RHENISH, ENGLISH AND FRENCH STONEWARE, 1550-1800, FROM THE FERRYLAND SITE (CgAf-2), NEWFOUNDLAND AND LABRADOR

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by

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Abstract

This thesis provides an analysis of seventeenth- and eighteenth-century stoneware from the Ferryland site (CgAf-2), Newfoundland and Labrador. The Ferryland harbour was frequented by seasonal fishers in the sixteenth century and was settled in 1621 by Sir George Calvert. A successful fishing colony, Ferryland has been continuously inhabited since its founding, save for a few years. Archaeological excavations of the site produced a stoneware assemblage spanning the years 1600 to 1760. As expected, the majority is Rhenish, though English and French wares are present in smaller quantities. These broad origins were subdivided into Frechen, Westerwald and Raeren for the Rhenish wares, English brown and English white stoneware, and Normandy and Beauvais/Loire for the French wares. Analysis concentrated on the functional and social roles of stoneware over a span of 160 years of this early North American colonial community. To accomplish this goal it was necessary to review, refine and compile dates of commonly recovered seventeenth- and eighteenth-century stonewares. It was found that the success and decline of particular stoneware vessels were dependent on a popularity often bestowed by the English elite. Additionally, Ferryland planters mirrored some English behaviours in their choices of stoneware acquisition.

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Chapter 1

Introduction

Ceramics are an essential component of a historic archaeological assemblage. Ceramics provide valuable information about activities, social standing, trade networks and dating. Stoneware is a ceramic commonly recovered from colonial sites, though in smaller quantities than earthenware. The plastic clays which help to make stoneware impervious to water also make it a less versatile medium by limiting hand-thrown forms to hollow wares. Additionally, stoneware is sensitive to heat and so cannot serve for baking and cooking. Stoneware is, however, an ideal material for holding liquids and was commonly used to produce storage, transport, serving, and drinking vessels. Though such vessels are often considered utilitarian, stoneware also contributed in the social sphere. Seventeenth-century stoneware is well-studied in a general sense, however, there is little knowledge of stoneware use in early colonial contexts in North-Eastern North America. The Ferryland site provides an ideal setting for such a study.

The Ferryland site is situated on the southeastern coast of Newfoundland. Here George Calvert founded a settlement in 1621. Principally a fishing community, the colony was controlled by various proprietors during its history, including Sir David Kirke and his family. Continuously inhabited, save for a brief period, the original settlement was constructed around an area known as The Pool. The colony continued here until

1696 when it was raided and the inhabitants removed. Many inhabitants returned and rebuilt the settlement, and the community continues today.

Archaeological excavations, under the direction of Dr. James Tuck of Memorial University, unearthed several architectural features dating from the colony's early years, as well as dwellings from later periods. These, together with strata that pre-date the colony, provide roughly 160 years of stoneware refuse. The possibilities for research are plentiful with such an assemblage. Hence, this thesis has two goals: first, to identify and analyse the stoneware vessels that were acquired, used and discarded by the fishers and planters of Ferryland, thus giving insight into the roles of stoneware in an early North American colonial context, and second, to use this colonial context to answer questions specific to stoneware, chiefly to address the vacuity of post-medieval stoneware chronologies. The latter proved troublesome, due to both insufficient stratigraphical dating at Ferryland and broadly dated vessels in European museum collections. Nevertheless, the compilation of various sources of dating data presented in this thesis will provide archaeologists with a more fully referenced and broader understanding of seventeenth-century stoneware.

This chapter introduces the topics and outlines the goals of the thesis. Chapter 2 briefly recounts Ferryland's history and the archaeological excavations that uncover that history. Chapter 3 provides the background on the stoneware types discussed in this study by outlining the relevant stoneware production centres by geographical area. Chapter 4 elaborates on the background presented in the previous chapter by focussing on dating

seventeenth-century stoneware. Dateable attributes from vessels commonly found in colonial contexts are outlined, and reasons for vaguely-dated vessels are reviewed. Chapter 5 concentrates on the analysis of the Ferryland stoneware assemblage. The chapter opens with the research methodology, followed by a discussion of ceramic vessel nomenclature intended to clarify the terminology used in this thesis. The Ferryland stoneware assemblage is then introduced and the analysis is presented in three sections. The first section outlines function and use, and provides an interpretation of the role of stoneware at Ferryland. The second section describes stoneware availability and acquisition. The chapter concludes with a discussion and analysis of the chronological trends which impacted on stoneware popularity during the seventeenth and eighteenth centuries. Finally, Chapter 6 concludes the thesis with a discussion of the role of stoneware at Ferryland, and suggests avenues for future research.

Chapter 2

Ferryland: History and Archaeology

2.1 Introduction

The waters surrounding Newfoundland were bustling with activity in the sixteenth century. The plentiful fish attracted scores of ships from France, Spain, Portugal and England. French fishers dominated the sea with crews of Bretons, Normans and Basque exploiting the Grand Banks, Placentia and Trinity Bays, and the Great Northern Peninsula (Pope 2004: 14-19). At this time, the English fishery at Newfoundland was comparatively small and strictly in-shore. During the summer months the harbours of Newfoundland's rocky coastline offered space to cure the fish, make repairs, and house the visiting fishers. Thus, the coast of Newfoundland at the height of the fishing season was very much alive and active. By contrast winters were desolate, for the European fishers did not stay. However, the constructions built and abandoned by fishers attracted the Beothuk to the English Shore. Though they did not previously exploit some areas of the Avalon Peninsula, the Beothuk viewed the fishing stations as supplies of iron, and so would scavenge the nails that fastened the constructions together (Pope 1993a: 286). That returning fishers then needed to spend time and resources rebuilding boats, stages and cabins contributed to the thinking that leaving people at Newfoundland during the off-season would be advantageous. These overwinterers would be the caretakers of the English in-shore fishery. They also heightened the incentive for settlement, for

competition between fishers naturally created a chain reaction where fishers without caretakers were at a distinct disadvantage (Pope 1993a: 288).

The settlement of Newfoundland began on the Avalon Peninsula in the early seventeenth century. In 1610 John Guy arrived at Cupids with 39 colonists and instructions to fortify, fish, and farm, among other things. There were also attempts to colonize some years later in Aquaforte, Fermeuse and Renews, and by the mid-1620s St. John's had houses (Pope 2004: 50-53). Ferryland, 80 kilometres south of St. John's, was settled in 1621 by George Calvert and, from the beginning, had good prospects because it was well-financed and organized (Figure 2.1). Indeed, Ferryland boasts a long and thriving history with almost continuous European habitation since its founding. The establishment of the colony marked the beginning of a long journey now part of history and revived by archaeology. This chapter introduces the key points of this history and summarizes those parts uncovered by archaeology. The reader is encouraged to consult other sources for more detailed discussions of Ferryland's story. The reader should also note that the archaeology discussed here reflects only those features and strata that produced the stoneware assemblage for this study. Thus, only the archaeology up to and including the 2000 field season is summarized.

2.2 The Settlement of Ferryland

Ferryland's accessible harbour made it an ideal location for settlement, and, coupled with the fact that it was a place well-known to English fishers, made it all the

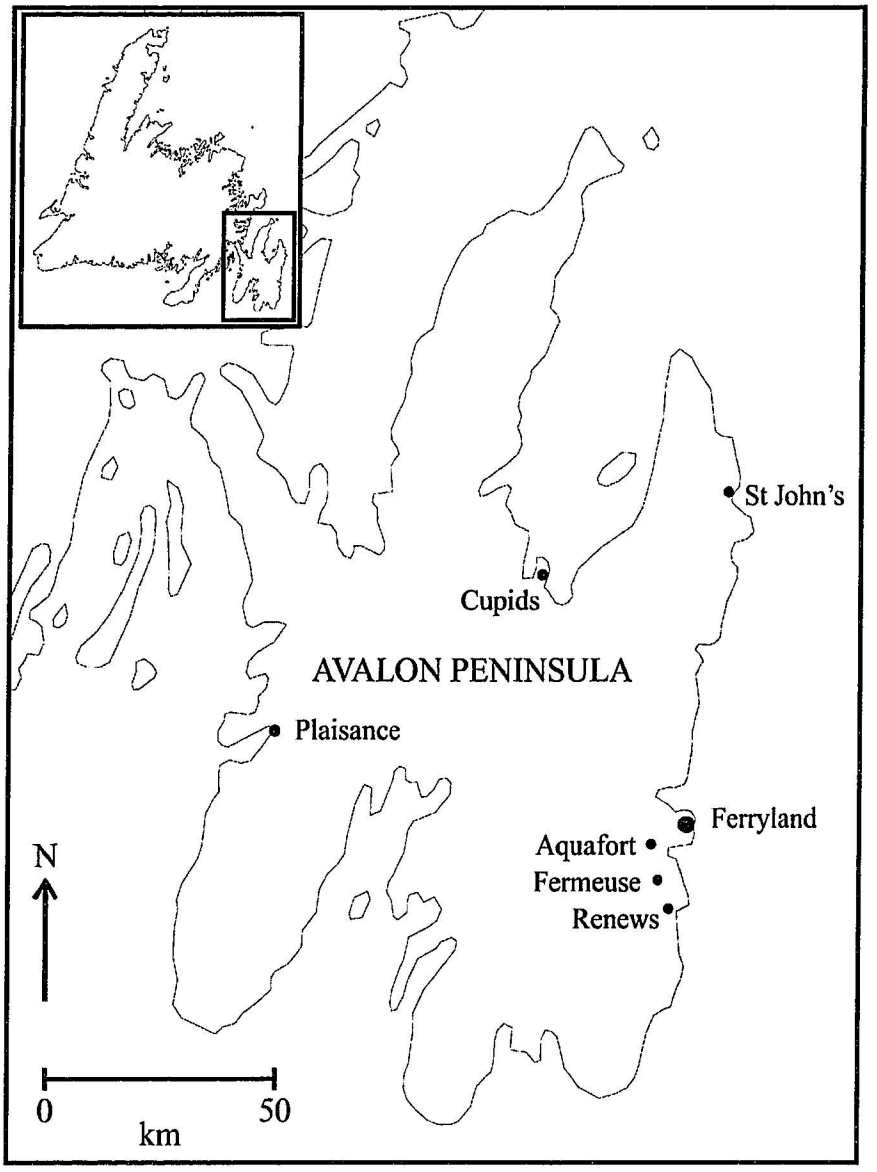

Figure 2.1 The Avalon Peninsula, Newfoundland

more suitable. George Calvert, no stranger to colonial enterprise with land in Ireland and an investor in both the Virginia and East India Companies, bought the Ferryland lot from Sir William Vaughan in 1620 (Codignola 1988: 10; Pope 2004: 52). A few years later, James I recognized this transfer by awarding Calvert a grant for the Province of Avalon, giving Calvert title to much of the Peninsula (Pope 2004: 54). Unable to go himself, Calvert charged Captain Edward Wynne to oversee the birth of the colony. Wynne and eleven settlers arrived at Ferryland in August 1621 after a safe and uneventful passage from Plymouth (Cell 1982: 253). This small group, which included carpenters, a stonelayer and a quarryman, set to work and, within a year, boasted many accomplishments – they built Calvert's Mansion House, a stone kitchen, a parlour, a henhouse, tenements, a saltworks and a forge (Pope 2004: 128). Within a few years the settlers' had also constructed a brewhouse/bakery, a stone warehouse, a well laid beach cobblestone street, a palisade, and wharves and warehouses for the fishery. More settlers arrived in the summer of 1622, among them women and children, and including skilled men such as stone layers, blacksmiths, a quarryman, boat masters, a husbandman, a tailor, a surgeon, and fishers (Gaulton and Tuck 2003: 190). Within a few short years, the settlement probably had the look and feel of a comfortable West Country English community.

The colony was doing well and growing. In 1627 Calvert, now Lord Baltimore, arrived at Ferryland and must have been accordingly impressed. The visit was enough for Calvert to decide to settle at Ferryland permanently, and he returned the following year

with his wife and their children, save for the eldest son, Cecil, and forty settlers, many among them Catholic (Gaulton and Tuck 2003: 191). It was not long before the pleasantries of Calvert's visit the previous year proved unrealistic. French pirates plagued the colony with retaliatory raids for those bestowed by the English along the St. Lawrence (Codignola 1988: 51). Instead of the dream "to builde, and sett, and sowe" Calvert found much of his time, energy, and investments diverted to defence (Cell 1982: 279). Following these frustrations came a viciously unforgiving winter. Sickness befell half the 100 settlers during this long season, Calvert among them. Nine or ten settlers died, a sizeable number for a small colony. The coldest harbour of the land, as Ferryland was known, jolted Calvert into a decision to depart Newfoundland. Calvert wrote more than one letter expressing the suffering, as this passage to Sir Francis Cottington dated August 18, 1629 demonstrates:

> I am so overwhelmed with troubles and cares as I am forced to write but short and confusedly. ... I have sent them [children] home after much sufferance in this wofull country, where with one intolerable wynter were we almost undone. It is not to be expressed with my pen what wee have endured. ... For this reason I am forced to remove my selfe before another wynter come to Virginia... with some 40. persons in my company... (Cell 1982: 292-3).

The extreme winter gave Calvert a fair public reason for leaving Newfoundland, but he also had good cause to depart on economic grounds. He had, after all, invested handsomely in Ferryland's infrastructure, obviously expecting good returns. However, the fishery was in a decline at this time and there were high costs associated with providing the fishers with protection from privateers (Pope 2004: 132). In the end, the

costs outweighed the benefits. Although Calvert physically removed himself and his family and servants from Ferryland, the land was his and he maintained his interests in the colony via a representative, William Hill. Captain Hill occupied Calvert's mansion house until he was forcibly removed by the land's new proprietors. The arrival of the Kirkes mark the next chapter of Ferryland's story.

2.3 The Kirkes at Ferryland

Kirke is a recognizable name in Canadian history as it is forever tied to the early conflict between France and England over this country's lands. The Kirke brothers, David, Lewis and Thomas, were English privateers authorized by Charles I to capture French vessels and territories. To this end the brothers were very successful, eventually taking Québec from Samuel de Champlain in 1629. For a few years the Kirkes possessed these captured territories on behalf of England until the land was returned to the French by treaty (Cell 1969: 113). For their efforts the Kirkes were given honorary additions to their coat of arms and David Kirke was knighted in 1633. Furthermore, in 1637 Sir David Kirke and his associates, Henry Rich, James Hamilton, and Philip Herbert, were rewarded with the rights to the Newfoundland trade. This "Grant of Newfoundland" gave the associates administrative control (Pope 2004: 132-133). It was not long before Sir David capitalised on these rights as the next year he travelled to Newfoundland with his wife, Sara, four sons and 100 settlers. Their destination was the fledging Ferryland colony.

Arriving at Ferryland Kirke would have made two obvious observations. First, that the colony was sparsely populated – many settlers departed with Calvert, with no more than 35 remaining at the colony – and second that, thanks to Calvert's financial investment and Wynne's governorship, much of the infrastructure of colonial enterprise was already in place (Pope 2004: 56, 61). After ousting Captain Hill from the mansion house Kirke quickly got down to business. He easily became the principal merchant with fishing crews and a trade network along the peninsula, and accumulated wealth by collecting rents for fishing rooms and charging for tavern licences (Pope 1992). Kirke and his associates also levied a 5 percent tax on fish carried on foreign ships, a move invested under the "Grant of Newfoundland" to quell French competition and oust the Dutch from dominating in trade. Kirke also set about erasing Calvert's legacy and making the colony his own. In the first few years of his stay Kirke reorganized the colony by levelling some structures and replacing them with new ones. Furthermore, the settlement became known as the Pool Plantation (Gaulton and Tuck 2003: 209). Calvert's colony was effectively replaced by Kirke's rejuvenated and thriving community.

Indeed, under the Kirkes' management Ferryland became "the centrepiece of the Province of Avalon" (Pope 2004: 4). While St. John's was the most populated harbour on the English Shore in 1677, Ferryland had the most large plantations. That is, Ferryland planters managed larger operations with more boats and servants than their peers. Also, Ferryland was a place of trade, with planters from smaller settlements coming to acquire goods (Pope 2004: 313). The Kirkes themselves operated large fishing plantations and

prospered handsomely – by mid-century David Kirke operated at least 30 boats, and years later members of the Kirke lineage continued to operate several large plantations (Pope 2004: 41, 122). However, these accomplishments were not effected without penalty. The execution of Charles I in 1649 spelled trouble for David Kirke. A parliamentary commission was appointed to investigate Kirke's business practices, which, it appeared, were not altogether sound and honest. Kirke was recalled to London in 1651 as an enemy of the Commonwealth (Pope 2004: 143). His situation worsened when Cecil, George Calvert's son, took advantage of the situation to launch a suit against Kirke over the ownership of the colony. The courts sided with Calvert. Sir David was imprisoned and his lands and colonial claims turned over to the Commonwealth. John Treworgie was thus appointed as commissioner by Parliament to manage Newfoundland, a charge he fulfilled from 1651-1659, and Sir David died in a London prison in 1654. Despite these events Lady Sara Kirke, along with her sister who arrived in 1650, and Sara's sons continued their residency at Ferryland. With the restoration of Charles II in 1660 the Kirkes regained their control over the colony (Pope 2004: 142-154).

2.4 Raids

Colonies, even small fishing communities, were vulnerable as targets of attack by political enemies. Ferryland suffered two such attacks in the span of a quarter century. The first was launched by the Dutch, under the command of Captain Nicholas Boes, on September 4, 1673 as part of a series of retaliatory raids on the English for having taken

New Netherlands. No one was injured but the damage to property was extensive. Structures were burned and cattle and other goods destroyed. The inhabitants overcame their losses and Ferryland continued to prosper in the fishing industry (Gaulton and Tuck 2003: 210). The second attack in 1696 at the hands of the French, however, was more grave. The French plundered and burned everything in their efforts to disrupt the English Newfoundland fishery, which included the expulsion of English planters. Some Ferryland inhabitants were returned to England, while others, including the Kirke sons, were imprisoned at the French Newfoundland colony of Plaisance. All three died in French custody that winter. Since Lady Sara had died some years before, the deaths of her sons marked the end of the Kirke name at Ferryland. Nonetheless, this was not the end of the settlement. Many planters returned the following spring and rebuilt the settlement. Ferryland was again raided by the French in 1705, but once more the inhabitants were not dissuaded from continuing their residency (Prowse 1895: 262). The community at Ferryland continued to grow and by the mid-eighteenth century the population boasted 250 permanent residents (Head 1976: 98).

2.5 The Archaeology of Ferryland

The search for the seventeenth-century colony at Ferryland began in the 1930s when entomologist Dr. Brooks of Maryland first put shovel to earth for a series of test excavations (Tuck 1996: 24). More tests were conducted by J. R. Harper in the 1950s for the Historic Sites and Monuments Board of Canada, which produced seventeenth-century

material. Memorial University also carried out test excavations in 1968, and again in the early 1970s. Ten years later Memorial University began another series of excavations, under the direction of Dr. James Tuck, to assess the potential of the site. Four Areas were tested over three years and the excavations proved very productive. Both features and artifacts were uncovered and the site was found to be well preserved, stratified and rich (Tuck 1996: 24). It was clear to the excavators that the site was deserving of full-scale excavation.

Once funding was secured excavation began in the summer of 1992 again under the direction of Dr. Tuck. The first years of excavation were very productive and uncovered some key structures from the initial building phase, as well as later constructions and other features. Various features of Captain Wynne's construction phase were located and excavated to varying degrees, including the kitchen, the parlour, the forge, the brewhouse and associated well, the seawall, the warehouse and privy, and the cobble street. Evidence of the Kirkes' reconstruction was also uncovered. Two late seventeenth-century dwellings and an eighteenth-century dwelling have also been excavated. These features are briefly summarized below by excavation Area to facilitate the breakdown of the stoneware described in this thesis (Figure 2.2).

2.5.1 Area B

Area B is located at the western edge of the colony. Two structures were located and excavated in this Area. The first is the forge which was built by the early colonists in

1622, abandoned sometime mid-century, and fully excavated in the 1980s and 1990s. The forge is the subject of a thesis completed by Matthew Carter (1997). Carter reports that Bartmann bottle sherds were recovered from the forge. However, because these sherds could not be located and viewed by the researcher of this thesis they are not included in the present study. The second structure is a dwelling that was occupied *ca.* 1660-1696 and was destroyed during the French raid of that year (Nixon 1999). Stoneware was part of the ceramic assemblage from the dwelling and these vessels are included in this study.

2.5.2 Area C

The main structure excavated at Area C is the large stone warehouse constructed in the first years of settlement. In the seventeenth century the warehouse abutted the water as its north wall was also the seawall. The warehouse served various functions over its lifespan (1620s-1696). An alchemist or goldfiner used the western end, at least briefly. The eastern end housed a privy which incorporated openings to allow the tide to flush it out, although this appears to have worked only marginally given the amount of refuse found within. The warehouse was destroyed in the Dutch raid of 1673, but new construction after the raid led to what Gaulton (1997) interprets as a cowhouse-storage shed. This structure was in use until the French attack of 1696. Area C also provided strata possibly dating to the pre-colonial era when the harbour was used by seasonal fishers.

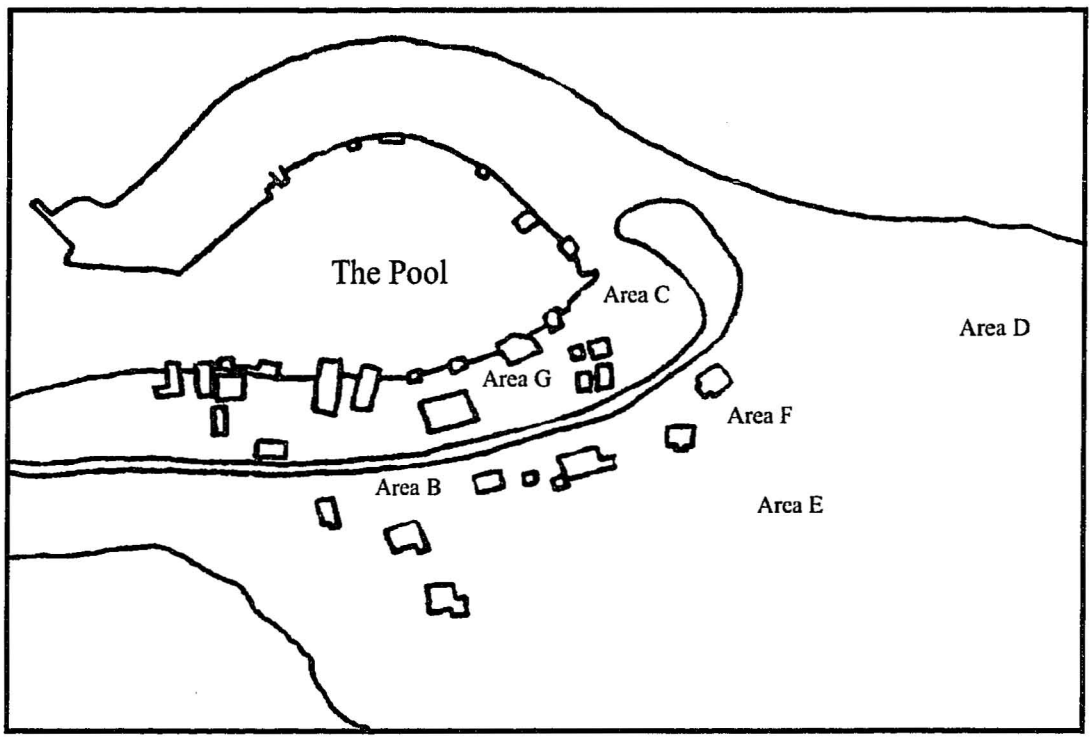

Figure 2.2 Ferryland excavation Areas

2.5.3 Area D

Excavations at Area D uncovered a dwelling and a well. This dwelling is located outside the original confines of the colony and was occupied in the period between the raids, *ca.* 1675-1696 (Crompton 2001). Crompton deduced that the inhabitants were of the middling sort based on the artifact assemblage and aspects of the house itself. The stoneware from this dwelling is included in this study.

2.5.2 Area E

Area E is located at the south end of the site at the crest of the hill. Excavations uncovered evidence of the colony's seventeenth-century defences and a structure dating to the eighteenth century. Initial investigation led excavators to believe the structure is a tavern. Further excavations by Barb Leskovec, in the course of MA research, provide a more complete perspective. Leskovec feels the structure is a dwelling that also served as a tavern and dates *ca.* 1720-1760 (Barb Leskovec, pers. comm., 2005).

2.5.2 Area F

Area F is located at the eastern edge of the settlement where several features from the first years of Calvert's colony are situated. Excavations unearthed defensive works, including the defensive ditch, which turned out to be artifact-rich, and an earthen rampart, and more of the cobble street. Overlying part of the street was a midden with abundant artifacts, including numerous sherds of stoneware and various status items such as tin-

glazed earthenware, *terra sigillata*, and objects of silver. The presence of these finds raised expectations that the mansion house was nearby. However, the structure closest to the midden is the brewhouse/bakery. Nevertheless, this structure was demolished during the Kirke's reorganization to make room for the Kirke's residence (Gaulton and Tuck 2003: 199).

2.5.2 Area G

Area G is situated west of Area C at the waterfront. The seawall and a cobble pavement are located here (Barry Gaulton, pers. comm., 2002). Excavations during the late 1990s did not uncover a structure, though one was anticipated in the vicinity, based on the material found. Instead, a fill deposit was identified which could be evidence for Wynne's land reclamation project. This Area provided seventeenth- and eighteenth-century strata and stonewares from Area G date to both centuries.

2.6 Conclusion

This chapter provided the more important details of the history and archaeology of Ferryland. European use of the harbour dates to the sixteenth century, and the colony was established in 1621. Ferryland has been occupied since that year, despite bleak winters, changes in management, and raids by the Dutch and the French. Archaeological investigations unearthed snapshots of this history, from the days before settlement through the eighteenth century. The features that produced the stoneware assemblage for this

study were introduced in this chapter. The chapter that follows presents the details of stoneware manufacture from the relevant European industries whose wares were recovered from the site. Subsequent chapters continue to narrow the focus toward the roles of stoneware at Ferryland over the seventeenth and eighteenth centuries.

Chapter 3

European Production of Stoneware

3.1 Introduction

Stoneware is characterized by a hard fabric that is impervious to water. While earthenware is fired at an average temperature of 900˚C, stoneware is fired between 1200˚C and 1400˚C, a temperature required to fully fuse the fabric. As a result, well-fired stoneware often has a glassy finish when broken. More importantly, this high firing gives stoneware its durable quality. Creatively described as "robust", medieval and post-medieval stoneware was ideally suited for the transportation and storage of liquids, as well as withstanding the wear of daily use, which made it an ideal material for drinking and serving (Gaimster 1997a: 117). Since stoneware is by definition impervious to water, glazing is not required, although the practice of applying a glaze was common in most industries. The glaze most frequently applied was a salt glaze. Slips were sometimes used for aesthetics but served no practical purpose.

In seventeenth-century Europe the dominant stoneware production centres were in the Rhineland and France. The Rhenish production centres included Langerwehe, Siegburg, Cologne, Frechen, and the Westerwald (located in present-day Germany), as well as Raeren (present-day Belgium). French stoneware was produced mainly in the north, in Normandy, Beauvais, Loire, Béarn, Flandres, Alsace and Brittany. England supplied her subjects with stoneware imported from the Rhineland and, on a lesser scale,

from France, during the medieval and post-medieval periods. English stoneware was first marketed in 1675, although continental stoneware imports continued well into the eighteenth century. This chapter chronicles post-medieval stoneware production in Europe, though only the production centres relevant to this research are presented.

3.2 The Rhineland

The Rhine River flows from the Swiss Alps through Austria, France, Germany and the Netherlands where it empties into the North Sea. The surrounding river valley is rich in two elements essential for the successful manufacture of stoneware. These are plastic clays, which are able to withstand high firing temperatures, and ample forests, providing the necessary abundance of wood to feed the kilns. Rhenish potters, already well versed in the art of earthenware, began experimenting *ca.* 1150, leading to the development of true vitrified stoneware by the end of the thirteenth century (Gaimster 1997a: 34-35). It appears that during the first three centuries of stoneware production wares were not purposely glazed, although an ash glaze commonly formed naturally.

Salt-glazing was introduced in the sixteenth century. The salt was thrown into the kiln during the final stages of firing, where it vaporised and formed a clear, sheen glaze (Gaimster 1997a: 33-34). Although it sounds simple, the process of salt-glazing required an optimum temperature, humidity level and quantity to produce the desired result. Excess salt could result in discolouration, sometimes turning the surface green (Harald Rosmanitz, pers. comm., 2001).

The major Rhenish stoneware centres during the sixteenth, seventeenth and eighteenth centuries included Langerwehe, Siegburg, Cologne, Frechen, Raeren and the Westerwald. While these centres produced similar products, each district used distinctive styles, differentiating each from the others. However, the migration of potters resulted in the transplanting of traditions. The demands of export markets also fluctuated. Changing fashions in England dictated which Rhenish wares were imported. At any given time one or two Rhenish centres held the monopoly as the producer for the English market. Whereas Siegburg, Raeren and Cologne were the main suppliers during the sixteenth century, in the seventeenth and eighteenth centuries Frechen, and later the Westerwald, dominated the supply. Only the production centres relevant to this thesis are discussed in further detail. These are Frechen and Cologne, Raeren and the Westerwald.

3.2.1 Frechen and Cologne

The Ferryland assemblage identified in this research does not include any vessels made in Cologne. Nevertheless, because the history of Frechen stoneware production is closely linked to that of Cologne, it is relevant to include brief details about Cologne stoneware production.

Cologne, or *Köln* in German, is located on the bank of the Rhine River. The town of Frechen is a mere ten kilometres south-west of Cologne. The ceramic industry was well established in both centres by the fourteenth century, and there is evidence suggesting many Frechen potters migrated to Cologne in the early sixteenth century

(Hurst, Neal and van Beuningen 1986: 208; Gaimster 1997a: 193). Stoneware production began *ca.* 1500 in Cologne, and possibly earlier in Frechen (Gaimster 1997a: 191, 208).

The clay used in the Cologne-Frechen area had a quartz-sand structure and contained traces of iron salts, giving the fired product a brown surface with a tiger glaze (Gaimster 1997a: 208; Elliott 1986: 85). Potters used an iron-rich slip or wash to enhance the brown colour of the surface. The slip or wash was either poured onto the vessel or the vessel was dipped into the solution during the leather-hard stage prior to the vessel's firing (Gaimster 1997a: 40). Many Bartmann bottles exhibit wash drips from dipping running to the base. The fabric is usually grey, although other colours, such as yellow, beige and buff, occur in Frechen wares. Interior surface colour also varies widely, with greys, yellows, pinks and greens being the most common. Frechen stoneware has a number of aliases in the literature, such as Rhenish Brown and Cologne Ware.

Cologne potters produced a variety of forms. A walk through a museum reveals an eclectic collection of forms such as jugs, bottles, drinking pots, mugs, puzzle jugs, wine cups and zoomorphic jars. Jugs, bottles and drinking pots were often decorated with applied relief oak-leaves and acorns, rose-plants, and thistles. Another common decorative motif was a naturalistic bearded face-mask applied to the neck of bottles. A face-mask was not unique to Cologne, as the practise originated in Raeren and was used also in Siegburg. The face-mask was exceptionally popular with consumers everywhere, locally as well as in England. The bearded face-mask, known as Bartmann, continued as a popular vessel motif into the eighteenth century.

In the sixteenth century the stoneware industry in Cologne was immensely successful. So much so that the potters found themselves ostracised from their own community and were forced to leave because city officials expressed concern over the fire risk caused by the extremely high firing temperatures and the clouds of noxious fumes released from stoneware kilns (Gaimster 1997a: 193). It has also been suggested that a rivalry between earthenware and stoneware potters contributed to their displacement (Keramikmuseum Westerwald 1991: 47). Over a period of twenty years stoneware potters faced prohibitions, taxes and, eventually, orders to demolish their kilns (Gaimster 1997a: 193). From *ca.* 1540 to *ca.* 1560 stoneware potters quit Cologne and re-established their businesses in Frechen. The disruption did not hinder the production of stoneware, however. The Frechen industry flourished and quickly ousted Raeren as the principal stoneware supplier for the English market (Gaimster 1997a: 92).

Stoneware production in Frechen continued much the same way it had in Cologne. Until the end of the sixteenth century jugs, bottles and drinking pots adorned with acorns, leaves and thistles were made on a large scale. *Bartmannkrüg*, vessels, mainly bottles, adorned with the Bartmann face mask, became ever more popular, and with the rise in popularity came increased production and trade. Trade of Frechen stoneware was largely in the hands of merchants, securing supply of choice products for Dutch and English markets. Their control led to the mass production of the most popular Frechen products, most notably the Bartmann bottle (Plate 1), whose decoration became progressively

clumsy (Gaimster 1997a: 210). Irrespective of poor decoration, the Bartmann bottle was a staple vessel in English homes, inns and taverns throughout the seventeenth century.

While Bartmann bottles were the most popular form, other Frechen vessels continued to be traded to the English market in the seventeenth century. These included plain jugs, drinking pots and ointment bottles. The plain jug was a popular commodity among the English elite during the second half of the sixteenth century. The jugs of the sixteenth century appear to be of a size suitable for drinking.[1] As Hurst *et al.* point out the jugs became taller and more ovoid over time so that by the seventeenth century they are easily recognized as jugs (Plate 2) (1986: 216). They functioned as both drinking and serving vessels. Drinking pots were also produced throughout the seventeenth century. They were commonly decorated with a medallion on the body and either applied lion masks or stamped flowers on the neck (Plate 3). Drinking pots suffered a similar fate as the Bartmann bottle in that the decoration suffered from sloppy application, and at times were left plain. The ointment bottle is a small, undecorated vessel that was produced since at least the early seventeenth century (Plate 4). These bottles have not previously been termed *ointment bottles*, but their small size suggests medicinal contents. Analysis of the contents of one of these bottles found in a Dutch shipwreck off the coast of Norway showed that pork fat was a main ingredient, suggesting a cosmetic or medical ointment (Andersen 1974: 97). Andersen proposes these bottles functioned as ointment containers.

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[1] These vessels more closely resemble drinking pots when applying the Potomac Typological System (Beaudry, Long, Miller, Neiman and Stone 1983).

3.2.2 Raeren

The town of Raeren is located in Belgium, one kilometer from the present German border. It is not known if Raeren developed its pottery industry independently, however, Gaimster suggests that potters from Langerwehe arrived in *ca.* 1400 (Gaimster 1997a: 224). Initially vessels produced were similar to the Langerwehe types. The Raeren stoneware industry grew during the fifteenth century, eventually out-producing the Langerwehe industry and capturing the export market. The most successful Raeren export was a small drinking jug, popular from *ca.* 1485 to 1550. The vessel was popular among all of England's citizens, crossing socio-economic boundaries, as it has been found on archaeological sites spanning the rural peasantry to royalty (Hurst *et al.* 1986: 194).

Raeren produced a range of stoneware products during this period. These included a variety of drinking vessels, jugs, mugs and bottles, as well as smaller items like spindle-whorls, oil lamps and anthropomorphic whistles (Gaimster 1997a: 224). The clay used by Raeren potters was high in iron, making for a dark grey fabric. Unlike the tiger appearance of the Frechen wares, the Raeren brown stoneware, when coated with an iron wash, had an even, glossy brown surface, giving it an almost metallic quality (Plate 5).

