	Percentage within Period
Period 1	2	
Indeterminate	2	100.0%
Period 2	30	
Beaker	1	3.3%
Indeterminate	12	40.0%
Indeterminate FDV	7	2.3%
Roemer	2	6.6%
Roemer/Berkemeier	7	23.3%
Stangenglas	1	3.3%
Period 3	204	
Beaker	14	6.9%
Indeterminate	69	33.8%
Indeterminate FDV	19	9.3%
Roemer	49	24.0%
Roemer/Berkemeier	41	20.1%
Stangenglas	12	5.9%
Period 4	39	
Beaker	14	35.9%
Indeterminate	12	30.8%
Indeterminate FDV	2	5.1%
Roemer	7	18.0%
Roemer/Berkemeier	4	10.3%

TABLE 2 GLASS VESSEL SHERD COUNTS AND PERCENTAGE BY PERIOD AND FORM

Period	MVC	SHERD COUNT
Period 1 (Pre 1624)	2	2
Period 2 (1624-1647)	7	30
Period 3 (1648-1664)	40	207
Period 4 (Post 1664)	11	39
Grand Total	60	278

TABLE 3: SHERD COUNT AND MVC FOR ALL PERIODS

Table 1 and 2 show the MVC and total sherds counts for sherds found within dated and undated components and Table 3 reveals the percentages of sherds. What is clearly shown is that the majority of both total sherds and MVCs were found within Period 3 components, followed by Period 4, then Period 2, and finally Period 1. It is logical that the greatest abundance of glass vessels found originated from Period 3, as it was the time of

highest population and prosperity within the fort and surrounding area. By Period 4, the colony had been overtaken by the English and the fort was already underused. According to historical accounts it was mostly used as a storage and garbage disposal, and a new English fort was built further up the hill along the riverfront. However, archaeological evidence reveals that the old fort may have been utilized more frequently than was previously believed as can be seen by the significant amount of drinking vessel remains uncovered (Tables 1-4).

Discussion of Glass Vessel Volume

Period	Starting Year	Ending Year	Span	Number of Components	Number of Pipe fragments	Number of Glass Drinking Vessel Sherds	Drinking Vessel MVC	Pipe Fragments/Year	Sherds/Pipe Fragments
1	1609	1623	14	3	11	2	2	0.79	0.18
2	1624	1647	23	11	676	30	7	29.39	0.04
3	1648	1664	24	19	2047	207	39	86.30	0.10
4	1665	1676	11	12	243	39	11	22.10	0.16

TABLE 4 COMPARISON OF DRINKING GLASS SHERDS AND SMOKING PIPES

Problems arise when analyzing this assemblage due to the absence of a clear way to incorporate the physical size and volume of each component along with the date range of each. Without this information, the comparison between and within periods is not as useful. Some components ranged in size and varied in date range. One way to solve this issue is to compare the glass artifacts with an artifact type that would have been consistently used and deposited throughout the fort’s entire existence. For the purposes of this analysis, I used smoking pipe fragments for comparison (Table 4). If we assume that pipes were consistently deposited over the extent of Fort Orange’s existence then by comparing drinking vessel sherds to that of pipe fragments aids in determining questions of volume within the assemblage. Table 4 reveals that both glass drinking vessels and pipes increased from period 1 to period 2 and then to period 3, then fell in abundance in period 4. Which is consistent with the fact the settlement’s population had a steady rate of growth, but by Period 4 the fort

was used less frequently due to its state of disrepair and the changeover to English colonial governance. It also clearly shows that the proportion of glass vessel remains relatively consistent over time. Although the sample sizes are very small two additional conclusions can be gleaned from this table. Firstly, less glass was uncovered in period 2 than was expected given that vessel data from periods 2 and 4 are comparable yet period 2 held only 0.04 sherds/pipe fragments compared to period 4's 0.16. Secondly, that even though period 1 held a very small amount of glass, the presence of glass vessels is very well represented. It is important to note that only a small percentage of the fort was excavated and that these conclusions have been made cautiously.

