Smoky, Noisy, Bloody, Violent, and Smelly: The Seventeenth-Century Detached Kitchen at Ferryland, Newfoundland

by

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Abstract

This thesis focuses on a 17th-century detached kitchen in Ferryland, Newfoundland, built at the rear of a multi-room service wing and forming part of the complex of structures referred to as Sir George Calvert's 'mansion house.' This structure is referred to in this thesis as the 'mansion house kitchen.' Historical documentation provides evidence that the kitchen was built sometime between 1622 and 1628, while clay tobacco pipes and other datable artifacts show that it continued to be used, albeit less intensively, following Sir David Kirke's arrival in 1638. Architectural remains reveal that the kitchen was a sturdy structure, 8m by 7m, with lime mortared slatestone walls that were approximately 1m thick. It was built directly into the hillside, at a level with the second storey of the mansion house, and with a cobblestone pathway leading between the two. Artifacts excavated from midden deposits directly outside of the kitchen's walls provide evidence for a variety of activities including food preparation, cooking, sewing, and other domestic tasks.

The kitchen was central to the daily life of the early modern English household (Pennell 2016: 87). Food took up a significant portion of the average household's budget, while the activities which took place in and around the kitchen—meal preparation, cooking, gardening, cleaning, sewing—took up a considerable amount of the average housewife's time and energy (Weatherill 1996: 135, 146). Food was also closely connected to a family's social identity, and the daily rhythm of tasks in the kitchen played a key role in maintaining the household (Weatherill 1996: 149-150). An analysis of Ferryland's mansion house kitchen has the potential to add to our understanding of how these trends were expressed in early English colonial settlements, where provisioning was of crucial importance and food could take on aspects of

cultural identity. This thesis will make use of the kitchen's architectural remains and associated material culture to gain insight into the daily lives of its occupants, how it related to the rest of the community, and how its architectural design was influenced by and relates to detached kitchens elsewhere in North America and the UK.

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Chapter 1: Introduction

The community of Ferryland is located 80km south of St. John's on the east coast of Newfoundland's Avalon Peninsula (Figure 1). It is home to the remains of George Calvert's colony of Avalon, his initial attempt at colonial settlement in North America, which was later expanded under David Kirke and came to be known as the Pool Plantation. The site has been of interest to archaeologists since at least the 1960s with excavations ongoing since 1992 (Gaulton and Casimiro 2015; Tuck 2013). In that time the remains of a substantial settlement founded in 1621 and continuing until its destruction in 1696 have been uncovered and an increasingly detailed image of life in the 17th-century community has emerged. Archaeological research at Ferryland has shed light on the homes, foodways, and consumption practices of Ferryland's planter families, explored spaces where its residents worked, socialized, or did a bit of both, and sought the location of where their remains were interred in death (Carter 1997; Clausnitzer 2011; Crompton 2011; Gaulton 2006; Hodgetts 2006; Ingram 2015; Lacy 2017; Nixon 1999; Tourigny 2009)

Complementing this ongoing work, the research presented in this thesis explores the architecture and material culture associated with a detached kitchen which served residents of Ferryland's mansion house from the late 1620s potentially until the latter part of the 17th century, referred to in this thesis as the 'mansion house kitchen.' Determining how this structure was used during the Calvert period (1621–1638) and later Kirke era (1638–1696) at Ferryland will add to our understanding of household organization in early colonial settlements and may have implications for how European architectural practices were adapted to North American contexts. While it may seem like a peripheral space, often located behind the main house or below stairs,

the kitchen was central to the daily life of the early modern English household (Pennell 2016:87). Transplanted across the Atlantic, the kitchen played an important role in the viability and vitality of English colonial settlements by bringing English culinary culture to North America. An analysis of the mansion house kitchen can therefore help form a foundational element in our understanding of how gentry households operated in 17th-century North America.

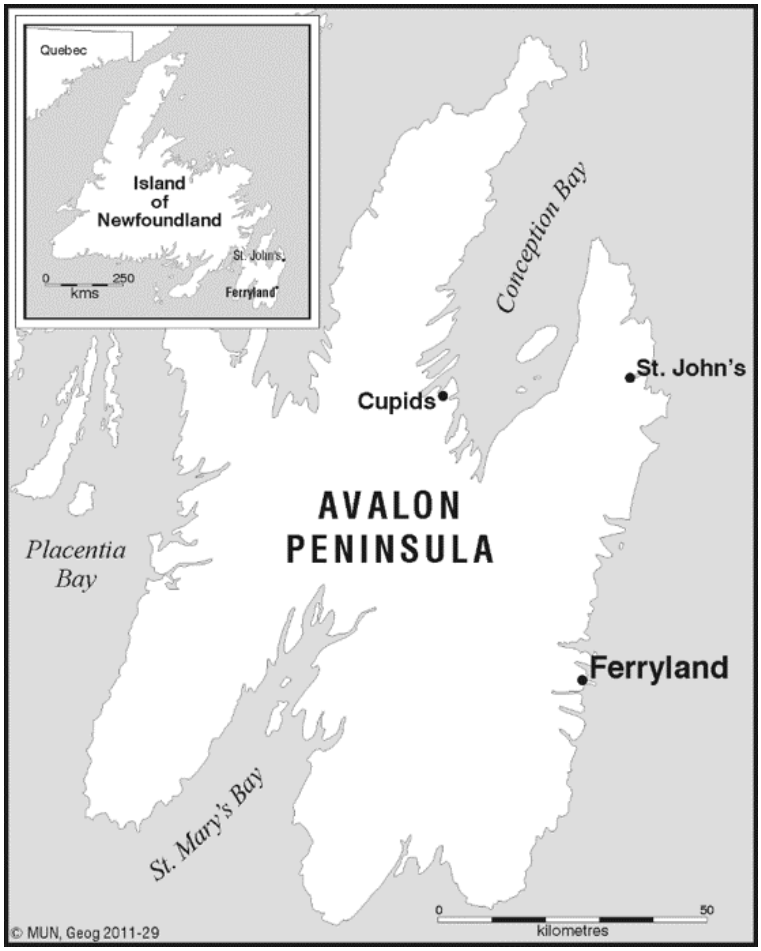

Figure 1: Location of Ferryland on Newfoundland's Avalon Peninsula; island of Newfoundland (inset) Image courtesy of Dr. Barry Gaulton.

This thesis has four goals 1) to understand the architectural trends in England and North America which may have influenced the kitchen's design; 2) use the material culture associated

with the kitchen to gain insight into the daily lives and activities of those who occupied the kitchen; 3) compare the kitchen to Ferryland's other structures to understand how it related to the rest of the community; and 4) relate the results of this research to a broader debate about the nature and prevalence of detached kitchens in the UK and North America. This research is presented and discussed across six chapters.

Chapter 2 presents a brief overview of the historical context of European settlement in Newfoundland, and of the colony of Avalon and Pool Plantation in particular. The chapter discusses the lives of Edward Wynne, George Calvert, and David and Sara Kirke and the influence each of them had on the settlement. Following this overview, the research questions of this project are presented and discussed.

Chapter 3 is a discussion of the development of the early modern English kitchen and its place in the household. Food was closely related to social identity and status and thought to be linked to the health of individuals. It was also seen as an important aspect of cultural identity, especially in the context of New World settlement. This made kitchens, as the location of food preparation, an important part of the early modern household, but they were also the location of many other domestic tasks upon which the household depended. Chapter 3 discusses these aspects of the early modern kitchen, and how they were carried across the Atlantic.

Chapter 4 presents an overview of the theoretical approaches which guide this research. The two theoretical approaches considered are household archaeology and consumption theory. A summary of each is presented, along with the ways in which the two frameworks compliment one another. These theoretical approaches have been used by other researchers working in Ferryland, and as a result help to facilitate meaningful comparisons with other work at the site.

Chapter 5 provides an analysis of the architecture of the mansion house kitchen. Historical documentation, in the form of Edward Wynne's 1621 and 1622 letters to George Calvert, are used to provide background context to the construction and development of the structure. Architectural features are described and discussed to arrive at an understanding of the design and layout of the kitchen and its relationship to nearby buildings. A brief discussion attempts to situate the kitchen within architectural trends in the UK and North America, and to suggest possible influences on its design.

Chapter 6 is an analysis of the material culture associated with the kitchen. Ceramics, clay tobacco pipes, glass objects, and small finds are identified and analysed using different typologies and methodological techniques. These objects are used to determine a chronology for the structure, and to understand the activities which took place there.

Finally, Chapter 7 presents a summary and discussion of the findings from previous chapters. The discussion is structured around the four research questions which guided this project and attempts to answer them using the evidence discussed in previous chapters. Pulling together the different lines of evidence from throughout this thesis, Chapter 7 attempts to arrive at an understanding of the factors influencing the kitchen's construction, an accurate picture of the activities which took place there, and a view of how the kitchen relates to the development of other domestic structures in the British North Atlantic.

Chapter 2: Historical Background and Research Questions

2.1 Initial European Settlement of Newfoundland

The earliest evidence of European migratory fishers exploiting the waters off of Newfoundland's coast dates to at least the 15th century (Cell 1982: 1). By the end of the 16th century the English fishery had come to dominate the East coast of the Avalon Peninsula (Cell 1982: 2). West Country fishermen, making up most of the English migratory fleet, would travel each year from ports in Devon and Cornwall, spend a season fishing in Newfoundland, then return to Europe with their catch before the cold Newfoundland winter set in (Pope 2004: 22-24, 29). While they required access to the shore to dry and preserve their catch, there was little incentive for these migratory fishers to attempt to overwinter, let alone settle permanently (Cell 1982: 3). Indeed, during the 16th century Europeans did not generally settle permanently north of Florida (Pope 2013: 40-41).

Convincing enterprising English men and women to attempt to settle in North America meant combatting widespread skepticism that English bodies were ultimately equipped to handle foreign climates and diets (LaCombe 2012: 56-57). The North American climate was thought to be too harsh, and so proponents of Newfoundland settlement such as Richard Whitbourne and Edward Wynne compared it favourably to England, or parts of continental Europe, and wrote enthusiastically of the agricultural potential of proposed settlement sites (Cell 1982: 32-33). Familiar foods became much more important in an unfamiliar environment, where New World substitutes were perceived as inferior and potentially threatening, and scurvy was a common and all too real fear (LaCombe 2012: 62; Pendery and Koon 2013: 60; Wankier 2016: 116). Staples of the English diet, such as wheat and salt beef, were shipped to new colonial settlements to

bring a sense of familiarity and because they were thought to maintain the health of the colonists (LaCombe 2012: 49).

The earliest attempts at settlement in Newfoundland came in the first decades of the 17th century and were aimed at gaining an advantage over seasonal fishers by acquiring first access to both beaches and markets (Cell 1982: 4). The first of these attempts, in 1610 at Cupids Cove, seemingly confirmed some of the fears discussed above when settlers encountered harsh winters and limited agricultural yields (Pope 2004: 50-51). By the early 1620s the Newfoundland Company, a group of merchants who had invested in the Cupids settlement, decided to divide the land they had been granted in Newfoundland and sell it to proprietors who could set up their own colonial enterprises. One of these new investors was Sir George Calvert, who in 1621 sent his representative, Captain Edward Wynne, to begin work on the settlement at Ferryland (Pope 2004: 51-52).

2.2 Sir George Calvert and Initial Settlement in Ferryland

George Calvert was born in 1580 in Yorkshire to a Catholic family (Krugler 2001: 2). He was raised and educated as a Catholic at a time when Elizabeth I's subjects were expected to conform to her Protestant beliefs (Krugler 2001: 2). When Calvert was twelve years old local authorities in Yorkshire discovered his Catholic education, and he and his father were forced to convert to the Protestant faith (Krugler 2001: 2). John Krugler (2001: 2-3) has argued that this forced conversion, which was practically motivated rather than divinely inspired, helped shape Calvert into a man who would play by the rules in the early part of his career in English politics and government.

Following an education at Oxford's Trinity College, Calvert gained a position as the secretary to Robert Cecil, King James I's Secretary of State (Cell 1982: 46; Krugler 2001: 4). According to Krugler (2001: 6), Cecil's influence led Calvert to believe that land ownership could be the key to furthering his career past his relatively humble Yorkshire origins. He began to acquire land in Yorkshire, Ireland, and Newfoundland, where in 1620 he purchased a tract of land on the Avalon Peninsula (Cell 1982: 50).

In 1621 Calvert, himself now Secretary of State to James I (Krugler 2001: 7), sent Captain Edward Wynne to his newly acquired lands on the Avalon Peninsula to begin work on a settlement there. Little is known of Wynne's background beyond his Welsh heritage and military experience (Gaulton and Miller 2009: 112). He and Calvert may have been introduced by William Vaughan, a Welshman who, like Calvert, attended Trinity College and was an early promoter of Newfoundland settlement (Cell 1982: 50; Krugler 2001: 3). Wynne and his crew of eleven men arrived in Ferryland in August of 1621 and began work on the settlement, located on the south shore of Ferryland's inner harbour and referred to as the 'Pool' (Cell 1982: 50). Otherwise occupied with his duties as Secretary of State, Calvert appears to have tasked Wynne with the crucial early decisions of design and development, and much of the construction work from 1621 to 1625 reflects Wynne's influence (Gaulton and Miller 2009: 114).

The letters Wynne wrote to Calvert during the early years of the settlement depict the Captain and his men hard at work building houses and infrastructure at a rapid pace. By November of 1621 they had already completed a house with a main hall, cellar and four other chambers (Cell 1969: 92). By Christmas of that year they had also completed a kitchen with a second-storey chamber (Cell 1969: 92). The following year in 1622 Wynne's letters describe further expansion of the settlement, as he and his men had finished a parlour and palisade wall,

and had a kitchen garden growing lettuce, radishes, carrots, cabbage, turnips, and peas that were "in some places as high as a man of an extraordinary stature." (Cell 1982: 201)

Wynne's letters to Calvert suggest that by the close of summer 1622 a firm foundation was underway at Ferryland. The fledgling community had defensive fortifications and living space, as well as gardens to grow food, a kitchen to prepare it, and a cellar in which it could be stored. Some hens had arrived with the colonists, and Wynne had requested that Calvert supply goats, rabbits, pigs, geese and ducks (Cell 1982: 256). In 1622 a second group of settlers arrived at the colony leaving "seven women and twenty-five men remain[ing] to try another winter at Ferryland," (Cell 1969: 92). For the following year Wynne requested that more craftsmen and "a couple of strong maids, that (besides other worke) can both brew and bake" (Cell 1982: 203) be sent to the settlement.

This work represented a significant investment on the part of George Calvert. Years later in court documents his son Cecil estimated that constructing, peopling, and supplying Ferryland cost George Calvert £20,000 (Calvert 1651 in Pope 1998: 72). His vision for the settlement seems to have been one of a "nucleated village, housing craftsmen and colonists who lived and worked as a cohesive unit," (Gaulton 2013: 27). This fits with the view of Calvert's contemporaries who believed that attempts at settlement on Newfoundland's shore needed to be long-term investments. William Vaughan, who Calvert knew from Trinity College, argued in *The Golden Fleece* that investing in the fishery meant long-term success, as opposed to the short-term windfalls that discovery and adventure might bring (Cell 1982: 25). This expectation of long-term profit helps explain Calvert's heavy initial investment, laying a firm foundation for anticipated future successes in North America (Pope 1998: 63).

By 1627, however, Calvert's investment was apparently not working out as he had hoped, and he travelled to Ferryland to see the settlement for himself (Krugler 2001: 12). By this point Wynne had left the colony, which was now home to 100 settlers (Cell 1969: 93). Calvert's personal life had also undergone significant transformations. He had resigned his position as James I's Secretary of State, privately converted back to Catholicism, suffered the death of his first wife, and married a second wife in Ireland (Krugler 2001: 10-11). At some point during these years his view towards his Newfoundland investment appears to have changed as well. In 1628, following his first visit to Ferryland, he returned with a large household in tow (Cell 1982: 53). Calvert's "wife, most of his children and two of his sons-in-law, William Peasley and Robert Talbot," (Cell 1982: 53-54) came with him to settle in Newfoundland. Gillian Cell (1982: 54) argues that "in Calvert's mind a transformation had taken place: Newfoundland was no longer simply a speculation, nor a place where others might be encouraged to settle while the proprietor stayed comfortably at home. It had become a place where the Calverts themselves might 'build and sette and sowe.'"

Accommodating a large gentry household such as Calvert's would have required a significant amount of space and facilities. The house and kitchen described in Wynne's initial letters do not appear to have been sufficient, and instead, in 1628 Calvert and his family moved into a large mansion house equipped with a detached service wing (Tuck and Gaulton 2013: 47). This house, known as 'Lord Baltimore's Mansion,' is first mentioned in court documents from the trial between the Kirke family and Calvert's descendants in the 1650s (Pope 1998: 73), but must have been built at some point between Wynne's initial efforts in 1621-22 and the Calvert household's arrival in 1628. Archaeological excavation suggests that Wynne and his men combined the first house and kitchen into a much larger residence in time for the Calvert

family's arrival (Tuck and Gaulton 2013: 47) (Figure 2). The work involved in building a substantial mansion house and service wing lends support to Cell's (1982: 54) argument that Calvert now saw Newfoundland as somewhere to settle rather than speculate. The mansion house and its service wing would enable Calvert and his family to live comfortably in North America.

Unfortunately for the Calverts, their first winter in Ferryland was a miserable one in which nine or ten of the colonists died (Cell 1982: 54). In 1629 Calvert wrote to King Charles I, describing the conditions (Cell 1982: 295-296). The winter was long and intolerably cold, Calvert wrote, nothing grew, the fish left the harbour, and half of the colony grew sick. The mansion house had to be converted into a makeshift hospital. Calvert requested that the King grant him land in Virginia where he and his family could escape Newfoundland's harsh winters (Cell 1982: 296). The Calverts left Newfoundland for Virginia that year, but many of the community's original settlers remained (Cell 1982: 55).