A time of creative innovation began in *ca.* 1540 giving rise to new forms and detailed relief ornament decoration. This phase is known as the *Blütezeit* and was led by the skilled potters of the Mennicken family. The most famous is Jan Emens Mennicken who is credited with two major innovations – the baluster jug and the grey stoneware body (Gaimster 1997a: 225). The first baluster jugs were thrown in the 1570s and are

characterized by a cylindrical central section, or body panels, designed for applied relief decoration, or *friezes*. Baluster jugs were commonly decorated with scenes from epic and religious stories such as *The Peasant Festival*, *The Seven Electors*, the story of *Susanna*, and *Joseph's Recital*. In the 1580s, Jan Emens developed grey-bodied stoneware painted with cobalt blue. The baluster jugs, originally produced in the brown stoneware, continued to be made in the blue-grey stoneware. The latter proved to be much more profitable than the former and so other blue-grey forms were produced and ornately decorated (Gaimster 1997a: 225).

After nearly two centuries of ceramic success, many Raeren potters, again led by the Mennicken family, migrated to the Westerwald beginning in at least 1588 (Klinge 1996: 70; Gaimster 1997a: 226). The accepted reason for the move is military disturbance, since the migration coincided with the Revolt of the Netherlands (1566-1609). Raeren potters brought their moulds and tools with them and continued to produce the popular blue-grey stoneware, now commonly associated with the Westerwald. Consequently, the early blue-grey Westerwald wares are virtually identical to Raeren wares. Vessels which cannot be distinguished are classed as Westerwald type (Hurst *et al.* 1986: 221).

3.2.3 The Westerwald

The Westerwald area refers to the towns of Grenzau, Höhr and Grenzhausen (today amalgamated into the city of Höhr-Grenzhausen), along with several outlying

towns, east of the city of Koblenz. The area was known as the *Kannenbäckerland*, or "Country of Pot Bakers" (Solon 1892: 75), and was renowned for the rich deposits of white-firing, highly plastic clays (Gaimster 1997a: 251).

The stoneware industry likely began in the fourteenth century with the manufacture of tall jugs and other drinking vessels (Gaimster 1997a: 251). The industry matured with the immigration of potters from Siegburg and Raeren in the late sixteenth century. These master potters introduced the skills and techniques already refined in their home centres, and brought with them moulds for applied decoration. The Siegburg potters continued to produce the monochrome white stonewares of Siegburg style and the Raeren potters produced the blue-grey wares which proved so popular.[2]

The Westerwald is known mainly for its blue-grey wares despite Siegburg influences. Native Raeren potters continued to produce elegant baluster jugs, at least for a time. They also produced a biconic jug which was similarly decorated to the baluster but lacked the central friezes (Plate 6). The region introduced distinct wares and styles *ca.* 1625 (Gaimster 1997a: 252). Influenced by the Baroque style, jugs lost their panels, leaving the body of the jug uninterrupted. The biblical scenes were replaced with engraved, stamped and applied decoration consisting of rosettes, blossoms, lozenges, cherubs and stars, among other motifs. These were arranged in rows or placed evenly over the surface (Plate 7). Some years later flower motifs were sometimes linked with incised stems (Plate 8). A lion mask was sometimes applied to the neck of a jug, in the

[2] For further information on Siegburg stoneware see Gaimster 1997a.

same manner as the Bartmann mask. This decorative style continued in use until at least the early eighteenth century.[3] The shape of the jugs also became more varied during this time.

Westerwald potters were not only masters of stoneware but also skilled entrepreneurs. They easily adapted their industry to keep up with the changing demands of fashion. They succeeded in producing a range of vessels and decorative styles, always being able to respond to the whim of the consumer, and especially to the important export market. While Frechen was busily exporting Bartmann bottles, plain jugs and drinking pots, the decorative blue-grey Westerwald wares were quickly picking up the market share. The increasing popularity of the Westerwald jugs is evident from their frequent appearance in paintings from the second half of the seventeenth century, such as Nicolaes Maes' 1656 painting *Old Woman at Prayer* and Johanees Vermeer's *The Kitchen Maid*, 1658 (Plates 9 and 10).

Westerwald potters often applied heraldic motifs to their wares. The image of the princes of Orange and English and French royalty were applied to jugs and mugs for the export market. The images were replaced by the crowned WR, AR and GR ciphers, referring to the English monarchs William III, Queen Anne, and Kings George I and II. An English law enacted in 1700 required that vessels be marked with the crowned WR as proof of standard quart and pint measurements (Klinge 1996: 108). It has been suggested

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[3] Exact dates for Westerwald decoration styles are not firmly established. Dates provided here are based on text and photographed vessels from a variety of sources. See Chapter 4 for discussion of stoneware dating.

that Westerwald potters understood the law to mean that the cipher belonging to the current monarch was the one to be used (Gusset 1980: 155).

Manganese-purple was successfully introduced as painted decoration *ca.* 1660. It was applied to wares both as the sole colour and together with cobalt-blue. Until the twentieth century, cobalt and manganese were the only pigments able to withstand the high firing temperatures of stoneware (Gaimster 1997a: 252). Potters also introduced monochrome grey wares shortly after introducing manganese. The earliest were decorated with the stemmed flower motifs, but were left unpainted (Plate 11). It is believed the industry was adapting to competition from the European tin-glazed earthenware and Chinese porcelain trades. During the first half of the eighteenth century the competition intensified due to the rising popularity of tea and coffee. Westerwald potters responded to the new fashion by introducing new wares such as tea and coffee pots, bowls and saucers, porringers and plates (Gaimster 1997a: 252). Nonetheless, export markets continued to be more interested in stoneware jugs and mugs.

The Westerwald stoneware industry exported a miscellany of wares to the English market. Jugs of various shapes, sizes and decoration marked the beginning of Westerwald success, followed by the increasingly popular stoneware mugs. Mugs were decorated with the same motifs as jugs, that is with incised, stamped and applied relief and painted with cobalt-blue and manganese-purple. Eighteenth-century mugs are commonly adorned with the crowned AR and GR ciphers, always placed opposite the handle. Also at this time mugs were sometimes given a capacity number, usually incised on the rim (Plate 12).

The most common mug capacities are 1 gill (incised 10), ½ pint (8), 1 pint (6), and 1 quart (4) (Gusset 1980: 154). While the larger mugs were used for beer and ale, the small mugs were likely used for spirits and liqueurs.

Jugs and mugs dominate Westerwald stoneware assemblages from English and colonial archaeological contexts, while other wares are found in smaller numbers. Pot-bellied bottles were commonly decorated with stamped flowers or hearts circumscribing the shoulder, and applied lions and medallions around the body, with cobalt-blue highlighting the motifs. They ranged in size and appear to have been produced throughout the seventeenth century. In the seventeenth and eighteenth centuries lions were also used to decorate chamber pots. The production of mineral water bottles began in the mid-seventeenth century and became an important ware for the industry during the eighteenth and nineteenth centuries (Gaimster 1997a: 252).

From *ca.* 1700 applied decoration was slowly replaced with incised decoration, save for the medallion. The elegant relief rosettes, blossoms, lozenges and cherubs applied to jugs and mugs gave way to incised foliage and scrolls, chequers and diamonds, animals and birds (Gaimster 1997a: 252). Manganese-purple seemed also to have lost favour as cobalt-blue became once again the principle colour, though manganese was sometimes painted around the neck of jugs (Plate 13).

The Westerwald was probably the most successful Rhenish stoneware production centre. Its wares gained European favour in the early seventeenth century. Within eighty years the Westerwald became the primary supplier of stoneware for many export markets.

The industry's success was due to the quality of the wares, the widespread appeal of the decoration and the potters' ability to fulfill the changing demands of consumers. The popularity of Westerwald stoneware is clear from their presence on archaeological sites in Europe and the New World, from English, French and Dutch colonies. Additionally, Westerwald stoneware is depicted in period paintings. The Westerwald is the only Rhenish stoneware industry that has survived in its traditional form and continues in production today.

3.3 France

French stoneware production was concentrated in northern France where suitable clays were available. Stoneware was produced in Lower Normandy, Beauvais, Loire, Béarn, Flandres, Alsace and Brittany and each region housed several stoneware-producing towns. Vessels produced were undecorated utilitarian wares, such as bottles, flasks, jars and jugs. While stoneware production began, in some areas, as early as the fourteenth century, stoneware's role in French society was minimal until salted meats, dairy products and fat became staples in the French diet from the sixteenth century to the nineteenth century. These foods demanded containers suitable for preservation, a role befitting a durable ceramic which did not require glazing to be functional (Desvallées 1996: 15). The success of many stoneware centres was tied to the production and distribution of dairy and fat products.

Distribution of French stoneware was not as far-reaching as that of Rhenish stoneware. Most French stoneware was produced to satisfy local needs, generally as containers for perishables. Potters provided containers, for example, for dairy merchants in nearby towns, who in turn could transport their product to larger local markets, such as Paris. Stoneware arriving in New World French colonies functioned in the same manner, that is to conserve and transport a product (Chrestien and Dufournier 1995: 94). The interest for the consumer was not the container but the contents. Export to England was minimal and selective since most of England's stoneware needs were met by the Rhenish wares. French stoneware commonly recovered from English sites are Beauvais jugs, beakers and tankards, and Normandy flasks. French stoneware recovered from Ferryland are identified as Lower Normandy and Beauvais and/or Loire. Stoneware potters in Beauvais and the Loire Valley used similar clay and produced many of the same vessels. Visually, the vessels are virtually identical. Since it is not possible to identify, with certainty, the wares as originating from one or the other production centre, they are here named Beauvais/Loire. Only these three areas are discussed in further detail.

3.3.1 Lower Normandy

Lower Normandy is located in the north-west corner of France, between Brittany and the Seine River. The region is divided into two, Domfront and Bessin-Cotentin.

Domfrontais stoneware was fired at temperatures between 1250° to 1300°C, making it well-vitrified and giving it a glassy appearance when broken. The surface has a

rough texture and is dark grey to black, although the fabric is pale brown (Décarie 1999: 9). Domfront produced commercial containers for the preservation of salted foods, preserves and medicines (Chrestien and Dufournier 1995: 92). Two towns produced stoneware, they are Domfront and Ger. Domfront began production in the fourteenth century and Ger in the fifteenth century (Desvallées 1996: 14-15). Ger is the better known of the two.

Ger is famous for its butter pots (Décarie 1999: 15). Its stoneware industry was linked to the dairy industry since the sixteenth century, and its main partner was the nearby town of Isigny which produced butter. While butter was stored in wooden barrels for local use, this was not practical for transport. Butter destined for Paris, Rouen and other places was therefore stored and dispatched in stoneware jars. Ger supplied Isigny with butter pots throughout the seventeenth century, but the partnership ended when a dispute erupted between the Isigny commission merchants and Ger potters in 1740 (Décarie 1999: 16). This was not the ruination of the stoneware industry, however, since Ger also produced tall, cylindrical, handleless bottles for wine and cider in respectable quantities (Plate 14).

Bessin-Cotentin stoneware was fired at about 1150°C, the lower end of temperatures needed. The fabric ranges from reddish-brown to purple-brown to wine-red in colour and characteristically has white quartz inclusions. Bessin-Cotentin produced commercial containers such as butter pots and medicine bottles, but also produced domestic wares such as jugs, ewers and salting tubs (Chrestien and Dufournier 1995: 92).

Stoneware production began in the region in at least the sixteenth century. The four dominant towns in the region are Néhou, Saussemesnil, Vindefontaine and Noron.

Vindefontaine produced good quality butter pots and benefited from Ger's dispute with Isigny by becoming the dairy town's stoneware supplier in 1740. Vindefontaine produced other containers, such as salting tubs and milk containers, as well as table jugs for water or cider. Vessels were sometimes salt-glazed (Décarie 1999: 9). The Vindefontaine stoneware industry continues today.

Noron was yet another supplier of butter pots but was also known for its salting jars. Noron's production was more varied since it supplied merchants in nearby Caen with vessels for the conservation of milk, cream, cider, honey, beer and other liqueurs (Décarie 1999: 17). Caen distributed these products to numerous towns and cities including Isigny, Le Havre, and Rouen, among others. Noron was also identified as a possible producer of the flasks commonly known as Martincamp flasks (Plate 15).[4] The flasks are a common find on English sites dating to the sixteenth and seventeenth centuries. It is believed they were exported empty but held within wicker covers and used as canteens (Allan 1984: 42).

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[4] Hurst *et al.* (1986: 102) identified the town of Martincamp as the producer of the flasks based on "the discovery of many fragments of flasks at Martincamp. . ." The flasks have been referred to by the name Martincamp in most English literature. French scholars, however, often refer to them as Normandy. A sherd from Place Royale, Québec, was analysed at the laboratory of Le Centre de Recherches Archéologiques Médiévales de l'Université de Caen and was found to have probably originated in Noron (Décarie 1999: 49). However, Pierre Ickowicz points out that a quantity of flasks have been found in Upper Normandy, between Rouen and Dieppe (pers. comm., 2006). The production centre of these vessels is still at issue.

3.3.2 The Beauvaisis

The Beauvaisis is located north of Paris in the Pays de Bray. The area was famous for its pure, plastic white clay and is often compared to Siegburg as a match in quality. The stoneware industry began in at least the late fourteenth century, making it contemporaneous with Siegburg's industry (Hurst *et al.* 1986: 105; Décarie 1999: 19). The main potting villages were Savignies, Le Détroit, Lhéraule, Armentières and La Chapelle-aux-Pots (Décarie 1999: 20). Beauvais stoneware has a light grey, grey-beige or orange-beige fabric, sometimes with black inclusions (Plate 16). A cobalt-blue glaze was sometimes used and vessels obtained a red or orange ash glaze from within the kiln. Salt-glazing was not introduced to the area until 1840. A variety of forms were produced, including cups, mugs, bowls, beakers, jugs, bottles, pitchers, and flasks (Décarie 1999: 10).

Archaeologically, Beauvais stoneware can be difficult to separate from stoneware made in Siegburg and the Loire Valley since these three industries used similar clays and because some Beauvais forms are indistinguishable from forms produced in the two other centres. For example, Beauvais and Siegburg shallow drinking bowls, popular in medieval and early post-medieval England, are identical. Beauvais stoneware in England is described as "widespread but in small numbers", but it is acknowledged that the numbers could be under-scored due to the similarity with Siegburg stoneware (Hurst *et al.* 1986: 105).

3.3.3 The Loire Valley

The Loire Valley's stoneware industry extends to both banks of the Loire River in central France, directly south of Paris. There are two potting regions within the Loire industry: Haut-Berry on the west side of the river, and Puisaye on the right. The main potting villages are Borne, Saint-Amand-en-Puisaye, Saint-Sauveur and Treigny (Décarie 1999: 22). The industry dates back to the sixteenth century (Desvallées 1996: 15).

Loire stoneware is very similar to Beauvais stoneware. The fabric is a fine grey-beige or yellow-beige with black and/or red inclusions, and is well-vitrified (Décarie 1999: 21). An ash glaze often formed lending a red, brown or orange colour to the surface. Cobalt was used as decoration, on its own and at times mixed with ash to make a lighter blue (Poulet 1981: 79). As in Beauvais, salt-glazing was not used until the end of the nineteenth century (Poulet 2000: 198).

A variety of utilitarian vessels were produced, including many forms identical to Beauvais vessels. Forms produced include jugs, jars, pitchers, various sizes of pot-bellied bottles, salting tubs and *tire-lires* (a sort of piggy-bank that had to be smashed to retrieve the coins inside). The large salting tubs were decorated with applied undulated vertical cordons, from the rim stretching mid-way down the vessel. This decorative style appears to be unique to the Loire Valley. Generally vessels were not decorated, or only minimally so with incised circular bands around the neck or shoulder, and had small decorative handles.

Loire stoneware was distributed locally within France and externally to French colonies. It is not known if Loire stoneware was exported to England. There is no reference indicating the presence of this stoneware on English archaeological sites from the seventeenth century. However, because Loire stoneware is so similar to Beauvais and Siegburg stoneware, it is possible that this type is simply not recognized.

3.4 England

England was a voracious consumer of stoneware for centuries. Recognizing the profits to be made, English potters were keen to produce and market stoneware from at least the early seventeenth century. Records indicate patents for stoneware manufacture had been granted as early as 1614, and again in 1626 (Askey 1981: 11-12; Gaimster 1997a: 309). To date, archaeological investigations have not found any evidence that these early patents resulted in stoneware production.

The first proven attempt at stoneware manufacture in England was found in the form of a kiln in Woolwich (Pryor and Blockley 1978). The experiment was not altogether an English one, however, since the potters who threw the vessels were Rhenish and the clay was imported from Frechen. The discrete firings were few, producing Bartmann bottles and mugs, only three of which were usable (Gaimster 1997a: 310). The stoneware kiln was quickly modified to fire earthenware. The date for the stoneware firings is uncertain, with Pryor and Blockley (1978: 36) initially suggesting *ca.* 1660, and

Gaimster (1997a: 310) proposing a date in the 1640s. True English stoneware was not mastered until the 1670s when John Dwight achieved success at his Fulham pottery.

John Dwight is considered among scholars to be the father of English stoneware. In the spring of 1672 he was granted a fourteen-year patent to produce porcelain and common stoneware (Green 1999: 3). Dwight's priority was porcelain and the first three years of his work was devoted to this goal. Achieving little success with porcelain, Dwight then concentrated his efforts on stoneware. Many of his vessels were Rhenish imitations, copying both the Frechen brown and the Westerwald blue-grey wares, but achieving vendable success with only the former. After 1675, Dwight produced various brown stoneware vessels including bottles, drinking pots, mugs, bowls and jars (Green 1999: 111,123). In the latter part of the seventeenth century he manufactured fine white stoneware, in the form of mugs, drinking pots, tea bowls, teapots, capuchines and saucers, although these were discontinued by the end of the century (Green 1999: 125). Dwight also made fine red stoneware for a short period in *ca.* 1685, but gave up this ware as he could not compete with the red stoneware produced by the Elers brothers (Green 1999: 129). Dwight's stoneware was chiefly for the London market, and, until at least 1680, Dwight had an agreement with the London Glass-sellers Company to buy his entire stock for distribution to local taverns (Green 1999: 275).

Dwight sued many times for infringement of patent, indicating that stoneware production in England was spreading rapidly. In the London area several potteries began producing coarse brown stoneware in the late seventeenth and early eighteenth centuries,

including Southwark (1694), Vauxhall (*ca.* 1697), and Lambeth (1705). These potteries specialized in utilitarian and tavern wares such as bottles, jugs, storage jars, and ale and hunting mugs (Plate 17) (Oswald 1982: 44-48). The London potteries produced for the domestic and the export markets. Bristol delftware potters began producing stoneware *ca.* 1700, also selling bottles, jars and mugs for export to Ireland and the colonies (Oswald 1982: 87). Fine brown stoneware was produced in Nottingham and Derbyshire from the late seventeenth century.

Dwight's high quality fine white stoneware from the 1680s and 1690s was discontinued, but the Fulham pottery produced white-slipped, iron-dipped stoneware from *ca.* 1695-1710. Vessels of this type found in collections and recovered archaeologically include tankards, drinking pots, jugs, capuchines, tea and coffee pots (Green 1999: 135, 138). These vessels are similar to the Staffordshire dipped stoneware vessels, which may be copies of Dwight's creations (White Salt-Glaze Stoneware 2002).

A date for the Staffordshire manufacture of dipped white salt-glazed stoneware is presumed to be roughly 1700. The most common dipped wares from the Staffordshire potteries are mugs and coffee pots (White Salt-Glaze Stoneware 2002). Calcined flint was added to the fabric and the glaze in the mid-1720s, creating a more refined, whiter stoneware. Press moulding created more intricately shaped teapots and punch pots in the 1730s and by 1740 most white salt-glazed stoneware was produced in this manner, allowing for standardized patterns. Press moulded salt-glazed stoneware became the most common tableware in England until it was replaced by creamware in the 1760s.

3.5 Conclusion

This chapter provided background information on post-medieval stonewares commonly found in the New World and outlined the various stoneware production centres applicable to the study of the Ferryland assemblage. Thus, while the Rhineland was home to numerous stoneware industries, only Cologne, Frechen, Raeren and the Westerwald industries were outlined in detail. The history of Frechen stoneware manufacture is closely tied to that of Cologne, and a similar relationship is demonstrated between Raeren and the Westerwald. In both cases the migration of potters set the stage for the development of the respective industries. The Frechen industry flourished with the exportation of Bartmann bottles, but also provided jugs, drinking pots and ointment bottles to foreign markets. The Westerwald's main exports were decorated jugs and mugs. Both industries catered to foreign markets, and often specifically the English market, by adorning wares with coat of arms medallions and ciphers of foreign royalty. Rhenish stoneware was produced for a consumer market catering to the needs of merchants and the individual, whereas stoneware manufacture in France was often tied to a local food industry. Normandy stoneware is the most noticeable French stoneware exported to England, although stoneware from the Beauvaisis is also recovered from English medieval and post-medieval sites. Loire stoneware may also have been imported, but due to this stoneware's similarity with the Beauvais and the Siegburg wares it may not be recognized. A synopsis of early English stoneware manufacture was provided, but was not divided by production centre because such differentiations are difficult to identify

archaeologically. Stoneware dates presented in this chapter are discussed in more detail in the following chapter. Chapter 4 focuses on the dating of forms in the Ferryland assemblage and explains how these dates are used in the analysis of the Ferryland collection.

Chapter 4

Dating Seventeenth-Century Stoneware

4.1 Introduction

The most obvious archaeological purpose of a dated artifact is to date the occupation of a site, or a strata within a site. However, a well-dated artifact can allude to a much greater context than a simple date. An artifact's existence is determined by a need or a desire by the people who use it, that is, an artifact fulfills a functional and/or social role in society. As roles change, so do artifacts. Tracking when an artifact changed can help to reveal why it changed, and vice versa. The *when* and the *why* are intertwined, ergo, answering the *when* can help to understand the *why*, and knowing *why* contributes to *when.*

Dates for seventeenth-century stoneware are currently somewhat ambiguous. Despite some excellent publications on the subject of stoneware, there is a general lack of consistency vis-à-vis dates. No two sources agree on dates for common forms and styles, and there is no single reliable compilation of dates for seventeenth-century stoneware. The problem is compounded by the repetition of one or two oft-referenced, but outdated, sources. For example, George Miller's 2000 article, *Telling Time for Archaeologists*, cites Noël Hume's 1969 classic *Artifacts of Colonial America* for all Rhenish dates, and Oswald's 1982 *English Brown Stoneware* for English dates, despite ambitious and current publications by David Gaimster (1997a) and Chris Green (1999) respectively, among

others. Four of Miller's stoneware entries are either incorrect or too simplified to be of use, mistakes now passed on via a credible journal. These errors are evidence there is an inherent need for close examination of seventeenth-century stoneware dates.

Flaws in the scope of his research notwithstanding, Miller (2000) identifies four sources for dating artifacts. They are a) dated objects, b) known introduction dates, c) dates by association, and d) dates generated by accumulated data. Concerning the first option, seventeenth-century stoneware vessels were rarely applied with a date. Some Rhenish medallions bear dates, but medallion moulds are known to have been used for as long as the mould would last, several years or decades. Furthermore, a medallion could commemorate a past event, thus the date on the vessel would not reflect the date of manufacture. Generally, dated medallions are not considered highly reliable in and of themselves. Known introduction dates are available for English stoneware thanks to patents and lawsuits, but infrequently for Rhenish stoneware – heavy bombing during two world wars left the German historical record wanting.[5] Dates by association, that is dating by context, is a good way to date seventeenth-century Rhenish stoneware. Shipwrecks are an invaluable resource in this regard. Dating by accumulated data is another way to date seventeenth-century stoneware, as this chapter will demonstrate. Dates derived by both methods are subject to revision as excavation progresses.

This chapter addresses the challenges of dating seventeenth-century stoneware. Discussion is divided into an examination of stagnant forms, the lack of data for particular

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[5] For example, Cologne was 90 percent destroyed during the Second World War.

vessels, dating decoration, and attempts to chronologically date the Bartmann bottle. The goal here is to assign dates for stoneware commonly found on seventeenth-century New World sites, and in particular, the Ferryland stoneware assemblage. Dates provided here were derived using the latter two methods. Various published sources were consulted, including books, museum catalogues, recent internet sites, and journal articles. Contextual data from the Ferryland assemblage is integrated where it contributes in a meaningful way.

4.2 Stagnant Forms

Their vulnerability to change is what gives artifacts their dating power. Any number of factors can affect the look of a ceramic vessel, such as an innovation resulting in a new decorative technique or method of manufacture, a new law requiring an identifier of some sort, or a larger customer base resulting in mass production. Everything is subject to change, and for the scholar constructing a chronology it is only a matter of recognizing what changed and when. It is difficult to accept, then, that some forms remained uniform for long periods of time, decreasing their usefulness as dating tools. French stoneware in particular is uncommonly static. Whether in Normandy, the Beauvaisis, Loire, or Béarn, many forms changed little over generations of potters. The reason is likely because many forms were not subjected to the factors that lead to change. First, being utilitarian vessels, they were undecorated. Second, many vessels were tied to a domestic and often local market, and were thus immune to the tastes of an export

market or the demands of a foreign government. Third, stoneware vessels were both affordable and functional, a combination not easily beaten by a competing material. Vessels such as the Normandy butter pot and bottle, Beauvais bottle and pitcher, Loire bottle and salting tub, and Béarn grease pot are relatively static throughout the seventeenth and eighteenth centuries. These vessels changed little because there simply was no reason to change them.[6]

4.3 Lack of Data

Unfortunately some forms are all but ignored in the literature. Not surprisingly, most attention is given to decorated vessels. Undecorated vessels suffer from lack of exposure, making it difficult to confidently assign dates. Two Rhenish vessel forms fall victim to this situation: the Frechen jug and the Rhenish ointment bottle.

4.3.1 Frechen Jug

The Frechen jug was among the most commonly imported stoneware vessels into England during the second half of the sixteenth century, making Frechen the primary supplier of stoneware for the English market (Gaimster 1997a: 92). The English were keen to possess these jugs and it became the fashion during this period to mount them with silver-gilt lids and bases. For today's researcher the silver-mounted jugs are both a

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[6] This does not mean to imply that like vessel forms were identical; variations occurred regionally.

blessing and a frustration. Given their value, several silver-mounted Frechen jugs survived intact and, thanks to their beauty, are widely illustrated.[7] Unfortunately, attention is paid only to the silver-mounted jugs, leaving the unmounted jugs largely ignored. This bias creates two awkward and related results regarding the understanding of the lifespan of this vessel. First, it is assumed that the Frechen jug was not available after its popular fluorescence in the sixteenth century. Second, discussions and illustrations of unmounted jugs, specifically seventeenth-century jugs, are few.

Compounding this problem of ignorance are the diverse dates listed in the few sources that illustrate the jug, causing certain confusion. The most current source to provide a date for the jug is Gaimster's *German Stoneware 1200-1900*, where he fits them into the period *ca.* 1550-1590 (1997a: 212). The example he illustrates is mounted with silver, and clearly dates to the period of the jug's height of popularity. Hurst *et al.*'s *Pottery Produced and Traded in North West Europe 1350-1650* extends the life of the jug into the seventeenth century: 1550-1625 (1986: 216). Gaimster and Hurst *et al.* are the only sources to give a date range. Sarah Jennings' *Eighteen Centuries of Pottery from Norwich* illustrates numerous Frechen jugs ranging in size, but since the point of the report was not to provide dates, the Frechen jugs are simply labelled "seventeenth-century Frechen" (1981: 120, Fig.49). While this is not useful for a date range, Jennings at least

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[7] Examples of silver-gilt mounted Frechen jugs are illustrated in sources about English silver as well as archaeological stoneware. See Gaimster 1997a, cat. 49; Allan 1984, fig. 131.2931-2932; Keramikmuseum Frechen 1985: 13; Oman 1965, pl. 24; Holland 1971: 34.

places the jug in the seventeenth century. The strongest evidence for a longer lifespan of the jug comes from the Exeter assemblage. In *Medieval and Post-Medieval Finds from Exeter, 1971-1980*, John Allan notes the jug's continued use in the seventeenth and early eighteenth centuries (1984: 115).[8] These jugs were excavated from contexts dating throughout the seventeenth century, and as late as 1720. Gaimster did not ignore these finds, but dismissed their late existence as "extended lifespan," probably attributing their value to silver mounting, though most of the Exeter jugs were not mounted (1997a: 92).

The Ferryland assemblage supports the use of the Frechen jug throughout the seventeenth century. Twenty-one Frechen jugs were recovered from the site spanning contexts dating from the pre-colonial period to the French raid in 1696. While nine vessels fall into the period *ca.* 1600-1659, the fourth quarter of the century is also represented. For example, vessel C319 was recovered from the Area D dwelling (1675-1696). While one explanation for the appearance of these jugs in seventeenth-century contexts is "extended lifespan," – that is curation by consumers – another obvious explanation is their continued production and availability. In truth, this is the more likely scenario when all the evidence is examined. Hurst *et al.* hint at what happened to the jug – the form evolved. Hurst *et al.* present the jug with three drawings and corresponding date ranges. The first is described as "plain wide globular" and is dated 1550-1575. The second is described as "plain narrow globular," is taller than the first (2.4cm taller), with a

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[8] See Allan 1984: Fig. 86.1989, Fig. 93.2123-2127, Fig. 104.2317, Fig. 106.2362, Fig. 109.2446, 2447.

tail added to the handle terminal, and is dated 1575-1600. The third is described as "plain ovoid," is taller than the second (3.2cm taller), and is dated 1600-1625 (Hurst *et al.* 1986: 216). While the dates for this chronology are suspect, Hurst *et al.* point to a trend where the jug became taller and ovoid over time.

A form evolution becomes clearer when the illustrated jugs from the aforementioned sources are examined more closely. Exeter's Frechen jugs vary in height and shape, and their contexts are known. Jug 1989, from a context dating *ca.* 1600, stands 18cm tall and can be described as wide globular. Jug 2123, from a context with a *terminus ante quem* – the date before which an artifact was deposited – of *ca.* 1660, is roughly 21cm tall, also with a wide, globular body. Jug 2362, from a context dating *ca.* 1670-1700, is 29cm tall and has an ovoid body (Allan 1984: 172, 182, 197). This small sample is by no means authoritative, but demonstrates a trend to a larger, more robust vessel. Moreover, these later vessels were probably not mounted with silver. Jugs were mounted with silver when that was fashionable, that is, the second half of the sixteenth century. It is no coincidence that five illustrated examples of mounted Frechen jugs are roughly the same height (all fall between 18-20cm) and may all be described as narrow globular. The silver-mounted jugs match Hurst *et al.*'s second category. Though imperfectly dated, these jugs certainly all come from the second half of the sixteenth century.

Clearly, the published date ranges for the Frechen jug are inadequate. A reasonable introduction date is 1550, however, a terminal date cannot be firmed because

there simply is not enough data. The jug was probably produced and available throughout the seventeenth century, but this is where the information is obscured. For now, a reasonable estimated date range is *ca.* 1550-1700. The use of the Frechen jug and the factors that affected its popularity are explored in the next chapter.

4.3.2 Frechen Ointment Bottle

Dating the Rhenish ointment bottle is an even greater guessing game. The ointment bottle receives little to no attention, due in part to its plainness, but more often because it is simply lumped with the Bartmann bottle during analyses. Its undecorated surface and small size differentiates it from the larger Bartmann bottle though there are also smaller bottles decorated with a Bartmann mask but no medallion. These in-between bottles blur the line between ointment bottle and Bartmann bottle. It is likely that small bottles with masks are referred to as Bartmann bottles, which is not incorrect, but which may obscure the function or contents of the vessel. It is also possible that some researchers call all bottles of Frechen origin Bartmann bottles, irrespective of decoration.

The undecorated ointment bottle, unfortunately, is not given great descriptive detail in any of the leading sources on Rhenish stoneware, thus a date range for this vessel is not provided in the literature. Nevertheless, the ointment bottle is often recovered from shipwrecks, providing snapshots of their existence through time. Ships sunk during the seventeenth century which contained one or more ointment bottles include the *Batavia* (1629), the *Monte Christi* (*ca.* 1655), the *Avondster* (1659), the *Kennermerland* (1664),

the Dutch Galliot found off the coast of Norway (1677), the *Dartmouth* (1690), the *Sapphire* (1696), and the *Hazardous* (1706) (Stanbury 1974; Lessman 1997; Muthucumarana, Weerasinha, and Dayananda 2001; Price and Muckelroy 1974; Andersen 1974; Holman 1975; Owen 1988). Additionally, Reineking von Bock depicts an ointment bottle and dates it *ca.* 1600 (1986: 252, cat.320), and a sixteenth-century bottle is illustrated in *Keramikmuseum Frechen* (1985: 94). The latter bottle, although the same height and probably of similar capacity to other ointment bottles, differs from them in two ways. First, the handle does not sprout from the neck, but rather is attached at both ends to the body, and the neck terminates in an unusual V-shape finish.

The ointment bottle may have originated in the sixteenth century, was produced throughout the seventeenth century, and continued into the eighteenth century, but for how long is not known. Currently, it is not possible to date this vessel meaningfully. Because its small, plain nature restricts changeable characteristics, it is possible that the ointment bottle is simply not dateable beyond the broad range of a century.

4.4 Dating Decoration

Analysis of decorative styles is a popular method of dating vessels. A vessel's decoration is likely to change because it is at the mercy of the various factors that lead to change, such as innovations, laws, mass production, and the demands of the market. Furthermore, decorated wares are much more visible to the researcher, the museum curator and the audience, catching attention and practically demanding to be displayed.

As a result, decorated stoneware is displayed in museums, illustrated in books, and highlighted in archaeological reports and internet web pages. Our collective fascination with ornamentation leads to the study of decorated wares, with both positive and negative results. The positive results are obvious – their study means more information is available and accessible to researchers, creating a cycle of continuous research, forever expanding knowledge. On the other hand, there are at least two detrimental consequences. First, decoration attracts inordinate attention, leaving researchers blind to other avenues of study. Second, misinformation is perpetually recycled along with correct information, forever repeating false knowledge.

The following describes the decorative styles and techniques adorning stoneware from the Westerwald and Frechen, and attempts to clarify truths and myths about dates derived from the decoration. The dates supplied here are largely based on Gaimster's *German Stoneware* (1997a), various European museum catalogues, and the Ferryland assemblage. Archaeological reports, archaeological internet summaries and other popular publications were also consulted.

4.4.1 Westerwald Stoneware

Westerwald stoneware was almost always decorated. Moreover, decorative styles changed frequently during the seventeenth century. These realities make Westerwald stoneware a good candidate as a dating tool. Decorative styles discussed here adorned jugs and mugs and include a) the transition from biblical scenes to applied motifs to

schematic decor, b) applied colour, c) heraldic motifs, and d) repeating diamonds in high relief on mugs.

4.4.1.1 Biblical Scenes, Applied Motifs, Schematic Decor

When Raeren potters arrived in the Westerwald they continued to produce the elegant baluster jug. The baluster jug generally had vertical gadrooning on the lower body and diaper on the shoulder, leaving a cylindrical central section for applied relief decoration. Vertical gadrooning is fluting, sometimes highlighted by alternating pronounced cordons, and diaper is rouletted cross-hatching. The central section was decorated with scenes from epic and religious stories, such as *The Peasant Festival*, *The Seven Electors*, and the story of *Susanna*. Stories applied uniquely to the Westerwald wares include the *Seven Works of Mercy* and the story of *Judith* (Gaimster 1997a: 251). Stories were also applied to mugs. As a decorative style, the stories date to *ca.* 1590-1625, although the style may have persisted on mugs until the middle of the seventeenth century (Reineking von Bock 1986: 314-318).