Site Type	Sherd Count	Percent Sherd Count	MVC	Percent MVC
Bastion Fill	2	0.7%	2	3.4%
Fort Moat Fill	21	7.6%	5	8.5%
Fort Moat and Bastion	1	0.4%	1	1.7%
Garbage Fill	3	1.1%	2	3.4%
Construction/Garbage Fill	46	16.7%	8	13.6%
Stratified Pit	9	3.3%	3	5.1%
East Entrance	28	10.2%	3	5.1%
Drinking House Fill	36	13.1%	2	3.4%
Household Fill	90	32.7%	23	39.0%
Household/Garbage Fill	2	0.7%	2	3.4%
Structure/Household Fill	19	6.9%	2	3.4%
Indeterminate Fill	18	6.5%	6	10.2%
Grand Total	275		59	

Table 5 Total Drinking Vessel Count, MVC, and Percentages by Site Type

Table 5 reveals that the highest percentage of MVCs were found in spaces associated with domestic houses or homesteads (45.8%), followed by those related to indeterminate garbage dumps (17%), then those from the fort moat and bastion (13.6%). The east entrance and stratified pit each possessed 5.1% and the drinking house fill held 3.4%. Lastly sites with indeterminate fill made up a minimum vessel count of 10.2%. It is important to acknowledge that these assigned site types were much more fluid during their time of occupation or

deposition; households were, for example, used as taverns or shops, and once buildings fell into disrepair were often used as middens or garbage dumps. Yet, this clearly displays that drinking vessels were used most frequently in household/domestic spaces.

Overview and Summary of All Four Periods

Period 1 reflects any time prior to the construction of Fort Orange in 1624. These contexts only revealed two indeterminate glass sherds of different colors and therefore represent two separate vessels but are too fragmentary to make any robust interpretations. In comparisons across time, drinking vessel sherds were slim in Period 1 (Pre-1624), before the fort was constructed. The presence of two drinking glass fragments is, however, significant as it relates to trading relationships with the local Native American populations (Manning et al 2021), These sherds are too fragmentary to be assigned to a vessel form but were most likely from roemers or *berkemeiers*. The non-native ceramics found from this period were also slim, consisting of single sherds from the following ware types: buff earthenware, delft, majolica, stoneware, and white-bodied earthenware. It has been assumed that most materials found dating to Period 1 would have been used as trade items and due to the transient nature of merchant trading within the New World, it is not surprising that the sample of European artifacts is slim. Period 1's drinking vessels made up 3.4% of the dated MVCs and 0.7% of the overall dated sherd count and ceramics made up 0.3% of the total non-native dated sherd counts.

Period 2 (1624-1647) has a sherd count of 30 with an MVC of 7.. These vessels and sherds represent a period of growth within the colony yet still was in what can be called a trading community. The fort had been built and inhabited by traders, soldiers, farmers, families, and others who were growing their businesses, trade, and personal lives within Fort

Orange and the surrounding area. This period is capped by a damaging flood in 1648 which could clearly be discerned within the archaeological record. Both periods 1 and 2 reflect a community focused primarily on trade as is depicted historically and by the relatively low number of European materials found within the site. They revealed the earliest examples of *stangenglases*, beakers, thorn prunts, raspberry prunts, applied thread, and *façon de Venise* decorative elements (*vetro a fili*). There was also a sherd with raised bossed bumps possibly from a *knobbelbeker* (Figure 8). The drinking vessel sherds made up 11.9% of dated MVC's and 10.9% of the datable sherd counts. Non-Native datable ceramics numbered 303 sherds (15.1% of total dated ceramics) and all of the wares found within Period 1 with the additions of Iberian wares, porcelain, redware, and a wide array of refined earthenwares. Majolica made up the largest percentage within the period (36.3%) followed by redware (22.1%), then delft (17.5%), (Data courtesy of the New York State Museum).