Figure 2: View of excavations at Ferryland. The remains of Calvert's mansion house, with detached service wing and kitchen at right of centre closest to frame (view north). Photo courtesy of Dr. Barry Gaulton

2.3 Sir David Kirke and the Pool Plantation

David Kirke was born in 1597 to an English merchant family with ties to London and Dieppe (Gaulton 2013: 278). As a young man he led two English naval expeditions against the French, first in 1628 then again in 1629, ultimately forcing the French surrender of Quebec to English forces (Gaulton 2013: 278). These efforts understandably ingratiated him to the English King Charles I, and as a result Kirke was knighted in 1633 (Gaulton 2013: 278). By 1637 Charles I, who "would habitually sell overlapping monopolies to competing interests," (Pope 1998: 63) had decided to grant the island of Newfoundland to Kirke and a group of his fellow courtiers (Cell 1982: 55). The King did this on the basis that the Calvert family and other settlers had abandoned Newfoundland, and while Kirke found Ferryland to be "a largely defunct

colony," (Gaulton 2013: 279) it was still an investment very much claimed by Calvert's surviving heirs (Pope 1998).

David Kirke, his wife Sara, and 100 settlers arrived in Ferryland in 1638 (Gaulton 2013: 279). They removed Captain William Hill, Cecil Calvert's representative in Ferryland, from where he had been living in Lord Baltimore's old mansion house and promptly moved in themselves (Cell 1969: 95). The Kirkes set about building upon Calvert's initial investment, shifting the focus so as to profit from a commercial monopoly on the fishing and sack trade, setting the price on fish, taxing foreign vessels, charging rents, and selling supplies, alcohol, and tobacco to locals and seasonal fishermen (Gaulton 2013: 278). Kirke renovated and reorganized the infrastructure Calvert had left behind, dismantling the brewhouse to make way for more domestic space, and abandoning the forge altogether (Gaulton 2013: 279). A large timber-framed dwelling was built adjacent to Calvert's original mansion house to create even more domestic space, and the stable between the two was torn down to build a tavern (Gaulton 2013: 279).

Kirke's efforts to dominate the fishing and sack trades understandably set him at odds with West Country merchants (Pope 1998: 64). The English Civil War (1642-1651) provided Kirke's rivals in the West Country with an opportunity as his fortunes fell along with those of the King, and they brought a long list of complaints against Kirke to authorities in London (Cell 1969: 122). George Calvert's heirs also took the opportunity presented by Kirke's weakness to file a lawsuit over their claims to Ferryland (Cell 1969: 121). The cases against Kirke resulted in commissioners being given authority over the Newfoundland fishery and planter settlements (Cell 1969: 122-123). Kirke himself was recalled to London by the revolutionary Commonwealth in 1651 to face Calvert's heirs and was imprisoned because of the case (Pope 1998: 65). Following his death in prison in 1654, his wife Sara continued to manage the Pool

Plantation and his family maintained an influential role in the community and fishery in Ferryland (Gaulton 2013: 279; Pope 2004: 437).

The Kirke period in Ferryland resulted in significant social and economic changes to the community. The forge, brewhouse, and stable were dismantled or altered to accommodate new infrastructure. Taxes and rents were charged on foreign ships, local planters, and stockpiles (Gaulton 2013: 278). This period also marks the first time that a colonial proprietor and his family had remained in Newfoundland for the long term (Cell 1982; Pope 1998). The transformation that had led Calvert to see Newfoundland as a place where he and his family could "'build and sette and sowe'" (Cell 1982: 54) had, for Kirke, become a "kind of personal commitment" (Pope 1998: 67) to Newfoundland settlement, leading him to persevere through harsh winters and conflicts with rival fishermen. Meanwhile, as these powerful merchants and gentry families wrestled for control of the fishery, the settlers who had been earning a living since the early 1620s continued in relative indifference (Cell 1982: 56-57). According to Cell (1982: 57), by 1660 about one hundred and fifty families were spread out along the eastern shore of the Avalon Peninsula.

2.4 Ferryland after 1651

As mentioned above, Lady Sara Kirke continued to manage Ferryland's Pool Plantation following her husband's death. Their four sons continued to employ fishing servants, and still owned fishing stages, warehouses, and other pieces of fishing infrastructure (Gaulton 2013: 279). Sara, and her sister Lady Frances Hopkins, became "successful and independent female entrepreneurs operating in the context of a male-dominated fishing industry," (Gaulton 2013: 279).

In the second half of the 17th century the population on the Avalon Peninsula's east coast grew to roughly 2,000 people (Pope 2004: 205). Government officials in London became more interested and involved in the fishery as the century progressed, and threats from the Spanish, Dutch, and pirates pressured the migratory fleet (Cell 1969: 124). These pressures came to Ferryland in 1673 when a Dutch fleet entered the harbour and attacked the settlement (Pope 2004: 332). Having plundered and destroyed stores, commodities, cattle, and household goods, the Dutch carried away four cannons and burned 30 fishing boats (Lovelace 1675 in Pope 1993). The Dutch had left Ferryland somewhat intact, however, forcing the inhabitants to supply their ships as compensation for what they had not destroyed (Lovelace 1675 in Pope 1993). Nonetheless, Sara Kirke and her family led the rebuilding of the settlement following the raid (Pope 2004: 437).

The end of the Pool Plantation came in 1696 at the hands of French forces under the command of Pierre Le Moyne D'Iberville. In September of that year, as the first stage in a campaign against English settlements on the Avalon Peninsula, French ships sailed into Ferryland's harbour (Pope 2004: 408). French forces set fire to the settlement, destroying homes, fishing infrastructure, household goods, and supplies. Those living in the community, including David Kirke's sons, were imprisoned at Plaisance or returned to London. Many of those who returned to Ferryland the following year rebuilt closer to the mainland, away from the remains of the previous settlement in the sheltered inner harbour or 'Pool' (Gaulton 2006: 30). The decentralized fishery managed to recover following 1696 (Pope 2004: 408), but the substantial infrastructure of the Pool Plantation had been devastated.

2.5 Research Questions

This project will analyze and interpret the material culture and architecture associated with Ferryland's 17th-century mansion house kitchen. The primary goals of the project are to understand the decisions made in the construction of the structure, consider the way those who dwelled within the kitchen used it as a working and potentially domestic space, and to relate the kitchen to other structures in 17th-century Ferryland. To achieve these goals, the following four research questions have guided the project:

1. *How does the construction and layout of the kitchen fit into architectural trends in England and North America?*

Detached kitchens were a common feature of English domestic architecture until the mid 16th century (Olmert 2009: 27) but had gone out of style by the 17th century when, according to Broad (2015: 7), "… all the evidence suggests that [they] were old-fashioned and redundant." Various reasons have been suggested for the separation of kitchens and living spaces. Olmert (2009: 24) states that kitchens were places which tended to be "smoky, noisy, bloody, violent, and smelly, and filled with people and activities that were faintly not nice and best left unregarded." Add to this the general risk of fire before the widespread adoption of fireproof chimneys by the 1550s, and it only makes practical sense to keep the kitchen separate from other domestic spaces (Broad 2015). As the structures at Ferryland were built primarily of slatestone however, a risk of fire does not seem sufficient to explain keeping the kitchen separate. Kitchens were sometimes detached for social reasons, such as keeping slaves (and servants) apart from the domestic lives of slaveowners on Antebellum plantations in the southern

United States (Stewart-Abernathy 2004). By comparing Ferryland's detached kitchen to other detached kitchens in England and North America, I hope to better understand why Wynne and his crew made the decisions they did in its construction.

2. *What can the examination of the artifacts from the kitchen tell us about the daily lives of those working (and likely living) in the building during the 17th century?*

In addition to serving as a kitchen for the mansion house, the building may have served as a servant's quarters, housing the people who worked there. Analysis of the artifacts uncovered at the site may be able to shed light on this possibility. Additionally, it is possible that as Calvert's manor house changed hands between different occupants during the Calvert and Kirke periods, the kitchen fell out of use or was converted into a living space. Through an analysis of the kitchen's 17th-century artifacts, this project will attempt to understand how the structure was used throughout the century and to disentangle, as much as possible, its function as a space for preparing, cooking, and serving meals for the residents of the manor house from its potential role as an everyday living space.

3. *What can an intra-site comparison between the artifacts from the kitchen and other buildings previously examined at Ferryland tell us about how the building, and the people who worked there, related to the rest of the community?*

As discussed above, previous work at Ferryland has considered daily life and the production and consumption of food in both domestic and working spaces (eg. Nixon 1999; Crompton 2001;

Gaulton 2006; Tourigny 2009; Clausnitzer 2011; Ingram 2015). As potentially both a domestic and working space, the kitchen would be well suited to comparisons with some of the homes and working spaces of 17th-century Ferryland. Comparison with sites such as the bakery and brew house (Clausnitzer 2011) and the tavern (Ingram 2015), could lead to a better understanding of the relationship between the community's different spaces for cooking and eating. Additionally, an analysis of the kitchen's artifacts has the potential to add to earlier considerations of the consumption habits of Ferryland's gentry (eg. Gaulton 2006; Hodgetts 2006; Tourigny 2009).

4. *What can an analysis of the kitchen contribute to the broader debate about the archaeological signature of detached kitchens in early modern England and North America?*

A wider debate is ongoing as to the nature of the archaeological signatures of detached kitchens and how they can be distinguished from other outbuildings (Martin and Martin 1997; 2001; Walker 2000; Meeson 2000; Smith 2001; Broad 2015). Possible defining features, such as a lack of large windows or interior decoration as well as easy access and close proximity to the main house, have been proposed and debated (Broad 2015). An analysis of Ferryland's mansion house kitchen could lend support or provide a counterexample to these features. The structure does appear to have had easy access to the mansion house, for instance, but the large quantities of window glass uncovered in its excavation suggests the presence of large windows (Gaulton and Tuck 2011). Moreover, as a structure built in North America after the practice of building detached kitchens had gone out of style in England (Broad 2015), some of the kitchen's

architectural features or techniques used in its construction may be unique to the early colonial context.

Chapter 3: Kitchens and Culinary Culture in the British North Atlantic

Food was one of the most important expenditures in the early modern English household (Weatherill 1996: 135). By itself it could account for more than half of a household's budget, and spending on cutlery, dishes, furniture and other dining accessories only increased the amount the average household spent on culinary concerns (Bickham 2008: 474; Weatherill 1996: 135). Household accounts suggest that this was the case whatever a household's social rank, with lower status households still spending up to 30 percent of their budget on food alone (Weatherill 1996: 135). On a day-to-day basis food also took up much of a household's time and energy. Preparing meals was a time-consuming activity which kept the average housewife tied up at home for several hours every day, and this was only one of the activities involved in supplying the household (Flather 2013: 348; Weatherill 1996: 146). Purchasing food, gardening, cleaning, and other activities took up even more time and energy (Weatherill 1996: 143).

With so much time, energy, and money dedicated toward food, it is hardly surprising that the kitchen occupied a central space in the daily life of the early modern English household (Pennell 2016: 87). The cooking, cleaning, sewing, mending, and other domestic chores that took place there were a constant rhythm that happened at all hours and kept the household going (Weatherill 1996: 139). The kitchen was also key to early modern domestic culture. Food was closely connected to a family's social identity, and a housewife's control over cooking and provisioning gave her a key role in both nurturing the household and making it run smoothly (Weatherill 1996: 149-150). A lady such as Joan Cromwell, for instance, maintained her household's modest cooking style when her husband Oliver came to rule England, and even

refused to use oranges in her sauces when his war with Spain caused prices to spike (Taylor 1664: 38; Thirsk 2007: 115).

Across the Atlantic, kitchens, along with their associated material culture and foodways, were an important aspect in making English colonial settlements viable. Peter Pope (2013: 45) argues that the 17th century's dramatic increase in consumer goods made it possible for people to imagine living a respectable life in New World settlements. This can be seen in goods and activities associated with the kitchen. Beef and other cuts of meat roasted over the fire and served with sauces on tin-glazed plates, bread baked in an oven, and laundry regularly cleaned and mended would have provided a sense of 'Englishness' in an unfamiliar environment (Marcoux 2013: 53). This culinary culture would adapt to a new social context as people in North America found new ways to express their status through the things they ate and drank.

3.1 Food, Health, and Social Identity in England

In 17th-century England, as in much of Europe at the time, one's diet, health, and identity were all linked by the dominant medical orthodoxy of humoural theory (Fox 2013: 180). Commonly attributed to Galen, a physician and philosopher born on the Aegean coast of modern-day Turkey in 129 CE, humoural theory saw disease as originating in an imbalance of four bodily fluids, or humours, caused by "faulty diet, unaccustomed exercise or a change of climate." (Grant 2000: 9). Galen had been educated in the medicine of the Roman world, which viewed diet as a powerful preventative tool in fighting disease. By the 17th century, two aspects of his views on diet and health were continuing to influence the way English and other European people saw themselves: the idea that one's climate, diet, and bodily exercise shaped one's

humoural constitution; and the idea that a person's humoural constitution influenced the sort of climate, diet, and exercise they were suited to (Fox 2013: 166; Lloyd 2015: 54).

Living in 17th-century England meant being a part of one of the hierarchically divided secular groups that made up society. A person's position in the hierarchy determined their duties and obligations as well as how they related to other people on a day-to-day basis (Lloyd 2015). Food and material culture were two of the primary ways people looked to distinguish others of different classes (Lloyd 2015: 57). The prevailing Galenic medical view was also applied to the hierarchical ranking of English society, resulting in the idea that people of different ranks had different humoural constitutions (Fox 2013: 166).

Reinforcing a firm social hierarchy with a medical ideology that linked a person's diet to their mental and physical characteristics created a rather circular association of diet and social class. Particular foodways came to define the different social classes not only because of economic resources and market availability, but because certain foods were seen as being healthier for certain classes of people. As Paul Lloyd (2015: 47) puts it, "…socio-economic status and health factors [in 17th-century England] were inextricably linked to the point where they were almost indistinguishable when it came to social identity." The leisurely upper classes, for instance, expected to eat only bread which was baked with white flour, eggs, butter, and milk and was served in tiny little rolls (Fox 2013: 172). The labouring lower classes, on the other hand, were said to have "stomackes like ostriges" (Fox 2013: 166) and expected to eat bread made from rye or oat grains baked into large loaves.

Consuming large amounts of fresh meat was one of the clearest dietary signifiers of high-status in 17th-century England (Fox 2013: 173). While the English generally ate more meat than their French and other continental European neighbours, even complaining about the lack or poor

quality of meat they encountered when they travelled abroad, fresh meat was still associated with a higher status position in society (Rogers 2003: 10-11). Venison, for instance, was a clear signifier of a high-status diet, as it had been in the Middle Ages (Fox 2013: 174). Members of the upper classes would gift it, along with other foods, to one another in a form of competitive consumption, occasionally going so far that the cost nearly ruined them (Lloyd 2015: 32).

As Ben Rogers (2003: 13-16) explains, beef consumption rose in tandem with the rise in the status of yeomen in the 1600s, providing a good example of the link between certain foods and social status. The weakening of feudal restrictions caused the yeoman class to grow in size and affluence in the 17th century, and yeoman farmers began to take on new luxuries, building, for instance "solid houses, furnished with glass windows, grates, chimneys, pewter tableware and down beds." (Rogers 2003: 15) In addition to these new luxuries, a yeoman's diet came to distinguish the class during this period. The large rye loaves discussed above, for instance, were often referred to as "yeoman's bread" (Fox 2013: 173). As yeomen commonly raised cows and sheep, fresh beef also came to define their diet, so much so that the Yeomen of the Guard established by Henry VII in 1485 came to be known as Beefeaters under the Stuart kings of the 1600s (Rogers 2003: 17).

While these sorts of dietary prescriptions are useful when considering how people thought about the link between diet and social class, they are limited when it comes to examining what people were purchasing and eating. For this, many researchers have turned to household accounts. They tend to be especially useful for upper- and middle-class households and can give us a sense of changes and trends in food provisioning and consumption (Dawson 2008: 20). Mark Dawson (2008: 22), made use of household accounts to examine the consumption and provisioning patterns of the Willoughby family in Warwickshire from the 1520s to the 1600s and

found, for instance, that over this period the family shifted from purchasing large amounts of ale to brewing their own beer. The family also increased its reliance on beef over this time, while eating less pork, and shifting to fattened, specialty cuts (Dawson 2008: 22).

Household accounts also provide insight into the diets of different members of a household, and the choices made in supplying the household's kitchen. Sir Richard Newdigate (1602-1678), an Oxford-educated lawyer, and his wife Juliana, for instance, supplied their kitchens at Arbury Hall, Warwickshire, with much greater quantities of food when their family was at home than when they were away in London (Lloyd 2015: 50). Staple ingredients were similar; whether the family was away or at home the kitchens were supplied with beef, mutton, bread, butter and eggs (Lloyd 2015: 50). While at home, however, the Newdigates purchased bread, milk, and ale daily and acquired larger amounts of beef, mutton, butter and eggs twice a week (Lloyd 2015: 79). The family also had a taste for more fashionable foods, regularly purchasing rabbit and a broad variety of increasingly expensive cuts of offal (lambs' head, calves' feet, tongues, etc.) (Lloyd 2015: 87-88).

The household of another lawyer with connections in London, Richard Reynell (1558-1633), follows a similar pattern to the Newdigates. Whether Reynell and his wife Lucy were at home at Forde House, South Devon, or away they purchased beef in large quantities, enough to feed the family and their eighteen servants (Lloyd 2015: 52). Like the Newdigates, the Reynells supplied their kitchen with more fashionable ingredients such as veal, rabbit, and salad when they were at home (Lloyd 2015: 52).

By comparing household accounts such as these, Paul S. Lloyd (2015: 102), argues that by the start of the 17th century there was a broad convergence in elite English dining practices. The households of families like the Newdigates and the Reynells, despite being located in

different parts of the country, followed similar sorts of diets and made similar decisions when it came to provisioning and consumption. Lloyd (2015: 102) suggests several reasons for this convergence. For one, members of the elite were travelling more both within England and internationally. They were also engaging in broad-based networking both at schools such as Oxford and through business ventures in London and internationally. Cookbooks were beginning to be aimed at a wider gentry audience, and foreign trade was making an increasing variety of exotic foods available to the gentry. Yorkshire-born George Calvert, for instance, and Richard Newdigate, from Warwickshire, both attended Oxford and had business connections in London (Krugler 2001: 3-4; Lloyd 2015: 50). Despite being from different parts of the country, they travelled in similar social circles, and would have been exposed to similar culinary influences.