During the same period, Westerwald potters produced the Raeren-style biconic jugs. The biconic jug is similar to the baluster jug, in that it is ornately decorated with carved diaper, vertical gadrooning, and stamped or applied motifs around the neck, but it lacks the central applied story motifs. Biconic jugs have been recovered from New World land sites dating 1600-1640, such as Jamestown and Martin's Hundred (Raeren Stoneware 1997; Noël Hume and Noël Hume 2001). The biconic jug was apparently

popular in Virginia during this period, but disappears in the 1640s (Raeren Stoneware 1997). In Exeter a biconic jug was recovered from a context with a closing date of *ca.* 1660 (Allan 1984: 181). Hurst *et al.* date these jugs 1600-1650, noting that while the *Batavia*, sunk in 1629, carried biconic jugs, the *Vergulde Draeck*, sunk in 1656, carried jugs decorated with applied rosettes (1986: 224). Two of Ferryland's three biconic jugs are from contexts dating no later than 1649, while the third was found in the defensive ditch and has little value here because a *terminus ante quem* for the filling of the ditch is not yet determined. Thus far there is scant evidence to prove a production date beyond 1650.

The Westerwald began applying distinctive styles to their wares in 1625 (Gaimster 1997a: 252). Jugs took a more fluid form, becoming ovoid, pear-shaped or bulbous, allowing the body to be adorned with continuous motifs. Potters applied and stamped infinite variations of rosettes, buds, blossoms, cherubs, lozenges, and stars, arranged in rows, geometric forms or strewn evenly over the surface of the body (Plate 7). The motifs were striking against the cobalt-blue background. A lion mask was sometimes applied to the neck of a jug. The production end date for this style is not clearly established. Reineking von Bock dates some examples as late as the first half of the eighteenth century (1986: 349-351). However, their popularity may have ended earlier due to the appearance of new decorative styles. A conservative date range for this style is 1625-1725.

From this style emerged a new trend of linking applied flower motifs with incised stems. Often various combinations of flowers, leaves, and buds were applied to the jug or

mug. The background may be cobalt-blue or manganese-purple and the flowers painted the opposite colour, with the incised stems left unpainted. The stemmed flower style emerged *ca.* 1675 and continued to *ca.* 1725 (Plate 8).

At the turn of the eighteenth century, simpler incised schematic decoration was introduced as an exclusive style. Foliage, scrolls, flowers, circles, squiggles, checkers and diamonds were incised and filled with cobalt-blue or left unpainted against a cobalt-blue background (Plate 13). By at least 1740 animal and bird motifs were added. A general date range for incised schematic decor is 1700-1800. In 1750 a technique called *knibis* was introduced and used in conjunction with incised decoration (Klinge 1996: 102). The technique produced zigzag impressions.

4.4.1.2 Applied Colour

Westerwald potters used two pigments to decorate their wares: cobalt-blue and manganese-purple. Cobalt-blue was introduced as a decorative pigment in Raeren in the late sixteenth century and brought to the Westerwald with the migrating Raeren potters. Cobalt-blue characterizes the Westerwald stoneware from that migration to present day and is therefore not a useful dating tool.

Manganese-purple was introduced sometime in the middle of the seventeenth century and, as such, has some value as a time marker. Unfortunately, a precise introduction date is not available and different estimates are put forward by various sources. Noël Hume gives a date of 1665 as the earliest known example of a manganese

painted vessel (1969: 281). Gaimster is not so bold to give a date but rather states that manganese was introduced "shortly after the middle of the seventeenth century" (1997a: 252). Manganese painted stoneware from tightly dated archaeological strata or shipwrecks may be the only way to refine the date. This researcher suggests an introduction date for manganese to be *ca.* 1660 as a simple way to translate Gaimster's statement into a date. Manganese-purple was used on its own and in combination with cobalt-blue, and was most popular from its introduction until the end of the seventeenth century. It continued to be used beyond this time, but not as frequently as cobalt-blue.

Westerwald potters also produced unpainted grey wares. Monochrome grey jugs and mugs were often decorated in the stemmed flower style. Gaimster gives an introduction date of *ca.* 1675 for monochrome wares (1997a: 252). Monochrome grey wares were an attempt to compete with European tin-glazed earthenware and Chinese porcelain (Harald Rosmanitz, pers. comm., 2001). The unpainted wares continued to be produced throughout the first half of the eighteenth century, and were expanded into the new fashion of coffee drinking as tea and coffee sets.

4.4.1.3 Heraldic Motifs

Heraldic motifs were a popular decoration on Westerwald vessels throughout the seventeenth century. Jugs and mugs were applied with medallions bearing the arms of local magnates, while those destined for export were applied with medallions depicting foreign rulers, such as the kings of England and France and the princes of Orange

(Gaimster 1997a: 252). The medallions date the vessels to the period of the ruler's reign. The images were replaced in the late seventeenth century by the crowned WR, AR and GR ciphers, pertaining to the English monarchs William III, 1689-1702, Queen Anne, 1702-14, and Kings George I, 1714-27, and II, 1727-60, respectively. The ciphers were often used in conjunction with schematic decoration.

4.4.1.4 Diamonds in High Relief

Repeating lozenge diamonds in high relief ran in a band around the foot and just below the rim of mugs, framing the central decorative elements (Plate 18). The diamonds could be painted blue or be alternated blue and purple. They could also appear with other motifs, such as hearts or circles. Based on examples in Reineking von Bock, this decor was applied to mugs with various designs in the central section, such as incised floral motifs, relief city scapes, and evenly applied rosettes. The examples in her catalogue date between 1700 and 1750 (Reineking von Bock 1986:363-366). One example in Gaimster's *German Stoneware* also dates to this period (1997a: 266).

4.4.2 Frechen Decoration

Frechen stoneware was not always decorated. Of the four vessel forms brought to the New World only the Bartmann bottle and the drinking pot are decorated. Moreover, Frechen decoration is not a particularly useful dating tool, though it is worth discussing to explain why it is not and to clarify commonly held notions about dating Frechen

stoneware. Decoration discussed here include medallions, face masks, cobalt splashes and lion masks and cherubs.

4.4.2.1 Medallions

Medallions were applied to the belly of Bartmann bottles and drinking pots. Most often only one was applied, but three medallions appear on some vessels. In the sixteenth and early seventeenth centuries the well-crafted medallions were heraldic. Examples include the royal arms of England, the arms of Denmark, the arms of the princes of Orange, and the arms of the city of Cologne, among others.

The quality of the craftsmanship declined with increased production. Medallions continued to be an important decorative element, but true heraldic arms gave way to generic fantasy arms. Seventeenth-century medallions were decorative but meaningless.[9] Some of these maintained a heraldic appearance, using crowns, chevrons, shields and lions in the design, but they did not reflect any real armorial. Others were simple flower or rosette designs. Still others combined rosettes with heraldic motifs. In short, a medallion design could be created from any number of motif combinations.

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[9] The exceptions are medallions used as labels. Merchant Pieter van den Ancker and trader Jan op de Kamp, among others, had their own cyphers applied to Bartmann bottles in lieu of a medallion with a generic design. These medallions have a special quality in that they are dateable to the time the merchant and trader were operating their businesses. Though not common, these cypher-type medallions have turned up on New World sites (Haselgrove and van Loo 1998).

A typology of Frechen medallions does not exist. Nevertheless, particular medallion styles are named and recognized in the literature. Three styles figure prominently from sites around the world. They are the Crowned Heart, the Rosette (also known as Fan of Flowers) and the Arms of Amsterdam (Plates 19, 20, 3). All of these are found on sites spanning the seventeenth century, limiting their usefulness as dating tools. Nonetheless, assumptive introduction dates can be narrowed with the help of shipwrecks. Gaimster points out that the Crowned Heart medallion adorned stoneware recovered from the *Verdulde Draeck*, sunk in 1656, but was not represented on the *Batavia*, sunk in 1629 (1997b: 125-126). Thus, the Crowned Heart medallion was probably introduced no earlier than 1630. The Ferryland assemblage has two Crowned Heart medallions, one from a context dating 1660-1696, and the other from the broadly dated defensive ditch, 1622-1696. The Rosette medallion was not on the *Witte Leeuw,* sunk in 1613, but was represented in the *Batavia* assemblage (van der Pijl-Ketel 1982: 246). The Rosette was likely introduced in the 1620s. The Arms of Amsterdam medallion is represented in the assemblage from the *Witte Leeuw*. This medallion is represented by four examples in the Ferryland assemblage, spanning pre-colony contexts to the destruction of the colony in 1696. The Arms of Amsterdam medallion was probably in circulation by *ca.* 1610, although an earlier introduction date is plausible given the trade relationship between Amsterdam and the Rhineland.

4.4.2.2 Face Masks

Face masks were applied to the neck of bottles, opposite the handle. Sixteenth-century face masks were beautifully crafted with defined facial features and long, flowing beards. In the seventeenth century face masks lost their human likeness. Often described as "grotesque," the face masks became stylized and increasingly debased (Gaimster 1997a: 210). The exact date for the beginning of the downward spiral is not known with certainty but is estimated to be *ca.* 1620 (Noël Hume 1969: 57). Face masks played a principal role in an early attempt at a chronology of the Bartmann bottle. The details of M. R. Holmes' Bartmann chronology are widely discussed and do not need to be repeated here. Essentially, Holmes identified nine mask types which he dated between the late sixteenth century and the end of the seventeenth century (Holmes 1951). The Holmes chronology was largely proven false based on Bartmann bottles recovered from the *Verdulde Draeck.* Masks Holmes dated to the late seventeenth century were present on the ship which sank in 1656.

At this time, the Bartmann face mask is only used as a crude dating tool. On a rudimentary level the face mask is simply divided into well-made and poorly-made masks. The popular divide date for this transition is *ca.* 1620 (Noël Hume 1969: 57). However, Gaimster illustrates Bartmann bottles with less-beautiful masks dated as early as *ca.* 1590 (1997a: 218-220). It is more reasonable to assume an overlap period rather than clear-cut division. Since a mould for a face mask was used until broken, well-crafted masks would continue to be applied to bottles well into the 1620s and beyond. Likewise,

poorly-crafted masks increased in numbers and eventually overtook their beautiful predecessors, likely sometime in the early seventeenth century.

4.4.2.3 Cobalt Splashes

Occasionally Frechen potters enhanced the look of a Bartmann bottle by splashing cobalt onto the medallion(s) and face mask (Plate 21). This added decoration has no dateable attributes. We can ask, though, whether this practice was limited to a particular time period? Anthony Thwaite implies that it was, occurring on bottles dated 1594 to 1618 (1973: 258). Current researchers, however, do not discuss cobalt splashing as a dating tool, and with good reason. Perhaps not all Frechen potters used cobalt, but cobalt splashes appear on bottles of various dates. For example, the *Avondster*, sunk in 1659, had at least one cobalt-splashed Bartmann bottle on board (Muthucumarana *et al.* 2001). The Ferryland assemblage includes three cobalt-splashed Bartmann bottles, one of which was found in the Area B dwelling, dating 1660-1696. It has to be assumed that cobalt splashing was used throughout the seventeenth century.

4.4.2.4 Lion Masks and Cherubs

Drinking pots were often decorated around the neck with various motifs, including applied lion masks, applied cherubs, and applied or stamped flowers (Plate 3). Unfortunately there is no information specific to dating these motifs. At present, this decoration is not dateable.

4.5 Dating the Bartmann Bottle

The Bartmann bottle is one of the most commonly found ceramic vessels from seventeenth-century contexts. Its ubiquity makes it an attractive candidate as a dating tool. Thus far, however, rather than the Bartmann bottle aiding to date strata, it is the strata which continue to date the Bartmann bottle. Dating the decoration of the Bartmann bottle has proven inadequate. Gusset provides a simple chronology based on shape: from spherical body and wide base, to pear-shaped body and disproportionately small base, to shorter neck and wider base (1980: 165). According to Gusset the associated dates are a) second half of the sixteenth century to the early seventeenth century, b) second half of the seventeenth century, and c) late seventeenth century. This chronology is too simple to be of much help except as a crude dating tool.

Numerous difficulties impede the progress toward a useful chronology of the Bartmann bottle. First, vessels pictured in books, reports, and catalogues often have wide date ranges, covering a quarter-century, a third of a century, half a century, or even the entire century. Second, some assigned dates in books and catalogues are suspect because there is no indication how the vessel was dated. This is especially true with older material published in a time when decoration may have been naively used to date a vessel. Third, no two published sources provide identical date ranges. This could be a result of time elapsed between publications, with newer sources accessing data that previously was not available. These obstacles combine into one larger problem: there is insufficient data to construct a tight chronology of the Bartmann bottle.

It was hoped the many Bartmann bottles in the Ferryland assemblage would provide enough data to contribute to a chronology. The assemblage totalled ninety-nine Bartmann bottles from contexts spanning most of the seventeenth century. For the assemblage to be helpful with a chronology, however, two conditions needed to be satisfied. First, vessels would need to be comprised of enough parts to take measurements, for example: base diameter, belly diameter, neck height, rim diameter, vessel height and body part ratios. Second, measurable vessels would need to come from tightly-dated contexts. Unfortunately, the assemblage satisfied neither condition. Of the totalled ninety-nine Bartmann bottles, forty-one had no measurable parts. Of the remaining fifty-eight vessels, forty-seven had only one measurable part, leaving a mere eleven vessels with two or more measurements. Of these eleven vessels, six of them came from fill layers with no defined date. A respectable sample size was rapidly reduced to an insignificant collection.

It was also hoped collections in German museums would help establish dateable characteristics of the Bartmann bottle. Numerous museums in the Rhineland curate and display Rhenish stoneware. Nonetheless, museum Bartmann bottles proved inadequate partners vis à vis dating. The first problem was the seemingly few Bartmann bottles in the collections. North American bias leans heavily toward the Bartmann bottle as the most plentiful and important vessel in the Rhenish stoneware family. In reality, Rhenish potters produced numerous forms over a period of several centuries, most of which never made it to the New World. The Bartmann bottle is just one of dozens of vessels. Second,

the museum bias is to collect and display the most beautiful forms. Consequently, many museum bottles are the beautifully-decorated sixteenth-century Bartmanns. Furthermore, the seventeenth-century Bartmann bottles were acquired from kiln sites whose strata could not be tightly dated, or from antique dealers and collectors whose provenience data are not reliable (Harald Rosmanitz, pers. comm., 2001). Alas, most Bartmann bottles in museum collections were dated simply "seventeenth century."

Although the Ferryland Bartmann assemblage could not assist with a chronology, a review of data from other sites, in particular shipwrecks, and other sources, can clarify the shapes of the Bartmann bottle in the seventeenth century. While Gusset identified three distinct shapes over a span of 150 years, there are actually four distinct Bartmann shapes in the seventeenth century alone, not including the round, beautifully-masked Bartmanns carried over from the sixteenth century. They are: a) round body, large base, short neck, b) round body, smaller base, c) ovoid or pear-shape body, small base, and d) ovoid body, wider base, shorter neck (Figure 4.1). However, this does not mean to say that one shape evolved into the next. As far as the published data indicates, the lifespan of these shapes is as follows: a) *ca.* 1600-1664, b) *ca.* 1590-1664, c) *ca.* 1650-1700, and d) *ca.* 1685 onwards.[10] Unfortunately this new classification does little to narrow the dates into a precise chronology. In the very least, it indicates that the shift from the pleasing sixteenth-century Bartmann to the so-called poorly-crafted Bartmann of the

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[10] Sources consulted in this exercise include Gaimster 1997a, Stanbury 1974, Green 1973, Forster and Higgs 1973, Price and Muckelroy 1974, 1979, Andersen 1974, L'Hour 1993, Ingelman-Sundberg 1976, Martin 1995, and Thwaite 1973.

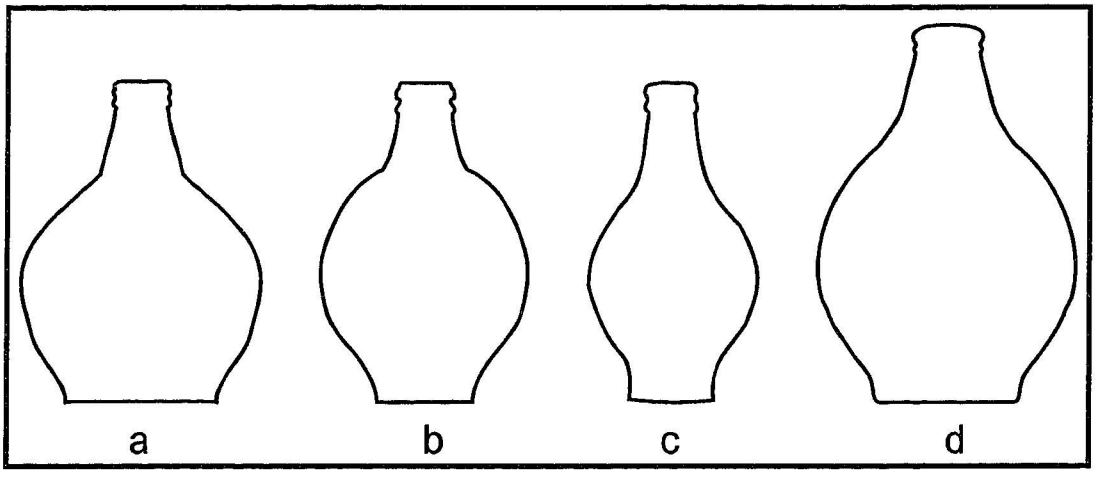

Figure 4.1 Seventeenth-century Bartmann bottle shapes
a) *ca.* 1600-1664
b) *ca.* 1590-1664
c) *ca.* 1650-1700
d) *ca.* 1685 onwards

seventeenth century began as early as 1590, well before the oft-repeated date of *ca.* 1620. On a pessimistic note, it hints that a tight chronology for the Bartmann bottle simply may not be feasible.

Currently there is not enough published data to properly seek a tight chronology of the Bartmann bottle. A suitable sample of Bartmann bottles from every decade of the seventeenth century would make for an ideal chronological study. Shipwrecks are an excellent source of chronological data. However, most excavated shipwrecks with Bartmann bottles date to the second half of the seventeenth century, leaving a significant gap in the earlier life of this vessel. Land sites, like Ferryland, should also be able to contribute meaningfully to a chronological study. Because only a small fraction of Ferryland is excavated, the Bartmann bottle assemblage discussed in this thesis is only a fraction of what the site has to offer. The Ferryland site has the potential to make a great contribution toward a better understanding of the chronology of the Bartmann bottle.

4.6 Conclusion

This chapter tackled the grey area of dating seventeenth-century stoneware and attempted to clarify commonly held notions on this subject. The emphasis was on Rhenish forms commonly recovered from New World colonial sites. Dating methods were reviewed under the categories of form and decoration. Some stoneware forms were found to be of little use as time markers. The Normandy butter pot, for example, cannot be used as a precise dating tool because this form was stagnant for a long period of time.

Decoration was suggested as a useful dating attribute on Westerwald stoneware since this industry was subject to many of the factors that lead to change, such as innovations, laws, mass production, and the demands of the market. Decoration adorning Frechen stoneware, however, was shown to be less helpful for the purposes of dating. The challenges of creating a chronology for the ubiquitous Bartmann bottle were outlined. Although a chronology proved impossible with the available Ferryland data, a fresh look at the evolving shape of the Bartmann bottle was recommended based on data from various shipwrecks.

Stoneware dates are useful for their obvious potential contribution to dating archaeological strata. However, these dates are also of value when applied to the roles of stoneware in a seventeenth-century English colonial context. Chapter 5 discusses the functional and social roles of stoneware at the Newfoundland settlement with an analysis of activities, status, availability and acquisition. Additionally, the roles of stoneware at Ferryland are examined across time with an analysis of stoneware popularity and the factors that influenced consumer choice.

Chapter 5

Stoneware at Ferryland

5.1 Introduction

Previous chapters set the stage for analysis by placing the Ferryland site in its historical context, presenting relevant details of European stoneware production in the post-medieval period, and introducing dating techniques applied to the current collection. This chapter builds on this foundation by integrating the Ferryland stoneware assemblage and narrowing the focus to the role of stoneware in English, and English colonial, society *ca.* 1600-1760.

This chapter begins by outlining the methodology used to identify the Ferryland stoneware assemblage by origin and form. The Potomac Typological System is reviewed, and the Ferryland stoneware assemblage introduced, beginning with a breakdown of ware totals by origin. Vessel forms are then listed individually with a description, date range and total. Once the vessel forms are characterized the analysis of the collection is presented in three sections. The first section outlines the functional and social roles of stoneware in English society, from the sixteenth to the eighteenth century, with an emphasis on the contribution of stoneware on activities and status at Ferryland. The second section discusses the availability of stoneware and the methods by which the seventeenth-century inhabitants of Ferryland acquired stoneware. The final section

examines the factors that impacted stoneware popularity and its roles in society, over time.

5.2 Methodology

For this analysis the Minimum Number of Vessels technique (MNV) was used. Although this method is subjective, numerous steps were taken to group sherds into vessels as accurately as possible. The first step was to group sherds by origin, separating them into Rhenish brown, Rhenish grey, French and English.[11] The vast majority of sherds were Rhenish in origin. Concentrating on one origin type at a time, the sherds were grouped by excavation Area (Areas C, F, and G), and by individual Event within the Area, acting on the premise that most mending sherds would likely be found in proximity to one another. Only those contexts laid down in the seventeenth and eighteenth centuries were used.[12] However, sherds from disturbed contexts were not disregarded entirely but were added to vessels where matches were found.

Various attributes were used to group sherds into vessels, and different attributes were used within each origin category. Attributes that were helpful in identifying Rhenish brown vessels included fabric, interior and exterior colour, kiln scars, orange-peel

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[11] It was understood that Raeren vessels could be found in either the brown or grey categories, but there would likely be only a few, so that they could be identified as Raeren after the vessel groupings were complete.

[12] Most strata date to the seventeenth century. Eighteenth-century contexts are found in Area E and, to a lesser degree, Area G.

patterns, throw lines, wash drips and decoration. Most of these attributes were not helpful with grouping the Rhenish grey sherds, so decoration, fabric and vessel shape and size were the predominant identifiers. The French stoneware was divided into Normandy and Beauvais/Loire. The Normandy sherds were the least diagnostic, thus attributes included fabric and vessel shape and relied heavily on rims and bases, whereas Beauvais/Loire attributes included fabric, vessel shape and ash glaze patterns. English sherds were similarly separated into brown and white and from there fabric and vessel size and shape were used to group sherds into vessels.

Stoneware vessels already identified from dwellings in Areas B and D by MA graduates Doug Nixon and Amanda Crompton are included in this study. These vessels were re-examined, and in a few cases either renamed or discarded. Rhenish sherds from the Area E structure were identified cooperatively with Barbara Leskovec and all other stoneware vessels from that structure were identified by Ms. Leskovec. For clarity in cross-referencing, the numbers assigned to stoneware vessels by these researchers are maintained in this study and are identified by N for Nixon, C for Crompton and L for Leskovec.

The identification of vessel type and origin was aided with the help of published illustrations, but more so by accessing museum collections in Europe and Canada. A trip to the Rhineland included visits to numerous prominent ceramic museums in the Westerwald, Cologne, Frechen and Raeren. Four museums granted access to stored collections and library materials, and curators were available to answer questions. This

research greatly assisted in identifying the Ferryland Rhenish assemblage. The vast collection at the Fortress of Louisbourg, Nova Scotia, greatly assisted with the identification of the French vessels. Further inquiries regarding French stoneware were directed to Jean-Pierre Chrestien, a leading expert in this field, at the Canadian Museum of Civilization, Québec.

The ease with which one can further distinguish Rhenish origin by specific production centre, such as Frechen and Westerwald, does not apply to French and English stonewares. As previously discussed, stoneware produced in Beauvais and the Loire Valley are visually identical, thus these vessels are identified as Beauvais/Loire. Normandy encompasses two regions, Bessin-Cotentin and Domfront, which can often be distinguished by fabric colour and inclusions. Where possible the Normandy stoneware was identified by these regions, but specific production centres could not be identified. England also housed various stoneware production centres, but again, precise centres could not be isolated, thus English stoneware is simply separated into brown and white.

5.3 Terminology/Typology

Assigning a name to a vessel is often the first step in understanding what it is and what function it served. To make sense of an assemblage of ceramic sherds an archaeologist must identify and name the forms the sherds represent. In a discipline heavily reliant on comparison, the archaeologist must insure the names assigned are meaningful to their intended audience. Because there is no global vessel typology,

however, some confusion and frustration is unavoidable. Rhenish stoneware research makes a good case in point. During the seventeenth century Rhenish stoneware was the dominant export stoneware and thus reached all corners of the world. It is found on land sites and shipwrecks in North America, the Carribean, Europe, Africa, Australia, and Indonesia. Crossing continents, cultures and languages, it is no wonder Rhenish stoneware vessels have multiple aliases.

In keeping with colleagues at the Memorial University of Newfoundland, vessel forms in this thesis are named using the Potomac Typological System (POTS). Developed by Beaudry *et al.* it was designed to "systematize the chaos" by standardizing the terminology assigned to seventeenth-century ceramics in the Chesapeake (Beaudry *et al.* 1983: 18). Vessels are initially defined by shape and size and subsequently placed into a category based on function. The POTS suggested functional categories (Beaudry *et al.* 1983: 29) were altered somewhat by Peter Pope (1986) for the purposes of classifying the Ferryland ceramic assemblage. Since other Ferryland theses follow Pope's categories it is sensible that this thesis be consistent (Crompton 2001; Stoddart 2000; Nixon 1999). While Pope identified five categories, only three are relevant to the stoneware assemblage. They are kitchen and dairy, beverage service and hygiene. For those readers familiar with POTS it should be noted that the definitions of bottle and flask are expanded so as to include the Normandy vessels. Normandy bottles are cylindrical, not bulbous, but served the same function, that is to store, transport and serve a drink. Normandy flasks

were intended to be enveloped by wicker, and so are lacking the characteristic strap handles. Furthermore, a new form is added to the hygiene category: the ointment bottle.

Kitchen and Dairy

Pot/Butter Pot: A large, cylindrical or slightly convex vessel, taller than wide (Beaudry *et al.* 1983: 36). A pot's primary function was the storage of food, especially butter and fats. Pope notes that pots were also used for cooking (1986: 128), but this does not apply to stoneware pots because stoneware is sensitive to heat and thus is not suitable for cooking (Gaimster 1997a: 34). Rather, stoneware pots served an important role in the transportation of fats.

Beverage Service

Mug: A straight-sided drinking vessel with one handle, taller than wide, with a capacity range of 1 gill (0.1 litres) to 2 litres or more (Beaudry *et al.* 1983: 30).

Drinking Pot: A one or multi-handled drinking vessel, usually bulbous but sometimes cylindrical, with a capacity range of 1 pint (0.5 litres) to 2 litres or more. Cylindrical drinking pots are wider than tall and/or are multi-handled (Beaudry *et al.* 1983: 30).

Jug: A bulbous vessel with a cylindrical neck, a pronounced shoulder and a handle, with or without a gutter (Beaudry *et al.* 1983: 30). Jugs range in size and were used for drinking and serving.

Bottle: A bulbous or cylindrical vessel with a narrow neck, usually rising from a sloped shoulder, with or without a handle. Bottles do not have a gutter or spout. Bottles were used for storing, transporting, and serving liquids.

Flask: A bulbous drinking vessel with a very narrow neck, similar in form to a bottle. Flasks usually have two strap handles rising from the shoulder, unless the vessel was designed to sit within a handled covering. Flasks were carried by soldiers, travellers and field workers.

Pitcher: A bulbous vessel with a flaring neck, a gutter and a handle (Beaudry *et al.* 1983: 31).

Hygiene

Chamber Pot: A large, convex-sided, often bulbous, handled vessel with a sturdy everted rim (Beaudry *et al.* 1983: 37; Pope 1986: 135). Chamber pots functioned as portable receptacles for human wastes. Pope notes that the seventeenth century saw the beginning

of widespread use of chamber pots, but the privacy they offered was still considered a luxury enjoyed by the elite (1986: 135).

Ointment Bottle: A small, bulbous vessel with a narrow neck rising from a sloped shoulder, with or without a handle, and having a capacity of less than 0.5 litres. Visually they differ from bottles in size and are less likely to be decorated. Ointment bottles contained medicinal or cosmetic liquids.

5.4 The Ferryland Stoneware Assemblage

The Ferryland assemblage boasts 288 stoneware vessels. Not surprisingly the vast majority, 82 percent, are Rhenish (n=235). The Rhenish wares are divided by production centre and include 152 Frechen vessels, 75 Westerwald vessels, 1 Raeren vessel, 5 Westerwald-type vessels and 2 vessels whose precise origin could not be determined. English stoneware comprised the second largest group with 11 percent, or 31 vessels. Of these, seventeen vessels are English brown and fourteen vessels are English white. French vessels make up 6 percent of the assemblage with eleven Normandy vessels (includes five Domfront and two Bessin-Cotentin) and seven Beauvais/Loire vessels, totalling eighteen vessels in all. Finally, three vessels, or 1 percent of the assemblage, could not be identified by origin. Details of specific vessel types represented in the Ferryland collection are presented below. The seemingly superfluous details provided here are intended to assist researchers dealing with fragmentary collections. Absent from

the list that follows are the indeterminate vessels. Generally, an indeterminate vessel is one whose sherds suggest more than one form. This was especially a problem with the Frechen vessels where the Bartmann bottle, the jug and the drinking pot have similar body shapes, and the Bartmann bottle and jug can have the same style, and size, base. The assemblage consists of 37 indeterminate vessels, with 18 Frechen, 7 Westerwald, 1 Rhenish, 5 Normandy, 3 Beauvais/Loire, and 3 English brown.

Frechen Bartmann Bottle

Function: For the storing, short-distance transportation and serving of liquids, most often wine, beer, and spirits. Also used for the long-distance transportation of mercury. As a storage vessel, it could be used to contain a multitude of liquids in the kitchen.

Physical Description: The Bartmann bottle has a bulbous body, one strap handle attached at one end near the neck finish and at the other end on the body, with a plain or cordoned foot (Plate 1).

Decoration: This vessel is characterized by an applied face mask on the neck opposite the handle and one or more applied medallions on the belly. Some bottles have cobalt splashes, and some may have small stamped or applied motifs on the shoulder.

Date Range: *ca.* 1500-1750

Other: *Bartmannkrüg* originated in Raeren, and were produced in Siegburg and Cologne prior to production in Frechen. Bartmann bottles were sometimes lidded. Due to mass production the workmanship of the Bartmann bottle deteriorated over time.

Ferryland: 99 vessels, plus 1 bottle which appears not to have the face mask.

Frechen Jug

Function: For both serving and drinking.

Physical Description: The jug is characterized by a bulbous body, a pronounced cordon at the junction of the shoulder and the neck, one incised cordon around the outside rim, one strap handle attached at one end near the neck finish and at the other end to the shoulder, often with a tail at the handle terminal, and one or more cordons around the foot (Plate 2). There are often wash drips running down the interior of the neck.

Decoration: None.

Introduced: 1550 as a drinking pot form, and evolved into the jug by 1575.

Date Range: *ca.* 1550-1700

Other: The jug ranges in size, from small drinking vessel to large serving vessel.

Ferryland: 21 vessels

Frechen Drinking Pot

Function: For drinking, both individual and communally.

Physical Description: The drinking pot is characterized by a bulbous body with a short neck, a pronounced cordon at the junction of the shoulder and the neck, an incised cordon around the outside rim, one strap handle, and one or more cordons around the foot (Plate 3).

Decoration: This vessel is commonly decorated with an applied medallion on the belly opposite the handle and applied or stamped motifs (lion mask, cherub, flower) on the neck. However, it may also be left undecorated.

Date Range: 1550-1700

Other: These vessels were sometimes lidded. As with the Bartmann bottle, the workmanship deteriorated over time.

Ferryland: 6 vessels

Frechen Ointment Bottle

Function: For storing cosmetic or medical ointments and other valuable liquids, such as oil.

Physical Description: The ointment bottle is characterized by a bulbous body, usually with a handle attached at one end near the neck finish and at the other end on the body, and a small size with a capacity of a half-pint or less (Plate 4). Average height between twelve and fifteen centimetres.

Decoration: None.

Date Range: 1600-1700

Other: These bottles are often recovered from shipwrecks and classed as personal possessions (Lessman 1997: 81).

Ferryland: 7 vessels

Westerwald Mug

Function: For drinking, individually and communally. The larger sizes are for beer and ale, while the smaller sizes are for spirits.

Physical Description: The mug is characterized by a straight-sided body, pronounced cordons around the foot and neck, and one strap handle which often has one or more small holes near the rim of the vessel for the purpose of attaching a lid (Noël Hume 2001: 109). The capacity ranges from 1 gill to 2 quarts (Plate 22).

Decoration: The mug is decorated with infinite combinations of applied and incised motifs, with cobalt blue and/or manganese purple, or sometimes without added colour. Heraldic motifs are common after 1689. Mugs sometimes have a number stamped or scratched onto the neck to denote capacity. Some mugs may be undecorated.

Date Range: post *ca.* 1600

Ferryland: 47 vessels

Westerwald Chamber Pot

Function: Portable receptacles for human waste.

Physical Description: The chamber pot is characterized by a squat bulbous body with one handle and pronounced cordons on the foot and neck (Plate 23). The seventeenth-century form has an everted rim, and the eighteenth-century form has a flat flanged rim (Hurst *et al.* 1986: 224).

Decoration: This vessel is often adorned with applied lions and medallions, and/or stamped geometric motifs, often halloed or filled in with cobalt blue.

Date Range: *ca.* 1600-1800

Ferryland: 3 vessels, 2 of which are eighteenth century, the third is date unknown.

Westerwald Biconic Jug

Function: For serving liquids.

Physical Description: The biconic jug has a bulbous body, one strap handle extending from the neck to the shoulder often ending with a scroll, and pronounced cordons on the foot (Plates 6, 24).

Decoration: This vessel is characterized by its ornate decoration. It may be decorated with carved diaper, vertical gadrooning, and stamped or applied motifs around the neck or on the body. Cobalt-blue is always used.

Date Range: 1600-1650

Other: Biconic jugs were often lidded.

Ferryland: 3 vessels

Westerwald Jug

Function: For serving liquids.

Physical Description: The Westerwald jug was produced into a few shapes and sizes – the jug can be tall with a bulbous body and short or long neck, or pear-shaped, or squat

resembling a drinking pot. All jugs have one strap handle extending from the neck to the body, which often has one or more small holes near the rim of the vessel for attaching a lid, and pronounced cordons around the foot and neck (Plates 7, 13).

Decoration: This vessel is adorned with applied motifs, stemmed flowers, and schematic incised motifs, with cobalt-blue, and/or manganese-purple, or monochrome grey. Sometimes heraldic motifs are applied to the belly and some jugs have a number stamped or scratched onto the neck to denote capacity.

Date Range: 1625-1800

Ferryland: 14 vessels

Westerwald-Type Baluster Jug

Function: For serving liquids.

Physical Description: The baluster jug is characterized by a cylindrical central section depicting epic or religious stories. This vessel has one handle extending from the neck to the shoulder, often ending in a scroll, and pronounced cordons on the foot (Plate 25).

Decoration: The baluster jug is ornately decorated with applied central motifs, often depicting an epic or religious story. This jug often has vertical gadrooning on the lower body, while the shoulder could be decorated with carved diaper and/or stamped motifs. The neck is decorated with applied and/or stamped motifs. Cobalt-blue is always used on the grey-bodied jug.

Date Range: *ca.* 1585-1625

Other: The baluster jug was introduced as a brown ware as early as 1570 and later as a blue-grey ware in Raeren. Only the blue-grey baluster was produced in the Westerwald. This ornate vessel was often lidded.

Ferryland: 5 vessels which could be baluster jugs or biconic jugs.

Westerwald Mineral Water Bottle

Function: For storing and transporting mineral water from a spa.

Physical Description: This vessel is tall with a cylindrical body and one strap handle. The most common form has a smooth body, short neck and flat base, however, the Ferryland example has a thumbed base, reminiscent of fifteenth- and sixteenth-century forms.

Decoration: The mineral water bottle is usually stamped or incised with the name or symbol of the spa where the bottle was filled, and this may be highlighted with cobalt-blue.

Date Introduced: 1650?

Other: Mineral water bottles were extensively traded within continental Europe during the period 1700-1900.