Period 3 (1649-1664) represents the height of population and prosperity for New Netherland and the area surrounding Fort Orange. The fort itself had been used less frequently beginning in the 1650s, but the surrounding town of Beverwijck and encompassing patroonship of Rensselaerswijck were successfully growing their businesses, trade networks, agriculture, and settlement communities. The MVC for Period 3 is 39 with a total sherd count of 204. Period 3 held the greatest amount of drinking vessel glass and food/drink related ceramics, almost certainly because it spans the period of greatest population within the fort and surrounding area. Artifacts found within Period 3 also reflect the changes made to the colony and fort by the governance of Petrus Stuyvesant. During his tenure Beverwijck was fully established and a relatively more peaceful and stable environment for the European settlers was forming. Individuals were better able to purchase

and own a wider array of possessions, some to the degree of affluence as Huey states can be seen in the Van Doesburgh household features (1988:556-56). Eighteen components fell within Period 3 (1648-1664) and combined contained 204 sherds (74.2% of total dated drinking vessels) with an MVC of 39 (66.1% of total dated MVCs). Most of the drinking vessels were of similar form and design to those found in Period 2 with some notable additions. One of the few unique decorative elements introduced in Period 3 was molded ribbing as would be found on a *ribbelbeker* or *netwerkbeker* (Figures 9 & 10). The non-native ceramics from this period numbered 1425 (71% of total dated ceramics) and contained most of the same wares from the previous periods with more variation in refined earthenware and stoneware. The highest number of sherds were, courtesy of the New York State Museum databases, redware numbering 472 sherds (33.1% within period), delft with 388 sherds (27.2% within period), and majolica with 289 sherds (20.3% within period).

Period 4 (Post 1664) took place after the English took over the Dutch colony and attempted to incorporate or assimilate English culture, language, and materials into the area. Fort Orange was in a state of disrepair and not used to the same extent as in previous periods, and eventually was used for storage, dumping and eventually as pasture. However, artifacts found within the datable post-New Netherland components are still significant to the overall history and archaeology of the area. Both period 3 and 4 represent a period of ‘dwelling’ as opposed to ‘trading’ where a relative abundance of materials can be seen both in the historical and archaeological record. The drinking vessel sherd count was 39 (14.2% of total dated sherds) with an MVC of 11 (18.6% of total dated MVCs). No new forms or decorative elements were found within this period. The ceramics numbered 275 sherds (13.7% of dated

non-native sherds) with redware making up 24.4%, delft making up 22.2%, and majolica making up 20.4% (Data Courtesy of the New York State Museum).

Comparison of Glass and Ceramics within Period 3 Household Components

When looking more closely at household contexts within Period 3 - the most numerous and highly populated – the Staats-Van Twiller and the Van Doesburgh households were the most robust. A summary of the glass and ceramics from these households provides a comparative assessment of the consumption related objects used by those who lived in the fort and surrounding area.

The Staats-Van Twiller feature was located south of the curtain wall and moat. This was the last feature to be excavated for the project and was the northwest corner of a cellar of which only a small portion survived. It is believed that this cellar belonged to the Staats house which had been built around 1648 and was 44 feet long and 20 feet wide. This house was located “against the east curtain wall north from the east entrance of the fort” (Huey 1988:337). The house passed from Abraham Staats to Johannes Van Twiller in 1655. In 1657 Van Twiller left and the house was either lived in by some unknown person(s) or unoccupied until 1665 when the English commander John Backer took up residence. Finally, in 1668 the house burned down (Huey 1988:337). Because of the disturbed nature of this feature and its components not many tableware sherds were found.

The Staats Van Twiller household contained a relatively small amount of glass and ceramics and dated from 1648-1665. It consisted of a total of 6 components – 2 that contained glass drinking vessel sherds and ceramics. The drinking vessel sherd count was 8 (2.9% of total dated sherds) with an MVC of 4 (6.8% of total MVCs). Not much can be gleaned from the glass within these components other than to confirm that households tended

to be supplied with delicate glass drinking vessels. This site held at least two roemers, one *façon de venise* and one indeterminate. As shown in Table 6, the total ceramic sherd count was 28 (1.4% of total dated ceramic sherds).

VESSEL FORM	SHERD COUNT	MVC
Indeterminate	4	1
Indeterminate FDV	2	1
Roemer	2	2
TOTAL	8	4

TABLE 6 STAATS-VAN TWILLER GLASS VESSELS

SHERD COUNT	
PERIOD 3	28
87	1
1648-1655	1
DELFT	1
86	27
1655-1665	27
BUFF EARTHENWARE	1
DELFT	2
MAJOLICA	16
REDWARE	4
STONEWARE	4
Grand Total	28

TABLE 7 STAATS-VAN TWILLER CERAMICS

Hendrick van Doesburgh had a house constructed along the fort's south wall close to the southeast bastion and the common road just north, possibly in 1649 or 1651.