3.2 Kitchens: 'The First Foundation of a Good House'

At the start of the 17th century the English kitchen was a loosely defined space. It was more than simply a space for food processing and storage, and it was not the only space where these activities could take place (Pennell 2016: 42). The kitchen's location varied, influenced by available space and pre-existing facilities (Pennell 1998: 202-203). It might be a backroom, located in a basement, or detached behind the main dwelling. In larger houses the kitchen would be closely linked to other rooms such as butteries and pantries, bakeries, breweries, and dining rooms, and over the life of the household these spaces could supplant the role of the kitchen (Pennell 2016: 39, 42). The kitchen could be both a relatively informal space, with servants, masters, suppliers, and visitors all having fairly easy access, as well as a space where work and activities were controlled by the lady of the house (Pennell 1998: 204; Weatherill 1996: 150). Despite these apparent contradictions, the early modern kitchen was central to the life of the

household, a place Richard Surflet, a translator of French cookbooks writing in 1600, described as “the first foundation of a good house.” (Pennell 2016: 37).

Although it was an unspecialized and multi-purpose space, there were some essential elements to the early modern English kitchen. The first and most basic was a large, uncluttered working space with a large fireplace (Steane 1985: 265, 268). Maintaining the fire was a constant task; different meats required different cooking temperatures so the fire would have to be carefully monitored and cooking itself took several hours every day (Sim 1997: 21; Weatherill 1996: 146). The heat of the fire also brought other domestic tasks, such as laundering and sewing, into the kitchen. Servants often found time for these chores at odd hours of the day, keeping the fire going late into the night (Weatherill 1996: 145). The chimneyed hearth, increasingly made of stone during the 17th century, became such an important element of English domestic life that Pennell (2016: 43) describes it as a “domestic altar that the English found difficult to give up, even into the twentieth century.”

Heat and smoke from the fire made a good source of ventilation another key element of the early modern kitchen (Steane 1985: 265). Unfortunately for anyone working in the kitchen, ventilation could mean draughts as heat from the fire rose up the chimney and cold air from outside rushed in to replace it (Sim 1997: 22). A reliable source of water was another key element, useful for cooking, cleaning, laundering, and other domestic tasks and often a significant factor in the placement of kitchens and other service rooms (Pennell 2016: 48).

In addition to these architectural elements, a good kitchen required specific sorts of furnishings and equipment. Compared with other rooms in the house, the furnishings could be relatively sparse. A large table or bench provided working space for preparing food, putting the finishing touches on meals, and other tasks such as sewing and tailoring (Bebb 2014: 29). Large

blocks could serve for chopping and butchering, while a variety of mortars and pestles, sometimes several feet in height, were used to mix and grind (Steane 1985: 269). Earthenware jars and vats were used to store a variety of ingredients, while a cupboard might be used to store spices and smaller jars of food (Bebb 2014: 30; Steane 1985: 269). Decorative tin-glazed ceramics might be displayed on the shelves of a dresser set against the wall (Bebb 2014: 29). Cooking required a wide variety of utensils, as it does now, so "even in humble cottages, dredgers, nutmeg graters, sieves, rolling-pins, funnels, ladles and skimmers, choppers, jars, filters and stills were used." (Masson and Vaughan 1974: 19).

As a multi-purpose space, the kitchen was often home to a range of objects and items not obviously associated with cooking or preparing food. It was often the space to store muskets, bandoliers, and ammunition, for instance (Pennell 1998: 205). Probate inventories from the late 17th century indicate that the kitchen was also a good space to keep any books the household might have (Pennell 1998: 205). Cookbooks, as well as Bibles and religious texts, could commonly be found near to hand as pots bubbled over the fire. Clocks and other timepieces began to feature more regularly in late 17th-century kitchens as cooking began to require more precise numerical skills. By the early 18th century, many cookbooks assumed that their readers would have access to a clock (Pennell 1998: 205).

If the architectural elements and objects of the kitchen could only loosely define the early modern kitchen, firmer ground can be found by looking at the people that occupied the space, and the sorts of activities they conducted (Pennell 2016: 18). Cooking and meal preparation are likely the first activities that come to mind when one thinks of the early modern kitchen. In the 17th century, housewives were expected to control and organize these tasks, directing servants and handling housekeeping accounts (Read 1974: 37). Gervaise Markham's T*he English*

Housewife, published in 1623 and aimed at an upper-middling social class audience (Masson and Vaughan 1974: 13), sets out a wide variety of tasks for which a housewife should be proficient. Markham expects his readers to be skilled cooks, to know how to distill, be familiar with selecting and preserving wine, be able to make butter and cheese, and to be able to brew beer and bake bread. The recipes of Rebecca Price (1660-1740) reveal a range of skills that line up with Markham's prescriptions. Price's recipes contain instructions for salting, smoking, and curing meats and fish, as well as pickling and candying fruits and vegetables and distilling, brewing, and making medical syrups (Masson and Vaughan 1974: 14). Cooking had long been a skilled profession involving the mastery of a variety of tasks—the cook in Canterbury Tales, for instance, can "roste, and sethe, and broille, and frye" (Chaucer 2007: 12), was knowledgeable about a variety of spices, and could identify London ales by taste (Hallissy 1995). During the 17th century, however, cooks began to require less intuition and greater quantitative skills as recipes called for increasingly precise measurements and cooking times and the kitchen became a place of increasing literacy and numeracy (Pennell 2016: 98).

3.3 Crossing the Atlantic: Food, Health, Englishness, and Social Class in North America

Peter Pope (2013) links the beginning of permanent European settlement in the northeastern parts of North America with the new variety of domestic goods becoming available to the middling sorts of people in Europe during the late 16th and early 17th century. These goods, he argues, made "ethnic and social identity more individual and more portable," (Pope 2013: 45). People could indicate their membership in a particular social class through the domestic goods that they owned, making social distinctions less dependent upon community membership and making it easier to take your social class with you if you left your community behind. As Pope

(2013: 45) puts it, “It was now more possible for self-respecting men and women to imagine themselves in North America.” He supports his assertion by pointing to the material culture found at early North American colonial sites, which reflects “a reasonably up-to-date and often moderately up-market sample of contemporary goods available in European home markets,” (Pope 2013: 44).

Coinciding with the market changes that made a greater variety of domestic goods available to a wider portion of English society, agrarian changes were causing similar shifts to traditional English associations between food and status (Fox 2013: 180). An increasing amount of wheat was being farmed, for instance, diminishing the association between wheat and high status by making it more available to rural labourers and the poor (Fox 2013: 180). The growing popularity of market gardens during the 17th century meant an increase in the quality and variety of fruits and vegetables available in the market. Fruits and vegetables began to be associated with higher status consumption as they became fashionable among the gentry and the old humoural suspicion of them went out of style (Fox 2013: 181).

In the context of new colonial ventures in North America, these foods came to take on a sense of Englishness. Just as the trappings of fashionable domestic material culture might allow people to imagine themselves living in North America, the presence of dietary staples such as wheat made it possible to imagine living there permanently (Marcoux 2013: 48). Paula Marcoux (2013: 53-54) argues that bread baked from wheat, now available to wider portions of English society, was imbued with a sense of comfort and home in a North American context. Where once wheat bread had been a marker of elite social status in English society, it now represented aspects of Englishness itself, and was sought after by people from various social classes.

Archaeologically, this can be seen in the prevalence of bread ovens in the infrastructure of many colonial settlements. At Ferryland, for instance, a brewhouse/bakery was among the early structures built at the site (Clausnitzer 2011: 40). In contrast with the other buildings at the site, which were built from a substantial amount of slate, the brewhouse/bakery was timber framed and earthfast, lacking a stone footing. In his examination of the structure, Clausnitzer (2011: 54-55) argued that its construction reflected a need to get the brewhouse/bakery up and running as quickly as possible. Like the forge, which also used earthfast techniques and timber framing, the bakery was a key part of the infrastructure of the new settlement.

Low-fired coarse earthenware bread ovens were a key part of early English colonial settlements. Made in England, in places like North Devon, these ovens have been found in excavations at Ferryland, Jamestown, Plymouth, and other English colonial settlements (Marcoux 2013: 51). Paula Marcoux (2013: 53-54) argues that these ovens, and the bread baked inside them, provided an incentive to attract English migratory fishermen to colonial settlements. Contrasting sites where bread ovens are found with colonial sites where slaves or indentured labourers were present, Marcoux (2013: 53) states that settlements where labourers were voluntary or migratory are also the sites where more, and better maintained ovens are found. If workers could move around and had some choice in where they went, she argues, they would go somewhere that could offer fresh bread (Marcoux 2013: 53). Similarly, but on the other end of the social spectrum, the rapid construction of a bakery at Ferryland would have enabled a respectable gentleman such as George Calvert to have fresh bread available at his North American estate (Clausnitzer 2011: 118). Wheat and bread are an example of food indirectly influencing and encouraging colonial settlement by making it possible to reproduce Englishness on the other side of the Atlantic.

In addition to providing a sense of familiarity and comfort, English dietary staples were seen as an important factor in keeping English settlers healthy. Humoural medical theories, already influencing ideas about the relationship between one's diet and social class, also shaped the way the English thought about diet as being related to one's ethnic identity (Appelbaum 2005: 195-196). Early English accounts of the Indigenous peoples of North America focused on food as one of the primary markers of difference between Indigenous peoples and European settlers, generally reinforcing notions of European cultural superiority (Appelbaum 2005: 197; Wankier 2016: 119). Humoural medical theory held that a person's diet and climate both had an impact on their constitution, or their personal qualities, and this idea was used to explain the cultural and physical differences the English perceived between themselves and other peoples around the world (Wankier 2016: 116). As a result, North American settlers were often skeptical that a North American diet would be suitable for an English body (LaCombe 2012: 62). While maize, for instance, might fill the same caloric requirements as wheat and could also be used to bake bread, it was considered an inferior and potentially threatening replacement for wheat (LaCombe 2012: 62). Staples of the English diet were shipped to new colonial settlements, and colonial leaders often derived a good portion of their authority from being able to supply settlers with familiar foods in an unfamiliar environment (LaCombe 2012: 49; Wankier 2016: 116).

3.4 Innovative Consumption and Social Hierarchy in England and North America

As new domestic goods and a wider variety of foods became available to a broader section of English society in the 17th century and were carried across the Atlantic to new colonial settlements in North America, the elite in these places had to find new ways to distinguish themselves through the sorts of things they ate and drank. In England, the elite accomplished this

through ideas of refinement and taste (Fox 2013: 184). Adam Fox (2013: 184-185) argues that the wealthy in England responded to the wide variety of foods becoming available by seeking out increasingly rare and expensive foods and drinks. The elite in London, for instance, thanks to innovations in transportation, could purchase fresh fish which had been driven overnight from the north of England. By the end of the 17th century, overseas trade was making it possible for high-status English families to impress their peers with oranges, bananas, and pineapple, season their foods with exotic spices and bottles of 'Catch-up', and serve deserts sweetened with sugar (Fox 2013: 184).

Along with the quest for the rare and exotic, the idea of demonstrating elite status through refined taste began to influence the material culture associated with elite foodways. The idea of elite social display began to shift during the 17th century. Increasingly, it was no longer enough to display your status through wealth, as a bed covered in expensive textiles might in a 16th-century parlour (Herman 2016). Instead, the English elite had to display their ability to make proper use of the dishes, glasses, utensils, and other accessories associated with high-status dining (Herman 2016). This shift was in its infancy during the 17th century.

A similar pattern of innovative consumption is visible in the archaeological record of 17th-century English settlements on Newfoundland's Avalon Peninsula. Unlike in England, with its many layers of social distinction, communities on Newfoundland's English Shore were primarily defined by the contractual relationship between planters and their servants during the 17th century (Pope 2004: 273). Owning a boat was the most obvious means of social distinction, as it enabled access to the fishery. Peter Pope (2004: 259-262) explains that this created an environment where a few resident planters in any community would each employ several servants, leading to larger households than those operating in England. A few planters, such as

the Calverts or the Kirkes, operated at a much larger scale, employing more servants than their peers (Pope 2004: 263). In this environment, food and drink could provide one means for members of the planter elite to distinguish themselves, while also giving fishing servants access to goods that would otherwise be considered luxuries beyond their station in England.

Ceramics and drinking vessels uncovered during the excavation of the Kirke tavern at Ferryland may reflect changing expressions of social hierarchy in the new colonial context of the community (Ingram 2015: 139). The remains of some vessels seem to follow consumption trends in England. Chinese export porcelain fragments, for instance, were interpreted as signs of elite consumption, conjuring images of David Kirke, the colony's proprietor and owner of the tavern, sharing drinks with visiting ships' captains (Ingram 2015: 138). Other vessels indicate a departure from English consumption patterns. In 17th -century England, wine was a luxury item largely reserved for the elite, yet equal numbers of vessels for drinking wine (or spirits) and ale were uncovered in the excavation of Ferryland's tavern (Ingram 2015: 138). Sarah Ingram (2015: 138-139) interprets this as an innovative expression of social hierarchy in a North American context. Whereas in England wine drinking would have been a marker of elite status, she argues that in Ferryland, where wine was more readily available due to David Kirke's status as a wine merchant, and where many fishing captains found themselves with relatively large amounts of money and relatively little to spend it on, fishermen could afford to indulge in wine and spirits (Ingram 2015: 138).

An analysis of the Kirke occupation of Calvert's mansion house in Ferryland provides another example of innovative consumption in a New World context (Tourigny and Noël 2013). As discussed above, beef had come to be associated with rural farming classes such as yeomen in 17th -century England (Rogers 2013: 15), yet in Ferryland beef consumption seems to have been

associated with luxury and elite foodways (Tourigny and Noël 2013: 235). While archaeological evidence suggests pork was the most important meat for most of Ferryland's residents, for instance, excavations at the mansion house suggest that beef was a more common meal for the Kirke family (Tourigny and Noël 2013: 235). Tourigny and Noël (2013: 242) argue that in the context of a settlement like Ferryland, dedicated to the fishery, being able to direct resources to raising cattle was a firm indicator of wealth and status. It indicated that a family like the Kirkes could direct resources away from the fishery, dedicating both land and labour to pastureland and the growing of fodder and thereby distinguishing themselves from poorer planter families in the community (Tourigny and Noël 2013: 242).

Chapter 4: Theoretical Approaches

4.1 Consumption Theory

This project will make use of two complementary theoretical approaches: consumption theory and household archaeology. Consumption theory concerns itself with "the cultural relationship between humans and consumer goods and services," (Martin 1993: 142). The relationship is one in which individuals acquire, use, and discard things to achieve goals—such as signifying social status or group identity—and the things take on cultural and personal meanings through this process. In this way consumption is viewed as both an economic and social behaviour (Henry 1991: 3). In her general model of consumer behaviour, Susan Henry (1991) laid out a series of socially situated steps for this process to follow. An individual first decides to acquire some material good. After acquiring it through purchase, barter, production, theft or some other means, the object is then used and through use takes on meaning. The individual and the item then go their separate ways through what Henry (1991: 11) refers to as post-use deposition. Sometimes the object is thrown away, but it could also be recycled, reused, sold, given away, lost or abandoned.

Culturally situated notions such as taste, style, fashion, or utility influence consumers to choose certain goods over others (Martin 1993: 142). A housewife might choose to acquire a set of tin-glazed dishes with a painted blue design, for instance, because they are fashionable and signify her household's taste and social standing. These meanings depend on cultural context and can vary wildly depending on time and place (Glennie 1995: 177). The same set of dishes, acquired as inheritance by the housewife's children, might take on personal meanings of

nostalgia or family pride. They might take on yet another set of meanings later on as museum pieces.

Economic and social forces also play a role in influencing individuals' consumption decisions. The price and availability of a good might influence a purchasing decision, for instance, while advertising or group lifestyle may create social pressures pushing an individual to acquire some good in order to fit in or signify membership in the group (Henry 1991: 4-6). These same forces can also act as powerful constraints on these choices (Miller 1995: 16). In their critique of models of consumer choice, Wurst and McGuire (1999: 193) point out that "social position both restricts choices and makes choices possible." People with more resources, wealth, or social status have more freedom in the choices they can make, while individuals with less may be unable to afford to consume. Using car shopping as an example, Wurst and McGuire (1999: 193) point out that an individual with tens of thousands of dollars at their disposal might be overwhelmed with choice, whereas someone with only $1,000 to spend faces comparatively slim decisions. Similarly, an individual's social position can either broaden or constrain the choices available to them. "The female head of a 19th-century middle-class household," they explain, "can choose the dishes her family will dine from, while her domestic servant has no choice but to use what she is given," (Wurst and McGuire 1999: 193).

A consumer framework is especially well suited to studies of the 17th century North Atlantic. This was a time in which the production and consumption of material goods was increasing dramatically, marking a shift from medieval to early modern social life in England (Baker and Majewski 2015: 205; Martin 1993: 152). Glennie (1995: 164) lists growing commodity consumption, intensification of production, reorganization of distribution, as well as increasing social division of labour and individualized social life as features defining the

emergence of a modern consumer society at this time. In English villages, for instance, houses were increasing in size, gaining more rooms and features such as chimneys, ovens, and glass windows (Martin 1993: 152). As the population gained warmer, drier, more private and better equipped dwellings, they also began to spend more of their household budget on consumer goods (Martin 1993: 153). Where a medieval household might have dedicated their consumer spending to an ornate bed, people were increasingly acquiring ceramics, clothing, and other goods instead (Martin 1993: 152-153). Some of these goods were novelties introduced from Asia and North America.

While these shifts were occurring in Europe, North American colonial settlements were increasing demand for European products. In Britain, the 17th century saw an expansion of the wool and ceramics industries, as new ceramic types and clothing styles gained popularity and increasingly communicated their owners' social rank (Baker and Majewski 2015: 209; Mathias 2006: 29). The wealth some merchants, such as George Calvert, gained from these industries helped fund colonial ventures (Mathias 2006: 21). The goods they produced supplied colonial communities and enabled the replication of European social life in North American settlements such as Ferryland (Pope 2013: 45). In these ways consumerism was deeply embedded in the changing social world of the 17th century North Atlantic, making it a useful framework for considering the period's archaeological record.