Ferryland: 1 vessel[13]

[13] This vessel is illustrated in Crompton 2001, Figure 4.13E.

Raeren Brown Biconic Jug

Function: For serving liquids.

Physical Description: The Raeren biconic jug has a bulbous body with one strap handle extending from the neck to the shoulder and pronounced cordons on the foot. Size varies. The surface of Raeren vessels is often sheen, like a metallic shine (Plate 26).

Decoration: This vessel is often decorated with vertical gadrooning, stamped or applied motifs, and sometimes with carved diaper. The neck may be decorated with motifs or pronounced cordons.

Date Range: estimated 1570-1600

Ferryland: 1 vessel

Normandy Butter Pot

Function: For storing and transporting butter or another fat.

Physical Description: The butter pot is a large, convex vessel with a flanged rim and a single wide strap handle extending from the rim and attaching on the shoulder (Plate 27).

Decoration: This vessel is undecorated, although it may have an incised or stamped maker's mark of sorts.

Date Introduced: after 1500

Ferryland: 3 vessels, all from Domfront region

Normandy Flask

Function: For transporting and drinking a liquid.

Physical Description: Hurst *et al.* identified three types of flasks (1986: 103). Type I is an earthenware, has a light cream fabric and a flattened profile; Type II is a stoneware, has a dark brown fabric, a globular form with one side slightly flattened and the other side with throwing rings and a central nipple; Type III can be an earthenware or near-stoneware, has an orange-red to dark brown fabric and is similar in form to Type II. All types have a cylindrical tapered neck (Plate 15).

Decoration: None.

Date Range: Type I is *ca.* 1475-1550; Type II is 1500-1600; Type III is 1600-1700.

Other: These vessels were covered in wicker for easy carrying.

Ferryland: 1 vessel, Type III

Normandy Bottle

Function: For storing, transporting and serving wine and cider.

Physical Description: This bottle is characterized by a tall, cylindrical body which is handleless, has a flat base and various finishes. Fabric colour varies widely, from buff to brown to grey to red (Plate 14).

Decoration: None.

Date Range: *ca.* 1600-1800

Ferryland: 1 vessel, from Domfront region

Normandy Pitcher

Function: For serving liquids, such as water and cider (Décarie 1999: 45).

Physical Description: The Normandy pitcher is characterized by a bulbous body, flat base, and one strap handle extending from the rim to the body.

Decoration: None.

Date Range: *ca.* 1600-1800

Ferryland: 1 vessel

Beauvais/Loire Bottle

Function: For storing, transporting and serving liquids.

Physical Description: This bottle is characterized by a bulbous body with a wide, flat base, two strap handles rising from the shoulder, and a short neck with a two-part finish. The bottle may have orange or red ash-glaze and grey or buff fabric (Plate 16).

Decoration: This vessel is minimally decorated with a pair of incised cordons on the shoulder at the base of the neck, and may have a light cobalt glaze on the neck or handles.

Date Range: *ca.* 1600-1800

Ferryland: 3 vessels

Beauvais Jug

Function: For serving liquids.

Physical Description: The jug has a smooth, rounded body, one strap handle, and may have orange or red ash-glaze with buff, cream or speckled yellow fabric.

Decoration: None.

Date Range: unknown

Ferryland: 1 vessel

English Brown Bottle

Function: For storing, transporting and serving a liquid.

Physical Description: This bottle has a bulbous body, one strap handle, and grainy grey, buff or yellow fabric.

Decoration: The English brown bottle is often undecorated, but may have an applied medallion on the belly and may be half-dipped in iron wash.

Date Introduced: 1675 (Fulham)

Ferryland: 5 vessels

English Brown Mug

Function: For drinking beer and ale.

Physical Description: The mug is a straight-sided vessel with one strap handle, and often with pronounced cordons on the foot (Plate 17).

Decoration: Early mugs were commonly half-dipped in iron wash and may have stamped WR, AR, or GR cyphers to denote capacity.

Date Introduced: 1675 (Fulham)

Ferryland: 7 vessels

Bristol Grey Cup

Function: For drinking tea.

Date Introduced: *ca.* 1700

Ferryland: 2 vessels

English White Stoneware

Date Introduced: *ca.* 1700

Ferryland: The assemblage totals 14 vessels, including 6 mugs, 1 plate, 1 saucer, 2 flatwares, 1 punch bowl and 3 indeterminate vessels.

5.5 Function and Use

For all intents and purposes stoneware is a utilitarian form of material culture. Stoneware is stain- and odour-free, non-porous, and, more important, durable (Gaimster 1997a: 117). These qualities make stoneware suitable to fulfill quotidian tasks such as storage, transportation, and preservation, and can accommodate pharmaceutical and sanitary needs. Indeed many vessels were designed to satisfy a particular need. The best

examples hail from the French stoneware industry which produced task-specific wares such as butter pots, grease pots, wine bottles, flasks, and pitchers. These vessels were chiefly utilitarian, as emphasized by the lack of decorative elements. Rhenish stoneware, too, was designed to fulfill particular functions.

Function is what a vessel is designed for and *use* is how a vessel is employed (Gaimster 1997a: 115). Virtually all seventeenth-century stoneware functioned as containers since stoneware made good hollow wares, but was not easily manipulated into flatware (Harald Rosmanitz, pers. comm., 2001). A stoneware container can hold various materials, although certain typological characteristics determine a vessel's suitability for a product. Such characteristics include a vessel's capacity, stability, weight, ease of transport and closure (Gaimster 1997a: 117). For example, a narrow-necked container is better suited for a liquid than a wide-mouthed container. Similarly, the type of liquid to be contained may be best accommodated by a vessel of a certain capacity. Nevertheless, stonewares were extremely versatile and could oblige numerous uses.

As a utilitarian material culture, stoneware was helpful in the home where its use was varied. Jugs could be used to transport water from a well, to serve a drink at the dining table, or even to drink from. Bartmann bottles were used to bring wine or beer home from the tavern or merchant and were valuable storage vessels in the kitchen and pantry. Stoneware drinking pots and mugs were favoured vessels for enjoying alcoholic beverages, alone or with friends or patrons. Stoneware also served private needs in the home, like the Frechen ointment bottle filled with medicine and the Westerwald chamber

pot. Thus, home use of stoneware included short distance transportation of liquids, storage, serving, drinking, healing, and waste management. The products these vessels contained were numerous (with the exception of the chamber pot which served a single purpose) including water, wine, beer, spirits, cider, medicine, oil, vinegar and molasses. Ferryland planters probably used their household stonewares for some or all of these roles.

Stoneware's qualities made it equally useful in other venues as well, such as the alehouse, tavern or inn, storehouse, merchant's shop, and various other land locales or even on board ship. A tavern or tippling house would have stoneware on hand for the sale and service of alcohol. The repertoire of stoneware vessels would likely include Bartmann bottles, jugs and mugs. As a handled and corked container, the Bartmann bottle was useful anywhere storage was needed and was a handy container for short-distance transportation. The usefulness of the Bartmann bottle in seventeenth-century Ferryland is represented by its wide distribution across the site.

5.5.1 Activities

Stoneware was a domestic and commercial material which performed a variety of duties important to the everyday activities of seventeenth-century life. Rhenish stoneware's primary role, however, was most clearly associated with one exceptional activity: drinking. Since the fourteenth century, potters produced a medley of drinking wares for wine and beer consumption (Gaimster 1997a: 117-118). Drinking vessels

proved to be a lucrative and enduring product. Beakers, cups, mugs and drinking pots were produced in Siegburg and Langerwehe, then in Raeren, Cologne and Frechen, and finally in the Westerwald. Although these industries produced various forms, alcohol-related vessels were the most common export to foreign markets.

Drinking vessels were in high demand since drinking was an integral part of European life. In England, ale and beer were staples in the medieval and post-medieval diet (Wilson 1973: 372-376). The two were consumed, probably daily, by the masses, children included (Clark 1983: 109). Naturally, beer was much more than an affordable source of calories – alcohol would drown out misery and provide amusement. Hence the propensity of alehouses which peppered the English landscape. The alehouse was a social centre: a place to meet friends, close business transactions and relax after a labourious day. Class divisions existed in the drink, too, with the alehouse serving ale and beer to "the lower orders" and taverns serving wine to persons of middling or upper standing (Clark 1983: 5-11). Necessary for drinking are the vessels from which to drink. The Rhenish stoneware industry was not the only source of drinking vessels, but, being inexpensive, durable and accessible, stoneware was a popular choice with consumers. Drinking pots, jugs and mugs from Raeren, Cologne, Frechen and the Westerwald were used for drinking throughout the fifteenth, sixteenth, seventeenth and eighteenth centuries. It is commonly understood these vessels were used for beer (Gaimster 1997a: 118).

Seventeenth-century stoneware drinking vessels were not made to standardized sizes. In 1700 the English introduced the *Act for the Ascertaining the Measures for*

Retailing Ale and Beer in order to enforce the Standard Ale Quart and ensure that consumers got what they paid for (Gusset 1980: 154). Westerwald mugs and jugs were subject to the act and were required to be marked to indicate a capacity relative to an English pint. Mugs were marked with the following numbers:

Number	**Capacity**
10	1 gill
8	½ pint
6	1 pint
4	1 quart
3	2 quarts

Despite the new standards there continued to be much variation in hand-thrown Westerwald mug capacities. The Standard Ale Quart held 1155 ml, but analysis of six ale quart mugs showed that they held a range between 1000 ml and 1220 ml (Bimson 1970: 166).

Nonetheless, mug capacity can be used to infer function, with two avenues of inquiry to consider: what was drunk (beer versus liquor), and who did the drinking (individual versus communal). Gérard Gusset created a capacity chart based on the diameters and height of marked Westerwald mugs and jugs (1980: 161). This chart was applied to the Ferryland Westerwald mug assemblage.[14] Of the 47 Westerwald mugs in

[14] The Westerwald jugs in the assemblage were too fragmented, and thus did not have enough measurable attributes, to deduce capacities.

the assemblage, 29 had enough measurable attributes to estimate capacity.[15] Divided by century, nine are seventeenth-century, sixteen are eighteenth-century, and one dates 1675-1725, while three cannot be dated (Table 5.1).

Table 5.1. Ferryland Westerwald mug capacities by century.

Capacity	**17th century**	**18th century**	**date unknown**	**1675-1725**	**Total**
1 gill to ½ pint	0	1	1	1	**3** (10%)
½ pint	1	0	0	0	**1** (3%)
1 pint	4	5	1	0	**10** (34%)
1 pint to 1 quart	3	3	0	0	**6** (21%)
1 quart	1	7	1	0	**9** (31%)
2 quarts	0	0	0	0	**0**
Total	**9** (31%)	**16** (55%)	**3** (10%)	**1** (3%)	**29** (99%)

While it is commonly understood that Westerwald mugs were widely used for beer drinking, the consumption of other drink is often overlooked. The half-pint and the gill are sizes better suited for liquor than beer (Gusset 1980: 172). Peter Pope contends that liquor, or spirits, and wine were popular beverages at Newfoundland (1994). According

[15] Because of the size variation in hand-thrown Westerwald mugs, it was not always possible to determine an exact corresponding capacity. Thus, in this exercise, there is a category for mugs holding between 1 gill and ½ pint, and a category for mugs holding between 1 pint and 1 quart.

to Pope, Newfoundland was well supplied with spirits and wine, fishers had disposable income, and spirits and wine were viewed as a source of warmth, something lacking on the sea and at Newfoundland. Thus, while beer was a staple in the English diet and a drink for commoners, consumption of liquor and wine by the working-class fishers was acceptable at Newfoundland. Nevertheless, the Ferryland stoneware assemblage has only four mugs with a capacity of a half-pint or less. Given there are 25 Westerwald mugs with a capacity of a pint or larger, and 6 Frechen drinking pots which would have held a minimum one pint, then 89 percent of stoneware drinking vessels at Ferryland were likely used for the consumption of beer. Thus, if there was much liquor drunk at Ferryland, it was not often drunk from stoneware vessels. Instead, stoneware drinking vessels were preferred for the consumption of beer.

It follows, then, that the next issue to consider is whether Ferryland beer mugs can be used to lend support, one way or another, in the communal versus individual debate. Some researchers advocate a move toward individualism in English, and English colonial, post-medieval society. For instance, Matthew Johnson (1996) outlines a gradual shift toward individuality that became common in English society by the eighteenth century. In a New World example, James Deetz (1977) observed an increase in the absolute numbers of ceramic drinking vessels after *ca.* 1660 in New England, implying a shift to individual drinking at this time. This train of thought suggests communal drinking was frequent for more than half of the seventeenth century before being replaced by individual drinking. Is such a trend observable in stoneware drinking vessels? There are two ways

of looking at it: first, translated to mug capacity the trend implies smaller, single-serving mugs replacing larger, shared mugs; second, drinking vessels become more plentiful over time as more individuals drink from their own mugs.

Neither trend is detected in the Ferryland stoneware assemblage. On the first point, vessels for the consumption of beer are not smaller in the eighteenth century. At Ferryland, there is no significant difference by century between the number of Westerwald mugs of one pint and one pint to one quart capacity (n=7 in the seventeenth century, and n=8 in the eighteenth century). Instead, the increase in the eighteenth century is in the number of one quart mugs. Regarding the second point, there are more Westerwald beer mugs in the eighteenth century than in the previous century. However, a more accurate picture of stoneware beer drinking vessels must include the six Frechen drinking pots, all of which belong to the seventeenth century. When all stoneware vessels used for the consumption of beer are considered, there is no significant increase in the number of vessels from one century to the next (n=14 in the seventeenth century, and n=15 in the eighteenth century).

The communal versus individual paradigm is subjective and there are no steadfast rules about capacity and sharing. Pint-sized mugs at Ferryland could have been used communally or individually, depending on various factors including the number of available drinking vessels and the occasion. A ceremony, for instance, may warrant sharing as a form of intimacy (Stone 1977: 61). Moreover, this exercise demonstrates that the paradigm is not a good fit with respect to stoneware drinking vessels. The number of

vessels did not change, but the type of vessel did. Thus the data hint at a different shift: a move toward ornate decoration. This change is explored in more detail in the following sections.

5.5.2 Stoneware and Status

Given that stoneware is widely recognized as a utilitarian ceramic, the next issue is whether stoneware also held a position of status in early modern society. In particular, did the inhabitants of Ferryland regard stoneware as a measure of affluence? Without documents attesting to its value at the colony, it is difficult to ascertain what level of status, if any, stoneware had in the eyes of Ferryland residents. The inhabitants of Ferryland would likely have followed fashions from home, that is, the West Country of England. Ergo, to understand how the colonists viewed stoneware, it follows that one needs first to trace the role of stoneware in English society leading up to the founding of the colony in the seventeenth century.

In medieval England stoneware was a relatively successful utilitarian material. However, it was soon to enjoy newfound popularity and a new place in society. Over the fifteenth and sixteenth centuries ceramics in general became more mainstream and moved toward a new social niche. Gaimster calls this transition a "ceramic revolution" and attributes it to a growing middle class armed with increased purchasing power (Gaimster 1999: 214-215). More wealth among the masses bought better living standards and changes in the social sphere. Ceramics gradually moved from the kitchen and cellar to the

dining room, where they soon found a place on the table, replacing wooden trenchers for all but the poorest families. Moreover, with a range of material culture within reach, the middle class was able and willing to engage in social competition with their peers and with the elite (Gaimster 1997a: 126).

Then, as now, the elite were the trend setters. Rhenish stoneware became fashionable in elite circles in the sixteenth century by way of two trends: a) mounting plain drinking vessels with silver and b) setting the dining table with beautifully decorated ceramics. The trend of adding silver to plain stoneware is curious. Glanville points out that by 1500 ceramics were sweeping the country and could be afforded by all levels of society, and stoneware was widely available (1990: 329). Nevertheless, these modest and uneventful vessels were given the royal treatment, literally. The trend began in the 1520s by embellishing Raeren drinking pots with a cover and neck- and foot-mounts of silver-gilt. The style later transferred to the emerging Frechen jug in the mid-century. Some vessels received more elaborate treatment, such as adding vertical straps which attached to a ring of silver at the base of the neck, while others may have only a cover and neck mount. The mounting craze lasted among the elite for a period of roughly fifty years, but declined in popularity by the third quarter of the sixteenth century. By 1600 elite-owned mounted stoneware vessels had been sold, stripped of their silver or gifted to favoured servants (Glanville 1990: 332-333; Gaimster 1997a: 134). The craze had ended.

Where one trend catapulted plain stoneware to stardom the other emphasised ornate decoration. Elite dining tables in the fifteenth century were set with precious

metals and glass (Gaimster 1994). Ceramics and, significantly, stoneware jugs, were now in the dining room but sat on the floor. Eventually stoneware mugs and drinking jugs made it onto the table, and a new gateway was opened for stoneware producers. The stoneware industry had captured part of the tableware market and were in good position to capitalise on its success (Gaimster 1997a: 127). The introduction of applied relief decoration in the early sixteenth century transformed stoneware into an object of beauty able to compete with established dining luxuries such as metal and glass (Gaimster 1999: 217). Dining tables of monasteries, the aristocracy and the court soon had ornately decorated Rhenish stoneware set alongside the traditional luxuries.

Rhenish stoneware gained the favour of the English elite in the sixteenth century, however, it was only one of several ceramics to do so. During this period of ceramic revolution stoneware stood out as a commodity that was valued but was simultaneously affordable and accessible to most urban English subjects. These qualities drove Rhenish stoneware into the realm of social competition because it allowed the middle classes to imitate elite dining habits affordably (Gaimster 1999: 216). The fashion of mounting stoneware, popularized by the elite in the 1520s, spread beyond court circles by mid-century (Gaimster 1997a: 134). The stoneware drinking pots and jugs were themselves not expensive, selling for as little as a penny each (Glanville 1990: 329). The jug owner could then have it mounted in whatever metal he could afford, be it silver, tin or pewter. This fashion spread rapidly through all levels of English society, as demonstrated in the

following passage by the French traveller Étienne Perlin, written in 1558, and quoted in Glanville (1990: 331):

> They consume great quantities of beer double and single and do not drink it out of glasses, but from earthen pots with silver handles and covers, and this even in houses of persons of middling fortune; for as to the poor, the covers of their pots are merely of pewter, and in... villages, their beer pots are made only of wood.

The same pattern was identified in Exeter by John Allan who found that mounted drinking vessels were widespread from at least the 1560s (1984: 120). Allan estimated that between 1560 and 1643 well over half Exeter's freemen possessed at least one mounted cup, despite the staggering statistic that 70 percent of the population would be classed as poor (1984: 120, 101). The Exeter model demonstrates two key points about the status of mounted stoneware. First, that it was an affordable way for the middle classes and even the poor to emulate wealth, and second, that it remained popular with those of lower stations long after it fell out of favour among the elite.

Highly decorated stoneware was subject to the same model. Relief decorated wares from Siegburg and Cologne were bought by the elite for table use in the sixteenth century. Although certainly more costly than plain vessels, decorated stoneware was not beyond the reach of a middle class wanting to showcase their own meagre wealth. Turning again to Exeter as an example, Allan describes the relief decorated baluster jugs of late sixteenth-century Raeren and early seventeenth-century Westerwald as "quite common finds" (1984: 115). The discrepancy between elite purchases beginning in the early sixteenth century and middle class to poor purchases in the late sixteenth and early

seventeenth centuries is appreciable because it follows the same pattern seen with the mounted vessels. As with the mounted vessels, the masses with discretionary income could afford to buy decorated stoneware, and they did so at a time when the elite were no longer enamoured with the fashion. More perspective is gained when obvious status ceramics are considered. Chinese porcelain, indubitably a luxury ceramic, was found in Exeter in some quantity, but exclusively in the wealthy and "moderately wealthy" areas of the city (Allan 1984: 105). The date of manufacture of the porcelain assemblage was of the period *ca.* 1590-1620, which corresponds perfectly with the time frame of Raeren and Westerwald baluster jugs. The Exeter example demonstrates the contrast in so-called status commodities of the elite and the masses below them. The elite bought luxury ceramics, whereas the middle classes and the poor bought affordable ceramics that emulated elite practices.

At the dawn of the seventeenth century elite flirtation with Rhenish stoneware had come to a close. Rhenish stoneware continued to be popular with the middle classes who used it to emulate the elite and compete with each other, though this practice, too, seems to fade in the middle of the seventeenth century. The lower classes also bought stoneware in the cycle of imitating their richer peers. Thus, by the time of Ferryland's founding in 1621, Rhenish stoneware was not an elite commodity, but certain vessels could be considered wealth emulators. Included in this category are ornately decorated vessels with display qualities, mainly jugs, including Raeren and Westerwald baluster jugs, Westerwald biconic jugs, and Westerwald jugs decorated with applied relief motifs. Did

the inhabitants of Ferryland regard these vessels in such a manner? Of the 288 stoneware vessels in the Ferryland assemblage, none could be definitively identified as a baluster jug, although 5 vessels are either balusters or biconics (vessels 50, 119, 167, 178, 187) and another 4 vessels are biconic jugs (vessels 44, 164, 168, 172). Additionally, two Westerwald jugs could be positively identified as decorated with applied relief motifs (vessels 173, C316), totalling eleven vessels (4 percent) which could be classed as wealth emulators. Determining their social value in Ferryland society, however, is not easily concluded. Most of the above vessels came from the midden in Area F or from fill layers, and so cannot be directly linked to any particular inhabitant or household. The exception is vessel C316 excavated from the Area D dwelling. Crompton concluded the inhabitants of the dwelling were of "the middling sort," that is to say they were not gentry but wealthy enough to afford certain luxuries (2001: 144). In one line of evidence Crompton argues that two chafing dishes could qualify as status artifacts because their use suggests a knowledge of elite social behaviour. She states: "In attending to such social niceties as the display of food at the table, perhaps the Area D planters were trying to assert their familiarity with upscale dining habits" (2001: 141). The ornately decorated Westerwald jug, designed for table display, would certainly accentuate this social behaviour.

Interestingly, two aforementioned vessels (119, 164) were recovered from strata related to the brewhouse-bakery. It is noteworthy that one, and possibly both, are Raeren, indicating the possibility that they arrived with the early colonists as personal possessions. Their association with the brewhouse-bakery indicates, however, that their role was not

one of competition between classes. These vessels were probably used for decanting and/or drinking beer, imparting a social role of comradery and a utilitarian role of service. Vessel 187, a blue-grey baluster or biconic jug, may have served a uniquely utilitarian role. This vessel was found in the storehouse in Area C, certainly an unusual location for a decorated ceramic. However, if the vessel was free of its social facade then it, like other stonewares, would make a handy container. Nevertheless, because this vessel is represented by a single sherd, it is possible that the artifact travelled to its final resting place from elsewhere.

Thus far the Ferryland assemblage shows only one clear example of stoneware in the role of status emulator. Are there other examples? Mounting stoneware with metal covers continued to be popular among the masses throughout the seventeenth century. Unfortunately, the archaeological record is rarely so obliging as to provide metal artifacts. The most prized metals, such as silver, would be removed from a broken ceramic vessel, not discarded with it. Pewter, the most likely metal to be employed by the middling and poorer classes, might also be removed and, when discarded, tends not to preserve well. A pewter artifact from the Area B dwelling was conjecturally identified as a cover for a Westerwald mug, and the pewter was admittedly "fragmentary and heavily deteriorated" (Nixon 1999: 192). One thing is certain, the pewter was not attached to a stoneware vessel, the only sure way of identifying a covered stoneware. Any number of stoneware vessels in the Ferryland assemblage could have had metal covers, but there is absolutely no reliable evidence for this practice.

Another indicator of a status-sensitive ceramic is its curation. Durable stoneware may withstand the rigours of use better than earthenware but, being utilitarian, easily replaced, and often in the service of drinkers, stoneware was as vulnerable to accidents as other ceramics. A prized possession, however, would enjoy a prolonged lifespan because its owner would handle it carefully (Gaimster 1997a: 132). Curation of stoneware at Ferryland is difficult to determine. Most dateable vessels fit into the confines of dateable strata, with a few exceptions, but these exceptions are ambiguous as to their curation. For example, vessel 168, a Westerwald biconic jug, was found in the defensive ditch and so could have been discarded anywhere in the period 1622-1696. Vessels 119 and 164, discussed above, could have been acquired in the late sixteenth century, but it is just as likely they were bought only a year or two prior to voyaging to Newfoundland. It is quite probable they were personal possessions, but it would be presumptuous to say they were prized.

Although largely lacking the usual indicators of status, the Ferryland stoneware assemblage has one curious vessel which might qualify as valuable. Vessel C318 is a Westerwald mineral water bottle excavated from the Area D dwelling. As previously discussed, the inhabitants of the dwelling could afford some luxuries to prove their knowledge of gentry habits. Mineral water from a European spa was certainly such a luxury. Spa mineral water was available in stoneware bottles since the mid-seventeenth century, but was not a popular commodity until the mid-eighteenth century (Gaimster 1997a: 252, 95). Late seventeenth-century mineral water was a rarity afforded by the few

who purchased it before it became mainstream. The precious contents within the bottle made this stoneware a small luxury, though it is impossible to know when the mineral water bottle was acquired. Mineral water would have been more prized in England than Newfoundland, given the difference in fresh water quality in these places in the seventeenth century. Assuming this scenario, that the bottle was purchased for its contents in England, then its voyage to Newfoundland as an empty bottle demonstrates its curation.

5.6 Availability and Acquisition

Ferryland's inhabitants relied on importation and trade for many of their material needs, including stoneware. The complexities of Ferryland's trade are adequately discussed elsewhere and will not be repeated here.[16] Alternatively the emphasis here is on stoneware availability, travel routes and acquisition. As previously outlined, England's staple stoneware for much of the seventeenth century was Rhenish, though French stoneware was imported in small numbers (Crossley 1994: 261). The precise nature of stoneware delivery to Newfoundland is not known.[17] Nevertheless, how stoneware travelled the world is no mystery, and the various routes to Newfoundland are proposed.

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[16] See Pope 2004, Crompton 2001, Nixon 2000.

[17] The numerous pages of *Documents Relating to Ferryland*, transcribed by Peter Pope (1993b), bear no mention of stoneware at all.

Furthermore, the debate concerning vessel contents is addressed since this issue is linked to stoneware acquisition.

5.6.1 Rhenish Stoneware

The documentary record renders a good understanding of Rhenish stoneware importation into England. During the sixteenth century wares from the various Rhenish production centres were transported to the port cities of Flushing, Dordrecht, Ostend and Dunkirk, where they were loaded and shipped across the English Channel. By 1620, however, Rotterdam became the main port of redistribution. Stoneware was distributed throughout the Netherlands and vast quantities were shipped to England. For example, during the peak importation years between 1600 and 1640, total stoneware imports into England averaged 100 000 to 300 000 vessels per year. During this period the most popular vessels were the Bartmann bottle and the drinking pot (Gaimster 1997a: 82, 94).

During the period *ca.* 1550-1660 London was the primary entry point for Rhenish stoneware, and consequently the redistribution centre as well (Gaimster 1997a: 80; Allan 1984: 123). Vessels were redistributed via sea to English coastal cities and towns, such as Exeter, Dartmouth, Plymouth and Barnstaple. John Allan notes that the south-west ports received large batches of redistributed stoneware compared with other English ports, based on late sixteenth-century London coastal port books (1983: 39). After 1660 Exeter was importing stoneware directly from the continent (Allan 1984: 123).

Rhenish stoneware in Newfoundland arrived via this system of redistribution. Allan identifies three methods by which stoneware travelled from the Old to the New World (1999: 286-287). The first is direct trade between New World colonies and the Low Countries. Already long-time suppliers of continental goods to England, the Netherlands extended this role to New World colonies. On the North American Atlantic coast the Dutch not only supplied goods to her own colonies but to French, Spanish and English colonies as well. Moreover, Dutch sack ships were major players in the trans-Atlantic trade, and were trading at Newfoundland as early as 1589 (Pope 2004: 98). For much of the seventeenth century the Dutch were active and frequent participants in the Newfoundland fish trade. This trade declined in the 1650s due to the Navigation Acts and the Anglo-Spanish war, and finally ceased by 1670 (Pope 2004: 102-103). It is likely that some of Ferryland's Rhenish stoneware journeyed on Dutch ships and reflects trade with Dutch suppliers.

The second and third methods involve supply from England. As previously stated, Rhenish stoneware was shipped to London and redistributed to English cities and towns, usually by sea. No doubt ships departing London for North America were also loaded with Rhenish stoneware. This does not necessarily mean that London ships traded specifically with Ferryland. More probable is further redistribution from London to South-West England to Newfoundland. South-West outports, such as Plymouth and Dartmouth, and later Bideford and Barnstaple, were engaged in the Newfoundland fishery and brought various provisions to the colonies (Pope 2004: 144-148). Furthermore,

documentary evidence indicates redistribution from Exeter to Newfoundland between 1686 and 1750, when Exeter was importing stoneware directly from the Low Countries (Allan 1999: 284).

Given these systems of redistribution, it is unlikely Ferryland planters had any control over the acquisition of a specific Rhenish vessel adhering to an individual's ornamental taste. Medallions and other applied decor on Rhenish vessels in the Ferryland assemblage are, for the most part, standard designs found on vessels in England, New World colonies, and shipwrecks. Similarly, the decoration is not an indication of the exact travel route of Rhenish stoneware to the colony. Vessels adorned with the medallion of the arms of the city of Amsterdam, for instance, are just as likely to have travelled via England as on a Dutch merchant ship direct from the Netherlands. There is one curious medallion in the Ferryland assemblage, however. Vessel 113 is a Rhenish ware of unknown origin represented by a single sherd showing a partial medallion within a wreath with towers and the letters "MAIDEBVRG" (Figure 5.1). This medallion is certainly the armorial for the city of Magdeburg, Germany (Goodall 1997: 369). This vessel was obviously intentioned for the local German market. How it ended up in Newfoundland is a bit of a mystery, with more possible scenarios than there is room in this text to cover.

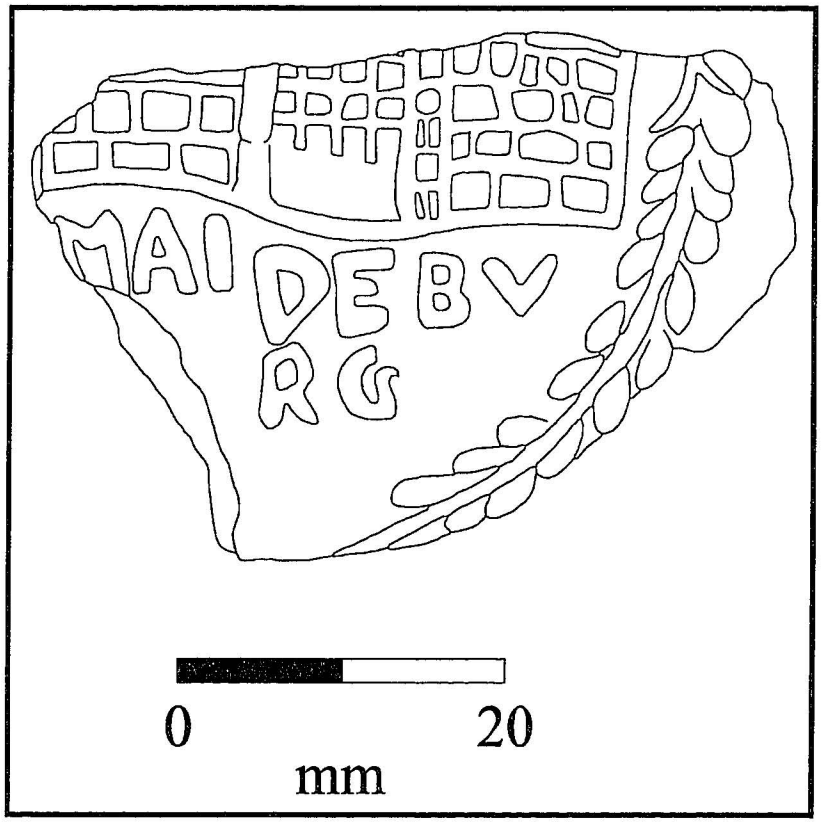

Figure 5.1 Magdeburg medallion, vessel 113

5.6.2 French Stoneware

In medieval and post-medieval times, England engaged in trade with France for a multitude of items, including ceramics. Both Beauvais and Normandy wares were imported into England, the latter via Dieppe, Rouen or Elboeuf. However, Beauvais earthenware was a more common import than stoneware. As for the Normandy wares, only the wicker-covered flasks are specifically mentioned in customs documents. French stoneware imports were most common during the sixteenth century, although records indicate Normandy flasks arriving in Exeter in 1624 and in London in the 1630s, as well as a shipment of stoneware bottles in 1676 from the Loire Valley (Allan 1984: 113).

Given that most French stoneware importation into England occurred in the sixteenth century and in small numbers, it is unlikely these vessels arrived in Newfoundland from the down-the-line trade which brought the Rhenish wares to Ferryland. French salt travelled to Newfoundland via a system of triangular trade, and Crompton suggests this route as a plausible explanation for Saintonge earthenware at Ferryland (2001: 104). However, what works for one product does not necessarily work for all. As previously discussed, the French stoneware industry was often tied to another local industry and stoneware was produced specifically to accommodate a local need, thus many vessels were, quite simply, not for export. Those vessels that are known to have been exported, such as bottles and flasks, do not appear at Ferryland in any great number (n=5). With only eighteen French stoneware vessels in the Ferryland collection, and only five which could be considered exportable, shipment of French stoneware to

Newfoundland via triangular trade seems a remote possibility. Rather, the trickle of French vessels into Ferryland is best explained by opportunistic acquisition. Three scenarios are presented here, offered only as possibilities.

First, French stoneware could be obtained as loot from captured French ships. For example, during Calvert's stay in Ferryland in 1628-1629 he complained about energy wasted in "fighting with Frenchmen," and reports capturing six French ships in Trepassey Bay (Cell 1982: 279). Unfortunately the account does not specify whether the ships were looted before being sent to England. Nevertheless, it would not be surprising to find French stoneware aboard a captured French ship. The second possibility is more friendly. English and French coexisted at the southern end of the English Shore: French planters operated at Trepassey, and in Renews English planters employed French servants. That these individuals traded goods would be expected, and further trade to Ferryland, a hub for commercial activity where planters from smaller settlements came to procure goods, is a distinct possibility (Pope 2004: 312-313). Third, French goods could have arrived at Ferryland via third-party traders. Dutch merchant ships were active along the North American Atlantic coast and traded with both the French and the English. Similarly, New England ships provisioned Plaisance and traded on the English Shore (Pope 2004: 108, 203). In this way, French stoneware could have travelled the short distance from the French fishing harbours on Placentia Bay to the English Shore.

5.6.3 English Stoneware

English stoneware became available to consumers in 1675. Seventeenth-century stoneware potteries were established in and around London. The Fulham pottery catered specifically to the London market, while other potteries supplied local and export markets. Obviously English stoneware travelled from England to Newfoundland, although it is not clear if wares travelled directly from London or via the South-West as Rhenish wares were likely to have done.

5.6.4 Vessel Contents

Inherent in the study of containers is the issue of their contents. In terms of consumer acquisition, the question must be asked: was a container desired for its functional qualities, or was it coveted for its contents? The question is loaded with unknowns, beginning with whether a container even had, or was expected to have, contents at the time of order or purchase. The stonewares which could carry contents are mainly bottles. This section examines the issue of bottles as containers versus bottles as commodities.