Documentation reveals that the house was standing in 1654 but in disrepair by 1660 and collapsed in 1664 (Huey 1988:347). The cellar hole was four feet below the 1648 stratum and had indeterminate dimensions.

There were a total of 8 components (97c, 97, 96aa, 96, 66a, 66, 70, 71) associated with the Andriessen Van Doesburgh household, 7 of which contained drinking vessel glass and ceramics. The components all date within Period 3 and ranged from 1651-1664 (Tables 7

& 8). The total glass drinking vessel sherd count for these components was 78 (28.4% of dated glass sherds) with an MVC of 16 (27.1% of dated MVCs). There are only sherd counts for the ceramics; the total count was 505 (25.1% of dated ceramics). Notable wares include 113 delft sherds (22.4% of the component ceramics) and 44 majolica sherds (8.7% of component ceramics), 268 redware sherds (53.1% of component ceramics), and 47 stoneware sherds (9.3% of component ceramics). As Huey notes, the large amount of stoneware and redware indicate a greater degree of food preparation and storage, and the occurrence of delft outnumbering majolica sherds possibly points to affluence (Table 8).

The only aspect of the drinking glass vessels that could indicate affluence is the higher sherd count and MVC as compared to other household sites. The presence of a plain beaker and *stangenglas* alongside three *façon de Venise* vessels and 5 roemers and roemer/*berkemeiers* suggests that a range of less decorated to more fancy styles were most likely used in the household.

VESSEL FORM	SHERD COUNT	MVC
Beaker	1	1
Indeterminate	32	6
Indeterminate FDV	5	3
Roemer	12	4
Roemer/Berkemeier	16	1
Stangenglas	12	1
TOTAL	78	16

TABLE 8 VAN DOESBURGH GLASS VESSELS

VAN DOESBURGH COMPONENTS	SHERD COUNTS
PERIOD 3	505
BUFF EARTHENWARE	16
DELFT	113
IBERIAN	2
INDETERMINATE	2
JACKFIELD	1
MAJOLICA	44
PEARLWARE	1
PORCELAIN	7
REDWARE	268
STONEWARE	47
WESTERWALD	1
WHITE-BODIED EARTHENWARE	1
WHITEWARE	1
YELLOWWARE	1
Grand Total	505

TABLE 9 VAN DOESBURGH CERAMICS

Before addressing what the ceramic data reveals, it is important to note that there are discrepancies present within the Fort Orange database. This is why anachronistic wares such as pearlware, whiteware, and yellowware appear in Table 9. These may be examples of accidental identification, or data entry errors, but the presence of these inconsistencies must be acknowledged. The conclusions of these analyses are summarized as follows. The number of sherds and MVCs increased as the population within and around the fort increased, which can be seen across Periods 1, 2, and 3. This also shows that the fort was transitioning from a trading post (as seen in Period 1) to a settlement community (seen in the growth in amount and variation in Periods 2 and 3). By period 4 the fort was largely abandoned and had fallen into disrepair which explains why the sherd counts and MVCs dip in the final period. The second conclusion is that glass drinking vessels were used primarily within household, domestic and tavern contexts as is shown in the Staats Van-Twiller and Van Doesburgh examples. Thirdly, although small trends in vessel form and decoration can be observed across the Fort's lifespan, the variation of glass drinking vessels was relatively

stable and the proportion compared to pipe fragments remained relatively consistent. This is best shown in the breakdowns of each period by date range and vessel form and in the figure showing *Façon de Venise* over time.

When only looking at the periods it appears that they decrease over time, but when looking at the associated time periods one sees that the decline is virtually non-existent. The only component with an increased amount is from Component 78, which is a greatly disturbed component that most likely originally contained more than one context. This decrease over time is worth noting because it is somewhat different than what is observed in other vessel forms. Since settlers were capable and often did acquire the ceramics that were popular within Europe at the time, one must also assume that the glass vessel evidence found must have been from vessel forms and decoration viewed as popular or stylish for the time. As is shown in this thesis, these forms and decorations were relatively stable for decades. This could mean that the demand for these specific vessel forms and decorations did not change greatly over the lifespan of the fort, or perhaps the occupants had a long-lasting preference for these specific vessels.