Consumption theory is also particularly well suited to archaeological study of households. As Martin (1993: 145) explains, "most household artifacts—ceramics, furniture, and the like—are quintessential consumer goods." Archaeologists use these to, among other things, infer the social position of particular households (Groover 2003: 245), explore the roles of different family members in making purchasing and provisioning decisions (Henry 1991: 7), and

examine the ways in which households might adapt to or resist consumerism using bartering or other techniques (Glennie 1994: 172). Many of these studies emphasize the role of the individual in making symbolically meaningful consumption decisions, and often consider the role of women in shaping the purchasing patterns of the household (Wurst and McGuire 1999: 192). Overall, by focusing on consumer choice as symbolically meaningful and socially situated, consumer studies attempt to better understand daily life at the scale of the household and the individual (Wurst and McGuire 1999: 191).

By using consumption theory to frame my research I hope to understand some of the decisions made in provisioning the kitchen and infer some of the meaning the kitchen's artifacts may have had for its inhabitants. Understanding consumption patterns in the kitchen may also lead to insights about the use of the structure, whether it was also used as a living quarters, for instance, or what sorts of non-culinary activities took place there. The framework will also allow me to consider the kitchen's place in the various households that occupied the mansion house during the 17th century. Finally, as other work at Ferryland has made use of consumption theory to analyze structures such as the bakery/brewhouse and tavern (Clausnitzer 2011; Ingram 2015), I will compare the kitchen to these sites to gain insight into its place in the 17th -century community.

4.2 Household Archaeology

Archaeologists working across a wide variety of cultures and time periods have found the household to be a useful unit of analysis. It has been applied in Roman contexts (Meadows 2013), at Classical Mayan sites (Mendehlson 2018), at precontact sites and in early modern settings in the colonial Northeast (Peles 2015). This flexibility is one of the strengths of

household approaches in archaeology (Peles 2015: 49). Archaeologists dig up dwellings and material culture, however, and need some way of connecting these physical things to the social relationships which define the household (Allison 2013: 2). Often this has led to a reliance on ethnographic accounts to provide a foundation for historical households (Allison 2013: 3). The household is just as variable a concept ethnographically as it was in the past, however, and so multiple definitions of the household exist (King 2015: 297).

At first, the concept of the household can seem synonymous with the family or the home. Households often include members outside of the kin-based family, however, and can incorporate spaces beyond a single house (Beaudry 2015: 2), while the home is largely based on the Victorian separation between domestic life and industrialized work and is limited in its cross-cultural applicability (Buchli, Clarke and Upton 2004: 2). Boundaries that we would often associate with the household, between public and private spheres, or the self and the community, change through time and across space and are subjective and fluid (Buchli, Clarke and Upton 2004: 3). To get around this variability, archaeological definitions of the household have tended to focus "on what a household *does* rather than on what a household *is*" (King 2015: 296; emphasis in original).

These definitions of the household can be broadly fit into two categories. The first is a traditional view that sees the household as the smallest measurable socio-economic unit within the broader community (Beaudry 2015: 3). This approach focuses on the things that households produce and consume and thus complements consumption theories (Beaudry 2015: 3). As discussed above, the material culture consumed by households can provide insights into social organization, household activities, and the cultural values of the wider community. Activities such as cooking, eating, drinking, raising children and socializing allow people to meet

"psychological, physical, and emotional needs" (Weatherill 1996: 137) and influence the community around them. Many households produce surplus goods, such as food and textiles, to be sold or consumed outside of the household, and these are also important areas of activity to consider (Allison 2013: 8).

While households often occupy more than just a single house and have activity areas "in the open spaces of compounds, courtyards, patios, houseyards, and even urban backlots" (Beaudry 2015: 2), the remains of domestic structures lend themselves well to the archaeological study of households. As the physical setting of a household, domestic structures can be "complex sites of interaction, intimacy, emotion, and often conflict," (Beaudry 2004: 256). They can provide insight into the ways in which individuals enact and practice social norms, or the ways in which they confront or subvert them (Allison 2013: 1). The physical architecture of a dwelling often reflects the values of the wider community, but the activities that occur within and the way the members of the household relate to the structure are not dictated by these values (Allison 2013: 1).

A second category of approaches to household archaeology attempts to bring practice theory to bear on the complexities of the household. These approaches consider household activities from the perspective of the cultural values they may embody, or the internal relationships and dynamics of the household they may represent (Beaudry 2015: 3). This involves, as Beaudry (2015: 3) explains, a "shift of emphasis on household as productive unit to that of an often highly differentiated and complex system of both fixed and shifting relationships." The activities of the kitchen, for instance, might be considered from the perspective of the relationship between servants and the family they served, or for the influence of the taste and labour of women in the creation and maintenance of the household.

Household archaeology will allow me to consider the various layers of social life that may have overlapped in the kitchen. As the space where meals were prepared and domestic chores such as laundering were likely completed, the kitchen would have been intimately linked to the daily domestic life of the household occupying the mansion house. Working relationships between the mansion house's occupants and the servants in the kitchen would have played an important role in the daily social life of the kitchen. Moreover, it may be possible to infer more than one household making use of the kitchen at the same time, especially if it was used as a living quarters for servants or had a second storey living space home to some other member of the community.

Chapter 5: The Mansion House Kitchen

5.1 The Mansion House Kitchen

The structure referred to in this thesis as the mansion house kitchen was built between 1622 and 1628, following Edward Wynne's initial construction in Ferryland and before George Calvert's arrival at the settlement. It was built at the rear of a multi-room service wing, forming part of a larger complex of structures which, by the 1650s, was referred to as George Calvert's 'mansion house' (Gaulton and Tuck 2011: 3).

Field reports, photographs, and maps from the kitchen excavation, as well as structural remains and artifacts such as latches and hinges were examined in order to gain an understanding of the dimensions and architectural features of the kitchen. This information will help address my first research question regarding how the kitchen fits into architectural trends in England and North America. Seeing how the kitchen fits into these trends will help address my final research question and determine what, if anything, the kitchen's remains can contribute to discussions of the archaeological remains of detached kitchens.

5.2 Historical Documentation

The kitchen Wynne described in his 1622 letters to George Calvert (see 2.2 above) does not match the structure which ultimately housed the mansion house kitchen, however. Instead, excavations uncovered the remains of a structure that seemed to match the house in Wynne's letters, but which had later been incorporated into a much larger 17th -century domestic structure (Tuck and Gaulton 2013). Tuck and Gaulton (2013) argue that the first house and kitchen were merged into a much larger residence in time for the Calvert family's 1628 arrival in Ferryland.

The kitchen Wynne described became the eastern half of this residence, the large fireplace on its south wall becoming a hearth in the southeast corner of the mansion's first-floor hall.

Though they refer to a different structure, Wynne's letters to Calvert can provide insights into the mansion house kitchen. For a start, a good kitchen was clearly a priority for Ferryland's builders, being among the first structures completed at the site. Like the later mansion house kitchen, this initial kitchen also seems to have been detached from the main house. Wynne describes the construction of the colony's first dwelling, then writes that "When I had finished the same [the house] … I went forward with our kitchin," (Cell 1982: 197). This building was stone-walled, with a large chimney and an upstairs chamber. Access to this kitchen seems to have been an important consideration, as Wynne writes that he built "conuenient passages, both into the Kitchin and the roome ouer it" (Cell 1982: 197). The later mansion house kitchen shared several of these features, being detached from the mansion house yet still easily accessible via a cobblestone pathway. Its thick stone walls may well have supported an upstairs chamber just as Wynne's first kitchen did.

Wynne's letters also provide insight into the provisioning of the kitchen. By establishing a kitchen garden, Ferryland's builders were making an effort to support themselves with locally grown food where they could at an early stage. Wynne also refers to having enough pasture land to support three hundred head of cattle, and describes a local environment abundant with herbs, berry bushes, fruit trees, birds and wild game, as well as rivers and ponds stocked with fish (Cell 1982: 201). Some of this was no doubt an exaggeration—Wynne also happily wrote that Newfoundland's climate was "better, and not so cold as England hitherto," (Cell 1982: 198) — but the variety of foods he describes line up well with faunal remains excavated from the kitchen and mansion house (Elliott 2018; Tourigny 2009).

5.3 Kitchen Excavations

The fieldwork and excavations related to this project were previously completed in field seasons funded through Memorial University of Newfoundland, SSHRC, and a federal-provincial agreement with the Colony of Avalon Foundation. Excavations in Ferryland follow standard Canadian archaeological field techniques. One-meter excavation units were dug following natural and cultural layers, which were then recorded, mapped, photographed, and documented in field notes and site reports (Gaulton and Tuck 2011). The entire site is mapped at 1:10 scale on vellum and is increasingly being digitized. Excavated soil was dry sifted through a ¼ inch mesh, or wet sifted through a 1mm screen if appropriate.

The structure referred to here as the mansion house kitchen was initially exposed in 2004. Later, in 2011, archaeologists returned to the steep hillside in Area F and began excavating by digging a 2x5 meter trench inside the eastern half of the building. At the same time, excavators worked outside the east wall of the structure, exposing parts of a builders' trench and refuse middens. These excavations outside the building uncovered thousands of fragments of window glass, as well as a cobblestone pavement (Feature 185) leading towards the mansion house. The interior walls of the structure were fully exposed during the 2011 field season, and its interior dimensions were recorded as 4.87m by 6.09m. A large fireplace (1.83m by .91m) at the south end of the building, a circular well in the southwest interior corner (Feature 189), and a cobblestone pavement immediately outside the northeast corner of the structure (Feature 187) were also exposed and recorded (Figure 3) (Gaulton and Tuck 2011: 1-3).

Fourteen separate event layers were identified and described during the kitchen excavation. Two of these, events 630 and 849, were identified as occupation layers. Event 630

was deposited outside of the kitchen's east wall, representing the slow leaching of mortar (from the walls) and accumulation of refuse. Large amounts of window glass were uncovered in this layer, as well as slate roofing tiles. Event 849 was also deposited outside the structure's east wall. Rapid deposition, or possibly regular leaching by water, was suggested by frequent gaps or hollows between rocks in this layer. This event also contained a significant deposit of window glass as well as food bone. Other layers featuring sandy deposits, broken pieces of slatestone and shale, mortar, as well as small chunks of limestone and brick pointed to the building's construction.

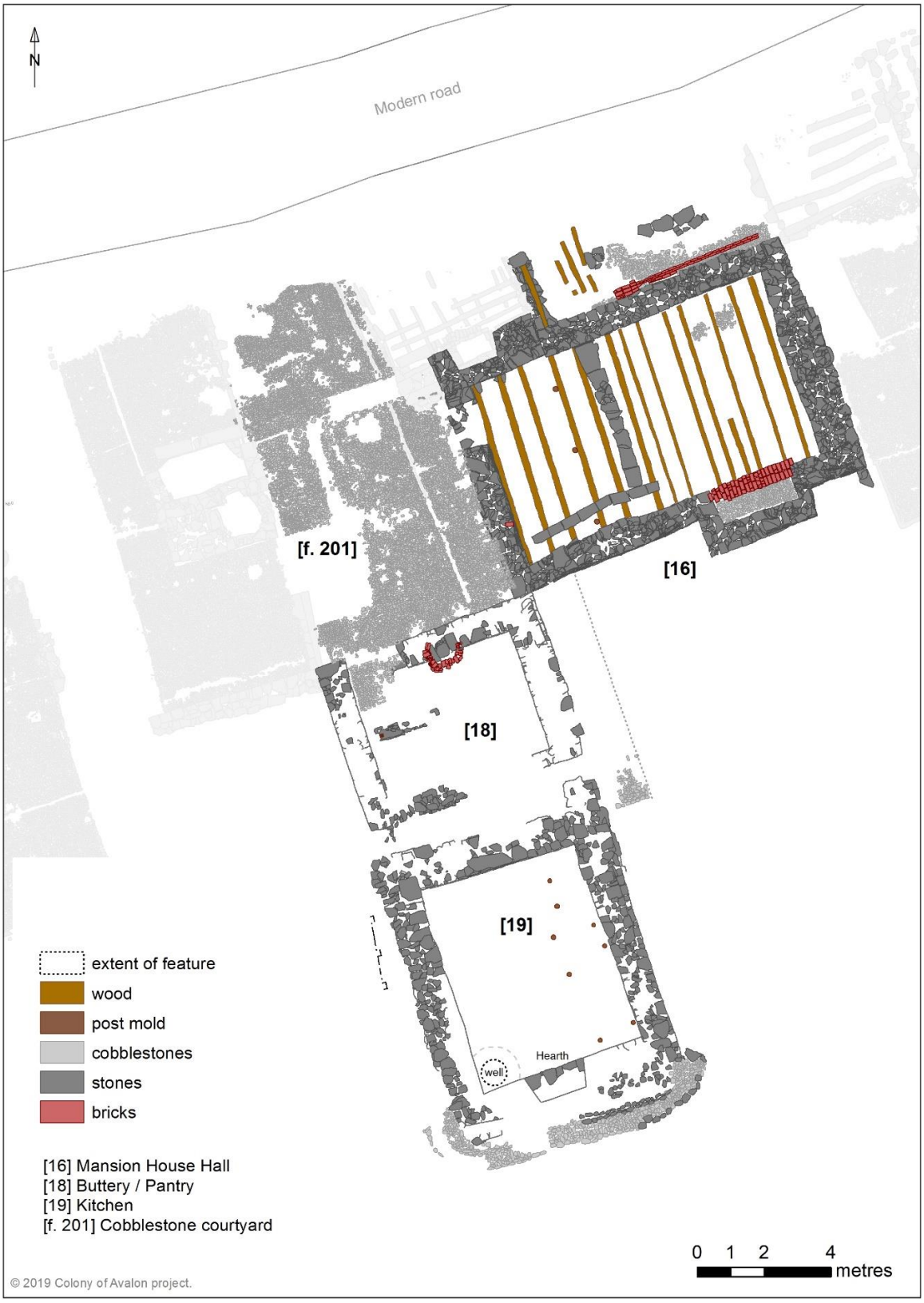

Figure 3: Plan layout of the mansion house and service wing. Image courtesy Bryn Tapper

5.4 Structure

The mansion house kitchen makes up one half of a large two-room service wing adjacent to George Calvert's mansion house (Figure 3). The northernmost room of this service wing contained what has been interpreted as a buttery/pantry on the ground floor with a small subsurface cellar below. Above this, a second storey may have served as living quarters or storage space based on the height of the intact walls and the amount of wall rubble uncovered during excavation (Tuck and Gaulton 2013: 47). The kitchen appears to have occupied a second room at the rear of the structure, built at the same level as the upper storey of the buttery/pantry.

The kitchen's walls were built of local slatestone, measuring approximately 1m (3.28ft) thick and lime mortared. Exterior dimensions of the building are approximately 8m by 7m (26.2ft by 23ft). The south and west walls were dug directly into the hillside, against nearly vertical banks of subsoil. These sides of the building appear to have been partially covered by the hill. Excavators examining the western wall, for example, noted that the inside face was mortared and carefully built while the wall's outside face was comparatively crude. The cruder construction suggests that the wall's builders did not intend for it to have to face the elements, instead covering it by backfilling after their construction was complete. On the opposite side of the kitchen, where the east wall stood exposed to the elements and the leveled terrace, both sides of the wall were carefully constructed and mortared.

5.4.1 Roof

A variety of roofing materials and techniques were known to the builders of the mansion house kitchen. In his letters to Calvert, Edward Wynne describes roofing their first house in boards and thatch (Cell 1982: 196). The thatch, sourced from local grasses in the harbour, was

apparently particularly good for both insulation and water proofing. These materials seem an unlikely, and flammable, choice for roofing the mansion house kitchen, however. Instead, slate tiles would have been a much more likely material for the kitchen's builders to have used. Numerous slate tile fragments uncovered along the structure's east wall support this assertion.

Slate tiles were commonly used for roofing in the West Country and Wales in the early modern period (Steane 1985: 199). They could be produced in large quantities and transported with relative ease, and when properly laid in an overlapping pattern provided good water proofing (Steane 1985: 1999). They also had the advantage of being fire resistant. In his August 1622 letter to George Calvert, Wynne asked that "two or three good quarrymen, [and] a slater or two" (Cell 1982: 203) be sent to the colony, suggesting not only that a good deal of slate roofing was planned, but that he sought to quarry the stone locally. Archaeological evidence from many of Ferryland's Calvert-era structures has shown that the settlement's builders followed through on these plans. Evidence for slate roofing has been found for the structures along the waterfront, the brewhouse, forge, and the mansion house itself (Gaulton 1997: 93; Clausnitzer 2011: 57; Spiwak 2020).

Taken together, these pieces of evidence make it clear that the mansion house kitchen would have been roofed in slate as well. Fire risk was an important consideration in the early modern kitchen, and one of the practical reasons for separating a kitchen from the main house (Steane 1985: 265). Slate tiles provided ample fire proofing when compared to wood shingles or thatch. Wynne and his men clearly took advantage of this feature in roofing the kitchen, resulting in the numerous tile fragments uncovered during excavation.

5.4.2 Doorway and Windows

A set of post-molds potentially representing supports for small steps and the cobblestone pavement outside the kitchen's northeast wall are the primary evidence that a doorway was located at the northeast corner of the kitchen. The remains of several iron straps and an iron latch (Figure 4) also provide evidence for a doorway, or possibly window coverings. This doorway would have led out to a small levelled terrace behind the mansion house and provided easy access between the kitchen and the mansion house's second storey. Accessibility between house and kitchen was one of the more important design considerations made in the planning of a detached kitchen (Broad 2015: 1). Issues of supplying the kitchen, where to store excess goods, and how to most easily get meals to the table could all influence the placement and layout of kitchen spaces (Pennell 2016: 39). A doorway at the kitchen's northeast corner would have allowed servants to easily carry meals to the mansion house, as well as enabling easy access to provisions stored in the adjacent buttery/dairy, or the levelled terrace outside.

Figure 4: Iron door latch excavated from midden outside kitchen's east wall (photo by author).