There are seven distinct stoneware bottle types recovered from Ferryland. The most prevalent is the Bartmann bottle. Although recognized for their versatility as a container for a diversity of products, Bartmann bottles are commonly known as containers for alcohol. As a container, the Bartmann bottle functioned as a storage, serving, and transportation vessel. However, the Bartmann bottle was never intentioned to fulfill long-

distance transportation needs (Gaimster 1997a: 125). In medieval and post-medieval Europe wine and beer were shipped in barrels and casks. The role of the Bartmann bottle in the wine and beer industry was for the local sale of individually bottled drink and short-distance transportation. For example, in the 1660s, London-based merchant Pieter van den Ancker imported casks of French and Rhenish wine which he bottled for sale in specially ordered Bartmann bottles adorning his cypher (Haselgrove and van Loo 1998). English records, such as port books and others, indicate that stonewares were traded as commodities, not containers (Gaimster 1997a: 78; Allan 1984: 125-126). It was standard practice, then, that Bartmann bottles were imported into England empty. As for the redistribution of Bartmann bottles from England to Newfoundland, despite the longer travel distance, they were probably shipped empty as well. An economically sound procedure would be to load a Newfoundland-bound ship with a newly arrived shipment of empty bottles already packaged for a voyage.

Although not an economical tool for shipping wine, Bartmann bottles proved suitable for transporting volatile materials across oceans (Gaimster 1997a: 125). The Dutch adopted the Bartmann bottle as the preferred method for shipping mercury because the bottles were cost-efficient and easy to handle (Cowan 1975: 299). No fewer than three shipwrecks link Bartmann bottles with mercury – the *Lastdrager* (Sténuit 1974), the *Kennemerland* (Forster and Higgs 1973) and the *Princess Maria* (Milne and Draper 1992). Mercury was used for medicinal purposes, but on a larger scale was valuable in

the amalgamation process of mining silver (Goldwater 1972). There is no evidence suggesting mercury was needed at Ferryland.

Bartmann bottles were probably empty on arrival in Newfoundland and were desired as a commodity for their usefulness as containers. Other stoneware bottles were likely to have contents and were bought for this reason. One example of a bottle desired for its contents is the small, Frechen ointment bottle. Although there is little information specific to this particular bottle, the Rhenish stoneware industry provided containers for pharmaceuticals since the sixteenth century (Gaimster 1997a: 123). The bottle's small capacity makes it less functional for other duties, so as a commodity these bottles have little value and were likely bought for their contents. There are seven ointment bottles in the Ferryland stoneware assemblage. Another Rhenish bottle which would have been purchased for the contents is the Westerwald mineral water bottle. This bottle was specifically designed to transport mineral water from spas to European markets (Gaimster 1997a:125). Ferryland has but one mineral water bottle. Though this bottle would have had contents at its original sale, it is impossible to know if it came to Newfoundland full or empty.

In addition to the Rhenish bottles there are three types of French bottles as well as English brown bottles in the Ferryland assemblage. The French bottles total five: one Normandy flask, one Normandy bottle, and three Beauvais/Loire bottles. It is difficult to ascertain whether these bottles had contents because it is not known with certainty how they were acquired. In the three scenarios listed above (captured ships, personal trade and

third-party traders), a bottle could just as likely be full as empty. On the other hand, because Rhenish bottles were so plentiful, a French bottle may not be coveted were it not for its contents. The five English brown bottles, functioning in the same fashion as Bartmann bottles but probably arriving individually, could have been shipped with or without contents.

5.7 Chronological Trends

Many factors can impact the health of an industry. Often, ever-changing fashions are responsible for the rise and fall of a product. Sometimes a product changes to meet a style, and sometimes a new product becomes the fashion because it is fresh. Thus, the Rhenish stoneware industry, catering to the demands of English consumers, was vulnerable to the changing tastes of its customers. The Rhineland was no stranger to this reality, already having experienced changing demands during the fifteenth and sixteenth centuries that lead to the rise and fall of Langerwehe, Siegburg and Raeren stoneware. Internal competition between stoneware industries continued during the seventeenth century, chiefly between Frechen and the Westerwald. However, the Rhenish stoneware industry now faced a new challenge: English innovation.

The Bartmann bottle, the primary Rhenish export to English soil in the first half of the seventeenth century, held a virtual monopoly because England was not producing a comparable product. The profits to be had by providing English consumers with a domestic bottle were great and well-recognized. Before long, enterprising Englishmen set

about doing just that, resulting in the English glass wine bottle, introduced *ca.* 1645, and later the English stoneware bottle, introduced in 1675. By the eighteenth century English stoneware was being produced in various forms and styles by numerous producers. How did these developing industries impact the Rhenish stoneware imports? Comparisons between English, Frechen and Westerwald stoneware have been loosely examined on English sites, and the fall of the Bartmann bottle in England is widely attributed to the English glass wine bottle. Such an analysis has not been done in the New World. Archaeological investigation of the Ferryland site provides a time frame spanning 160 years of continuous, although interrupted, occupation, making it an ideal candidate for a chronological study. This section will examine the relationships between the new English products, glass and stoneware, and Frechen and Westerwald stoneware. First, an explanation of the methodology used in this section is explained.

5.7.1 The Aggregation Matrix

Comparisons over time were accomplished using an aggregation matrix. The matrix is a grid in which the available data were broken down into individual years that span the assemblage, in this case 1600-1760. Because it is not known when a vessel was introduced to Ferryland, this exercise produced estimated maximum number of vessels for each year by considering two conditions: 1) the date of the stratum, and 2) the introduction date of a vessel's manufacture. Thus, a vessel with an introduction date of 1660 recovered from a stratum dating 1621-1673 was considered to be in use at Ferryland

every year from 1660-1673. The data set was normalized by excluding problematic vessels. For instance, vessels from strata that did not have a date, such as some fill layers, were omitted, as were vessels that were clearly intrusive. In some cases strata dates were not well-defined. For instance, a stratum described with a *terminus ante quem* of 1650s was, for this exercise, assumed an end date of 1659. Similarly, because the exact date of the destruction of the brewhouse/bakery and, likewise, the expansion of the Kirke house in its place are unknown (the event occurred sometime in the 1640s), arbitrary dates were assigned for the purposes of the exercise. Thus, strata associated with the brewhouse/bakery were given a *terminus ante quem* of 1645, and strata associated with the Kirke house were given a *terminus post quem* of 1646.

While the stoneware data encompasses Areas B, C, D, E, F and G, there are no English glass wine bottle data for the latter two site Areas. Therefore, where comparisons are performed among stoneware vessels, independently from glass, all available data were used, but comparisons with glass bottles were made only from the following locations: Area C, the Area B dwelling, the Area D dwelling, and the Area E dwelling. The glass data were pulled from the theses of Wicks (1999), Nixon (1999), Crompton (2001) and Leskovec (forthcoming) respectively.[18] Dates of glass bottles are based on the work of John Wicks (1999). It should be noted that while the English glass wine bottle benefits from a chronology, the Bartmann bottle does not. The result is that the estimated

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[18] Crompton's Area D data include an onion wine bottle dating between 1680 and 1720.

maximum use of glass bottles at Ferryland is more clearly defined in the data, whereas the estimated maximum use of Bartmann bottles is tied closely to the date of the stratum. This link affects the data from the dwellings especially, where Bartmann bottles are assumed in use for the entire occupation of the dwellings.

5.7.2 Old Bottles, New Bottles

There is no doubt the English glass wine bottle impacted the importation of Bartmann bottles. Glass bottles replaced the Bartmann in duties such as bottling wine from the cask. Less certain, however, is when a widespread transfer took place. It is generally accepted that Bartmann bottles declined noticeably during the second half of the seventeenth century (Gaimster 1997a: 211). Noël Hume and Noël Hume imply the stoneware monopoly crumbled as early as the mid-1640s when the English glass wine bottle was in its infancy (2001: 161). Wicks states confidently: "... by 1650 glass bottles began to triumph over their stoneware competitors" (1999: 24). Yet a later date, *ca.* 1660, is forwarded by Green as a marker for the decline of the use of the Bartmann bottle (1999: 294). The 1660s is supported by the actions of the London-based importer Pieter van den Ancker who, at the opening of his enterprise *ca.* 1660, contracted with Cologne traders for the supply of Bartmann bottles for the purposes of bottling and selling his wines (Haselgrove and van Loo 1998). Only a few years passed, however, when van den Ancker decided sales could be improved if the wine was bottled in glass instead. In 1664 he ceased the importation of Bartmann bottles and negotiated a new contract for the

supply of glass wine bottles. Assuredly, by the mid-1660s glass bottles surpassed stoneware bottles in popularity, at least in the sale of bottled wine. The demand for glass bottles surely continued to grow in the coming years. By the time John Dwight was ready to market his Fulham-produced stoneware bottles in 1675, glass bottles had diminished the appetite for their stoneware counterparts. Dwight nevertheless managed to sell his bottles to various taverns via the London Glass-sellers Company, although only locally in and around London, and for the purpose of bottling beer and ale, not wine. With more bottles available, the Bartmann bottle had all but disappeared from the English market by the end of the seventeenth century.

English demand for Rhenish Bartmann bottles was waning in the second half of the seventeenth century because of increased competition from new bottle producers. Did the trend away from Rhenish bottles in England impact the popularity of the Bartmann bottle at Ferryland? The analysis produced some interesting results. When four site Areas (B, C, D, and E) are considered, the time frame spans the years 1600 to 1760, with a fifteen year gap in the years 1706 to 1719. Overall, Bartmann bottles dominate over English glass wine bottles as late as 1669 (Figure 5.2). From its introduction *ca.* 1645, the glass bottle slowly increased its presence at Ferryland. In the few years (1670-1673) leading up to the destruction of the settlement by the Dutch, glass bottles nearly triple in quantity and are very close in number to Bartmann bottles (n=20 and n=25 respectively). In the period between the Dutch and French destruction events (1675-1696) the pattern is repeated – that is, Bartmanns are the stronger bottles immediately following the 1673

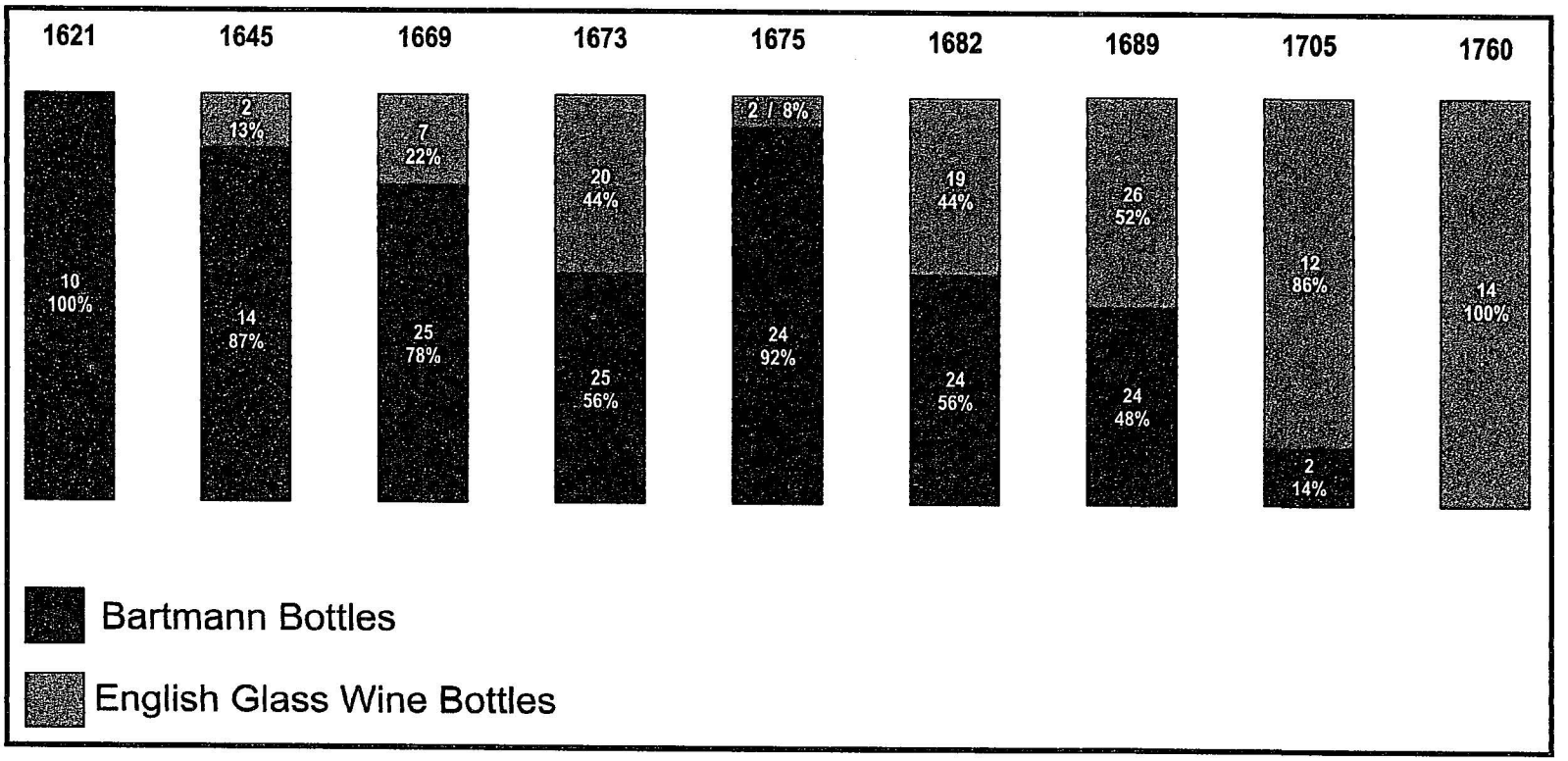

Figure 5.2 A comparison of Bartmann bottle and English glass wine bottle frequencies, Areas B, C, D, E, selected years over the period 1621-1760

destruction, but glass bottles slowly increase in number and reach equilibrium with the Bartmanns. Furthermore, glass bottles surpass Bartmann bottles in 1689, holding 52 percent of the total. More important is the accelerated speed with which glass bottles increase in this period compared to the previous occupation period. The glass bottle needed 25 years to reach comparable numbers with the Bartmann bottle prior to the Dutch destruction. After the raid, however, it took only fifteen years for the glass bottle to surpass the Bartmann bottle. This impressive recovery rate is witnessed again after the French destruction. In the period 1697 to 1705 (represented only in Area C) glass bottles are replaced in some quantity while the Bartmann does not recover. In the opening years of the eighteenth century glass bottles are clearly preferred, making up 86 percent of the total. The mid-eighteenth century is represented here by the Area E dwelling which also served as a tavern (Leskovec, pers. comm., 2004). It is evident Bartmann bottles were no longer being used for bottling alcohol by this time since there are none represented in this context.

The data suggest two major influxes of English glass wine bottles to Ferryland. The first occurred in the early years of the 1670s, and the second in the 1680s. The first influx was almost enough to place the glass bottle on par with the Bartmann, but the second influx was more substantial in that the glass bottle surpassed the Bartmann bottle in this period. A closer examination of the data, however, suggests interesting questions. For instance, the increase of glass wine bottles in the 1680s is curious, not because this is not anticipated, but because the increase did not occur sooner. At the time of the Dutch

raid in 1673 the number of English glass wine bottles nearly equalled the number of Bartmann bottles, but their replacement did not occur immediately following the raid, and, in this exercise, it appears that Bartmann bottles were replaced with greater speed. The obvious explanation is that Bartmann bottles, for whatever reason, were more readily available after the raid and were acquired to fill an immediate need resulting from the loss of goods. However, when the sample is broken down into individual site Areas, the increase of English glass wine bottles in the 1680s, or rather the lack of increase before this time, becomes more puzzling. The Area D dwelling dates after the Dutch destruction, from *ca.* 1675-1696. That the occupants did not acquire English glass wine bottles until the 1680s is not unusual or surprising.[19] That is, until the Area B dwelling data is considered. The Area B dwelling was occupied *ca.* 1660-1696, thus before, during and after the Dutch raid. The occupants of this home also did not acquire English glass wine bottles until the 1680s, despite their availability and use at Ferryland since the 1640s, as evidenced in Area C.[20] Why did neither occupant acquire English glass wine bottles prior to the 1680s? Nixon briefly touched on this point in his thesis, but only speculated as to the reasons (1999: 163).

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[19] Two glass bottles, dating 1660-1675 and 1670-1688, were recovered from a nearby midden that was likely used by the Area D dwelling inhabitants, but since there were no correlating fragments from the dwelling itself it cannot be known with certainty that these bottles belonged to this structure.

[20] Though both dwellings had case bottles with earlier dates.

Peripheral issues aside, the English glass wine bottle became the preferred choice of bottle at Ferryland by the end of the seventeenth century. Nevertheless, the Bartmann bottle did not necessarily become obsolete since both seventeenth-century dwellings had reasonable numbers of Bartmann bottles – the Area D dwelling had nine and the Area B dwelling had ten. While both households acquired a quantity of glass bottles in the 1680s, Bartmann bottles remained a part of their household inventory. In all likelihood the glass bottle became the primary container for alcohol. The Bartmann bottle may nonetheless have served other functions in the home.

The English glass wine bottle became visibly popular at Ferryland in the early 1670s, well after the 1650 mark, but closer to the estimated 1660s supported by Green (1999: 294). Ferryland was somewhat behind England in its zest for glass bottles, however, the appetite for stoneware bottles was equally diminished by the time the English stoneware bottle became available to consumers. Only five English stoneware bottles are identified in the Ferryland collection, spanning Areas B to G. Four of the five are from the period 1675 to 1696 and represent merely 7 percent of the Bartmann/English stoneware bottle collection during this period (n=57 and n=4 respectively). It is reasonable to conclude the impact of the English stoneware bottle on the Bartmann was negligible.

5.7.3 Frechen Versus Westerwald

Frechen's most popular export, the Bartmann bottle, was losing ground in the English market after *ca.* 1660. Other Frechen forms, such as the jug, the ointment bottle, and the drinking pot, would not have been affected by the popularity of the glass bottle. These Frechen exports were, however, suffering declines due to different sources. As previously discussed, decorated ceramics had become popularized by the elite in the sixteenth century and were commonly purchased as wealth emulators during the seventeenth century. The plain Frechen wares could not compete with functionally equivalent decorated wares. While the Bartmann bottle was being replaced by a distinct material culture, glass, other Frechen wares were being squeezed to exclusion by a sibling industry: stoneware produced in the Westerwald (Haselgrove and van Loo 1998: 49).

At Exeter, Westerwald wares slowly increased in contexts post 1670, while the Frechen wares were in decline by 1690 (Allan 1984: Fig. 56). The Ferryland data exhibit a similar pattern (Figure 5.3). At Ferryland, Frechen wares were the dominant stoneware during the seventeenth century. Frechen wares peaked early, in the period 1630-1645, after which the numbers drop but remain relatively stable until the French raid in 1696. While there were as many as 94 Frechen vessels in the 1630s, and still 79 vessels leading up to the French raid, the maximum Frechen vessels at Ferryland in the eighteenth century is reached in the period 1700 to 1705 with 6 vessels. By 1760 there are only two Frechen vessels remaining. By contrast, Westerwald wares play a minor role at Ferryland during the first 50 years of the colony. Westerwald stoneware gained considerable ground by

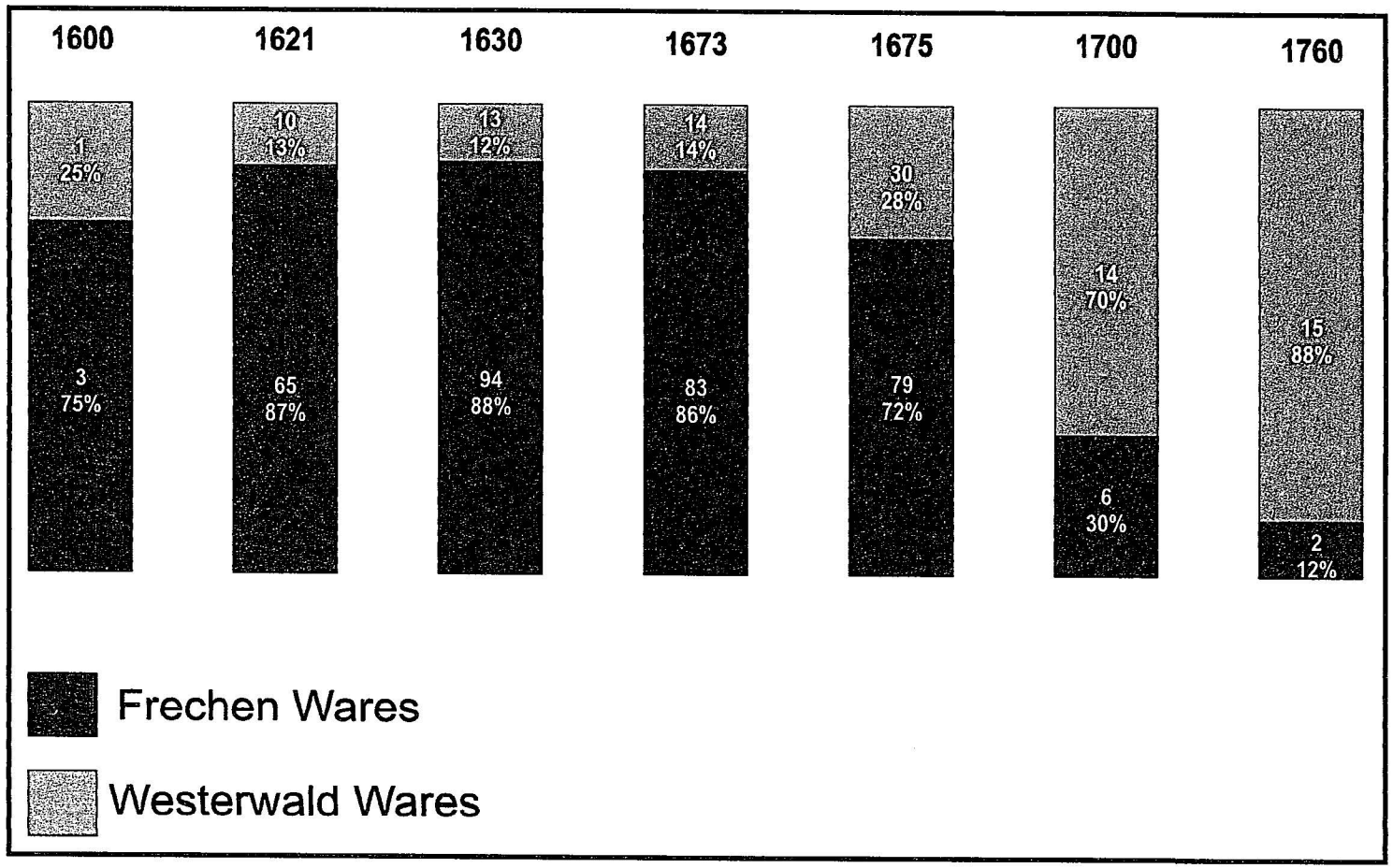

Figure 5.3 A comparison of Frechen and Westerwald stoneware frequencies, selected years over the period 1600-1760

doubling in number after the first destruction, jumping from fourteen vessels in 1673 to 30 in 1675. Furthermore, where the Frechen wares do not recover after the second destruction, Westerwald wares do.

The impact of the Westerwald industry on the Frechen industry is highlighted with two simple exercises. In the first exercise the Bartmann bottle, the most ubiquitous Frechen export, is removed from the sample and the remaining Frechen wares are compared against the Westerwald wares (Figure 5.4). After all, the decline of the Bartmann bottle is explained by the English glass wine bottle. Without the Bartmann bottle the Frechen wares exhibit a classic bell curve when compared to the Westerwald wares.[21] The Frechen wares start strong with 71 percent at the founding of the colony in 1621 and increase to 76 percent in 1650. Starting at 1660, however, Frechen wares drop to 64 percent, then 42 percent in 1675, then 7 percent in 1700, and finally disappear from Ferryland after 1705. The pivotal year is 1675. In this year, not only had the Westerwald wares doubled in number, they also surpassed the Frechen wares. After 1705, excluding the Bartmann bottle, Rhenish stoneware is represented at Ferryland solely by the Westerwald wares.

The second exercise seeks to demonstrate a causal relationship between the rise of Westerwald and the decline of Frechen imports by narrowing the comparison to a single form. The jug provides the best analysis because both production centres manufactured and exported jugs (Figure 5.5). Although the function of both jugs is the same, the

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[21] This exercise includes the Westerwald-type vessels.

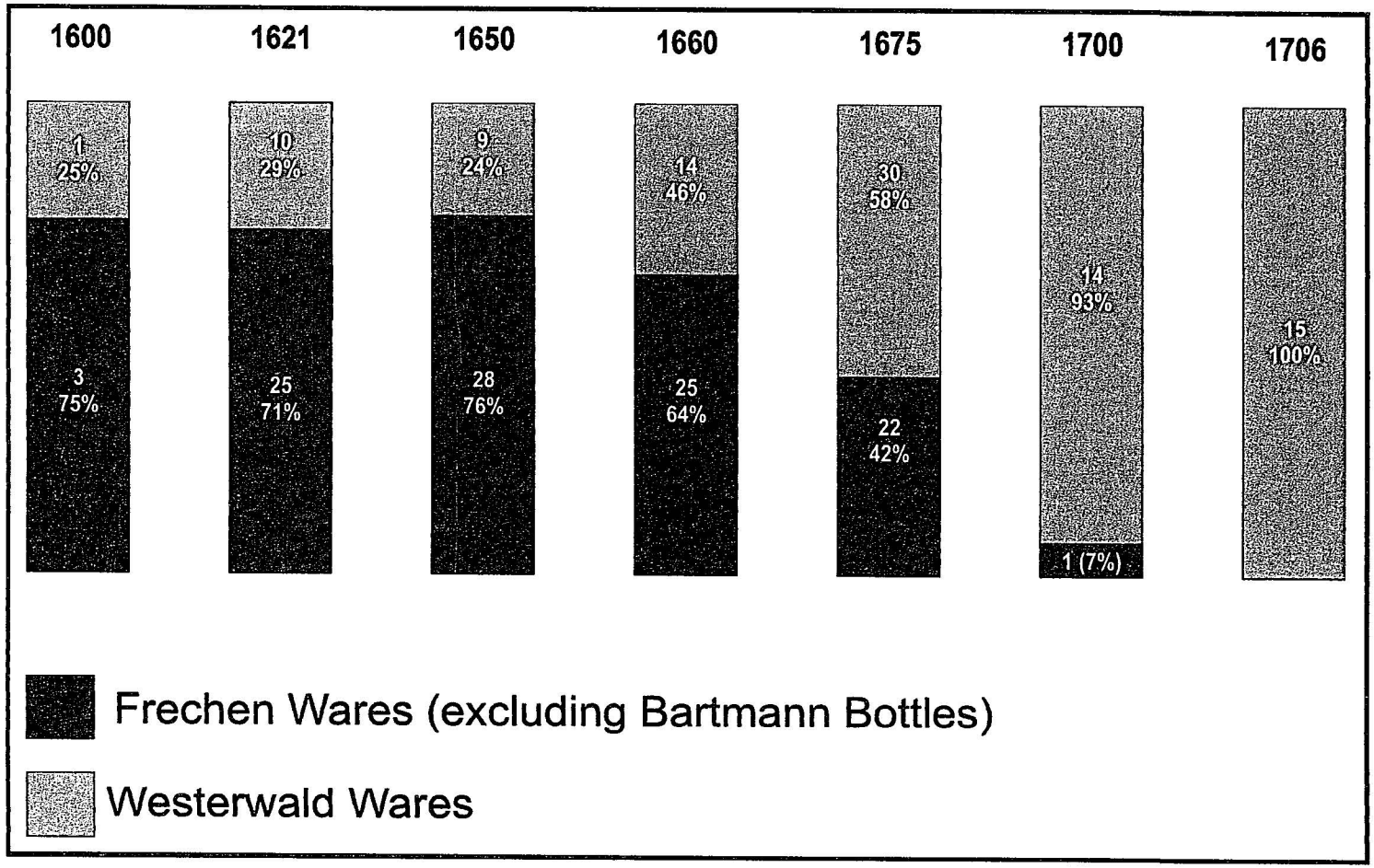

Figure 5.4 A comparison of Frechen and Westerwald stoneware frequencies, excluding the Bartmann bottle, selected years over the period 1600-1760

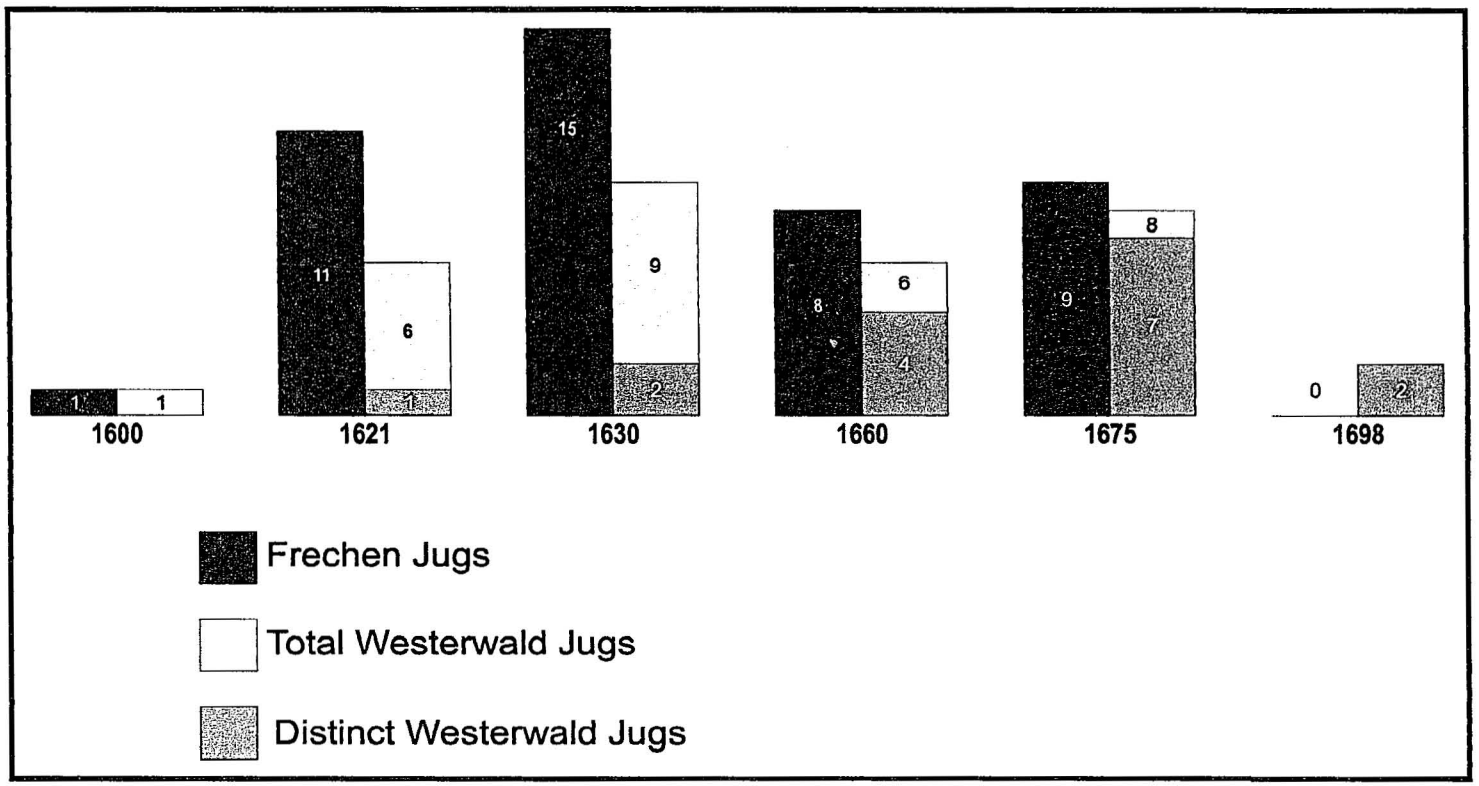

Figure 5.5 A comparison of Frechen and Westerwald jug frequencies, selected years over the period 1600-1698

Frechen jug and the Westerwald jugs are visually quite different – the former is plain whereas the latter are decorated. At Ferryland, the jug is the second most common Frechen form after the Bartmann bottle. The Frechen jug was at its most numerous in the 1630s with fifteen, after which it declined slowly over the years until there were an estimated maximum nine jugs in the period 1675-1696. There were no Frechen jugs at Ferryland after this period. The Westerwald jugs exhibit a different pattern. When all jug types are considered, that is the biconic jug, the distinct Westerwald jug (with applied motifs and/or incised decoration) and the Westerwald-type baluster jug, then the Westerwald jugs were also at their most numerous during the 1630s with nine vessels, though only two were the distinct Westerwald jugs. The total number of Westerwald jugs also slowly decreased after 1645, but the number of distinct Westerwald jugs was increasing, doubling in 1660 from two to four vessels, and nearly doubling again after the Dutch raid to seven vessels. Furthermore, the Westerwald jug was replaced after the French raid of 1696, whereas the Frechen jug was not.

5.7.4 Westerwald Versus English Stoneware

The evidence suggests that the introduction of the English stoneware bottle had little impact on the Rhenish Bartmann bottle. However, the English stoneware industry grew rapidly and produced wares for the tavern trade, an area long exploited by Rhenish stoneware producers. By the eighteenth century the Westerwald industry was the

dominant supplier of Rhenish stoneware. How well did the Westerwald industry compete in the English market with domestically produced stoneware?

The Exeter model shows that eighteenth-century Westerwald stoneware did not reach the same quantitive levels as the Frechen wares in the previous century. This pattern appears to hold true at Ferryland, bearing in mind that the eighteenth century is represented by fewer strata. Nevertheless, there are sufficient data spanning the period 1675-1760 to measure Westerwald and English stoneware against one another. A general comparison measuring all Westerwald forms with all English forms shows a decline of the former and a rise of the latter over the 85 year period (Figure 5.6). In the first twenty years of English stoneware production (1675-1696) Westerwald stoneware was in the majority with 77 percent. However, during the eighteenth century this lead shrank substantially. By 1740 Westerwald stoneware was still the more plentiful with 56 percent but clearly by a reduced margin. However, in absolute numbers the increasing closeness between Westerwald and English stoneware appears to be attributed more to a drop in Westerwald vessels than a rise in English vessels – the count of 30 Westerwald vessels in 1675 was cut in half to 15 in 1740, while English stoneware increased by only 3 vessels during this period. It is also interesting to note the change within the English stoneware group itself. The first English stoneware marketed was the brown ware imitating the Frechen wares, while the eighteenth century also offered the white salt-glazed ware. This

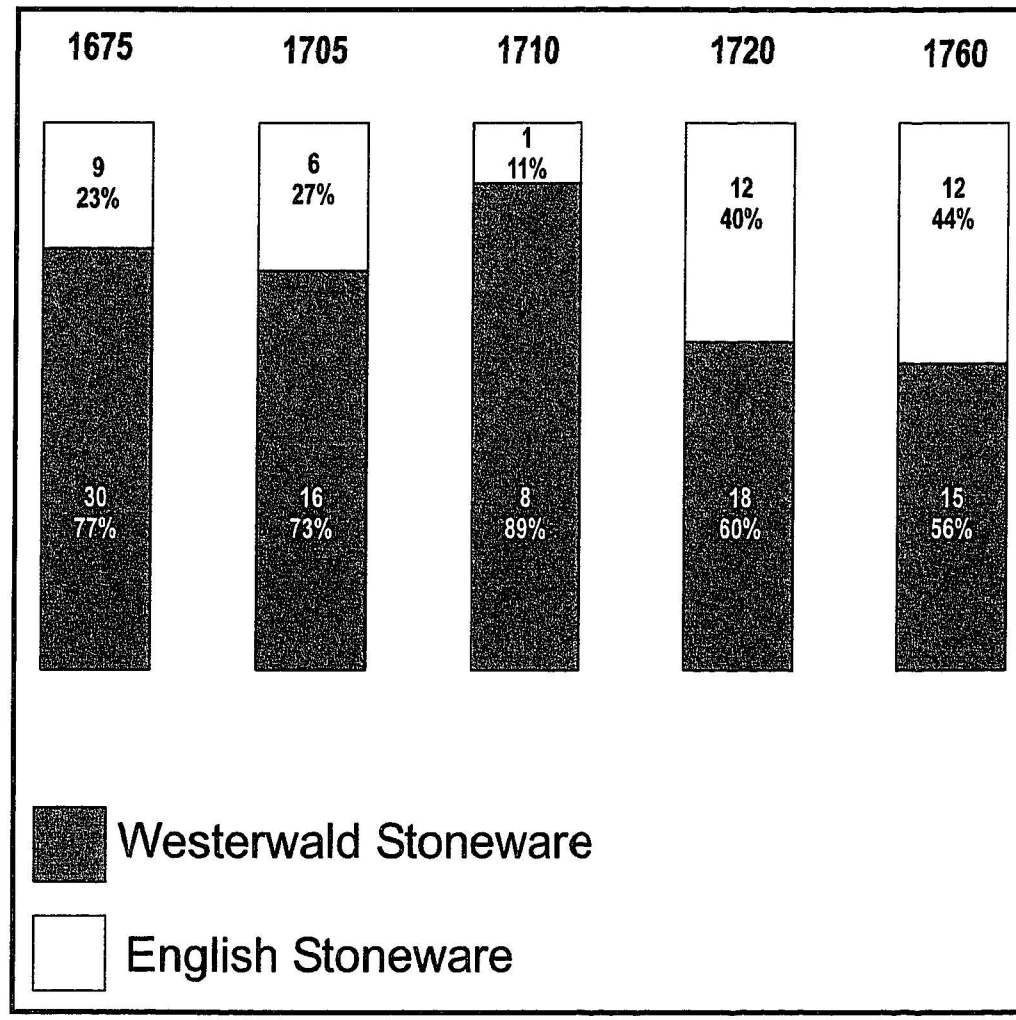

Figure 5.6 A comparison of Westerwald and English stoneware frequencies, selected years over the period 1675-1760

transition is evidenced at Ferryland where the twelve English vessels in the mid-eighteenth century were 75 percent white salt-glazed, with only three of the twelve representing the brown ware.