Trends within the Glass Vessels

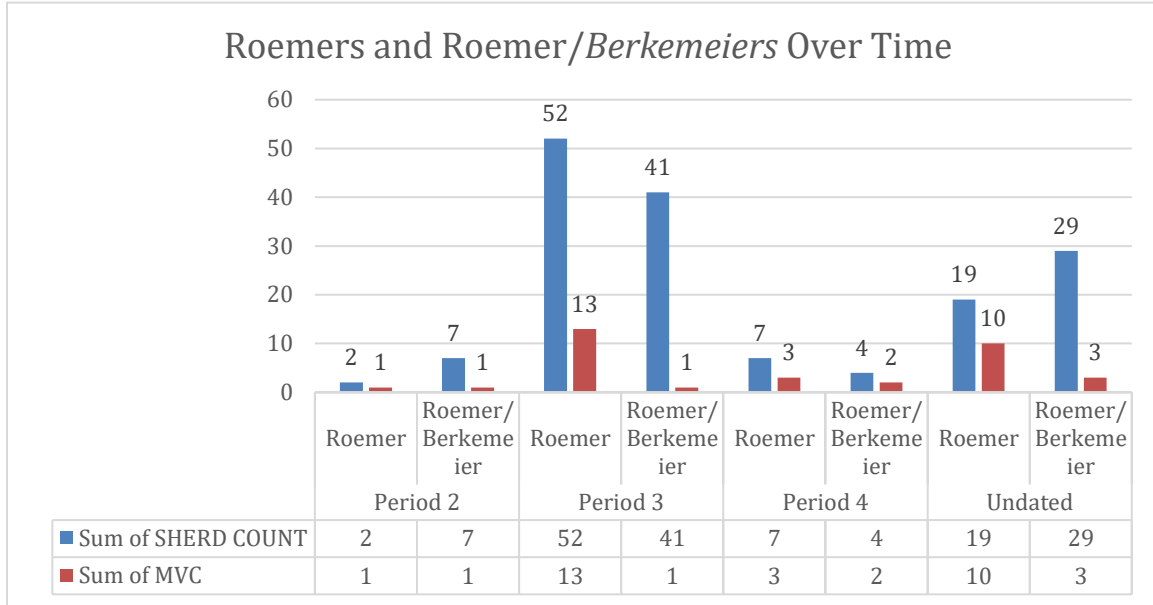


FIGURE 60: ROEMERS AND ROEMERS/*BERKEMEIERS* OVER TIME

Other trends of note include the presence of roemers and roemer/*berkemeiers* over time (Figure 60), and beaker sherds over time (Figure 61). Of all vessel forms, the roemer shows the most evidence of being bulk ordered or provided by the WIC or surrounding patroonship (Figure 60). The raspberry printed roemer is found in periods 2, 3 and 4 and is the most prevalent vessel form. Thorn printed and round printed vessels were also found. Data analysis reveals that only 7 potential *berkemeiers* were found within the Fort Orange excavations, whereas there was an MVC of 22 for roemers in the entire collection, which includes those from undated contexts. The roemer glass found at Fort Orange mainly consisted of rim sherds, foot sherds, and prunts, making it almost impossible to determine the subtle variations in roemer shape. Some of these sherds may even belong to *berkemeiers*, but due to the higher production of roemers in the second half of the 1600s it is safe to assume

that most of the sherds do in fact belong to roemers (Henkes 1994; Huey 1988).