Large amounts of window glass (4996 pieces weighing 5.918 kilograms) were uncovered along the east wall of the kitchen room during excavation, suggesting one or more east-facing windows, potentially with wooden coverings, would have let in the morning sunshine. The amount of window glass recovered is surprising, as large windows would be unusual both for a stone building in Ferryland, and for an early modern kitchen space. As a rough estimate to how much surface area this glass could represent, a sample of 1524 pieces of window glass, weighing 754 grams (13% of the total by weight), could be arranged to cover the lids of two banker's boxes, each measuring 32.3cm by 41.5cm (1.312m²). This suggests that as much as 10.1m² of window space may be represented by the glass in the assemblage. Accounting for gaps between the fragments rearranged to arrive at the estimate, as well as the likelihood that some of this glass

represents windows that were broken and repaired, the kitchen's east wall may have featured several small to mid-sized windows.

Window openings reduce the strength of stone walls, so Ferryland's builders tended towards fewer and smaller windows in many structures (Gaulton 1997: 81). Ventilation could be provided by setting the windows high in the wall, well above the level of the fireplace, but this did not require large window openings or large amounts of glass (Wood 1965: 255). Instead, large windows were a mark of status in the early modern period (Braun 1962: 87). Glazing was expensive, and even in England it was primarily found in the windows of wealthier households (Ayres 2003: 74). All of this makes a detached stone kitchen an odd place to locate either a few large windows or many small ones. A lack of large windows has even been proposed as a defining feature to help distinguish detached kitchens from other outbuildings (Broad 2015: 1).

Given these trends, there may be other explanations for the amount of window glass associated with the kitchen. If the kitchen had a second storey, or an upstairs loft, it would have provided space for additional windows. Wynne's first kitchen featured a room upstairs, so there would be precedent for adding a second storey to the mansion house kitchen (Cell 1982: 197). If this space featured glazed windows, it could have provided comfortable accommodations for members of the Calvert household. Detached kitchens were often used to house widows, adult sons, and other members of the extended household as they provided both separation and access to the kitchen hearth (Steane 1985: 265).

5.4.3 Floors

No evidence of cobblestone or flagstone, which were used to floor the Kirke tavern and structures along Ferryland's waterfront (Gaulton 1997: 82; Ingram 2015: 43), was uncovered

during the excavation of the mansion house kitchen. Instead, this structure appears to have been floored in either wood or packed earth.

Packed earthen floors were common in early modern rural houses. These could incorporate other materials as well; a floor might consist of layers of clay packed on top of a gravel foundation, or layers of earth beaten onto a wooden base (Steane 1985: 202). Earthen floors posed a problem in early modern kitchens, however, where regular washing of everything from pots and pans to tables and floors meant large amounts of wastewater being splashed and spilled. Packed earth would keep this water from draining freely, so builders would often dig a small sink in the floor in which wastewater could be poured and allowed to gradually drain (Sim 1997: 31).

Sub-floor drainage systems were used in Ferryland—its brewhouse and bakery featured a subterranean drain lined in slate (Clausnitzer 2011: 44), while a V-shaped cobblestone channel drained the tavern floor (Ingram 2015: 44). The lack of such a feature in the kitchen could be due to an earthen sink simply not surviving archaeologically. It could also suggest that wastewater was disposed of outside in the terraced area, although this would have been an unpleasant chore during a Newfoundland winter.

The lack of visible drainage could be evidence for a raised wooden floor which allowed wastewater to drain through the floorboards. Archaeologists excavating the kitchen interpreted a series of post-molds along the east wall as potential supports for floor joists, lending support to the possibility of a wooden floor (Gaulton and Tuck 2011: 3) (Figure 5). Wooden floors were often used by colonists in Virginia as they were easier to sweep and clean than dirt floors and provided a barrier from pests in the soil (Newman 2001: 132). Floor joists would have to be regularly spaced throughout the kitchen, making it surprising that the post-molds were

concentrated along the east wall. These post-molds may represent supports for a large work bench anchored under the windows on the east side of the kitchen. As the kitchen was repurposed in the 19th century, it is also possible that evidence for an initial wooden floor has simply not survived (Gaulton 2020, personal communication)

Figure 5: Post holes marked by circles inside the kitchen. Photo courtesy Dr. Barry Gaulton

5.5 Features

There are four additional features associated with the kitchen that require further discussion: a stone retaining wall which closed off the fireplace (Feature 184), the cobblestone pavement immediately outside the northeast wall of the structure (Feature 185), a cobble

pavement directly south of the structure (Feature 187), and a circular well dug into the subsoil inside the southwest corner of the structure (Feature 189).

Feature 184, the stone retaining wall built to close off the fireplace, was built one rock deep and five courses high in some places. The space between the wall and the fireplace was filled in with clay, slate stone fragments, and cobblestones. By closing off the fireplace, the heart of most activities in the kitchen, this feature suggests that the kitchen was deliberately repurposed at some point, perhaps as a storage building.

The cobblestone pavement immediately northeast of the structure (Feature 185) likely led from the kitchen to the mansion house (Figure 6). Excavators found distinct edges on the southern and eastern sides of the pavement, while the cobblestones to the north and west were displaced, indicating that it continued north towards the mansion house (Gaulton and Tuck 2011: 3). Having a well-defined pathway between the kitchen and mansion house would have been useful as meals and dishes were regularly carried from one to the other. Pathways such as this were sometimes covered in order to keep dishes warm and sheltered from the elements on their way from the kitchen (Barley 1986: 126), although no evidence of a covering was found for this particular pathway.

Figure 6: Feature 185, cobblestone pavement leading north from kitchen towards mansion house. Photo courtesy Dr. Barry Gaulton.

The exterior cobblestone pavement directly south of the structure (Feature 187) was interpreted by excavators as a drainage feature (Gaulton and Tuck 2011: 3). It extends along the full length of the kitchen's south wall, with the pavement's north and south ends wrapping around the corners of the structure (Figure 7). Given that the kitchen was built into a steep hillside, this pavement was set directly into subsoil at an elevated position relative to the interior space. Its placement and positioning would have been useful in catching runoff coming down the hill during the regular rains and seasonal melts seen in Newfoundland.

Figure 7: Cobblestone drainage feature built into the hillside behind the kitchen's south wall. Photo courtesy Dr. Barry Gaulton

Feature 189, the circular well dug into the southwest corner of the structure (Figure 8), was lined with barrel staves. It is uncertain whether this feature was an original part of the

kitchen or dug into the floor at a later date as part of a more recent occupation in the area. Excavators dug through large rocks with little clay, uncovering artifacts dating from the late 18th to early 19th centuries. This was interpreted as representing a rapid fill event, although it was unclear whether the artifacts should date the well or its infilling to the 18th or early 19th century. Of note however are the remnants of several well-preserved barrel staves at the bottom of the well. The markings on the outside of these staves match those found during the excavation of a series of oak barrels that once formed the early 1620s wharf in the Pool (Gaulton 2020, personal communication).

Ready access to fresh water would have been helpful for most of the tasks that took place in the kitchen. Many of the stews and sauces made in the early modern kitchen would have called for water. The regular cleaning that took place would have been made easier with a well nearby. Laundering would also have been a much simpler task if water had been available within the kitchen. Kitchens were also notoriously warm spaces, and a readily available water source would have made it easier for servants to endure the heat. If the well is not an original part of the kitchen, the servants working there likely would have wished for one.

Figure 8: Feature 189, circular well dug into the floor of the kitchen. Photo courtesy Dr. Barry Gaulton.

5.6 Discussion

Taken together, the excavated remains of the structure, comparisons with other buildings in the community, and context taken from Edward Wynne's letters can shape an image of the mansion house kitchen. It occupied the back room of a large service wing immediately southwest of the mansion house, behind the buttery/pantry (at the front of the building). It was built at an elevation in line with the mansion house's second storey (most likely the living and dining spaces). If the buttery/pantry had upstairs accommodations, the kitchen would have been at the same level.

A levelled terrace filled the space between the kitchen and the mansion house. A cobblestone path ran along the terrace's western edge, extending northwards from the kitchen

and likely connecting it to the rear of the mansion house. The path terminated at the kitchen's northeast corner, a likely spot for a doorway which led inside. A pair of post-molds suggest that a few steps may have led from the doorway down to the kitchen floor.

The kitchen's interior was a relatively large space, roughly 6m long and 5m wide. In the mornings it would have been well lit by east-facing windows, although stone walls would have kept these from being overly large. The floor underfoot may have been packed earth or raised wooden boards, but in either case it would have been important that it was kept clean. A large, sturdy workbench may have sat along the east wall, under the windows, providing a space for ingredients to be mixed and meals prepared. The fireplace occupied the back of the kitchen, built into the southern wall 1.83m wide and 0.91m deep and just slightly west of the wall's center. In addition, in the room's southeast corner, a barrel-lined well 1.83m in diameter may have provided easy access to fresh water if it is contemporaneous with the rest of the structure.

The kitchen's sturdy stone walls and the abundance of window glass uncovered during excavation suggest that it likely had an upstairs loft or second storey, just as most of its neighbouring buildings and Wynne's initial kitchen did. If this was the case, the space could have served as upstairs storage, although the presence of windows would make upstairs accommodations for servants or other members of the household more likely. Above this, a slate-tiled roof kept the elements at bay, while a large, curved arrangement of cobblestones between the kitchen and the hillside to the south helped drain water runoff away from the building.

Locating the kitchen in a detached service wing adjacent to the mansion house fits a pattern common to English manor houses in the late Middle Ages. Like the structure described above, these service wings would often include a buttery, pantry and rooms upstairs for storage or living space (Barley 1986: 127). These complex multi-room structures were a common sight

in Southeastern England in the 15th and 16th centuries (Martin 2000: 14). As is the case in Ferryland, service rooms were usually situated close to the main house and arranged to allow easy access between spaces (Barley 1986: 126-127; Martin 2000:14).

By the 17th century, however, this pattern had gone out of style (Barley 1986: 226) and may have been viewed as "old fashioned and redundant," (Broad 2015: 7). Instead, English kitchens were being brought into the house. This new style was reproduced in the Massachusetts Bay Colony and other parts of New England, where kitchens, butteries, dairies, and food storage spaces were often part of the house, located in a cellar, or added as an outdoor lean-to (Linebaugh 1994: 5-6). Farther south in the Chesapeake, although detached kitchens were a rare sight in the 17th century, there are examples dating to as early as the 1620s (Linebaugh 1994: 12). Donald Linebaugh (1994: 16) argues that the main reason for keeping these kitchens separate was controlling heat in the warm Virginia climate—keeping warm weather pests away from the house and keeping the heat of household activity away from food storage areas.

The arrangement of Ferryland's mansion house and detached kitchen seems oddly out of place given these trends. As Tuck and Gaulton (2013: 52) argue, it more closely resembles a late medieval manor complex than it does a 17th -century mansion. Although there are contemporary examples from the Chesapeake, the warm-weather concerns that motivated their design seem less likely to have been an influence in the cold Newfoundland climate. This raises the question of why Wynne and Ferryland's builders would have given the mansion house a detached kitchen.

The kitchen's builders would have had practical reasons for following old fashioned architectural patterns in their construction. The risk of fire was a very real possibility in the early modern kitchen, where the hearth fire burned throughout the day and often at odd hours of the night (Steane 1985: 265). As Jane Grenville (1999: 118) explains, "It is hardly surprising that

such a potentially volatile structure as the kitchen should be built separately, nor indeed that nearly all the surviving examples are stone- or brick-built." Having the kitchen built separately also helped contain potentially potent cooking smells, in an era when bad smells were associated with poor health and disease (Broad 2015: 2). The use of chimneys and construction of upper storeys helped reduce fire risk and the spread of bad smells, so these concerns would not seem to fully explain separating the kitchen and mansion house (Broad 2015: 2).

Logistical challenges also influenced the placement of kitchens and other service structures. The physical relationship between the kitchen, storage spaces, and the dining area was shaped by the need to carry supplies, meals, and used tableware from one space to the next (Barley 1986: 126-127). Sarah Pennell (2016: 39) argues that, beginning in the mid-17th century, it was the demands of the kitchen that often shaped early modern household architecture more than concerns over "privacy, polite conduct and sociability." In this view, kitchens and service spaces should be considered central and driving forces shaping architectural decisions in the early modern household (Pennell 2016: 39). Concerns over the provisioning, processing, and consumption of food influenced the location and layout of household structures, while the space required for kitchens, pantries, and other processing areas led to increasing functional specialization in the home. Rather than a purely functional space lacking deliberate planning, the kitchen could be an axis around which other areas in the home pivoted.

The mansion house kitchen, built in the 1620s, might have too early of a date for the trends Pennell (2016) is describing. Its location, however, in a new settlement in Newfoundland, would have given greater weight to issues of food provisioning, processing, and consumption. As discussed above, Wynne's letters to Calvert devote a good deal of space to the settlement's food supply (Cell 1982). A kitchen and a garden had already been built, Wynne was thinking about

the settlement's potential to support livestock, and the local environment that he described was filled with wild game, fish, and other resources that settlers could exploit (Cell 1982: 201).

Focusing on the demands of the kitchen as a possible explanation for the arrangement of the mansion house complex does have some value. The construction of a detached service wing, for instance, would have enabled functional specialization in the kitchen and the buttery/dairy. Setting the kitchen just behind the buttery/dairy and off of a small, levelled terrace would have provided easy access between it and spaces where food and other supplies could be stored and possibly grown in a kitchen garden. Providing easy access between spaces may also have influenced the decision to build the kitchen into the hillside, at a level with the mansion house's second floor. From here, meals could be carried along the cobblestone pathway (possibly a covered walk) into the mansion house, a relatively short distance and enough that they could have been kept warm along the way.

Another possible explanation for the arrangement of the mansion house and detached kitchen may lie in the size of the household George Calvert was bringing with him to Newfoundland. Households in England and Wales had long adapted to changes in their household structure, like the marriage of an heir or the need to house a widow, by building a smaller house alongside their original home (Smith 1975: 168). This pattern is referred to by researchers as the unit system (Smith 1975: 166). Sometimes this second house and the household's kitchen became blended. Margaret Wood (1965: 257), for instance, cites a case in Essex in 1292 where a widow named Margarey de la Strete and her son agreed that he would live in the main house while she moved in to "that house which is called the kitchen." Defining and separating households becomes a complicated task under these circumstances.

One of the key aspects of the unit system, as it is understood in England and Wales, is that it is an adaptive pattern (Smith 1975: 168). As the second house is built in response to a change in household structure, the two houses involved are never contemporary and the second house is never anticipated by the first (Smith 1975: 167). In Ferryland, by contrast, planning and forethought were a key part of Edward Wynne's initial construction (Gaulton 2019, personal communication). Calvert's mansion house, its service wing and the kitchen were all contemporaneous structures. If the kitchen's builders designed it with members of Calvert's extended household in mind, it would be an example of the unit system being used in anticipation of having to accommodate a large household, as opposed to reacting to the sudden occurrence of one.

Chapter 6: The Kitchen Artifact Assemblage

The mansion house kitchen was excavated between 2011 and 2013, uncovering just over 12,600 artifacts. Artifacts were primarily recovered from two occupation layers just outside the door at the northeast corner of the building, opening onto a level terrace between the kitchen and the mansion house. The bulk of the assemblage, which was analysed in the summer and fall of 2018, consists of fragments of window and bottle glass, as well as coarse earthenware and tin-glazed ceramics. A large number of pipe stem and bowl fragments (949 catalogued entries) were also found.

6.1 Ceramics

Ceramics are one of the most commonly found artifact types on historic sites. They are separated into distinct ware types based on differences in fabric, glaze and decoration. Often these ware types can be traced back to specific manufacturing kilns through documentary and archaeological evidence. Knowing where a vessel was manufactured can help to date a site and provide information on patterns of trade and exchange. Most of the vessels commonly found in Ferryland, for instance, were manufactured in the Southwest of England, especially Devon, as this is where many of the ships travelling to the community were outfitted. Vessels were also created in a vast range of forms to serve a variety of functions. Examining the different ceramic vessel forms present in an assemblage can provide information about how these were used and the sorts of activities which took place at a site.

6.1.1 Earthenware

Coarse earthenware vessels are fired at relatively low temperatures. Their fabric is coarse and porous and, as a result, they are often glazed or given a slip to provide waterproofing as well as decoration. “The workhorse items of elite and non-elite kitchens alike,” (Pennell 2016: 103) many coarse earthenware vessels served utilitarian purposes, such as storage or food processing and these came in a variety of forms.

North Devon

Originating in the 15th and 16th centuries in kilns in Bideford, Barnstaple and Great Torrington, by the 17th century North Devon earthenware was being exported to communities elsewhere in Britain and settlements in North America (Pope 1986: 100). These vessels can broadly be divided into two categories: North Devon Gravel-tempered and North Devon Smooth.

North Devon Gravel-tempered ceramics can be identified by their distinctive fabric. It is pink orange or grey in colour, generally greyer on the interior due to a low firing temperature, with copious and large quartz and mica inclusions. The three North Devon Gravel vessel forms identified in the kitchen assemblage included a milk pan, a storage pot, and a fleshpot (Figure 9).