5.8 Conclusion

This chapter explored the roles of stoneware at Ferryland in the seventeenth and eighteenth centuries. The methodology for vessel identification was followed by a review of the Potomac Typological System. The Ferryland stoneware assemblage was presented as discrete forms where function, physical attributes, dates and totals were provided. Once the collection was presented the analysis followed in three parts: function and use, availability, and chronological trends. Stoneware was used in the home for storage, preservation, and hygienic purposes. Furthermore, stoneware was particularly suitable for the service and consumption of alcohol. Another social role of stoneware was that of wealth emulator. Rhenish stoneware was popularized by the elite in the sixteenth century, but by the time of Ferryland's founding in 1621 the elite had already moved on to other luxuries. Stoneware was nevertheless popular among the middling class and the poor as an affordable way to emulate perceived elite behaviour. Rhenish stoneware was widely available and easily acquired. Other stonewares, such as French and English stoneware, were not as accessible as the Rhenish wares, but were nevertheless part of Ferryland's inventory. This inventory changed over time as new products became available and fashions caught up with the average consumer. For example, the Ferryland data

demonstrate the replacement of the Bartmann bottle with the English glass wine bottle. The relationships between the roles of stoneware, the availability of stoneware, and the changes seen in the stoneware assemblage over time are discussed in the next chapter.

Chapter 6

Discussion and Conclusion

6.1 Introduction

Ceramics are often the bread and butter of a colonial archaeological assemblage because recovery rates are high and they provide information for a wide spectrum of questions. Stoneware generally makes up a small component of a seventeenth-century ceramic collection, for various reasons. To begin with, the secret of successful stoneware manufacture was not known to all, and so stoneware production was limited to only a few potting traditions. Furthermore, vessel manufacture was largely limited to hollow wares until press-moulding allowed for flatware production in the eighteenth century. Finally, stoneware was not a suitable material for heating and thus could not be used for baking and cooking. Nevertheless, the appearance of stonewares on colonial sites, though in smaller quantities than earthenwares, can contribute to a broader understanding of life in a colonial community. Additionally, the study of stoneware from a colonial context contributes to the expanding knowledge of post-medieval stoneware. This thesis sought to broaden both of these horizons by exploring the function and use of stoneware, availability, and the factors that affected stoneware. These three themes are linked by a common thread: popularity.

Previous chapters described the stoneware typically found in North American English colonial settings, presented dates for the vessels recovered from the Ferryland

site, and introduced the analysis of the Ferryland stoneware assemblage in terms of its role in the colony and the colony's link with England. This chapter will discuss these roles in relation to one another to demonstrate their place in the Ferryland community. The chapter will conclude with suggestions for future research. The chapter begins with a brief recap of the history of Ferryland and the stoneware assemblage.

6.2 Summary

Before becoming a colony, Ferryland was a harbour well-known and visited by seasonal fishers in the sixteenth century. The Ferryland settlement was founded in 1621 by George Calvert, though it was later managed by the industrious Kirkes. The colony was a fishing community with ties to the West Country of England, and was also an important centre within the Province of Avalon. Ferryland prospered despite changes in proprietorship and raids by the Dutch and the French. Though the French attack was severe, the planters returned to Ferryland and reestablished the community. Archaeology at Ferryland exposed various aspects of this history, including the artifacts left by seasonal fishers, the first organized constructions financed by Calvert, the changes initiated by the Kirkes, and the raids suffered and survived by the planters. Excavations at Ferryland also provide a collection of stoneware from the use and occupation of the site spanning the years 1600-1760. Most of this stoneware is Rhenish.

The Rhineland was England's primary supplier of stoneware in medieval and post-medieval times, prior to the development of domestic stoneware after 1675. Numerous

Rhenish centres manufactured stoneware, often producing similar forms but in distinctive styles. English needs and fashions would increase demand of a particular vessel form, and in this way virtually all production centres enjoyed the status of dominant supplier to the English market, at one time or another. Raeren was England's biggest supplier during the second half of the sixteenth century but was overtaken by Frechen, which dominated during the seventeenth century, until it too was surpassed by the Westerwald centres. All three types are represented at Ferryland in the anticipated quantities, that is, a majority is Frechen, followed by Westerwald, while Raeren appears only as a very small component. The most common forms are bottles, jugs and mugs, though drinking pots, ointment bottles and chamber pots are also present.

English stoneware makes up the second largest group of stoneware at Ferryland. English brown stoneware was first marketed in 1675, and white stoneware was available *ca.* 1700. The first successful English stoneware was produced by John Dwight, who sold his wares locally in the London area. Despite patent protection, other stoneware manufacturers surfaced in the late seventeenth century, and their wares were exported to English colonies. English brown forms consist of bottles, mugs and cups, while the white wares range from mugs to flatwares. Finally, French stoneware makes up the third group of stoneware in the Ferryland collection. The French stoneware industry was closely tied to other local industries, such as dairying, and the forms produced were often task-specific to assist these other industries. Although these wares were produced for local French

markets, some forms, like the Normandy flask, were exported to England in small numbers.

6.3 Discussion: Popularity and the Changing Role of Stoneware at Ferryland

Seventeenth-century stoneware carries two stereotypes: a) that it was largely utilitarian and, b) that it was used for alcohol-related duties. Both stereotypes are well-deserved because both are true. Yes, stoneware in a seventeenth-century home performed practical tasks such as storage, preservation, and short-distance transportation, and, yes, stoneware often contained alcohol and served to marshal the drink to the mouth. However, beyond the surface lies a more diversified contribution of stoneware to a post-medieval society. The recovery of stoneware from the Ferryland site means more than the immediate interpretation of storage and drinking. Stoneware was part of a fast-growing consumerism, as the average English subject earned more disposable income and engaged in class competition with his/her peers. Ferryland planters, too, were part of this social behaviour, and stoneware was caught up in the ever-changing fashions inherent to such behaviour. Indeed, it was fashion that lifted stoneware above simple utilitarianism, in the same way fashion contributed to stoneware's decline. Both of these events are witnessed, to some degree, at Ferryland.

By the time of Ferryland's founding, stoneware's role in English society had already been transformed. In the early post-medieval period, stoneware was utilitarian and often served for the activity of drinking. However, stoneware's popularity was

soaring by the second half of the sixteenth century when ceramics became a common purchase by a growing, and competing, middle class. From this point, stoneware was more than a vehicle for drinking because the reasons for buying it had changed. Stoneware was still a functional material, but it was aesthetics and fashion that motivated consumers to acquire it. The English elite popularized certain styles in the sixteenth century, along with them Rhenish vessels such as the Raeren drinking pot and the Frechen jug, both adorned with silver, and the ornately decorated wares of Siegburg and Cologne. The fact that the elite moved on to other luxuries in the seventeenth century did not diminish Rhenish stoneware's social role in English society. On the contrary, its popularity trickled down to the emerging middle class who was eager to demonstrate its new buying power. Thus, in the early years of Ferryland, the Frechen jug had a place in the social sphere and decorated stoneware was in a good position to compete with other ceramics.

In the seventeenth century, Rhenish stoneware boasted a social role as part of an increasingly commodity-oriented society. Such a role made stoneware subject to the changing tastes of consumers. At Ferryland, over the period *ca.* 1600-1760, two major shifts in stoneware popularity occurred. One was a shift from plain to decorated stoneware. The plain Frechen wares were the most numerous stoneware at Ferryland in the first fifty years of the colony. Though they continued their presence for many years, they were in decline during the second half of the seventeenth century. Meanwhile, the decorated Westerwald wares were slowly increasing in number, eventually becoming

more numerous than their Frechen counterparts. After the raid of 1696, returning planters restocked their supply of Westerwald stoneware, but did not bring Frechen wares. That this occurred is a testament to the popularity of the decorated wares, since availability was not an issue. Products from both production centres were available in England, and therefore to English colonies, but only the wares from the Westerwald were desired. This trend mirrors the pattern in England, showing that the inhabitants of Ferryland kept up with some fashions at home.

The other shift was a move away from stoneware. The English glass wine bottle was born from English industrial ambitions in a time of emerging capitalism and during the height of popularity of the Bartmann bottle. New products often become the new fashion, and the popularity of the glass wine bottle grew with remarkable speed. In England, glass wine bottles were preferred over stoneware by the 1660s. At Ferryland, the choice of glass over stoneware is visible in the early 1670s, and definitive twenty years later. Again, stoneware was affected by fashion as the Bartmann bottle was cast aside by the increasingly more desirable glass bottle. Both bottles were available to consumers but Ferryland planters chose glass over stoneware, duplicating consumer behaviour in England. The decreased demand for stoneware bottles is evident in the poor showing of English stoneware bottles at Ferryland in the period 1675-1760. While initially only available in the London area, once English stoneware manufacture took off, English stoneware bottles had equal opportunity for wide distribution, yet only a few examples are represented in the Ferryland assemblage.

The rise of glass affected stoneware beyond popularity – it also decreased stoneware's role in the social sphere. The Bartmann bottle, though not involved in social competition, was nevertheless a social product. As a wine container the Bartmann bottle was a prominent piece at social gatherings where wine was served. The glass bottle replaced the Bartmann bottle in this social capacity, and the Bartmann was relegated to other, less visible, duties, such as that of a storage container in the kitchen. For centuries, Rhenish stoneware held a place in the social sphere of drinking by contributing an assortment of serving and drinking vessels but, by the eighteenth century, this was reduced to the use of beer mugs from the Westerwald.

6.4 Conclusion

This thesis explored stoneware from a seventeenth- and eighteenth-century English settlement in Newfoundland. The goal of the analysis was to identify the role stoneware played in the colonial community over the period *ca.* 1600-1760. The assemblage totalled 288 vessels, comprised of a small number of French vessels and some English stoneware, although the vast majority of vessels, not surprisingly, were Rhenish. Of these, stoneware from Frechen was the most plentiful, with Bartmann bottles being the most numerous form, though the Frechen family also boasted jugs, ointment bottles, and drinking pots. Because the analysis was linked to time, it was necessary to explore dates of post-medieval stoneware. It was found that there is little agreement in the literature regarding precise dates for Rhenish stoneware. Thus, this research amassed data from

various sources to refine the dates for some forms and decorative styles. Difficulties dating stoneware were encountered and described – such as the problems dating the ubiquitous Bartmann bottle. Progress was made which will, hopefully, prove useful for other researchers.

Ferryland planters would have had no problems acquiring stoneware. Rhenish stoneware was readily available via England and from Dutch traders, though individuals probably did not have the luxury of requesting a specific decorative style. English stoneware was first marketed in London in 1675, however, it probably was a few years before it was available further afield. French stoneware was clearly not brought to Ferryland en masse, and was not likely to have been a requested item by individuals. The few French vessels at Ferryland were probably acquired opportunistically, either by the capture of French ships, or trade among English and French planters or servants on the southern English Shore, or trade with New England or Dutch merchant ships.

Stoneware at Ferryland fulfilled both utilitarian and social roles. Certain vessels were purely utilitarian, for example the Westerwald chamber pots and the French stoneware, though many forms were also social. Two social roles were identified in this research: that of taking part in the social activity of drinking, and that of social competition. Rhenish stoneware had a long established association with drinking, a tradition continued at Ferryland. Bartmann bottles were probably used for the short-distance transportation, and serving of wine and spirits, and drinking pots and mugs were certainly used for the consumption of beer. A few small mugs may have been used to

drink spirits. That Rhenish stoneware contributed to social competition between individuals and classes is evidenced in the changing popularity of vessels and styles. The once prized plain stoneware gave way to the new fashion of decorated wares, and the reliable Bartmann bottle succumbed to the emerging glass bottle. Changes in demand at Ferryland mirror the fashion trends back home in England.

6.5 Directions for Future Research

It is evident from this study that more research is needed in the area of dating seventeenth-century stoneware. While the data collected and presented here clarified some dates that were previously ambiguous, this research should be viewed as only a beginning to the process. The Frechen wares are in the most need of study. The Bartmann bottle, by far the most common stoneware vessel from English colonial contexts, is still without a useful chronology. Although a chronology may not be possible, the attempt is worth the effort if only to confirm this supposition. The jug could also benefit from a chronological study, as its life and use spans over a century and its shape clearly changed over this period. The ointment bottle does not even have an established introduction date, nor an end production date, and the date range of the drinking pot is obscure. The type of analysis presented in this thesis would certainly be improved from tighter vessel dates. Obviously, more precise data would give any chronological study more weight.

In terms of Ferryland-specific research, it would be interesting to continue the chronological transition of stoneware beyond 1760. The eighteenth century saw a boom in English stoneware manufacture, as well as other ceramics, and the American stoneware industry was growing as well. How were these new products received in Newfoundland, if at all, how did they impact the Rhenish stoneware imports, and at what point does Rhenish stoneware disappear from the archaeological record at Ferryland?

While this research concentrated the analysis across time, the Ferryland stoneware assemblage could be broadened to include an analysis across space. Intra-site research could include an in-depth look at stoneware use by structure, household and excavation Area. Such an analysis would provide further insight into the functional and social roles stoneware played within the community. Additionally, stoneware vessels could be compared to their earthenware counterparts to add context to the stoneware assemblage and to emphasize the importance of stoneware to Ferryland residents. In a similar vein, the relationship between Bartmann bottles and glass bottles deserves further attention. The limited sample in this thesis demonstrated the growing popularity of the English glass wine bottle and the resulting decreased use of the Bartmann bottle as a wine container. However, the comparison between these bottle types identified an interesting occurrence – that the inhabitants of two dwellings did not acquire English glass wine bottles until the 1680s, despite the availability of these bottles for some time. Now that Ferryland has more years of excavation and a growing sample size, glass bottles, in all their forms, can be revisited with an emphasis on availability, function and use, and the comparison with

Bartmann bottles can be refreshed. Finally, comparisons can be expanded beyond Ferryland, and beyond Newfoundland. Comparing the Ferryland stoneware assemblage to collections from contemporary colonial sites in, for instance, New England and the Chesapeake, would allow for a better understanding of the role of stoneware in transplanted English communities which adapted to different environments and confronted both similar and unique challenges.

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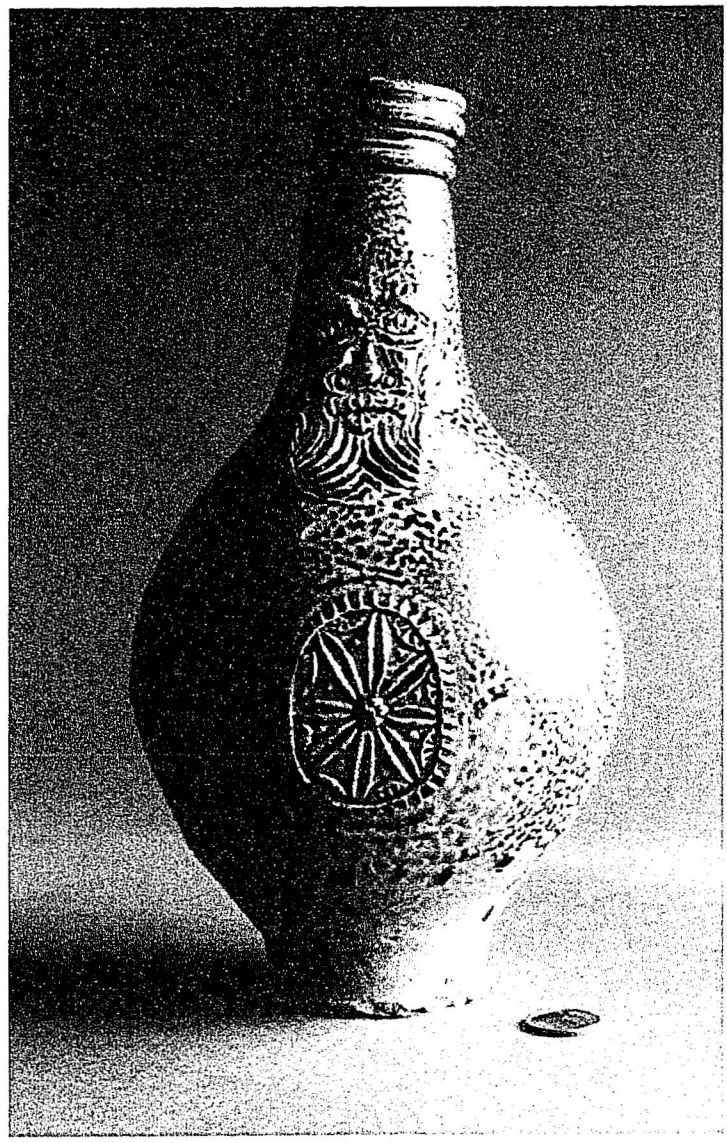

Plate 1 Frechen Bartmann bottle with rosette medallion, Keramikmuseum Westerwald

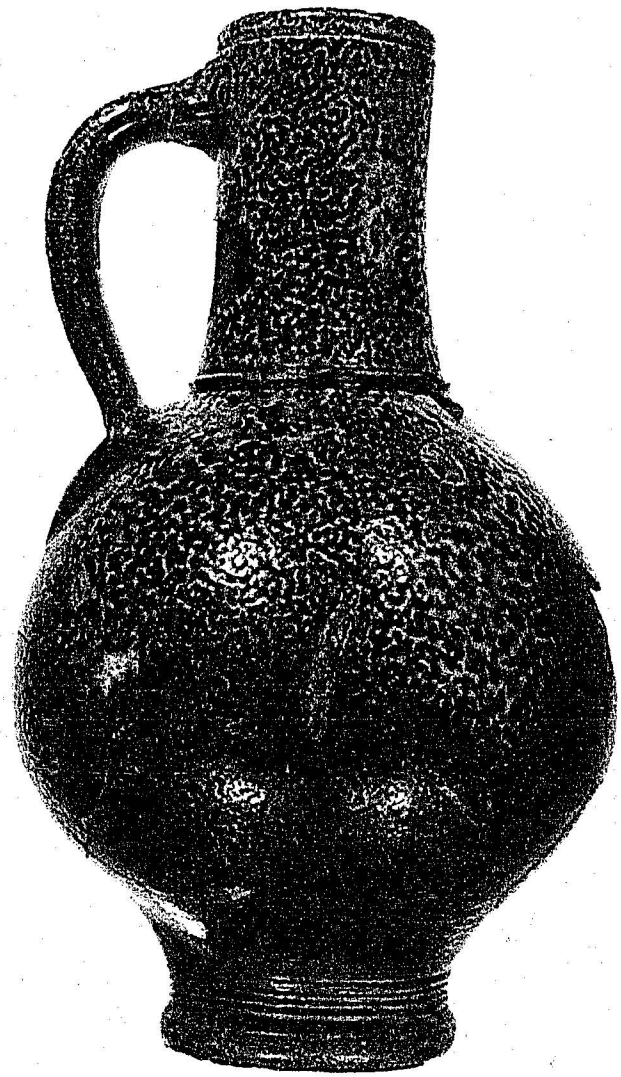

Plate 2 Frechen jug, vessel 150. Photo: The Colony of Avalon Foundation

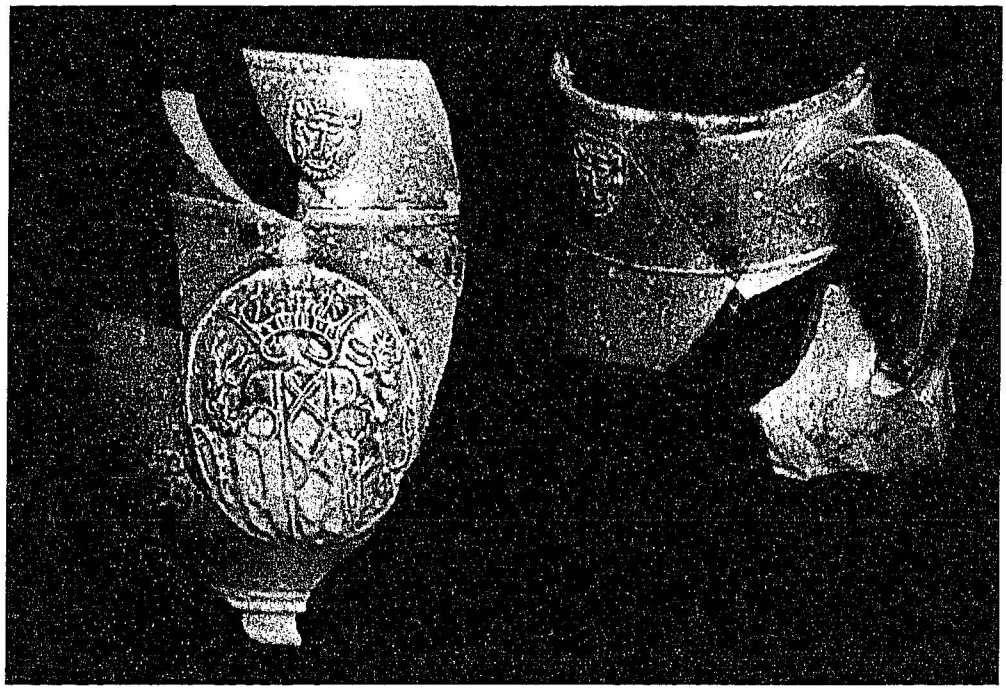

Plate 3 Frechen drinking pot with Arms of Amsterdam medallion and lion masks, vessel 35

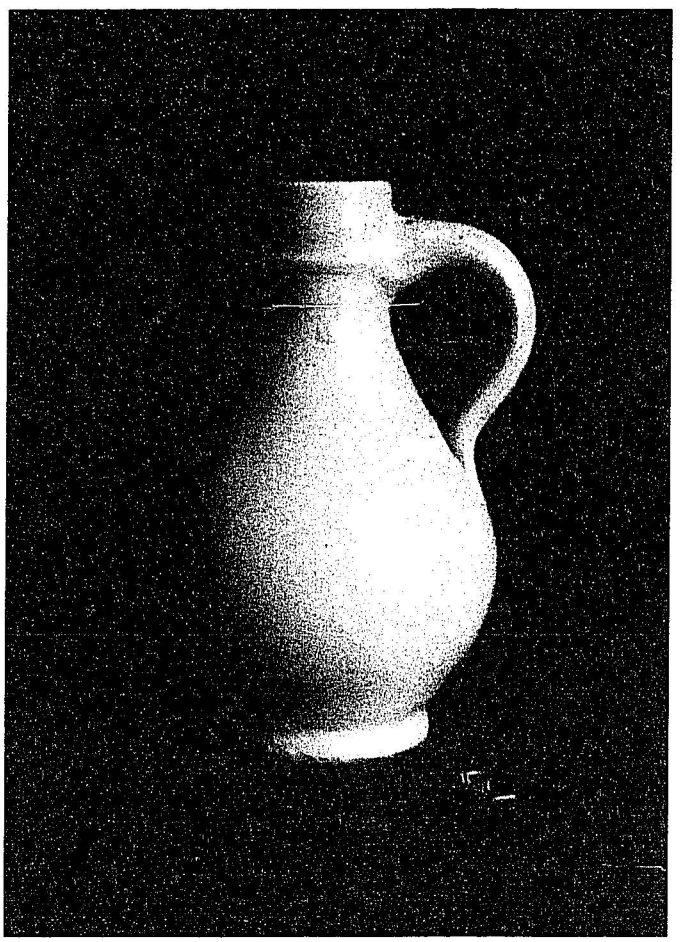

Plate 4 Frechen ointment bottle, height 11.6cm

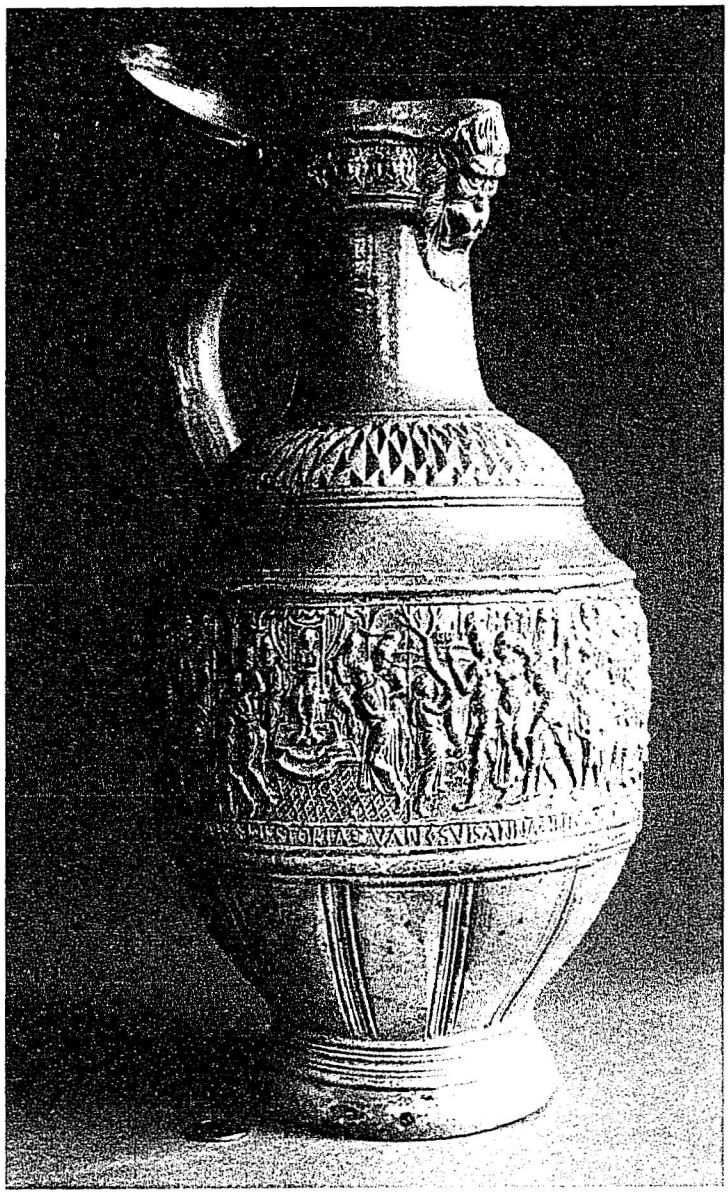

Plate 5 Raeren-brown baluster jug,
Keramikmuseum Westerwald

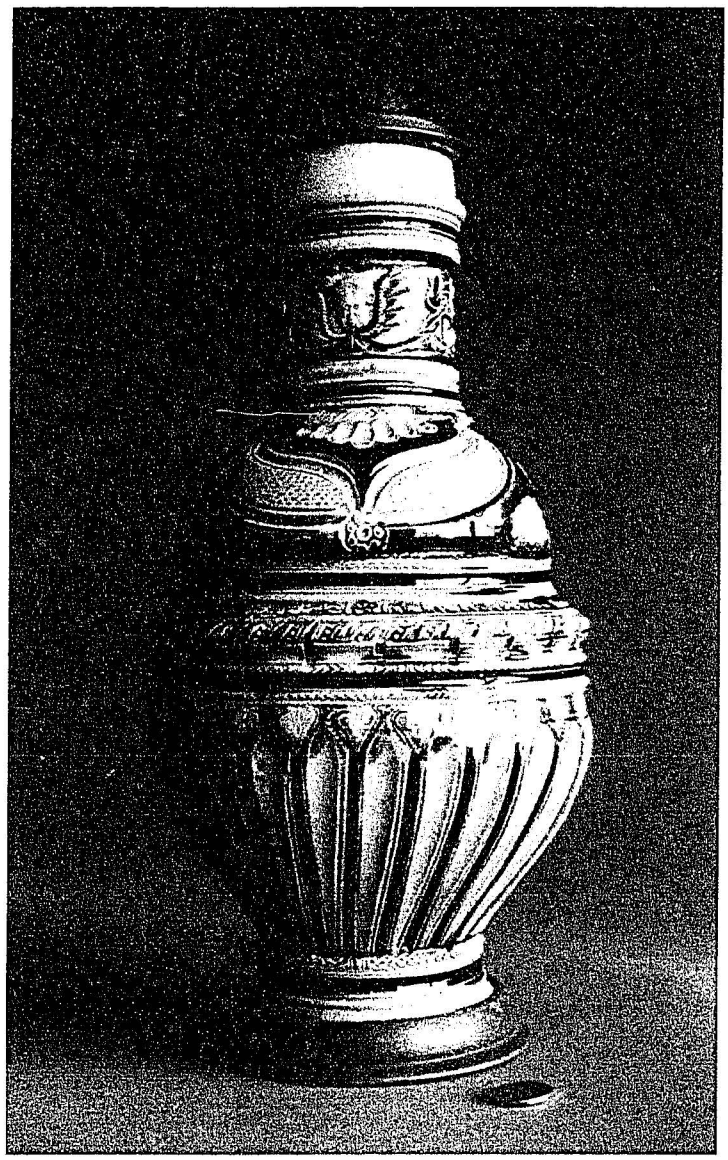

Plate 6 Westerwald biconic jug, Keramikmuseum Westerwald

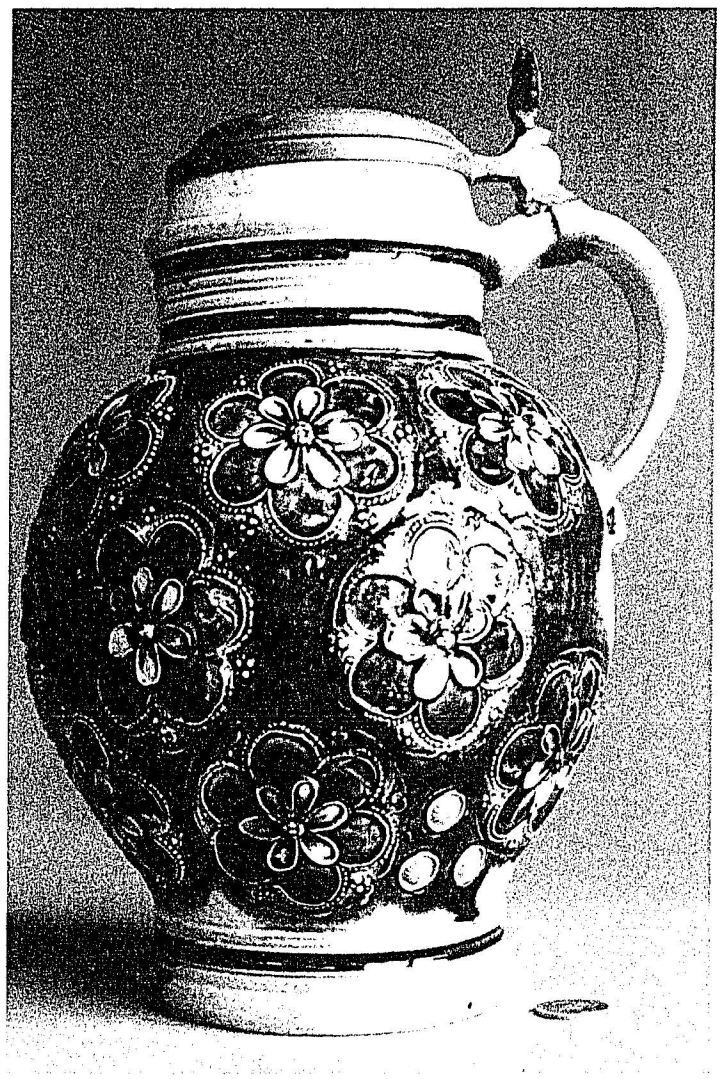

Plate 7 Westerwald jug with applied motif decor, Keramikmuseum Westerwald

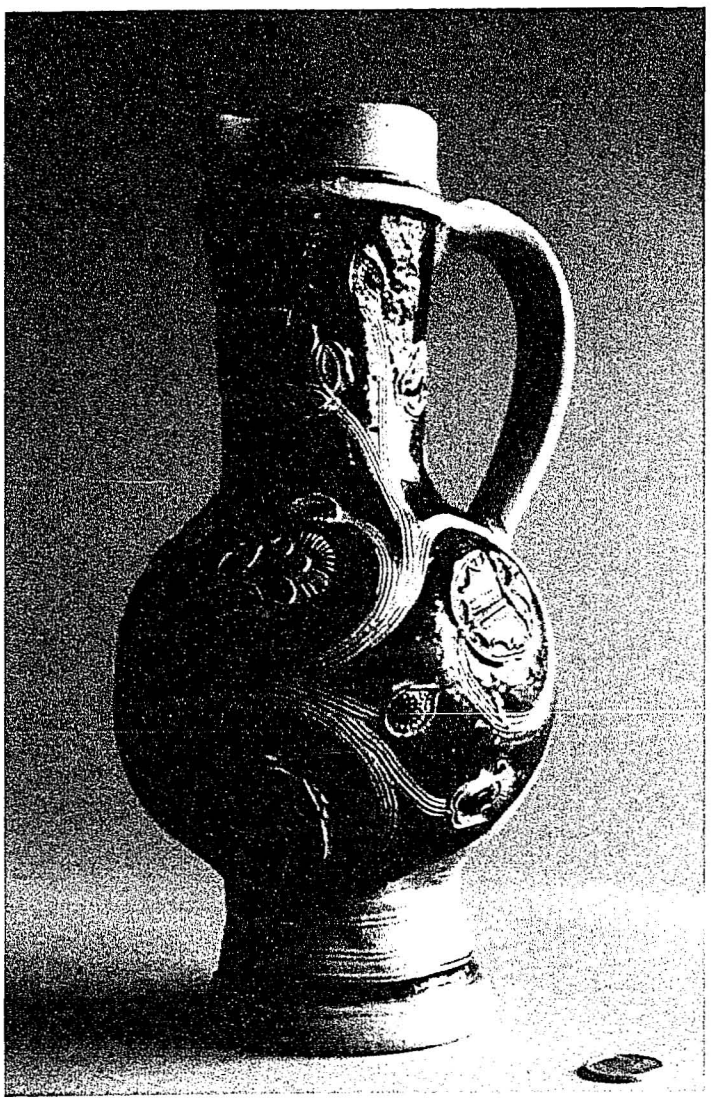

Plate 8 Westerwald jug with stemmed flower decor, Keramikmuseum Westerwald

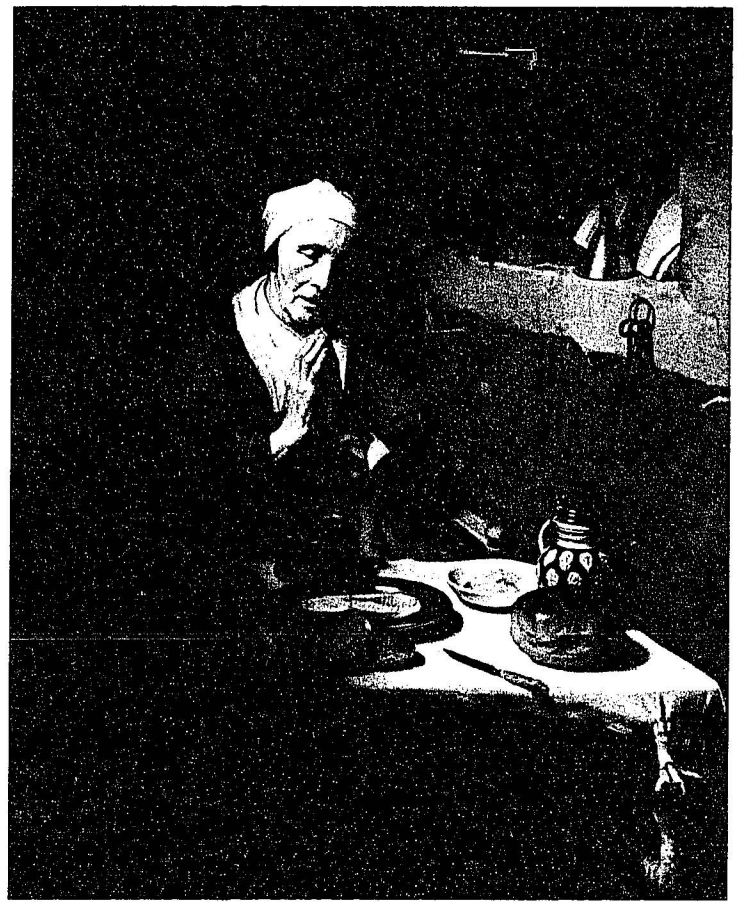

Plate 9 *Old Woman at Prayer*. By Nicolaes Maes (1656) (Rijksmuseum)