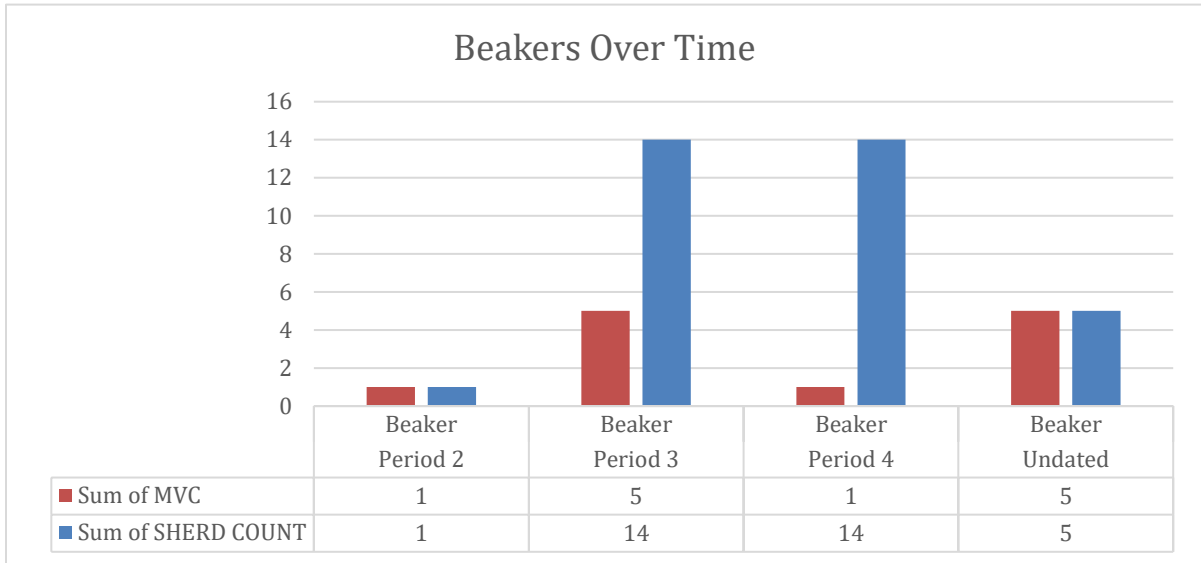


FIGURE 61: BEAKERS OVER TIME

Figure 61 depicts the occurrence of beakers over time but must be reviewed with caution. Many *vetro a fili* and other *façon de Venise* sherds found within the collection most likely belong to beakers, but without bases or large enough body sherds to determine vessel form, they are impossible to identify with relative certainty.

CHAPTER 6

DISCUSSIONS

This thesis provides a detailed and rare look into the material culture of those living in the 17th-century Dutch colony of New Netherland. The findings show that Dutch colonial sites, especially in the Northeast of America, contained material culture that was distinct from that of sites founded by other European colonial powers, specifically the English. An in-depth examination of the glass drinking vessels from Fort Orange and the surrounding area reveals not only the vessels used for daily consumption but the forms, decoration, and trading networks of the New Netherland residents. This thesis also presents culturally specific glass material culture with descriptions and context that will help aid in future identification of Dutch drinking vessels.

Based on the artifact types and historical context of the fort, the initial hypotheses of the analysis was that MVCs would increase and decrease alongside the population of the fort and its surroundings; that with more individuals there would also be an increase in vessel variation, that household and drinking house or tavern contexts would be the most robust, and that *façon de Venise* and other colorless drinking vessels such as dragon-stemmed goblets would be a reflection of relative affluence as compared to other colonial sites.

The results of the analyses revealed that MVCs did indeed increase along with the population within Fort Orange and the surrounding settlement, and that variation increased within the first two periods (Pre 1624 -1647). The analyses revealed however, that by Period 3 (1648-1664) and into Period 4 (Post-1664) little variation was found within vessel form and decorative elements. When examined spatially, the great majority of vessels were found within household or domestic sites and surprisingly, a much smaller percentage was traced to

tavern related contexts, possibly due to the fact that many households served as drinking houses over time. Trends revealed within the assemblage include: roemers and roemer/*berkemeiers* were the most popular vessel form found in nearly every site type and period, the dominant style of *façon de Venise* in Fort Orange was *vetro a fili*, and *cristallo* goblets were virtually absent from the assemblage.

Some areas for further study include comparisons of drinking vessel glass to glass container vessels especially through the use of comparative MVCs. This could help shed light on supply of alcoholic beverages throughout the colony over time. Another topic that could provide a deeper understanding of these materials is a thorough investigation of individual consumer choices compared to that of Company supply.

The use of glass drinking vessels is often intertwined with one's culture and lived experience. These items were used commonly for daily consumption and were often distinct to the region or culture one lived in. For those in the colony of New Netherland, access to the same glassware used in *patria* must have felt significant because of the close connection to the materials and habitual consumption practices of the Netherlands and European life within the 17th century. Over time their connections to *patria* may have weakened, but certain items would have held an important sense of familiarity. It is clear from the archaeological evidence that glass drinking vessels played a role in the varied and complicated lives of those living in the colony of New Netherland. This role, of course, is not singular or simple.