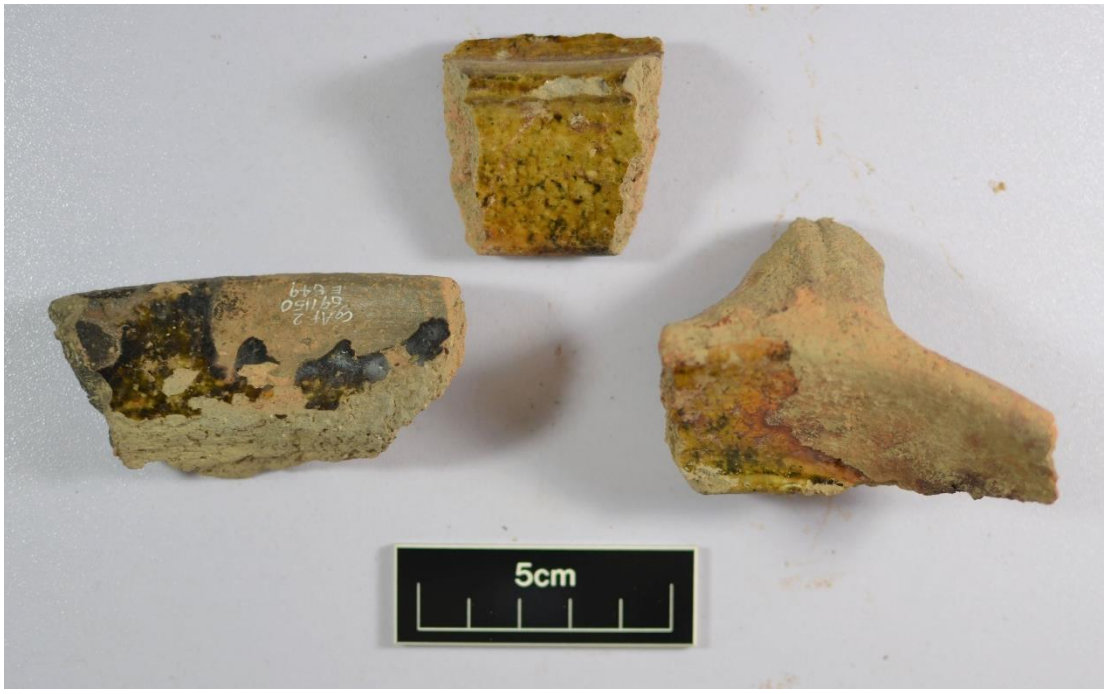

Figure 9: Fragments of a North Devon gravel tempered fleshpot (photo by author).

North Devon Smooth fragments, as their name suggests, have a much smoother and harder fabric, often exhibiting a few white or grey quartz inclusions. A variety of North Devon Smooth forms were identified in the kitchen: the great majority of which were tall pots, a type of storage vessel with a narrow base and a body that flares near the rim. There were at least three tall pots in the assemblage, but this is likely a low estimate. Other North Devon Smooth forms include jars and pots, an unidentified hollowware vessel, a cup (Figure 10), and a chamber pot.

North Devon Smooth (sgraffito-decorated) vessels are decorated with a slip which is then scratched with bands or geometric motifs. These designs imitated North Italian styles common from 1625-1650 (Pope 1986: 111) and make it possible to distinguish North Devon Sgraffito from other North Devon Smooth ceramics. There is at least one piece of Sgraffito flatware

present in the mansion house kitchen, represented by a small sherd with a wavy pattern scratched into it.

Figure 10: Fragments of the base and handle of a North Devon Smooth cup (photo by author).

Exeter Coarse Sandy

Exeter Coarse Sandy vessels, as their name suggests, were manufactured in Exeter and have a coarse sandy fabric often with quartz inclusions. They were at the height of their manufacture in the 16th century and had gone out of style by 1650 (Pope 1986: 106). A recent reassessment of this ceramic type may prove that it was produced in the West Somerset region (Gaulton 2020, personal communication). One Exeter Coarse Sandy vessel fragment was identified in the kitchen assemblage, representing an unidentified hollowware vessel, possibly a jar, bowl, or cup.

Borderware

Borderware vessels were manufactured between Surrey and Hampshire in Southeast England from the late 16th to early 18th centuries. They were made with a range of fine whiteware fabrics and lead glazed in yellows, greens, and browns (Maryland Archaeological Conservation Lab 2015). At least one Borderware cup was identified in the kitchen assemblage.

Saintonge

Manufactured in the Saintonge region of south-western France, these vessels can be identified by the red hematite inclusions in their buff or off-white fabric. They were often given a green lead glaze, but polychrome glazes were also used. Two Saintonge vessels are present in the kitchen assemblage: a hollowware vessel, possibly a bowl, and a polychrome decorated vessel that may have been a chafing dish.

Spanish Heavy

Quintessential storage jars, these durable vessels were manufactured in and around Seville from the mid 16th to mid 19th centuries. They were used to store and ship a wide variety of goods and often reused for storing other things once they had arrived at their destination (Pope 1986: 108). Their durability and potential for reuse would make Spanish Heavy storage vessels useful in a kitchen setting. At least one Spanish Heavy jar was identified in the kitchen assemblage.

Portuguese Redware

Portuguese redwares can be broadly divided into two types: black wares produced in a reduced oxygen environment, and redwares (Newstead 2008: 51,55). The second type, redwares, are most commonly found in Newfoundland contexts. They are identifiable by their orange-toned fabric, and especially by their sparkly quartz and mica inclusions, which can be seen on the vessel surface (Newstead 2008: 96-99). Olive jars are the most commonly identified Portuguese Redware vessel form identified in Newfoundland contexts (Newstead 2008: 99). These were used for storing goods such as oil or wine, and reused rather than being discarded (Newstead 2008: 102). According to Newstead (2008: 102), Portuguese redware olive jars are often misidentified as bottles due to their sloping shoulders and narrow necks. Given this, the single Portuguese Redware fragment in the assemblage, a rim or neck sherd which would otherwise appear to be from a bottle, likely represents an olive jar.

Somerset Type

Often referred to as South Somerset, vessels of this type were produced in kilns in Donyatt and other parts of Somerset from 1600 to 1800 (Pope 1986: 103). There were distinctive ceramic traditions in the different regions of Somerset, but similarities in fabric and decoration have made precise attribution difficult in the context of Ferryland (Temple 2004: 38). The term Somerset Type is used here to avoid confusion and to avoid suggesting greater precision than is warranted. Eight Somerset Type vessels are present in the kitchen assemblage: two unidentified storage vessels, a pot (Figure 11), three milkpans, and the base of one unidentified vessel. The remains of one Verwood Type storage jar are also present.

Figure 11: A Somerset type pot handle with an impressed thumb print (photo by author).

Manganese Mottled

Manganese Mottled vessels were produced in Staffordshire starting in the 1670s. They were most popular in the late 17th and early 18th centuries, although their manufacture may have continued until as late as 1780 (Maryland Archaeological Conservation Laboratory 2015). They can be identified by their fine, buff fabric and their brownish yellow lead glaze which is mottled by dark bands and specks. Manganese Mottled wares often took the form of tankards, mugs, and tableware. At least one Manganese Mottled mug was identified in the kitchen assemblage from two body sherds and a small handle fragment.

Tin-Glazed Earthenware

Tin-Glazed Earthenware vessels are soft, fine grained ceramics fired at low temperatures then coated with a thick white lead glaze containing tin oxide (Pope 1986: 112; Stoddart 2000:

23). Vessels of this type were produced in Spain as early as the eleventh century, were being imitated by Dutch potters by 1510, and were imported to England by the late 16th century (Pope 1986: 112). By the 17th century, tin-glazed earthenware had become a popular alternative to Chinese porcelain and was being produced in many European countries (Stoddart 2000: 1).

Due to their low firing temperature, tin-glazed vessels do not make good cooking vessels. The thermal shock of being placed in a hot oven or over an open fire causes these vessels to crack and break (Stoddart 2000: 24). Instead, tin-glazed vessels often take the form of service and cosmetic vessels such as dishes, cups, bowls, basins, or chamber pots (Pope 1986: 112-113). These were often strikingly decorated with hand-painted cobalt blue or polychrome designs. Their cost and association with Chinese porcelain as well as the forms they took, and their elaborate decoration made tin-glazed vessels excellent communicators of wealth and status in the 17th century (Stoddart 2000: 1). Having a few nicely painted tin-glazed mugs and bowls on your shelf or being served in a large lobed dish helped to define middle class and gentry households.

There are at least twenty tin-glazed earthenware vessels in the mansion house kitchen assemblage. Half of these are dishes, plates, and other unidentified flatware. A fragment of a lobed rim helped identify at least one lobed dish in the assemblage. These were used either as serving dishes, or in combination with a jug of scented water for washing hands (Stoddart 2000: 67). The remains of an intricately decorated mug are also present in the assemblage (Figure 12), as well as a bowl, four unidentified vessels, and a galley pot.

Figure 12: Fragments of a tin-glazed mug, finely decorated with a cobalt blue motif (photo by author).

6.1.2 Stoneware

Two types of stoneware were present in the kitchen assemblage: Rhenish Brown (or Frechen) and Westerwald. Both were manufactured in regions along the Rhine River of Germany during the 17th century. They were fired at high temperatures of 1200-1400°C, making them durable and impervious to water, well suited to storing and transporting liquids or being used as drinking or service vessels (Brandon 2006: 19). Rhenish Brown and Westerwald were the two most popular Rhenish wares imported into England during the 17th century (Brandon 2006: 21). They would have been useful in provisioning West Country ships bound across the Atlantic to Newfoundland, as well as in demand as service vessels among fishers and settlers there (Pope 1986: 118).

Rhenish Brown Stoneware

Rhenish Brown vessels are also referred to as Frechen and Cologne wares after the cities they were produced in between 1550 and 1725 (Brandon 2006: 22; Pope 1986: 119). Their fabric is hard and dark grey, sometimes with quartz inclusions and they are generally salt glazed and decorated with an iron oxide powder which colours them dark brown. Globular 'Bellarmine' bottles bearing sprig moulded bearded masks and medallions were popular in England from the 16th to the 18th centuries, becoming "a staple vessel in English homes, inns and taverns" (Brandon 2006: 22). This popularity carried over to Newfoundland, where they make up the great majority of Rhenish Brown vessels found in Ferryland contexts (Brandon 2006: 22).

At least two of these bottles were identified in the kitchen assemblage. Their sturdy, waterproof fabric, bulbous body, and a strap handle running from the neck to the body made them useful for storing wine, beer, spirits, or "a multitude of [other] liquids in the kitchen" (Brandon 2006: 75). They may also have been used to carry water or other liquids for various tasks around the kitchen, or to carry beverages into the mansion house.

Westerwald

Westerwald vessels were produced in the Westerwald region of Northwestern Germany beginning in 1600 (Pope 1986: 120). Westerwald potters regularly produced new styles in response to consumer demand, so their vessels increased in popularity in England and other European markets (Brandon 2006: 28). Jugs and mugs are the most commonly found Westerwald vessels in English and colonial contexts, reflecting their popularity as drinking vessels (Brandon 2006: 30).

Westerwald vessels have a hard, light blue-grey fabric without visible inclusions. They are decorated with sprig-moulded, stamped, engraved and incised motifs highlighted in cobalt blue or manganese purple, as these were the only colours capable of surviving the high firing temperatures used in firing these vessels. Four small sherds of Westerwald present in the assemblage represent at least two hollowware vessels.

6.1.3 Analysis

Following Voss and Allen's (2010) guide, ceramic sherds were subdivided into ware types, then rim, base, and handle fragments, as well as fragments with distinctive surface treatment or those which could be cross mended. These were then used to further subdivide the collection into MNV (minimum number of vessels) groupings. Once these groupings were defined, the Potomac Typological System (POTS) (Beaudry et al. 1983) was used to determine vessel form and functional category where possible. Vessels were categorized as functioning primarily for storage, food processing, consumption, or health and hygiene purposes (Figure 13).

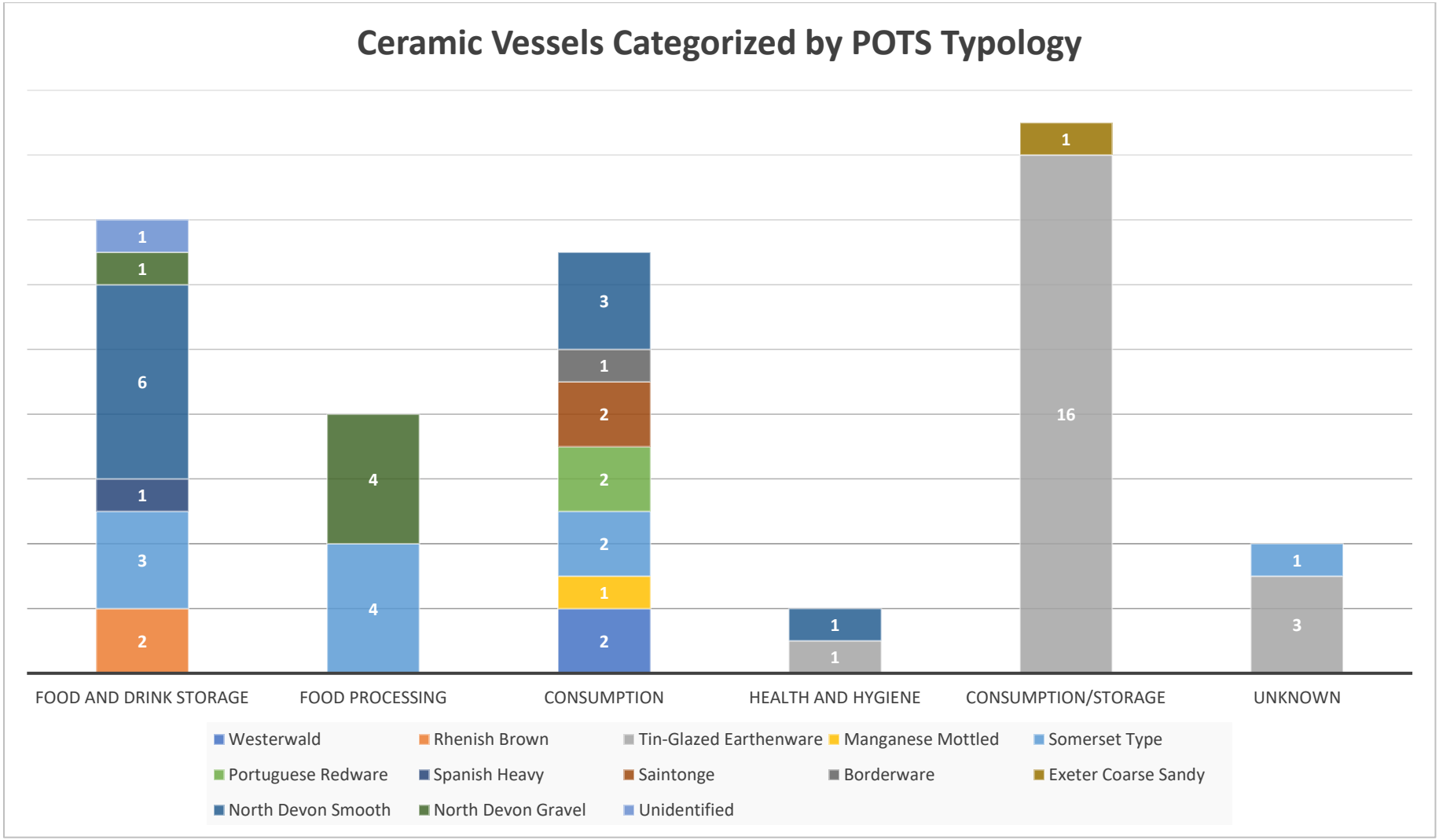

Figure 13: Ceramic vessel forms from the kitchen assemblage, categorized following POTS typology (Beaudry et al. 1983)

Food and Drink Storage

Pots, tallpots, jars and two Rhenish brown stoneware bottles were among the vessels used for storing food and beverages in the kitchen. Fourteen vessels were placed in this category, representing 25% of the total vessel assemblage. This is a relatively low amount compared to similar structures in Ferryland (for a comparison, see Sec 7.5 below). Planters in Ferryland and other Newfoundland communities relied more upon imported food than did the colonies farther south in the Chesapeake (Crompton 2001: 148). These Newfoundland communities focused their energies upon the fishery, leaving less time and resources for agriculture, dairying, and other local sources of food production (Crompton 2001: 148). This results in a generally higher percentage of storage vessels in ceramic assemblages from Newfoundland.

One possible explanation for the low amount of storage vessels is that some of the goods processed in the kitchen were stored elsewhere. The kitchen itself was part of a larger, multi-room service wing which also contained a buttery/pantry. Having this separate storage room close at hand may have meant space could be freed up in the kitchen by storing goods in the adjacent buttery/pantry instead, resulting in fewer storage vessels found in the kitchen[1]. Another possibility is that the dearth of ceramic storage vessels in the kitchen relates to the fact that the Calvert and later Kirke households were large and thus necessitated bulk provisions stored in wooden casks and barrels. Finally, vessel counts may actually underestimate the number of storage vessels in the assemblage, particularly the number of North Devon tall pots. The kitchen assemblage contained a large quantity of North Devon tall pot sherds with an olive-green interior glaze, but only a few diagnostic base pieces were identified (Figure 14).

[1] The buttery/pantry was excavated in 2012. The resulting material culture assemblage has yet to be fully quantified, but was smaller than that associated with the kitchen midden (Gaulton 2022, personal communication)

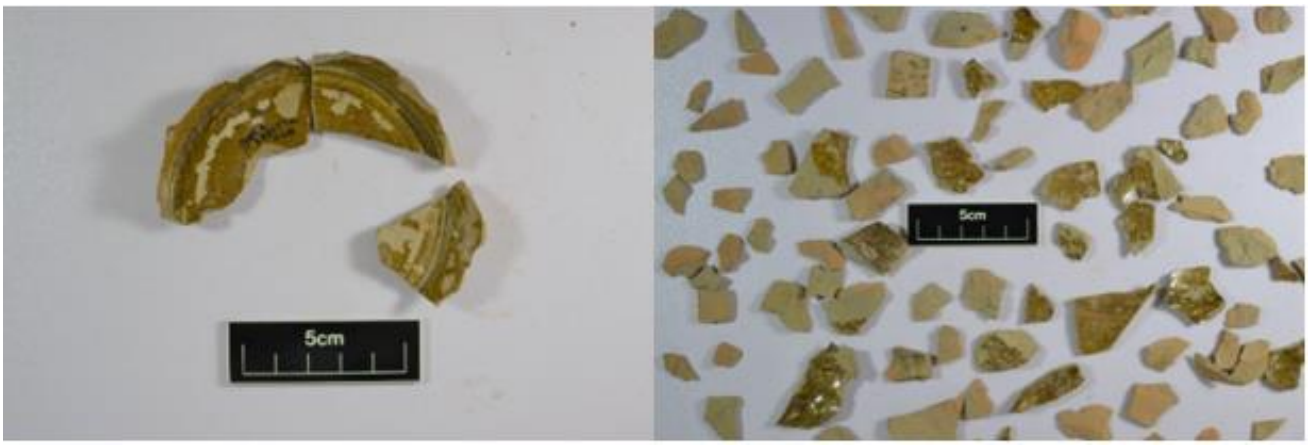

Figure 14: A few diagnostic base fragments of a tallpot (left) compared with many undiagnostic body fragments (right) (photo by author).