Plate 10 *The Kitchen Maid.* By Johanees Vermeer (1658) (Rijksmuseum)

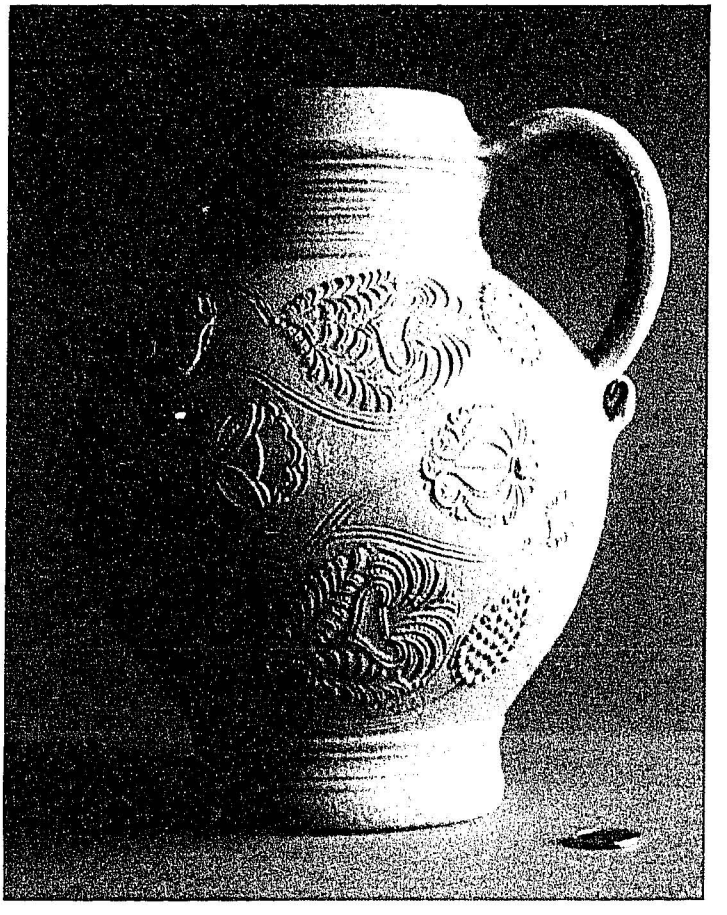

Plate 11 Westerwald jug with monochrome stemmed flower decor, Keramikmuseum Westerwald

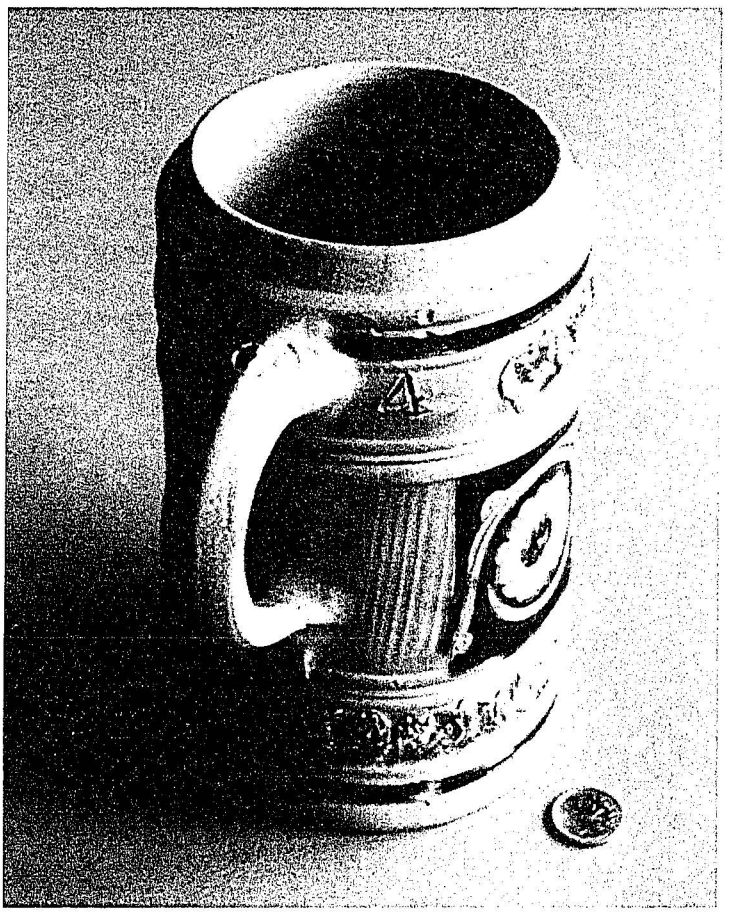

Plate 12 Westerwald mug with incised capacity, Keramikmuseum Westerwald

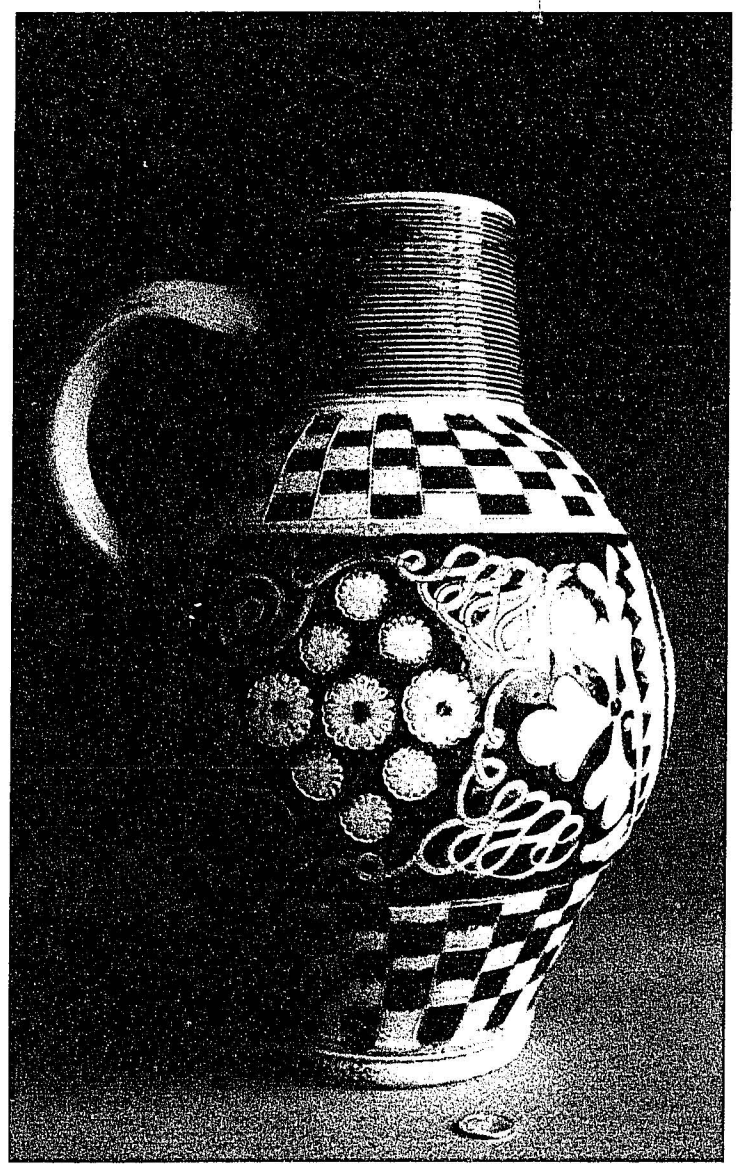

Plate 13 Westerwald jug with incised decor, Keramikmuseum Westerwald

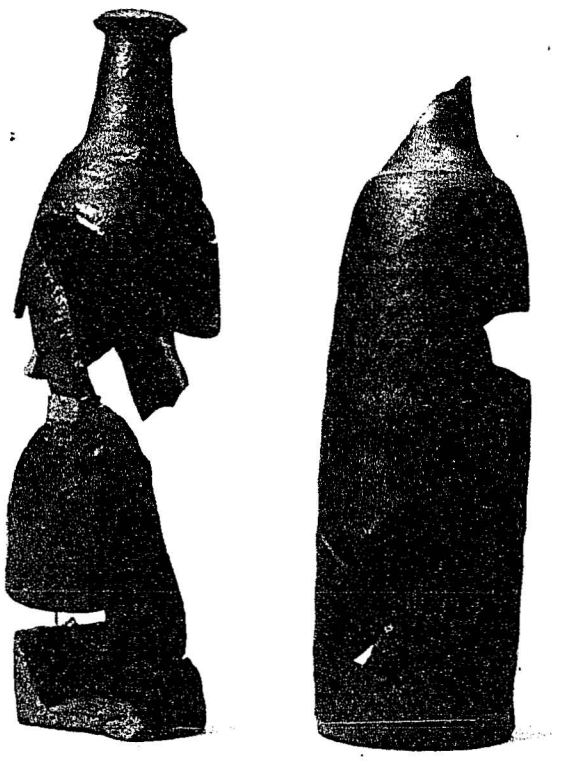

Plate 14 Normandy bottles, produced in Ger, Domfront. Photo: Ministère de la Culture et des Communications du Québec

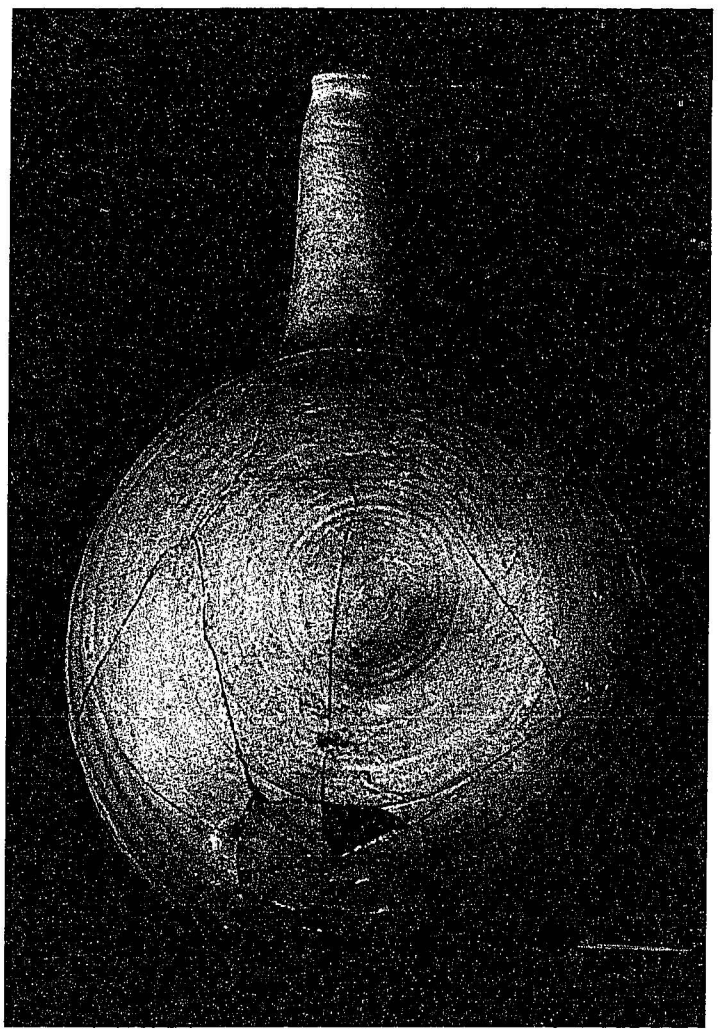

Plate 15 Normandy flask, Type III. Photo: Ministère de la Culture et des Communications du Québec

Plate 16 Beauvais/Loire bottle. Photo: Canadian Museum of Civilization, Gatineau, Québec

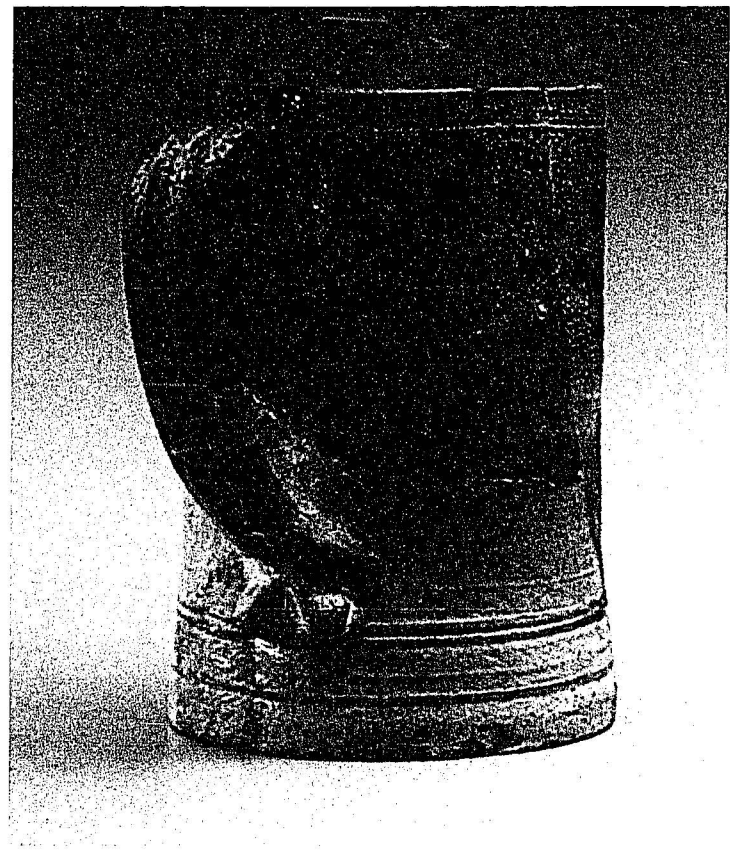

Plate 17 English-brown mug (Noël Hume 2001: Fig. VII.6)

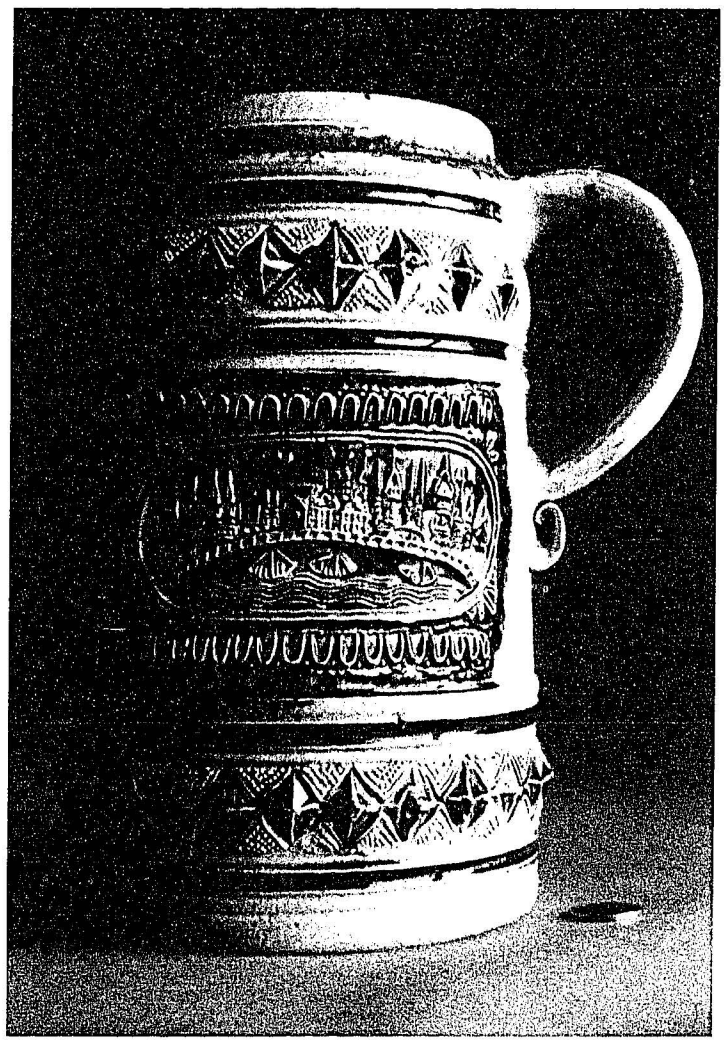

Plate 18 Westerwald mug with repeating lozenge diamonds in high relief, Keramikmuseum Westerwald

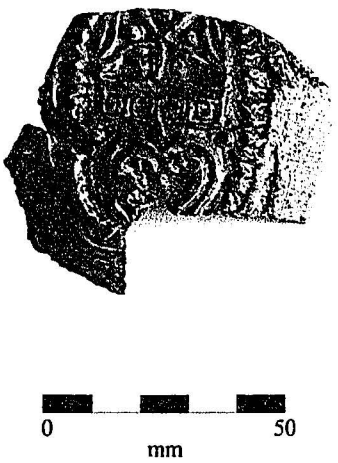

Plate 19 Crowned Heart medallion, vessel N161

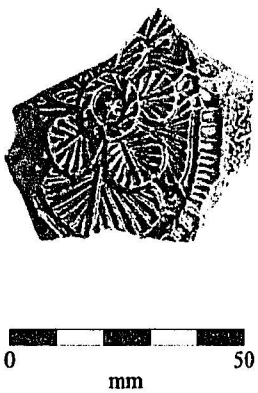

Plate 20 Rosette medallion, vessel 85

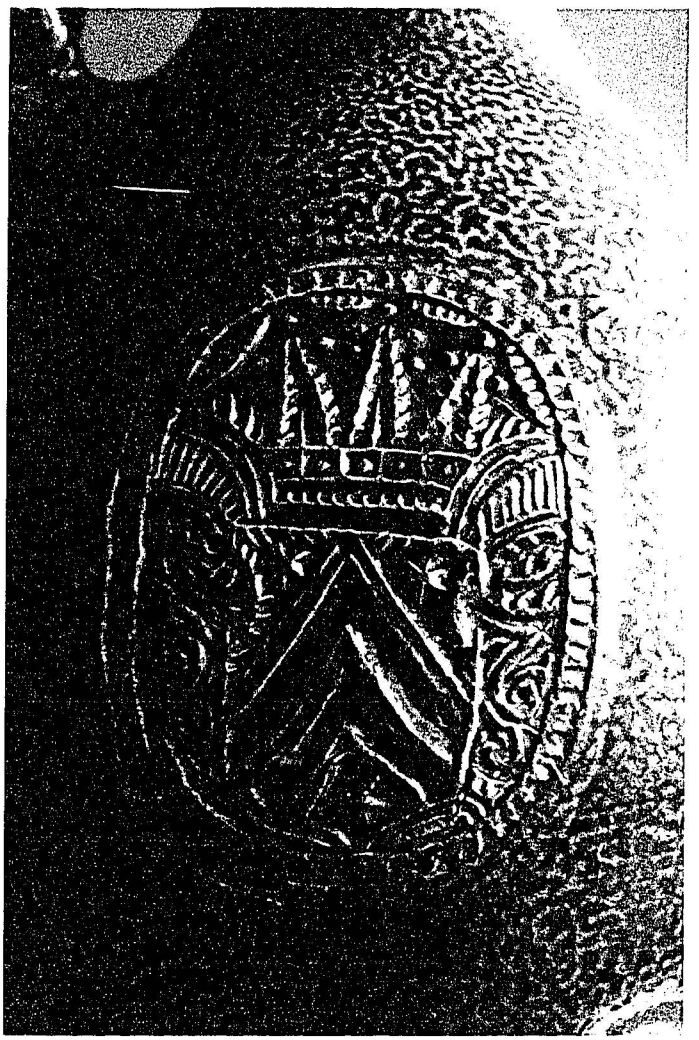

Plate 21 Cobalt-splashed medallion,
Keramikmuseum Westerwald

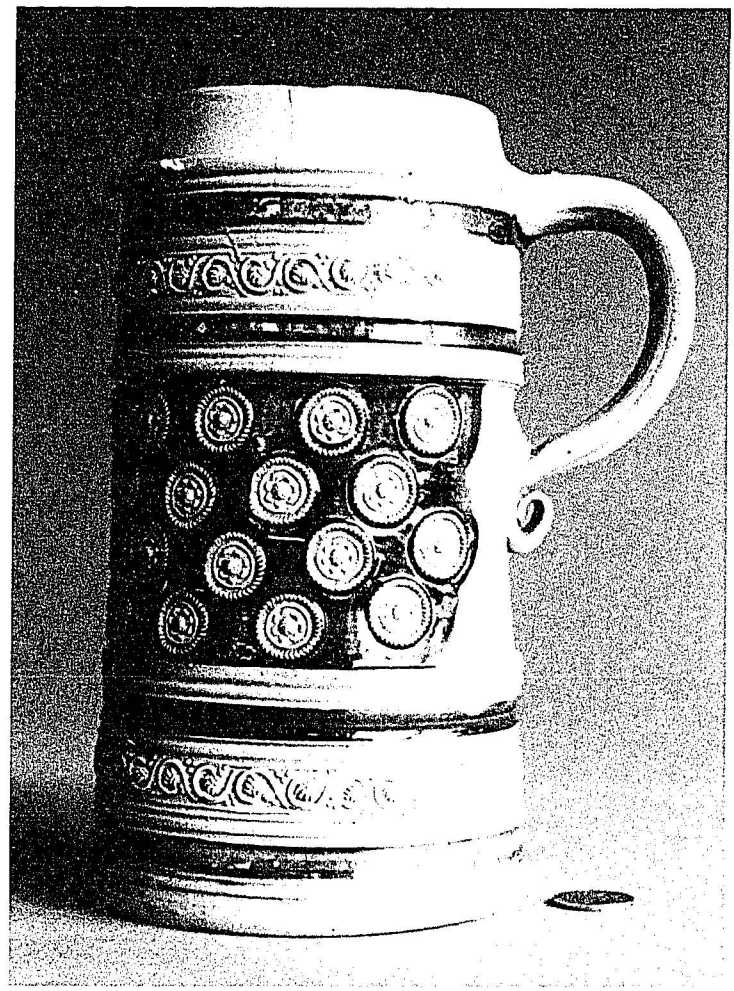

Plate 22 Westerwald mug with applied motif decor, Keramikmuseum Westerwald

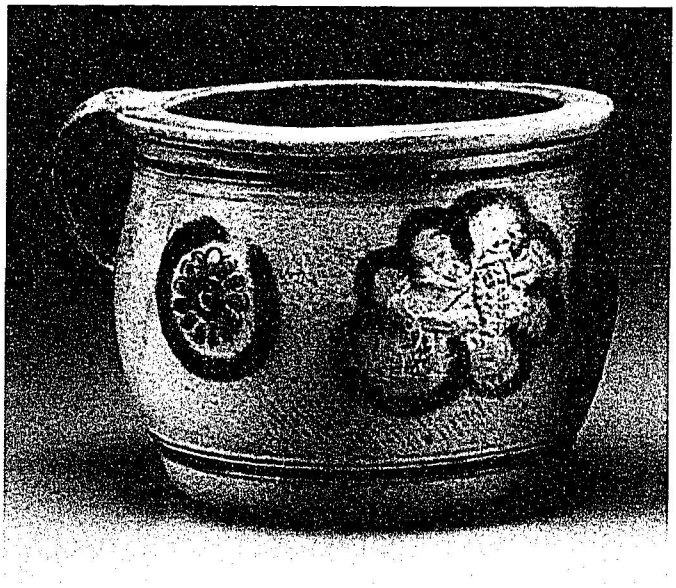

Plate 23 Westerwald chamber pot (Noël Hume 2001: Fig. IV.25)

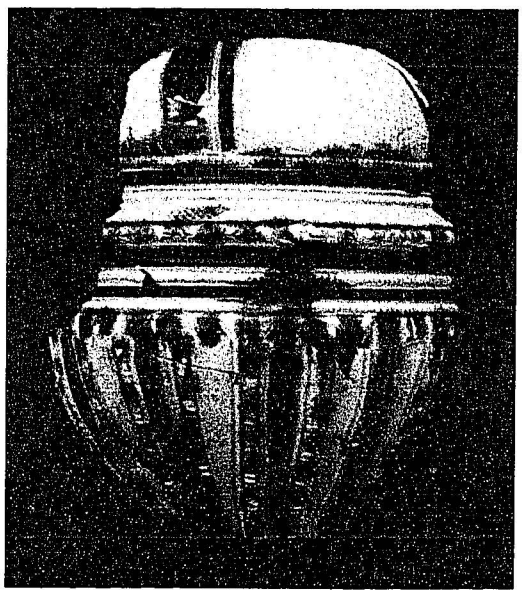

Plate 24 Westerwald biconic jug, vessel 44

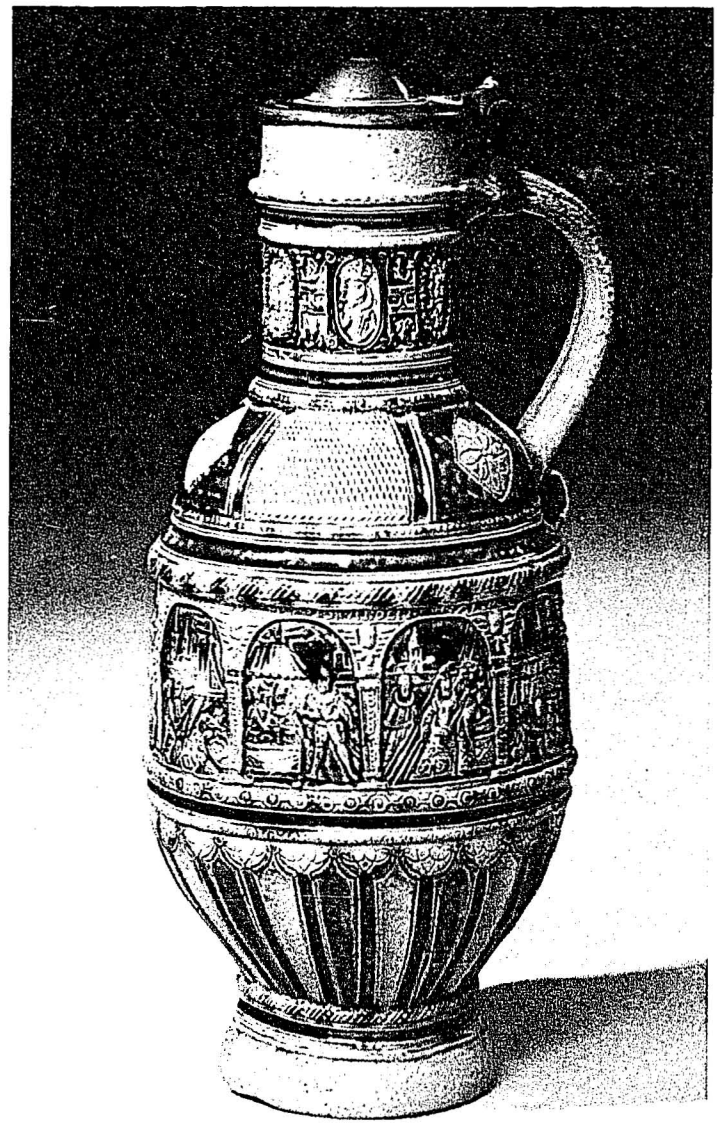

Plate 25 Westerwald-type baluster jug, Keramikmuseum Westerwald. Photo: Baumann, Höhr-Grenzhausen

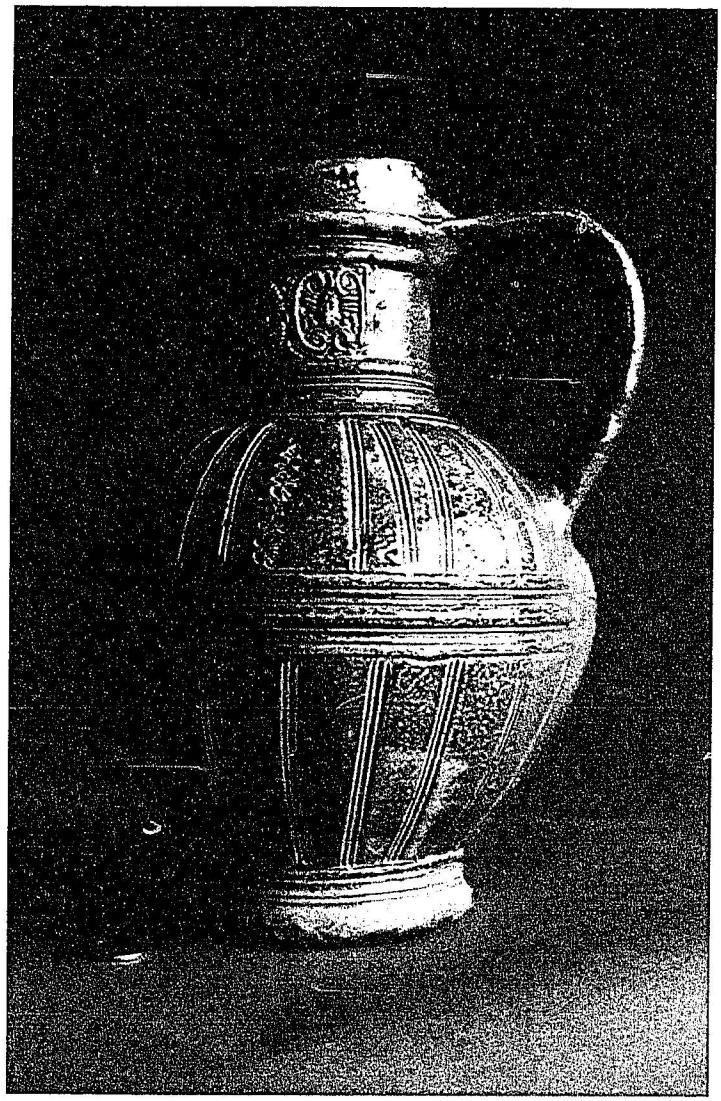

Plate 26 Raeren-brown biconic jug,
Keramikmuseum Westerwald

Plate 27 Normandy butter pot. Photo: The Fortress of Louisbourg, Parks Canada, Nova Scotia

Notes on Appendices

The appendices are presented in print and digital format. To save space, the print version of Appendix A is abbreviated to contain only the most relevant information. That is, all vessels are listed, but details, such as measurements, are omitted. Nevertheless, the complete catalogue is presented in digital format.

The print version of Appendix B is located in the pocket.

Digital versions of both Appendix A and B are included on the enclosed CD-ROM. The original files are Quattro Pro version 10 spreadsheets, and are named appendix-a.qpw and appendix-b.qpw. For compatibility, comma-separated versions of the spreadsheets have also been included. They have been named appendix-a-stoneware.csv, appendix-a-glass.csv and appendix-b.csv.