One could postulate, therefore, that vessels made for the purpose of alcohol consumption would be found within the Fort Orange excavations. However, these were delicate breakable objects, and if they continued to be in demand, they would need to be replaced every so often. Exactly how often is difficult to determine, but based on the

breakability of the material culture, it is conceivable that glass drinking vessels would be included in regular shipping supply orders. It is also conceivable that these items can be interpreted as ‘sought after’, due to their highly delicate nature and their presence within New Netherland contexts.

The study of glass vessel remains uncovered during the 1970-71 Fort Orange excavations, presents an illuminating window into the daily lives of those residing in the northernmost trading post within the colony. Upon inspection of primary sources such as *Documents Relative to the Colonial History of The State of New York* (Brodhead et. al. 1856) and the *Van Rensselaer Bowier Manuscripts* (Rensselaer 1908), it seems that very few primary sources of the period list glass drinking vessels in their ship or household inventories, whether they be from sources from the West India Trading Company or Rensselaerswijck. There are many possible reasons why this is the case: supplies could have been provided by specific glasshouses or purveyors, making the data more dispersed; the documentation could be largely lost over time or not compiled and translated; another is that these vessels may have fallen under the ‘miscellaneous goods’ or ‘sundries’ listings found in many inventories.

Evidence of glassware being sold in or to New Netherland at auction is rare but can be seen for example in the *Fort Orange Records* of the sale of goods of Steven Jansz in 1655 (Fort Orange Records :65) in which 6 beer glasses were sold to Seger Cornelisz for 6.04 florins, and the sale of the estate of the late Rutger Jacobsen in 1665 where ‘three large roemers’ were sold to ‘The Lord Rensselaer’ for 5: 5 florins. (Gehring 2000:134-135). Another illuminating account is the reference from Jan Thomassen Van Wely in 1657 that

related less demand for glass drinking vessels because wine was in low supply (Huey 1988: 422).

References to breweries and distilleries can be found in the *Van Rensselaer Bowier Manuscripts* (1908:200, 218-219) as well as the *Documents Relating to the Colonial History of the State of New York* (1856). Kiliaen Van Rensselaer noted on more than one occasion that he believed those who overindulged in alcohol were a stain upon his investment and were shameful examples to their neighbors (1908:622, 624,653). One of the main reasons he sent Evert Pels, a brewer, to Rensselaerswijck was so that beer could be made according to law within his patroonship and the illegal brewing and distilling of alcohol would be mitigated. He sent letters complaining that he believed that his settlers would often travel to Fort Orange and overindulge. He even voiced that they were supplied with too much wine. Where there is alcohol consumption, there must also be vessels used for consumption.

Clearly not all drinking vessels in Fort Orange and the surrounding area were made of glass, and if one were to base their assumptions on the remaining primary sources from the area, glass vessels would be relatively uncommon. However, archaeological evidence reveals that these were used by the settlers of New Netherland throughout the entirety of the Colony's existence and continued to be used after the British took control of the region.

Simon Schama's research of households within the Netherlands during the Golden Age reveals that the most common drinking vessels used were made of pewter and were relatively inexpensive (Schama 1997: 317) which is also reflected in primary documents relating to New Netherland (Gehring 1990:209, 354). However, although glassware was much more delicate, Schama states that their prices were varied. Roemers were relatively affordable, costing at times "not much more than a guilder the dozen" (Schama 1997:317)

with fancier or engraved vessels costing 5 guilders or more. He also notes that the durability of pewter may explain why they are listed more frequently in inventories.

It is clear from primary documentation that pewter and earthenware drinking vessels were common in New Netherland (Gehring 2000:115, 125, 135), and due to the breakable nature of glass vessels these may have been preferable for daily consumption. It is also possible that glass tableware vessels were not frequently documented in shipping records. Upon inspection of primary source collections including the *Van Rensselaer Bowier Manuscripts* (1908) and the volumes of the *Documents Relative to the Colonial History of the State of New York* (Brodhead et. Al. 1856), references to wine, beer, and liquors/spirits are common, yet the vessels used for individual consumption of these substances are rarely documented.