Food Processing

Food processing vessels found in the kitchen assemblage included milkpans, a fleshpot, and a large cooking pot or pipkin. Milkpans were multi-purpose vessels, used for everything from collecting milk to serving as a washbasin. There are eight food processing vessels in the kitchen assemblage, representing 14% of the total ceramic assemblage. This number is surprisingly low for a space usually defined by processing and preparing meals. Analysis of other structures at Ferryland has also resulted in low numbers of food processing vessels (Clausnitzer 2011:81; Gaulton 2006:163; Ingram 2015:82). The small number of cooking vessels in the kitchen assemblage, however, should not be taken as evidence that cooking and other food processing rarely occurred. Gentry households in the 17th century consumed large amounts of fresh meat, especially beef (Fox 2013:173; Rogers 2003:10-11). Nearly three quarters of the faunal remains recovered from the kitchen was in fact meat from mammals, particularly bovine (Elliott 2018). Prepared for the occupants of the mansion house, this meat would have been roasted on a spit or a skewer in front of the fire rather than boiled or stewed in a ceramic pot (Gaulton 2006:164; Sim 1997:20).

Gaulton (2006:164) uses indirect ceramic evidence to get at the cooking methods used in the Kirke house. He argues that the large proportion of tin-glazed dishes, plates and other flatware vessels as well as tin-glazed bowls shows that the Kirkes ate mostly large cuts of meat presented with vegetables, soups, and sauces — meals which had to be roasted on spits and skewers or braised in a pan. A similar argument can be made based on evidence from the kitchen assemblage. While there are few ceramic cooking vessels present, there are many (n = 16) tin-glazed dishes, plates, and other flatware vessels directly associated with food and beverage consumption including a lobed dish, two plates, seven unidentified flatware vessels, one bowl, four unidentified hollowware vessels, and one mug decorated in a landscape or floral motif (Figure 12 above)

Consumption

Vessels placed in this category included tin-glazed dishes, plates, and other flatware, cups, bowls and mugs, both earthenware and stoneware, as well as a possible porringer and a vessel which may have been a chafing dish. Many of these vessels, especially the tin-glazed ones, are the sorts of dishes which could have been used to present meals to the occupants of the mansion house. Others, such as a small manganese mottled mug, may have been used by servants working/living in the kitchen.

Significant quantities of tin-glazed vessels at Ferryland have often been associated with the Calvert and Kirke families who operated at a much larger scale than their planter peers and who could afford the expense (Pope 2004:263; Stoddart 2000:96–101). Decorated tin-glazed plates, dishes and mugs, displayed on a cabinet shelf in the kitchen and used in serving meals, would have exemplified their elite status in the community. Plates and dishes such as these were

the sorts of up-market goods that Pope (2013:44) argues made it possible to imagine living a gentry lifestyle in North America.

Other consumption-related vessels include two Westerwald mugs, and a North Devon sgraffito flatware, likely used along with the tin-glazed vessels to serve meals in the mansion house. A Saintonge polychrome chafing dish, a Somerset-type porringer, two unidentified hollowware vessels and two bowls were also identified, the latter forms possibly being used to consume boiled dishes and pottages commonly eaten by the kitchen's servants. Also present in the assemblage were the remains of a Manganese Mottled mug, a Borderware cup, and a Portuguese Redware costrel which may have been used as servants' drinking vessels or to serve drinks to the mansion house residents. Together, these vessels, along with the 16 tin-glazed vessels mentioned above represent 49% of the total vessel count.

Health and Hygiene

Two vessels were categorized as relating to health and hygiene: a North Devon Smooth chamber pot and a tin-glazed galley pot. Maintaining cleanliness was an important aspect of maintaining good health in the early modern kitchen, where dirt and bad smells might be seen as signs of illness (Sim 1997:25). Regular washing of kitchen surfaces and disposal of wastewater were important considerations. In this context, a chamber pot was likely linked both to personal hygiene and health.

The small tin-glazed galley pot, with a radius of only 2cm, was likely used to hold medicines or ointments. In discussing Ferryland's brewhouse/bakery, Clausnitzer (2011: 85) pointed out that its workers would have been exposed to flames, boiling water, and other hazards, making medical ointments a useful thing to have on hand. The same is true for workers

in the kitchen, where open flames, scalding waters, knives and other sharp objects would have been equally hazardous. It is also possible that this small vessel was used to store salt, sugar, or some other spice used in the meals prepared in the kitchen.

6.2 Smoking Pipes

After being introduced in England in the 1550s, tobacco smoking became a widespread practice in the 17th century (Ayto 1994: 4). It was a common leisure activity at all levels of English society, servant and gentry alike (Gaulton 2006: 181). Many people believed smoking tobacco also had powerful health benefits. Writing in 1659, Giles Everard (1659: 2) called tobacco a "Noble Plant… that Cures almost all Diseases." The smoke from tobacco, being hot and dry, was supposed to help clear the smoker's head and lungs of wet and cold humours. Excessive smokers risked becoming hot-tempered, however, and could even wind up with brains "totally filled with black vapours like to soot," (Everard 1659: 44). Despite these warnings, the residents of 17th -century Ferryland appear to have done quite a lot of smoking. Large quantities of pipes were found in the community's brewhouse, Kirke-era tavern, and especially in the Kirke house itself (Clausnitzer 2011: 86; Ingram 2015: 79; Gaulton 2006: 181).

Given that smoking was so widespread, it is not surprising that tobacco pipe fragments are one of the most common finds on historical sites. Clay tobacco pipes were mass produced, with at least a thousand pipemakers operating out of London by the mid 17th century and others working in the West Country and other parts of England (Ayto 1994: 4). Plain clay pipes were largely disposable goods as they were inexpensive due to their abundance but also quite fragile. As a result, massive quantities of clay pipes can find their way into archaeological contexts.

Pipe bowls are useful tools for dating archaeological sites. They changed in size and shape over the course of their production history as pipemakers improved their skills, fashion shifted, and tobacco became cheaper and more readily available (Ayto 1994: 4). Generally, earlier bowls are smaller and more barrel-shaped while later bowls increase in size and capacity and their sides straighten. Archaeologists have created pipe bowl typologies tracing these changes for pipe makers in London, the West Country, and other areas (Atkinson and Oswald 1969). Pipemakers would also sometimes stamp identifying marks onto the pipes they made, making it possible to match fragments bearing maker's marks to their location of manufacture and help date their associated context.

Pipestems can also be used as dating tools at historic sites. A consistent decrease over time in pipestem bore hole diameter was observed by J.C. Harrington in 1954. Lewis Binford (1962) later modified Harrington's work to arrive at a straight-line regression formula which archaeologists could use to turn pipestem data into a mean date for site occupation. This method can be problematic for several reasons, however. First, its accuracy is limited on sites dated earlier than 1680 (Noël Hume 1979; Pogue 1991). The presence of Dutch or West Country pipes can skew the results, as their bore holes can increase in size over time (Gaulton 2006: 42). As the kitchen occupation would have mostly or entirely predated 1680 and West Country pipes are frequently found in Ferryland contexts, I will forgo a stem bore analysis.

Of the 1,087 smoking pipe fragments excavated from kitchen events, 215 were set aside for further analysis. This included 163 fragmentary or complete pipe bowls, 17 decorated or notable stems, and 35 heels. To narrow this number down to a minimum number of pipes (MNP), I grouped together complete bowls, fragmentary bowls and stems bearing intact heels,

and heel fragments. I based the MNP count on the presence of heels to avoid multiple counts of a single pipe. The minimum number of pipes I arrived at in the kitchen assemblage was 75.

6.2.1 Pipe Bowl Types and Maker's Marks

Twenty-one pipe bowls were sufficiently intact to compare with Atkinson and Oswald's (1969) typology. Of these, the majority (14) dated to between 1610 and 1640 while 5 more dated to between 1640 and 1660. One particularly small, forward-projecting barrel-shaped bowl appeared to best match types dating to 1580-1610. Another large, straight-sided bowl with a flat heel dated to between 1660 and 1680. Based on this comparison with Atkinson and Oswald's (1969) typology, the general date range for the kitchen is 1610-1660 (Figure 15).

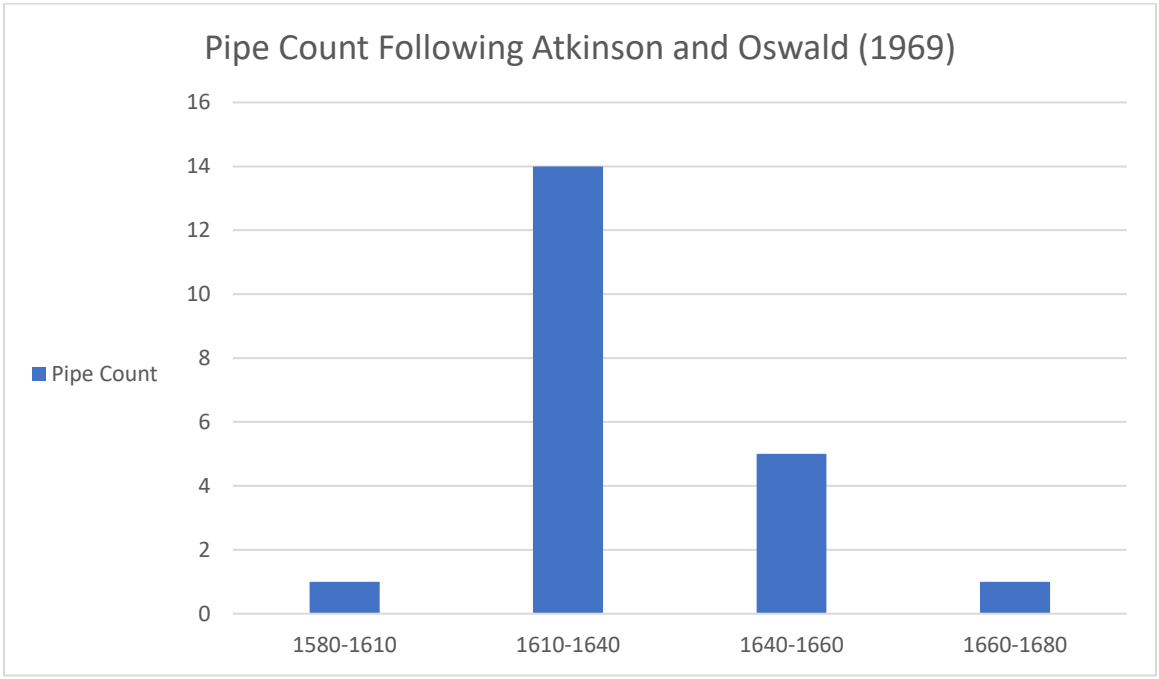

Figure 15: Pipe bowls categorized following Atkinson and Oswald (1969)

Eight maker's marks were found on the bowls and heels in the kitchen assemblage. Six of these were RC marks, one of the most common maker's marks found at Ferryland and dating between 1630 and 1670 (Gaulton 2006: 56) (Figure 16). Four of the kitchen's RC marks are fragmentary, with either the letter R, or in one case only the serifs, remaining. The others are an intact example of RC type 1, with a curved flourish on terminal of the R, and an intact example of RC type 2, with dots above and below the letters (Gaulton 1999: 34). A seventh heel bore a portion of a mark that could have been the left side of a capital R for RC but was too fragmentary to positively identify. Finally, another heel in the assemblage had a cross stamped into it, either dating to 1620-1650 or to 1660 (Gaulton 1999: 29, 40).

Figure 16: Pipe bowl from the kitchen assemblage bearing an RC maker's mark on the heel (photo by author).

6.2.2 Decoration

Decoration on the pipe bowls was limited to rouletting along the rims, however a small number of decorated or potentially decorated pipe stem fragments were identified. One small fragment from Event 849 had been stamped or incised with a V or possibly half of a diamond shape (the break in the fragment passed directly through the decoration). A small symbol is incised in the middle of this V, possibly a letter S or the numeral 2 (Figure 17). A few fragments had holes which initially appeared similar to other stems interpreted as makeshift musical instruments (Huey 1974). On closer inspection, these were too shallow to have been intentionally bored out and are more likely to have been accidentally chipped. Finally, another small stem fragment seems to have two letters scratched into it, a lowercase h and a v. These are shallowly carved, each only consisting of two thin lines. The lines on the v are clear and straight, but those on the h both curve slightly. These may have been a portion of a larger word or name, or a set of initials scratched into the side of the stem, perhaps as a means of indicating this pipe belonged to a particular person (Figure 18).

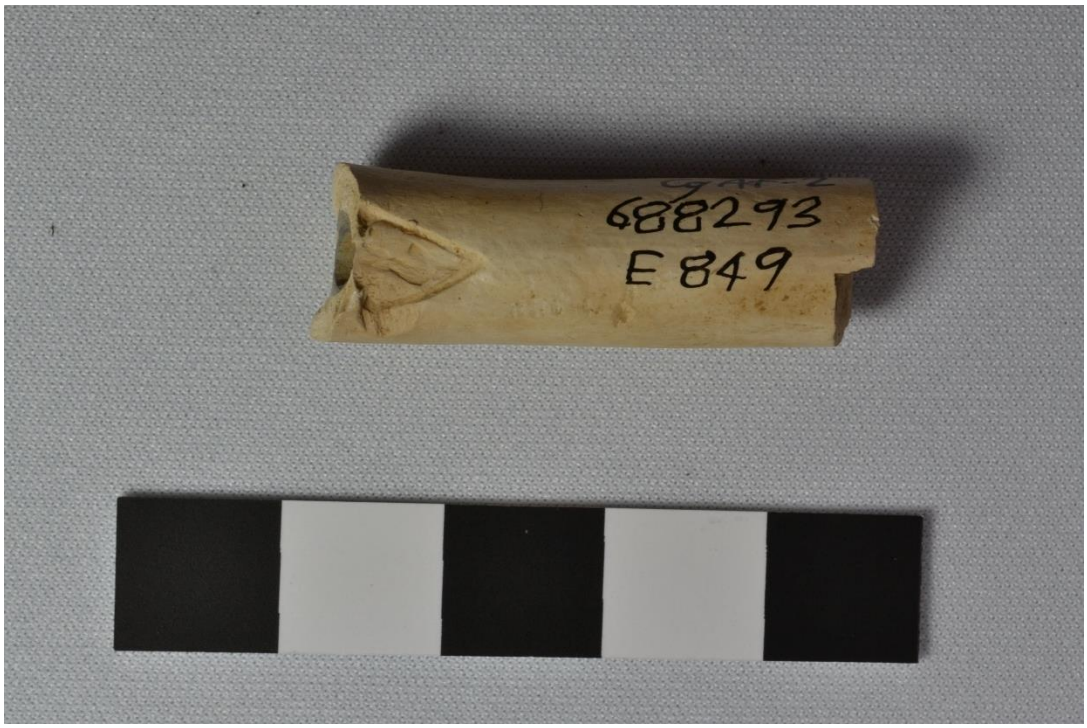

Figure 17: Fragment of a pipe stem from the kitchen assemblage bearing stamped decoration (photo by author).

Figure 18: Fragment of a pipe stem with "h v" scratched lightly into the surface (photo by author).

6.3 Glass

After ceramics and clay smoking pipes, fragments of glass are common finds at historic sites in Newfoundland. The remains of glass wine bottles, case bottles, stemware, and window glass are all commonly found in Ferryland, and were all present in the kitchen assemblage. As window glass has been previously discussed in Chapter 5 it will not be included here. The remains of the wine and case bottles, like the ceramic sherds discussed above, were sorted into diagnostic rim, base, finish, and neck pieces and joins were made between pieces where possible. To arrive at an MNV for each vessel type these fragments were sorted into vessels. Vessels were then assigned a date range by comparing them to bottle typologies (eg: Wicks 1999) and previous work at Ferryland (eg: Clausnitzer 2011; Gaulton 2006; Ingram 2015).

6.3.1 Wine bottles

Wine and spirits such as brandy were both available and in high demand in 17th -century Newfoundland (Pope 1989: 76). Like tobacco smoking, drinking wine and spirits was a common leisure activity with perceived health benefits (Gaulton 2006: 183; Wicks 1999: 29-31). Wine was thought to have nutritional value, for instance, and to provide a source of body heat against harsh winters (Wicks 1999: 31). Wine was also intimately connected to the Newfoundland cod fishery, readily available to both the merchants involved in the fishing trade and their crews. Fishing crews from Newfoundland brought their catch to Mediterranean ports, taking on shipments of Spanish and Portuguese wines to bring to England, where they would resupply for a voyage back to Newfoundland (Pope 2004: 90). Fishing merchants such as David Kirke could use wine to bargain for goods and wages and sell it back to their crews in taverns during the fishing season (Pope 1989: 86; Wicks 1999: 36).

The glass bottles used to ship and store all this wine can be helpful in dating archaeological sites. Like smoking pipes, wine bottles changed in size and shape over time, enabling researchers to sort them into diagnostic types and establish chronologies. John Wicks' (1999: 40-43) proposed a chronology of English wine bottles based on intact museum pieces featuring seals with dates. He took measurements of different attributes of these bottles, such as the diameters of their base and resting point, the height of the indent at the bottom of the bottle, and the capacity of the bottle, and connected these to corresponding measurements on fragmentary bottles from Ferryland (Wicks 1999: 44). Wicks' (1999: 41-43) chronology identified six different types of wine bottles, the earliest dating from pre-1652 to 1665 and the latest dating from 1698 to 1721.

One hundred and twenty-eight pieces of glass were identified as wine bottle fragments, representing an MNV of six (Figure 19). Following Wicks' (1999) typology, the indent height and resting point diameter of these pieces was measured in an attempt to assign a type and date range to the bottles. Using only these two measurements it proved difficult to confidently assign the fragmentary bases to a single type, however, so their usefulness in dating the kitchen assemblage is limited.