Appendix A: Catalogue of Ferryland Stoneware

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
1	Frechen	Jug			F	1622	1696	Base; Body		
2	Frechen	Bottle, Bartmann	1620	1700	G	1630	1696	Body	Face mask	Rosette
3	Frechen	Bottle, Bartmann			G	1630	1696	Base; Body		
4	Frechen	Bottle, Bartmann			G	1630	1696	Rim; Neck		
5	Frechen	Bottle, Bartmann			G	1630	1696	Base		
6	Frechen	Bottle, Bartmann	1620	1700	F	1621	1645	Neck; Body	Face mask	Rosette
7	Frechen	Bottle, Bartmann	1610	1700	F	1622	1696	Base; Body		Arms of Amsterdam
8	Frechen	Indeterminate			G	1630	1696	Base		
9	Frechen	Indeterminate			G	1630	1696	Base		
10	Frechen	Bottle, Bartmann			G	1630	1696	Rim	Face mask	
11	Frechen	Bottle, Bartmann			G	1630	1696	Base; Body		
12	Frechen	Bottle, Bartmann			G	1630	1696	Neck	Face mask	
13	Frechen	Bottle, Bartmann			G	1630	1696	Rim		
14	Frechen	Bottle, Bartmann			G			Rim		
15	Frechen	Drinking Pot			G	1550	1620	Rim		

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
16	Frechen	Ointment Bottle			G	1621	1649	Rim; Body; Handle		
17	Frechen	Indeterminate			G	1621	1659	Base; Body		
18	Frechen	Jug			G	1630	1696	Neck		
19	Westerwald	Mug			G	1740	1760	Rim	Cobalt blue	
20	Frechen	Indeterminate			G	1630	1696	Body		
21	Frechen	Jug			G	1621	1659	Base; Body		
22	Frechen	Indeterminate			G	1630	1696	Base		
23	Frechen	Indeterminate			G			Base		
24	Frechen	Bottle, Bartmann			G/F	1621	1645	Base; Body		Yes
25	Frechen	Bottle, Bartmann			G			Base; Body		
26	Frechen	Bottle, Bartmann			G/F	1622	1696	Rim; Neck; Body	Face mask	Yes
27	Frechen	Indeterminate			G	1621	1649	Body		
28	English White	Indeterminate	1700	1770	C	1697	1705	Body		
29	English, Bristol Grey	Mug	1700	1800	C	1697	1705	Base; Foot		
30	Frechen	Bottle, Bartmann			G	1621	1649	Neck	Face mask	
31	Frechen	Jug			G	1621	1659	Base; Body		

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
32	Frechen	Jug			G/F	1621	1639	Base; Body		
33	Raeren or Frechen	Bottle or Jug			G	1550	1620	Body		Yes
34	Frechen	Jug			G	1550	1620	Rim; Neck; Handle		
35	Frechen	Drinking Pot	1610	1650	G/C	1550	1620	Rim; Body; Handle	2 lion masks on neck	Arms of Amsterdam
36	Frechen	Bottle, Bartmann			G	1621	1649	Body		Chevrons; see Gaimster 1997a: 220 vessel 68 Arms of the Duchy of Jülich-Kleve-Berg
37	Westerwald	Chamber Pot	1740	1760	G	1740	1760	Rim; Body	Cobalt blue	
38	Westerwald	Mug			G	1675	1725	Rim; Foot	Cobalt blue	
39	Westerwald	Chamber Pot	1740	1760	G	1740	1760	Rim; Body	Cobalt blue; stamped star or flower	
40	Beauvais / Loire	Jug / Bottle / Pitcher			C	1621	1673	Base; Body; Handle		
41	Frechen	Jug			F	1621	1645	Neck; Handle		
42	Frechen	Bottle, Bartmann			G	1740	1760	Neck	Face mask	
43	Frechen	Indeterminate			G/F	1621	1673	Body		

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
44	Westerwald	Jug, Biconic	1600	1650	G	1621	1649	Body (from shoulder to foot)	Cobalt blue; shoulder has rectangular blocks of carved diaper & stamped upside-down hearts; lower body has vertical gadrooning	
45	Westerwald	Mug	1625	1725	G	1700	1799	Body	Cobalt blue background with applied flowers	
46	Frechen	Bottle, Bartmann			F	1660	1709	Rim		
47	Frechen	Jug			F	1621	1696	Rim		
48	Frechen	Bottle, Bartmann			F	1621	1696	Neck; Handle		
49	Frechen	Bottle, Bartmann			F			Rim		
50	Westerwald type	Jug, Baluster or Biconic	1585	1650	G	1621	1659	Body	Cobalt blue	
51	Frechen	Indeterminate			F	1550	1629	Body		
52	Frechen	Bottle, Bartmann			F	1660	1709	Body	Face mask	
53	Westerwald	Mug			G			Foot	Cobalt blue	
54	Frechen	Bottle, Bartmann			F			Base		
55	Frechen	Bottle, Bartmann			F/C/G	1621	1673	Neck; Body; Foot	Face mask	Corner of medallion
56	Westerwald	Mug	1700	1800	G	1740	1760	Body	Incised floral motif painted blue	
57	Normandy	Indeterminate			C	1621	1673	Body		

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
58	Frechen	Bottle, Bartmann			F	1621	1645	Base; Body; Neck		
59	Frechen	Indeterminate			F/G	1622	1696	Base		
60	Frechen	Bottle, Bartmann	1620	1700	F/C	1646	1696	Base; Body		Rosette
61	Frechen	Bottle, Bartmann			F	1622	1696	Base		
62	Frechen	Bottle, Bartmann			F	1622	1696	Base		
63	Frechen	Jug			F/C	1622	1696	Rim; Neck		
64	Frechen	Jug			F	1622	1696	Rim		
65	Frechen	Bottle, Bartmann			F	1622	1696	Rim		
66	Frechen	Bottle, Bartmann			F	1621	1645	Rim; Neck; Handle; Body		Yes
67	Frechen	Bottle, Bartmann			F	1622	1696	Rim	Face mask	
68	Frechen	Bottle, Bartmann			F	1622	1696	Rim; upper handle		
69	Frechen	Bottle, Bartmann			F	1646	1696	Handle; Body		Yes
70	Frechen	Jug			G	1621	1659	Rim; Body		
71	Frechen	Jug			F	1621	1645	Rim; Body; Handle; Neck		

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
72	Frechen	Bottle, Bartmann			F	1622	1696	Rim; Body; Handle; Neck	Face mask	Crown over shield with chevron and 3 stars; see Noël Hume 1970: 51
73	Frechen	Jug			F	1621	1696	Rim; Body		
74	Frechen	Bottle, Bartmann	1620	1700	F	1646	1696	Complete	Face mask	Rosette
75	Frechen	Bottle, Bartmann	1620	1700	F	1621	1645	Rim; Body; Handle; Neck	Face mask	Rosette
76	Frechen	Bottle, Bartmann			F	1646	1696	Base; Body; Handle	Face mask	
77	Frechen	Bottle, Bartmann	1620	1700	F	1621	1645	Base; Body		Rosette with central symbol
78	Frechen	Bottle, Bartmann			F	1621	1696	Rim; Handle		
79	Frechen	Bottle, Bartmann			F	1621	1696	Rim		
80	Frechen	Bottle, Bartmann			F	1621	1696	Rim; Handle		
81	Frechen	Bottle, Bartmann			F	1621	1696	Foot; Body		
82	Frechen	Indeterminate			F			Base		
83	Frechen	Bottle, Bartmann			F	1621	1696	Rim; Neck	Face mask	
84	Frechen	Bottle, Bartmann			F	1621	1696	Rim		
85	Frechen	Bottle, Bartmann	1620	1700	F	1550	1629	Base; Body		Rosette

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
86	Frechen	Indeterminate			F	1621	1696	Foot; Body		
87	Frechen	Drinking Pot			F	1621	1696	Complete (minus handle)	Monochrome grey, undecorated	
88	Frechen	Bottle, Bartmann			F	1700	1799	Body	Face mask	
89	Frechen	Bottle, Bartmann			F	1646	1696	Base; Body	Face mask	
90	Frechen	Bottle, Bartmann			F	1621	1696	Neck		
91	Frechen	Indeterminate			F			Base; Foot		
92	Frechen	Bottle, Bartmann			F			Body; Neck	Face mask	
93	Frechen	Jug			F			Rim		
94	Frechen	Bottle, Bartmann			F			Rim		
95	Frechen	Bottle, Bartmann			F	1621	1696	Foot; Body		
96	Frechen	Bottle, Bartmann			F			Foot		
97	Frechen	Bottle, Bartmann			F	1622	1696	Body	Face mask	
98	Frechen	Bottle, Bartmann	1620	1700	F	1621	1645	Body		Rosette
99	Frechen	Bottle, Bartmann			F	1621	1629	Neck	Face mask	
100	Frechen	Jug			F	1621	1629	Neck; Base		
101	Frechen	Indeterminate			F			Base		
102	Frechen	Bottle, Bartmann	1620	1700	F			Body		Rosette

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
103	Frechen	Bottle, Bartmann			F	1621	1645	Body		
104	Frechen	Bottle, Bartmann			F	1621	1645	Body; Foot		
105	Frechen	Bottle, Bartmann	1610	1700	F	1621	1645	Body		Arms of Amsterdam
106	Frechen	Bottle, Bartmann			F	1621	1645	Rim		
107	Frechen	Bottle, Bartmann			F	1621	1645	Rim		
108	Frechen	Bottle, Bartmann			F	1621	1645	Rim; Handle		
109	Frechen	Ointment Bottle			F	1621	1645	Base; Body		
110	Frechen	Bottle, Bartmann			F	1621	1645	Neck	Face mask	
111	Frechen	Jug			F	1621	1645	Body		
112	Frechen	Bottle, Bartmann			F	1621	1630	Rim		
113	Rhenish	Indeterminate	1620	1620	C			Body		MAIDEBVRG (Magdeburg) with towers, within a wreath; date from Goodall 1997: 369
114	Frechen	Jug			F			Rim		
115	Frechen	Bottle, Bartmann			F/G	1621	1649	Base; Body	Face mask	
116	Frechen	Bottle, Bartmann			C	1621	1673	Neck; Body		

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
117	Frechen	Bottle, Bartmann			C	1621	1673	Rim		
118	Frechen	Bottle, Bartmann			C	1621	1673	Neck; Body		Yes
119	Westerwald type	Jug, Baluster or Biconic	1585	1650	F	1621	1645	Rim		
120	Frechen	Jug			C/F	1621	1673	Base; Body		
121	Frechen	Bottle, Bartmann			C	1621	1673	Rim; Neck	Face mask	
122	Frechen	Bottle, Bartmann			C	1621	1696	Base		
123	Frechen	Indeterminate			C	1621	1673	Base; Body		
124	Frechen	Bottle, Bartmann			C	1697	1705	Body; Handle		
125	Frechen	Bottle			C/G	1621	1673	All	Face mask	
126	Frechen	Bottle, Bartmann			C/F	1621	1673	Body	Cobalt splash on medallion	Yes
127	Frechen	Bottle, Bartmann			C	1621	1705	Foot; Body		
128	Frechen	Bottle, Bartmann			C	1621	1673	Foot		
129	Frechen	Bottle, Bartmann			C	1623	1673	Body; Neck	Face mask	
130	Westerwald	Mug	1700	1800	F	1700	1725	Rim	Incised diamond pattern with cobalt blue	
131	English Brown	Indeterminate	1675	1800	F	1621	1696	Body		
132	Frechen	Indeterminate			C	1623	1673	Rim; Handle		

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
133	English White	Indeterminate	1700	1770	F	1660	1709	Body		
134	Frechen	Bottle, Bartmann	1630	1700	C/F	1622	1696	Rim; Neck; Body	Face mask	Crowned heart
135	Frechen	Bottle, Bartmann			C			Rim		
136	Frechen	Bottle, Bartmann			C	1623	1673	Foot		
137	Frechen	Bottle, Bartmann			C	1621	1673	Rim; Neck		
138	Frechen	Bottle, Bartmann			F	1621	1696	Face mask	Cobalt splash	
139	English Brown	Indeterminate	1675	1800	F	1621	1696	Body		
140	English Brown	Mug	1675	1800	F	1700	1799	Body		
141	Unidentified	Hollowware			F	1660	1709	Foot; Base		
142	Beauvais / Loire	Bottle			C	1697	1705	Body; Foot; 2 Handles		
143	Frechen	Indeterminate			F/C	1621	1645	Base; Body; Foot		
144	Westerwald	Mug			F	1621	1696	Rim	Cobalt blue	
145	Westerwald	Mug	1700	1800	F	1660	1709	Base	Incising with cobalt blue	
146[1]	English Brown	Mug	1675	1800	C	1621	1673	Rim		

[1] Red numbers indicate intrusive vessels.

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
147	English White	Mug	1700	1770	C	1697	1705	Base		
148	Westerwald	Mug			F	1621	1696	Rim		
149	Frechen	Ointment Bottle			C	1621	1705	Foot; Body		
150	Frechen	Jug			F	1622	1696	Complete	Undecorated	
151	Frechen	Jug			F	1675	1696	Base; Foot		
152	Frechen	Drinking Pot			C	1621	1673	Rim	Lion mask on neck; monochrome grey	
153	Westerwald	Mug			F	1621	1696	Rim		
154	Frechen	Drinking Pot			C	1623	1673	Rim		
155	English Brown	Mug	1675	1800	C			Rim; Body; Base		
156	Frechen	Ointment Bottle			F	1646	1696	All		
157	Frechen	Ointment Bottle			F	1621	1645	Rim; Handle; Neck		
158	Westerwald	Mug			F			Rim		
159	Westerwald	Chamber Pot			F			Base		

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
160	Westerwald	Jug	1689	1702	F			Body		Octagonal medallion with inscription "REX. & WII"; cobalt and manganese; possible matching medallion in Reineking von Bock 1986, vessel 537, attributed to William III (1689-1702)
161	English Brown	Bottle	1675	1800	F	1621	1696	Neck; Body		
162	Frechen	Ointment Bottle			F/D	1622	1696	Body; Handle terminal		
163	Frechen	Bottle, Bartmann	1620	1700	F/C	1622	1696	Body		Rosette
164	Raeren brown	Jug, Biconic	1575	1600	F/G	1621	1645	Body	Incising with stamped flowers; pronounced cordons around belly	
165	Beauvais / Loire	Bottle / Pitcher			C	1621	1673	Handle		
166	Westerwald	Mug			F	1700	1725	Rim		

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
167	Westerwald type	Jug, Baluster or Biconic	1585	1650	F	1621	1645	Rim; Neck; Shoulder	Applied small face mask or cherub on neck; the shoulder or upper body is decorated with rectangular zones of diagonal diaper; cobalt blue. A similar, if not identical, face mask in Reineking von Bock 1986, vessel 486 (1600-1650)	
168	Westerwald	Jug, Biconic	1600	1650	F	1622	1696	Body; Shoulder	Diaper; heart and circle pattern; vertical gadrooning; cobalt blue. Example of heart and circle pattern in Reineking von Bock 1986, vessel 486 (1600-1650) and Gaimster 1997a: 249, vessel 103	
169	Westerwald	Indeterminate	1675	1725	F	1660	1709	Body	Cobalt blue background with incised stem and applied flower	
170	Westerwald	Indeterminate	1675	1725	F	1621	1696	Body	Manganese purple background with incised stem	
171	Westerwald	Indeterminate	1675	1725	F			Body	Manganese purple background with incised stem	

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
172	Westerwald	Jug, Biconic	1600	1650	F	1621	1645	Body	Cobalt blue; heart and circle pattern; small flower; vertical gadrooning	
173	Westerwald	Jug	1625	1725	F	1621	1696	Body; Foot	Cobalt blue background with applied flowers	
174	Westerwald	Jug	1675	1725	F	1660	1709	Body	Manganese purple background with incised stems and applied flowers and blossoms painted cobalt blue	
175	Westerwald	Mug	1700	1800	C	1621	1673	Body	Incised floral motif painted blue	
176	Westerwald	Mug			F			Base		
177	Westerwald	Mug	1700	1750	C	1621	1673	Base; Foot	Repeating lozenge diamonds alternating blue and purple in high relief on foot. Examples of diamond pattern in Reineking von Bock 1986: vessel 510 (*ca* 1700), vessel 598 (1725-1750), vessel 605 (1700-1735); Gaimster 1997a: vessel 124 (1700-1725)	
178	Westerwald type	Jug, Baluster or Biconic	1585	1650	C	1621	1696	Neck	Cobalt blue	
179	Westerwald	Mug	1700	1800	C	1621	1673	Rim; Handle	Cobalt blue background with incising	

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
180	Westerwald	Mug	1700	1800	C	1621	1673	Base; Body	Incised stems and flowers painted blue	
181	Westerwald	Indeterminate	1675	1725	C	1674	1696	Body	Cobalt blue background with incised stem and leaf and applied motif (flower?)	
182	Westerwald	Mug	1700	1800	C	1621	1673	Rim; Base; Body	Incised floral motif painted blue	
183	Westerwald	Mug	1700	1800	C	1621	1673	Rim; Foot	Cobalt blue background with incised floral motif	
184	Westerwald	Jug			C	1621	1673	Base; Body	Cobalt blue background with incised rings with triangles and pressed flower. Examples of pressed flower motif in Reineking von Bock 1986, vessel 408 (1600-1650), vessel 417 (1650-1700).	
185	Westerwald	Mug			C	1621	1705	Base; Foot	Cobalt blue on foot cordons	
186	Westerwald	Mug	1700	1800	C			Body	Cobalt blue background with incised scrolls and leaves	
187	Westerwald type	Jug, Baluster or Biconic	1585	1650	C	1623	1673	Body	Cobalt blue	

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
188	Westerwald	Mug	1675	1725	C	1621	1673	Foot	Cobalt blue and manganese purple with applied motif	
189	Westerwald	Mug	1702	1714	C	1697	1705	Body	Cobalt blue	AR
190	English, debased scratch blue?	Indeterminate	1760	1780	G	1740	1760	Body	Cobalt blue	
191	Westerwald	Mug	1675	1725	F	1660	1709	Base; Body	Manganese purple background with incised stems and applied flowers	
192	Westerwald	Mug	1702	1714	F	1700	1725	All (minus handle)	Applied AR medallion with incised floral/leaf motif emerging from the medallion, painted cobalt blue	AR
193	Westerwald	Mug	1700	1800	F	1700	1725	All	Incised floral or leaf pattern painted cobalt blue	
194	Westerwald	Mug	1700	1800	F	1700	1725	All	Incised checkerboard with cobalt blue	
195	Westerwald	Mug	1700	1800	F	1700	1725	Body	Cobalt blue background with incised circles and wiggles	
196	Westerwald	Mug			C	1697	1705	All	Cordons on foot and neck, but uncoloured	

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
197	Westerwald	Jug	1675	1725	C	1697	1705	Base; Body	Cobalt blue and manganese purple with incised floral scrolls with applied leaf	
198	Westerwald	Jug	1675	1725	C	1621	1673	Body	Monochrome grey with applied blossoms and flowers with incised stems	
199	English White	Mug	1700	1770	C	1697	1705	Base; Foot		
200	Unidentified	Indeterminate			F	1621	1696	Rim	Cobalt blue	
201	Normandy: Domfront	Butter Pot			F	1622	1696	Base		
202	Normandy: Domfront	Butter Pot			F	1621	1645	Base		
203	Normandy: Domfront	Indeterminate			F	1621	1696	Base		
204	Normandy	Indeterminate			F	1621	1696	Rim		
205	Normandy: Domfront	Bottle			C	1621	1673	Base		
206	Normandy: Bessin / Cotentin	Flask			G	1630	1696	Neck		
207	Normandy	Pitcher			C	1697	1705	Rim; Neck; Handle		
208	Normandy: Domfront	Butter Pot			C	1621	1673	Handle		

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
209	Normandy	Indeterminate			C	1550	1629	Body		
210	Normandy: Bessin / Cotentin	Indeterminate			C	1621	1673	Body; Shoulder		
211	Beauvais / Loire	Jug/Pitcher			F	1621	1629	Base; Body; Handle		
212	Beauvais / Loire	Bottle			C	1621	1673	Base; Rim; Body; 1 Handle		
C298	Frechen	Bottle, Bartmann			D	1675	1696	Neck	Face mask	
C299	Frechen	Jug			D	1675	1696	Shoulder		
C300	Frechen	Bottle, Bartmann			D	1675	1696	Body; Shoulder		
C301	Frechen	Bottle, Bartmann			D	1675	1696	Rim; Neck; Handle; Body		
C302	Frechen	Bottle, Bartmann			D	1675	1696	Body		
C303	Indeterminate (Frechen orEnglish)	Bottle			D	1675	1696	Rim; Neck; Handle; Body		
C304	Frechen	Bottle, Bartmann			D	1675	1696	Neck; Body; Shoulder	Face mask	
C305	Frechen	Bottle, Bartmann			D	1675	1696	Neck; Body; Handle		
C306	Frechen	Bottle, Bartmann			D	1675	1696	Rim; Body		

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
C307	Frechen	Drinking Pot			D	1675	1696	Body; Shoulder; Base		
C308	Frechen	Bottle, Bartmann	1620	1700	D	1675	1696	Rim; Neck; Handle; Body		Rosette
C309	Frechen	Bottle, Bartmann			D	1675	1696	Rim; Neck; Handle		
C310	Westerwald	Mug			D	1675	1696	Body	Cobalt blue	
C311	Westerwald	Mug	1660	1725	D	1675	1696	Rim; Body	Applied diamond-shaped moulding within a circle with manganese purple infill and cobalt blue background	
C312	Westerwald	Mug	1660	1725	D	1675	1696	Rim; Body	Applied floral decoration with bird figure; manganese purple	
C313	Westerwald	Mug	1675	1725	D	1675	1696	Rim; Body; Handle	Applied floral motif with incised stems; flowers highlighted with manganese purple; cobalt blue background	
C314	Westerwald	Mug			D	1675	1696	Body	Cobalt blue	
C315	Westerwald	Indeterminate			D	1675	1696	Body	Cobalt blue	
C316	Westerwald	Jug	1660	1725	D	1675	1696	Body	Applied floral motifs with relief dots; cobalt blue and manganese purple	

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
C317	Westerwald	Jug			D	1675	1696	Base; Body	Cobalt blue	
C318	Westerwald	Mineral Water Bottle			D	1675	1696	Base; Body; Handle		
C319	Frechen	Ointment Bottle			D	1675	1696	Base; Body; Handle		
C320	Beauvais / Loire	Bottle			D	1675	1696	Body; Handle	Cobalt blue under handle	
C321	English Brown	Mug	1675	1800	D	1675	1696	Handle		
C322	English Brown	Mug	1675	1800	D	1675	1696	Body; Handle		
C323	English Brown	Bottle	1675	1800	D	1675	1696	Rim; Neck; Handle		
C328	Beauvais / Loire	Jug			D	1675	1696	Base; Body		
L15	Westerwald	Jug	1702	1760	E	1720	1760	Base; Body	Incised diamonds running the height of the vessel with incised squiggles; cobalt blue	Crown with a possible fleur-de-lys
L16	Westerwald	Mug	1714	1760	E	1720	1760	All	Incised checkerboard with cobalt blue	GR
L17	Westerwald	Mug	1700	1800	E	1720	1760	Rim	Incised geometric design with cobalt blue	
L18	Westerwald	Jug	1700	1800	E	1720	1760	Body	Incised design (floral?) with cobalt blue	
L19	Westerwald	Mug	1700	1800	E	1720	1760	Rim	Incised geometric design with cobalt blue	

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
L20	Westerwald	Mug	1700	1800	E	1720	1760	Body	Incised diamond pattern with cobalt blue	
L21	Westerwald	Mug	1700	1800	E	1720	1760	Body	Incised pattern (floral?)	
L22	Westerwald	Mug			E	1720	1760	Rim		
L23	Westerwald	Mug	1702	1760	E	1720	1760	Body	Incised geometric design with cobalt blue and manganese purple	_R (first letter unknown)
L24	Westerwald	Indeterminate	1700	1800	E	1720	1760	Body	Incised design (floral?)	
L25	English Brown	Bottle	1675	1800	E	1720	1760	Handle		
L26	English Brown	Holloware	1675	1800	E	1720	1760	Body		
L34	English White	Flatware	1700	1770	E	1720	1760	Footring		
L35	English White	Mug	1700	1770	E	1720	1760	Rim	Incised	
L36	English White	Mug	1700	1770	E	1720	1760	Handle		
L37	English White	Punch Bowl	1700	1770	E	1720	1760	Rim		
L38	English White	Mug	1700	1770	E	1720	1760	Body		
L39	English White	Flatware	1700	1770	E	1720	1760	Footring		
L44	English White	Mug	1700	1770	E	1720	1760	Body	Incised	
L45	English White	Plate	1700	1770	E	1720	1760	Rim		
L48	English White	Saucer	1700	1770	E	1720	1760	Body		

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
N161	Frechen	Bottle, Bartmann	1630	1700	B	1660	1696	Rim; Neck; Handle; Body		Crowned heart
N162	Frechen	Bottle, Bartmann			B	1660	1696	Body		Yes
N163	Frechen	Bottle, Bartmann	1610	1700	B	1660	1696	Body		Arms of Amsterdam
N164	Frechen	Bottle, Bartmann	1620	1700	B	1660	1696	Body	Cobalt splashes	Rosette
N165	Frechen	Bottle, Bartmann			B	1660	1696	Body		
N166	Frechen	Bottle, Bartmann			B	1660	1696	Body	Face mask	Crown over shield with chevron and 3 stars; see Noël Hume 1970: 51
N167	Frechen	Bottle, Bartmann			B	1660	1696	Body		
N168	Frechen	Bottle, Bartmann			B	1660	1696	Body		
N169	Frechen	Bottle, Bartmann			B	1660	1696	Body		
N170	Frechen	Bottle, Bartmann			B	1660	1696	Body		
N171	English Brown	Mug	1675	1800	B	1660	1696	Base; Body; Handle		
N172	Westerwald	Mug	1675	1725	B	1660	1696	Rim; Body	Applied floral motif; monochrome grey	
N173	Westerwald	Mug	1660	1725	B	1660	1696	Rim	Cobalt blue and manganese purple	
N174	Westerwald	Mug			B	1660	1696	Rim	Cobalt blue	

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
N175	Westerwald	Indeterminate	1675	1725	B	1660	1696	Body	Applied floral motif with incised stems; cobalt blue background and manganese purple flowers	
N176	Westerwald	Mug	1700	1800	B	1660	1696	Body	Incised floral motif; cobalt blue	
N177	Westerwald	Mug			B	1660	1696	Body	Cobalt blue	
N178	Westerwald	Mug			B	1660	1696	Body	Cobalt blue	
N179	Westerwald	Jug	1675	1725	B	1660	1696	Shoulder; Handle	Applied flower and incised stem; monochrome grey	
N180	Westerwald	Jug			B	1660	1696	Body; Handle	Incised and stamped decoration; cobalt blue; handle has a scrolled terminal	
N181	Westerwald	Jug			B	1660	1696	Rim	Cobalt blue	
N182	Westerwald	Jug	1700	1800	B	1660	1696	Body	Incised decoration; cobalt blue	
N183	English, Bristol Grey	Cup	1700	1800	B	1660	1696	Rim; Body; Handle		
N184	English, Bristol Grey	Cup	1700	1800	B	1660	1696	Base; Body		
N185	English Brown	Bottle	1675	1800	B	1660	1696	Body		
N186	English Brown	Bottle	1675	1800	B	1660	1696	Base; Body		

Vessel #	Origin	Form	Vessel Date Low	Vessel Date High	Area	Event Date Low	Event Date High	Portion	Decoration	Medallion
N187	Unidentified	Bottle			B	1660	1696	Body; Handle		
N188	Frechen	Indeterminate			B	1660	1696	Body		

			Frechen								Westerwald									
Year	Bartmann Bottles: Areas BCDE	Eng. Glass Wine Bottles: BCDE	Bottle	Bartmann Bottle	Drinking Pot	Indeterminate	Jug	Ointment Bottle	All Frechen	All Frechen minus Bartmann	Chamber pot	Indeterminate	Mug	Mineral Water Bottle	Jug	Biconic Jug	Baluster/biconic Jug	All Jugs	All Westerwald	Rhenish Indeterminate
1600	0	0	0	0	1	1	1	0	3	3	0	0	0	0	0	0	1	1	1	0
1601	0	0	0	0	1	1	1	0	3	3	0	0	0	0	0	0	1	1	1	0
1602	0	0	0	0	1	1	1	0	3	3	0	0	0	0	0	0	1	1	1	0
1603	0	0	0	0	1	1	1	0	3	3	0	0	0	0	0	0	1	1	1	0
1604	0	0	0	0	1	1	1	0	3	3	0	0	0	0	0	0	1	1	1	0
1605	0	0	0	0	1	1	1	0	3	3	0	0	0	0	0	0	1	1	1	0
1606	0	0	0	0	1	1	1	0	3	3	0	0	0	0	0	0	1	1	1	0
1607	0	0	0	0	1	1	1	0	3	3	0	0	0	0	0	0	1	1	1	0
1608	0	0	0	0	1	1	1	0	3	3	0	0	0	0	0	0	1	1	1	0
1609	0	0	0	0	1	1	1	0	3	3	0	0	0	0	0	0	1	1	1	0
1610	0	0	0	0	2	1	1	0	4	4	0	0	0	0	0	0	1	1	1	0
1611	0	0	0	0	2	1	1	0	4	4	0	0	0	0	0	0	1	1	1	0
1612	0	0	0	0	2	1	1	0	4	4	0	0	0	0	0	0	1	1	1	0
1613	0	0	0	0	2	1	1	0	4	4	0	0	0	0	0	0	1	1	1	0
1614	0	0	0	0	2	1	1	0	4	4	0	0	0	0	0	0	1	1	1	0
1615	0	0	0	0	2	1	1	0	4	4	0	0	0	0	0	0	1	1	1	0
1616	0	0	0	0	2	1	1	0	4	4	0	0	0	0	0	0	1	1	1	0
1617	0	0	0	0	2	1	1	0	4	4	0	0	0	0	0	0	1	1	1	0
1618	0	0	0	0	2	1	1	0	4	4	0	0	0	0	0	0	1	1	1	0
1619	0	0	0	0	2	1	1	0	4	4	0	0	0	0	0	0	1	1	1	0
1620	0	0	0	1	2	1	1	0	5	4	0	0	0	0	0	0	1	1	1	1
1621	10	0	1	40	2	7	11	4	65	25	0	0	4	0	1	2	3	6	10	0
1622	10	0	1	50	2	8	15	5	81	31	0	0	4	0	1	3	3	7	11	0
1623	12	0	1	52	3	9	15	5	85	33	0	0	4	0	1	3	4	8	12	0
1624	12	0	1	52	3	9	15	5	85	33	0	0	4	0	1	3	4	8	12	0
1625	12	0	1	52	3	9	15	5	85	33	0	0	4	0	2	3	4	9	13	0
1626	12	0	1	52	3	9	15	5	85	33	0	0	4	0	2	3	4	9	13	0
1627	12	0	1	52	3	9	15	5	85	33	0	0	4	0	2	3	4	9	13	0
1628	12	0	1	52	3	9	15	5	85	33	0	0	4	0	2	3	4	9	13	0
1629	12	0	1	52	3	9	15	5	85	33	0	0	4	0	2	3	4	9	13	0
1630	14	0	1	58	3	12	15	5	94	36	0	0	4	0	2	3	4	9	13	0
1631	14	0	1	58	3	12	15	5	94	36	0	0	4	0	2	3	4	9	13	0
1632	14	0	1	58	3	12	15	5	94	36	0	0	4	0	2	3	4	9	13	0
1633	14	0	1	58	3	12	15	5	94	36	0	0	4	0	2	3	4	9	13	0
1634	14	0	1	58	3	12	15	5	94	36	0	0	4	0	2	3	4	9	13	0
1635	14	0	1	58	3	12	15	5	94	36	0	0	4	0	2	3	4	9	13	0
1636	14	0	1	58	3	12	15	5	94	36	0	0	4	0	2	3	4	9	13	0
1637	14	0	1	58	3	12	15	5	94	36	0	0	4	0	2	3	4	9	13	0
1638	14	0	1	58	3	12	15	5	94	36	0	0	4	0	2	3	4	9	13	0
1639	14	0	1	58	3	12	15	5	94	36	0	0	4	0	2	3	4	9	13	0
1640	14	0	1	58	3	12	14	5	93	35	0	0	4	0	2	3	4	9	13	0
1641	14	0	1	58	3	12	14	5	93	35	0	0	4	0	2	3	4	9	13	0
1642	14	0	1	58	3	12	14	5	93	35	0	0	4	0	2	3	4	9	13	0
1643	14	0	1	58	3	12	14	5	93	35	0	0	4	0	2	3	4	9	13	0
1644	14	0	1	58	3	12	14	5	93	35	0	0	4	0	2	3	4	9	13	0
1645	14	2	1	58	3	12	14	5	93	35	0	0	4	0	2	3	4	9	13	0
1646	15	2	1	49	3	11	11	4	79	30	0	0	4	0	2	2	2	6	10	0
1647	15	2	1	49	3	11	11	4	79	30	0	0	4	0	2	2	2	6	10	0
1648	15	2	1	49	3	11	11	4	79	30	0	0	4	0	2	2	2	6	10	0

Westerwald								Rhenish			English								French	
Indeterminate	Mug	Mineral Water Bottle	Jug	Biconic Jug	Baluster/biconic Jug	All Jugs	All Westerwald	Rhenish Indeterminate	Raeren Brown Biconic Jug	Raeren/Frechen Indeterminate	Bristol Grey Mugs	Brown Bottles	Brown Hollowware	Brown Indeterminate	Brown Mugs	White Mugs	White All Other	All English	All Beauvais/Loire	All Normandy
0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1
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0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1
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0	4	0	1	3	4	8	12	0	1	0	0	0	0	0	0	0	0	0	4	9
0	4	0	2	3	4	9	13	0	1	0	0	0	0	0	0	0	0	0	4	9
0	4	0	2	3	4	9	13	0	1	0	0	0	0	0	0	0	0	0	4	9
0	4	0	2	3	4	9	13	0	1	0	0	0	0	0	0	0	0	0	4	9
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0	4	0	2	3	4	9	13	0	1	0	0	0	0	0	0	0	0	0	4	9
0	4	0	2	3	4	9	13	0	1	0	0	0	0	0	0	0	0	0	3	9
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0	4	0	2	2	2	6	10	0	0	0	0	0	0	0	0	0	0	0	3	8
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1633	14	0	1	58	3	12	15	5	94	36	0	0	4	0	2	3	4	9	13
1634	14	0	1	58	3	12	15	5	94	36	0	0	4	0	2	3	4	9	13
1635	14	0	1	58	3	12	15	5	94	36	0	0	4	0	2	3	4	9	13
1636	14	0	1	58	3	12	15	5	94	36	0	0	4	0	2	3	4	9	13
1637	14	0	1	58	3	12	15	5	94	36	0	0	4	0	2	3	4	9	13
1638	14	0	1	58	3	12	15	5	94	36	0	0	4	0	2	3	4	9	13
1639	14	0	1	58	3	12	15	5	94	36	0	0	4	0	2	3	4	9	13
1640	14	0	1	58	3	12	14	5	93	35	0	0	4	0	2	3	4	9	13
1641	14	0	1	58	3	12	14	5	93	35	0	0	4	0	2	3	4	9	13
1642	14	0	1	58	3	12	14	5	93	35	0	0	4	0	2	3	4	9	13
1643	14	0	1	58	3	12	14	5	93	35	0	0	4	0	2	3	4	9	13
1644	14	0	1	58	3	12	14	5	93	35	0	0	4	0	2	3	4	9	13
1645	14	2	1	58	3	12	14	5	93	35	0	0	4	0	2	3	4	9	13
1646	15	2	1	49	3	11	11	4	79	30	0	0	4	0	2	2	2	6	10
1647	15	2	1	49	3	11	11	4	79	30	0	0	4	0	2	2	2	6	10
1648	15	2	1	49	3	11	11	4	79	30	0	0	4	0	2	2	2	6	10
1649	15	2	1	49	3	11	11	4	79	30	0	0	4	0	2	2	2	6	10
1650	15	2	1	46	3	10	11	3	74	28	0	0	4	0	2	1	2	5	9
1651	15	2	1	46	3	10	11	3	74	28	0	0	4	0	2	1	2	5	9
1652	15	2	1	46	3	10	11	3	74	28	0	0	4	0	2	1	2	5	9
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1657	15	2	1	46	3	10	11	3	74	28	0	0	4	0	2	1	2	5	9
1658	15	2	1	46	3	10	11	3	74	28	0	0	4	0	2	1	2	5	9
1659	15	2	1	46	3	10	11	3	74	28	0	0	4	0	2	1	2	5	9
1660	25	7	1	58	3	10	8	3	83	25	0	0	8	0	4	1	1	6	14
1661	25	7	1	58	3	10	8	3	83	25	0	0	8	0	4	1	1	6	14
1662	25	7	1	58	3	10	8	3	83	25	0	0	8	0	4	1	1	6	14
1663	25	7	1	58	3	10	8	3	83	25	0	0	8	0	4	1	1	6	14
1664	25	7	1	58	3	10	8	3	83	25	0	0	8	0	4	1	1	6	14
1665	25	7	1	58	3	10	8	3	83	25	0	0	8	0	4	1	1	6	14
1666	25	7	1	58	3	10	8	3	83	25	0	0	8	0	4	1	1	6	14
1667	25	7	1	58	3	10	8	3	83	25	0	0	8	0	4	1	1	6	14
1668	25	7	1	58	3	10	8	3	83	25	0	0	8	0	4	1	1	6	14
1669	25	7	1	58	3	10	8	3	83	25	0	0	8	0	4	1	1	6	14
1670	25	20	1	58	3	10	8	3	83	25	0	0	8	0	4	1	1	6	14
1671	25	20	1	58	3	10	8	3	83	25	0	0	8	0	4	1	1	6	14
1672	25	20	1	58	3	10	8	3	83	25	0	0	8	0	4	1	1	6	14
1673	25	20	1	58	3	10	8	3	83	25	0	0	8	0	4	1	1	6	14
1674	15	1	0	48	1	7	7	3	66	18	0	0	8	0	3	1	0	4	12
1675	24	2	0	57	2	7	9	4	79	22	0	5	16	1	7	1	0	8	30
1676	24	2	0	57	2	7	9	4	79	22	0	5	16	1	7	1	0	8	30
1677	24	2	0	57	2	7	9	4	79	22	0	5	16	1	7	1	0	8	30
1678	24	2	0	57	2	7	9	4	79	22	0	5	16	1	7	1	0	8	30
1679	24	2	0	57	2	7	9	4	79	22	0	5	16	1	7	1	0	8	30
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