A number of decorative styles and forms of glass vessels were found in archaeological sites within the Netherlands that were not found within the Fort Orange excavations. These include ice glass, chalcedony, dragon or serpent stemmed goblets, and different types of more complex filigree such as *vetro a retorti*. Some of these forms and decorations were found in other colonial sites such as St Mary's City, Maryland (Grulich 2004), which may reflect a certain level of vessel preference within Fort Orange, as well as larger trading networks within North America. If these forms were available and used in other colonies within the New World, why were they not found within Fort Orange? One answer is possibly because the colonists were mainly supplied with what the WIC and Patroonship ordered in larger quantities, which was also potentially more cost effective.

The duties placed on British merchandise probably played a role in the abundance of Netherlandish glassware within the Dutch colonies. But this was enforced largely in 1651

and does not necessarily explain the presence of mostly Lotharingian glassware within the settlement prior to that date. It is also important to note that no similar Germanic or Dutch glass vessels have currently been found in many contemporary English colonial collections including the Burial Hill site in Plymouth (1620-1660), the RM Site in Plymouth (c. 1630-1680), the Winslow Site in Marshfield (c. 1650-1700), the Bradford site in Kingston (1680-1710), or the Allerton/Cushman site in Kingston, (c. 1630-mid 17th century), all in Massachusetts. This information was provided courtesy of Plimoth Patuxet Museums' Online Collections and through personal communication with the collections manager, Annie Greco. Information on the Burial Hill site was provided through personal communication with Christa Beranek. In addition, no comparable Dutch vessels were uncovered in the Fort St George site (1607-1608) in Maine (Brain 2007: 131-133).

The excavation of the French settlement at Fort Pentagoet (1635-1674) in the Acadian frontier (Faulkner & Faulkner 1987: 237-239) contained 46 tableware fragments with an MVC of 6, only two of which were determined to have originated from drinking vessels, yet both appeared to be either of Venetian or *Façon de Venise* style. They were identified as stemmed *cristallo* goblet sherds and no other identifiable drinking vessels were found. This differs from the Fort Orange assemblage's small amount of glass remains, the absence of any *waldglas* or *varenglas*, and the presence of a stemmed *cristallo* goblet, which was a form not represented in the Dutch settlement. Faulkner and Faulkner estimate that the glass tableware sherds made up 0.15% of the overall assemblage (1987: 284).

James Bradley addresses various indigenous sites in *Before Albany* and based on his determinations, evidence pointing to drinking vessels being used as trade goods are not overly abundant, but a few examples do exist. He focuses on some of the most common trade

items such as glass and shell beads, smoking pipes, and firearms (2007:4). One reason glass drinking vessels may not have been popular trade items, as opposed to pewter vessels, is that it is difficult to repurpose the extremely delicate sherds once the vessel is broken. No evidence of drinking glass was found at the Mahican Goldkrest Site in East Greenbush (2007:12) which is one of the few fully excavated Mahican sites. Some drinking vessel sherds have, however, been uncovered within Mohawk sites, although the occurrence appears to be relatively uncommon. Of the 40 Mohawk related sites listed in Donald Rumrill's chronology (1985), the IIC1 Rumrill-Naylor site (1635-1646) is the only one in which he mentioned the presence of glass tableware sherds. He states that "two pieces of Rhenish glasses" were found, one sherd was a raspberry prunt and the other an indeterminant sherd from a cylindrical stemmed object (1985:13). The presence of roemer and other drinking glass sherds within native contexts, however small, is interesting and leads to additional questions on whether these vessels were used as trade goods or represented closer contact with their European neighbors. In *Before Albany*, Bradley mentions that roemers sherds were found within some native sites and that they may have been traded after already broken as novelty items (2007:71-84). It seems likely that although Dutch glass drinking vessels were traded on occasion they were mainly used by the Dutch settlers for their own personal use.

Although the focus of this thesis is specific, I believe its contribution to the overall understanding of the Atlantic colonial experience is significant. It shows that Dutch colonial contexts contain distinctive material culture and thus can be used to aid in identifying Dutch sites and glassware specifically compared to English sites in the New World. In combination with future studies of Dutch colonial materials, this analysis will help to shed light on the

possessions and practices of those who settled the colony of New Netherland and in doing so will aid in furthering our understanding of the 17th-century colonial experience.

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