Vessel No.	Diagnostic Portion	Indent Height (mm)	Resting Point Diameter (mm)	Type	Date Range
1	Base	41	107	Unknown	Unknown
2	Base	20	88	D	1689-1700
3	Base	10	90	A or B	Pre 1675
4	Base	25		C or D	1670-1700
5	Base	23	100	C or D	1670-1700
6	Base	N/A	N/A	Unknown	Unknown

Figure 19: Wine bottles categorized by type and date range, following Wicks (1999).

One wine bottle, vessel 3, was identified as a shaft and globe bottle, although it could not be narrowed down to either type A or B in Wicks' typology. Its indent height was 10mm and its resting point diameter was roughly measured at 90mm. This would date the bottle to pre-1652 to 1675.

Two vessels, vessels 4 and 5, were identified as either Type C or D bottles. Their indent heights were 25mm and 23mm, respectively, and the resting point diameter of vessel 5 was measured at 100mm. This would give these bottles a date range of 1670-1700.

Vessel 2 was identified as a Type D bottle based on an indent height of 20mm and a resting point diameter of 88mm. This would give vessel 2 a date range of 1689-1700.

The remaining two vessels, vessels 1 and 6, could not be confidently matched to any of Wicks' types. The indent of vessel 1 was too high at 41mm to match any of the six types Wicks (1999a) identified. Vessel 6 was too fragmentary to measure.

In the context of a kitchen assemblage, these vessels suggest decanting and storage in addition to general wine consumption. Barrelled wine was typically decanted using a brass spigot, one of which was found at the bottom of the well inside the kitchen. Although the well backfill deposits were mixed, it is plausible that casks were decanted in the kitchen from large casks and barrels to serve to the occupants of the mansion house. Wine bottles may also have been reused to store milk and other liquids after their initial contents had been consumed (Wicks 1999:156).

In addition to their use as objects for serving and storage, these vessels should be considered in the context of the demands of consumption and exchange discussed above. Their rough dates, from the 1650s onward, associate them with the Kirke era at Ferryland. Wine was an important source of income for Kirke, and evidence of wine consumption is regularly found in

Ferryland excavations (Pope 1989: 85). Kirke's participation in the trade networks bringing cod to the Mediterranean gave him access to wine from Iberian and Mediterranean ports, and gave those living in Ferryland access to a commodity that otherwise may have been difficult to acquire (Pope 1989: 88).

6.3.2 Case Bottles

Like wine bottles, case bottles were used to ship distilled alcohol and store other goods. These bottles are rectangular and have flat, tapered sides making them take up less space more efficiently. During the 17th century the great majority of these bottles were manufactured in the Netherlands and imported to France, Spain, or England then onward to North America (Wicks 1999: 19-21). Wicks (1999: 49) identifies two types of case bottles in Ferryland contexts, type A and B. Type A case bottles have "thin, straight sides, a neck that is sheared-off and tooled out, and [are] pale green in colour," while type B bottles have "thicker, darker glass with tapered sides." Type A case bottles have a broad date range, from 1625 to 1675, while type B bottles begin appearing some time around 1673 (Wicks 1999: 49-50).

One hundred ninety-eight fragments of case bottle glass were present in the kitchen assemblage. From these, diagnostic base, shoulder, neck and lip fragments were separated out and compared to arrive at an MNV. Based on these fragments, at least seven case bottles were present in the assemblage. Four of these were identified as type A bottles, dating to between 1625 and 1675 (Wicks 1999: 47). Vessel 1 was noticeably darker than the others and identified as type B, dating to between 1673 and the French attack of 1696 (Wicks 1999: 48). Two other vessels, vessels 7 and 8, were too fragmentary to confidently assign a type. (Figure 20).

That most of the case bottles in the assemblage are type A suggests that the kitchen was more regularly used in the period before 1675. As with the wine bottles, however, the presence of these bottles is more useful in what it suggests about the activities undertaken in the kitchen than in assigning a chronological date. They suggest that brandy and other distilled spirits would have been consumed in the mansion house and reinforce the connection between Ferryland and the alcohol trade. Like wine bottles, after case bottles were initially used for shipping and storing brandy and other spirits they were often reused as storage vessels (Wicks 1999: 51). They were also used to carry wine from casks to decanting bottles (Wicks 1999: 51), an activity which would have been appropriate to the kitchen.

Vessel No.	Diagnostic Portion	Vessel Diameter (mm)	Type	Date Range
1	Base	Unknown	B	1673-1696
2	Base	65	A	1625-1675
3	Base	~ 78	A	1625-1675
4	Base	~ 60	A	1625-1675
5	Base	~ 50	A	1625-1675
6	Base	Unknown	Unknown	Unknown
7	Base	Unknown	Unknown	Unknown

Figure 20: Case bottles categorized by type and date range, following Wicks (1999)

6.3.3 Stemware

Glass drinking vessels, like clay tobacco smoking pipes, were fragile and underwent well-dated stylistic changes throughout the 17th century (Crompton 2001: 178). Unlike clay tobacco pipes, their fragility made them a more exclusive commodity, available generally only to the wealthier members of society (Clausnitzer 2011: 94). Venice was the key European centre for the manufacture of glass drinking vessels (Crompton 2001: 179). Venetian glassware was

imported to England and other parts of Europe throughout the 17th century, despite glassmaking industries in England and the Netherlands that imitated Venetian styles (Crompton 2001: 179).

The kitchen assemblage included 36 fragments representing a minimum of two vessels. As fragile and exclusive commodities, these vessels would likely have been used to serve beverages in the mansion house. Other vessels in the assemblage, such as the ornately painted tin-glazed mug and the two Westerwald vessels discussed above may also have been used for alcohol consumption. That these vessels were found in the kitchen assemblage and not in the mansion house itself may further suggest that dishes were washed and stored in the kitchen, or that the servants who worked there enjoyed a drink themselves.

6.4 Small Finds

The artifacts discussed here include smaller glass, metal and bone items such as beads, buttons, buckles, book clasps, tokens, as well as ammunition and faunal remains. These are often of a more personal nature than the glass bottles and ceramics discussed above and can provide valuable insight into daily activities which may be overlooked in historical documents. As the warm heart of the early modern household, kitchens were often home to a variety of different objects that might otherwise seem unrelated (Pennell 2016: 87). These objects have been organized below according to function.

6.4.1 Clothing/Costume

A variety of artifacts in the assemblage suggest that clothes were being sewn and mended in the mansion house kitchen. The warmth of the kitchen hearth and ready access to hot water made the early modern kitchen an ideal place for these sorts of activities (Pennell 2016: 114).

The eastern-facing window(s) to let in light, substantial hearth and a well in its southwest corner, would have made this space particularly well suited for time spent spinning, doing needlework, mending and washing. Added to the daily chores of maintaining the fire, preparing meals, and cleaning up, all this work could mean that the early modern kitchen was an active space late into the night and early in the morning (Pennell 2016: 113).

Nineteen copper pins and straight pins with tin plating were present in the assemblage. These would have been used for needlework and mending (Mathias 2006: 223). They were also commonly used to pin collars, cuffs, and other elements of an outfit together. The pins themselves may have wound up being deposited in the kitchen as part of the regular cleaning of collars and cuffs, as these would have been removed and cleaned on a daily basis in a household that maintained high standards of hygiene (Mathias 2006: 223-224).

A variety of glass beads were recovered from events associated with the kitchen. A few of these bear notable decoration. One relatively large bead, roughly 1.5cm in diameter, has alternating parallel bands of red and yellow, white and blue along its length. Another, smaller bead features gold leaf applied over orange brown glass. Finally, one small green bead bears a raised geometric pattern of diamonds with interior circles. In the context of the gentry households which occupied the mansion house, these beads are likely to be related to clothing as opposed to being intended for trade (Mathias 2006: 201). They likely fell during use or cleaning and were subsequently deposited in and around the kitchen.

Two copper buttons were present in the assemblage. Buttons grew in popularity during the 17th century as clothing closures for members of the gentry (Mathias 2006: 246-247). Leather, bone, and plain metal discs were commonly used to make buttons (Mathias 2006: 247). One of the copper buttons in the kitchen assemblage consists of a relatively plain disc, a little

more than 1cm in diameter, with an intact iron eye attached on the rear side. The other is dome shaped with a thin copper shank protruding from the back. The size of both beads (less than 2cm in diameter) suggests production during the first half of the 17th century (Mathias 2006: 247). They may have adorned a jacket or other tailored piece of clothing and were perhaps lost while the item was being mended in the kitchen.

A single buckle in the assemblage also points to expensive clothing accessories. Buckles were a common and fashionable clothing accessory adorning the shoes and boots of 17th -century gentlemen (Mathias 2006: 211). Most of these were manufactured in the English midlands and made of copper or brass alloys (Mathias 2006: 205). The buckle in the kitchen assemblage was either made of silver or given a silver surface treatment. Silver buckles were uncommon in the 17th century, making up about 5% of the buckles found in Ferryland contexts (Mathias 2006: 218). This fancy buckle would have been a high fashion item, likely owned by a member of one of the gentry households which occupied the mansion house.

A pair of grommets or curtain rings were also present in the assemblage. These objects have been interpreted in a variety of ways in Ferryland, as they could have served several different functions (Mathias 2006: 218). One possibility is that they were makeshift buckles, reinforcing the woolen breeches worn by fishermen, making it easier to pass a leather belt through to hold them up (Mathias 2006: 220). Another is that they held up a curtain. The curtains of the 17th century were lighter and more easily washed than those of earlier eras and were commonly found in gentry households (Mathias 2006: 222). As discussed above the kitchen likely had east-facing windows, so perhaps a curtain was installed. Another likely possibility in a fishing community such as Ferryland is that these rings served as grommets on sail cloth, finding their way into the kitchen as the sail was brought in for mending (Mathias 2006: 218).

Finally, a lead bale seal in the assemblage (Figure 21) provides evidence that unfinished cloth was present in the kitchen. Bale seals were used as a means of quality control and regulation for textiles exported from England, Ireland, France, and the Netherlands during the 17th century (Mathias 2006: 263-264; Scott and Mullarkey 2013: 220). The seal found in the kitchen is formed of two lead discs joined by a thin strip. One disc had a rivet which would have passed through the bolt of cloth and into the hole in the second disc (Scott and Mullarkey 2013: 220). Once the seal was bent around the cloth and the discs joined, the seal was closed securely and stamped with its place of manufacture (Mathias 2006: 263). Once a bale of cloth had reached its final destination (for use), the riveted and secured seal was removed and discarded; therefore its presence in the kitchen suggests that some of the unfinished cloth may have been used to manufacture items of clothing.

Figure 21: Lead bale seal from the kitchen assemblage (photo by author).

6.4.2 Literacy

A copper book clasp present in the assemblage (Figure 22) provides evidence that there were literate individuals working/living in or around the kitchen. The ability to read would have been useful in a kitchen context as cookbooks were increasingly marketed toward members of the gentry in the 17th century. Gervaise Markham's *Country Contentments, or the English Housewife*, published in 1613, sought to provide upper class housewives with not only recipes, but also a guide to properly running her household (Masson and Vaughan 1974: 5-13). Following the death of Charles I and the reign of Oliver Cromwell, cookbooks started finding a wider audience by promising to give readers insight into the practices of the old aristocracy while also serving as Royalist propaganda (British Library 2020; Grant 2013: 37).

Besides cookbooks, housekeeping guides, devotional texts, and Bibles were the most commonly found books in the early modern kitchen (Pennell 2016:105). Clasps of this type began to be used in the 14th century to hold shut larger books with wooden covers and calfskin pages that expanded when damp (Historic Jamestowne 2020). They were going out of fashion by the early 16th century as books grew smaller and lighter and could be held shut with ties (Michigan State University 2020). Whether a cookbook, housekeeping guide, or religious text, this clasp would have held together a relatively large, heavy book.

Figure 22: Book clasp from the kitchen assemblage (photo by author).

6.4.3 Currency

A small lead token bearing the initials DK is one of the more intriguing small finds in the assemblage (Figure 23). This lead disc is an example of a DK token, a type of small coinage issued in Ferryland by David Kirke starting sometime around 1640, making them the earliest surviving coins issued in British North America (Jordan 2006: 3051). Circulating in Ferryland and the Avalon Peninsula, these coins would have made small transactions, such as buying a drink at Kirke's tavern, easier (Jordan 2006: 3003). The token from the kitchen might represent part of a servant's wages or change leftover from a trip to the tavern.

Figure 23: DK token from the kitchen assemblage (photo by author).

In the first half of the 17th century, Louis E. Jordan (2006: 3032) explains, the colonists residing in Ferryland did not have much in the way of small change available to them. Most of the coinage found from contexts dating to before the 1650s is of higher denominations, indicating that not many people had small change to lose (Jordan 2006: 3033). In a community where credit in the cod fishery was the basis of most transactions, a lack of coinage might not be too pressing of a problem. After the development of Kirke's tavern, however, the lack of small change would have made it difficult for colonists to purchase a drink (Jordan 2006: 3033).

Tokens were commonly issued by English taverns, according to Jordan (2006: 3038) so much so that royal proclamations were issued against the practice in 1614, 1615, and 1616/7. The practice continued into the 1620s and 1630s and would have been familiar to both David Kirke and the colonists residing in Ferryland (Jordan 2006: 3042). Jordan (2006: 3051) argues that Kirke likely began issuing tokens to make up for the lack of small change in the Avalon and

make it easier for colonists to make purchases at his taverns in the province. The initials on these tokens also served as “a political statement to the populace of Ferryland reinforcing the fact that Kirke was the nominal ruler of the region” (Jordan 2006: 3045).

That one of these tokens was recovered from the kitchen suggests that the small change Kirke was issuing was being used by the servants who worked there. It would have been a short walk from the kitchen to Kirke’s tavern for servants wanting to buy a drink. It is also possible that some of the same individuals who worked in the kitchen also served meals and drinks in the tavern, and sometimes carried small change between the two.

Alternatively, this DK token may be evidence that tokens were being manufactured over the kitchen hearth. The early modern kitchen was an ideal place for coin counterfeiting, often concealed below or behind the main residence and with ready access to a warm fire (Pennell 2016:115). The mansion house kitchen would have provided a secure and out of the way area in which to mint coins, a theory made stronger by the nearby discovery of a second, larger DK token in the adjacent buttery/pantry (Gaulton 2020, personal communication).

6.4.4 Hunting/Fishing and Faunal Material

Nine musket balls, six pieces of lead shot, and three sections of lead sprue (waste lead strip from a shot mold) were recovered. While these munitions would have been useful in defense of the settlement should the need arise, their more likely day to day use was in hunting and birding. This would fit well with previous analysis which found a variety of bones from inland bird species at the mansion house, suggesting that its occupants took part in inland hunting trips (Tourigny 2009: 180). Seventeenth-century kitchens were often used to store weaponry (Pennell 1998: 205), so these artifacts may indicate that muskets and bandoliers were

kept in the kitchen. The low melting point of lead, around 375°F, would have made it possible to cast lead shot around the kitchen fire (Jordan 2006: 3006).

One lead fishing weight and three iron fishhooks present in the assemblage link the kitchen to the omnipresent cod fishery. Cod was consumed in large amounts throughout the settlement by people of varying social status (Tourigny 2009: 152). It and other fish would have been an important resource in provisioning the kitchen as evidenced by large numbers of cod vertebrae and skulls recovered from the mansion house (Tourigny 2009: 145).

Faunal remains uncovered during the 2011, 2012, and 2013 excavations were analyzed by Deirdre Elliott (2018). Her analysis considered a sample of 529 bones, of which 71.5% were identified as mammal, 22.5% fish, and 4.7% bird, with 1.3% too fragmentary to be identified. Despite the small sample size, the analysis of the faunal assemblage provides some interesting insights into the use of the structure, especially when compared to previous work on faunal remains in Ferryland.

The high percentages of mammal and fish remains found in the assemblage are consistent with Tourigny's (2009) interpretation of the diet of the mansion house's occupants based on several middens found around the structure. Elliott (2018) found a predominance of cow remains in the mammal assemblage followed by the remains of pig, sheep, and caribou. This also fits closely with Tourigny's (2009) analysis at the mansion house, which found evidence of more beef consumption than elsewhere at the site. Tourigny (2009: 182) interpreted this as a sign of the greater wealth and social status of the mansion house's occupants, who could afford to divert funds away from the fishery toward owning the land and hiring the labourers required to raise cattle. The large amount of cod (86 specimens) Elliott (2018) identified also fits with the full cod specimens found by Tourigny (2009: 152), who argues that "… the presence of the entire body

[of cod] in deposits associated with the mansion house specifically indicates that fish were being processed somewhere within or near the vicinity of the structure." A detached kitchen room set just behind the mansion house would have been a logical place for these fish to be processed.

Chapter 7: Discussion and Conclusions

7.1 Research Questions

A set of four research questions guided the research and analysis on this project. First, how does the mansion house kitchen relate to architectural trends in England and North America? The goal of this question was to gain some insight into the decisions made in Ferryland's early construction, and to perhaps understand some of the priorities influencing Edward Wynne and his men as they built the site.

Second, by analysing the artifact assemblage recovered from the kitchen, what can be learned about the daily lives of those who used the structure in the 17th century? The aim here was to shed light on the sorts of activities that took place in the kitchen, how those within it related to the mansion house and the rest of the community, and whether it was primarily a working space, or a dwelling as well.

The third question was closely related to the second: how does the kitchen's artifact assemblage compare to other buildings previously examined in Ferryland? A number of other domestic structures and working spaces related to food and provisioning have been examined at the site, and a comparison with this research could lead to a better understanding of the kitchen itself.

Finally, the fourth question was to ask what this analysis can contribute to our understanding of how and where detached kitchens appear in the archaeological record. The archaeological signature of detached kitchens has been the subject of debate among historians and archaeologists working in England (Broad 2015; Martin and Martin 1997; 2001; Meeson 2000; Smith 2001; Walker 2000). Different potentially defining features have been suggested,

and the prevalence of these structures among households of varying social status has been discussed. By considering a kitchen on the other side of the Atlantic built at a time when the fashion was to bring cooking spaces inside the home, this analysis has the potential to make a useful contribution to this debate.

7.2 Kitchen Structure

The kitchen occupied the rear half of a large, two-room service wing adjacent to George Calvert's mansion house. The front half of the wing, to the north, was housed a buttery/pantry with a second storey which may have served as accommodations or as a storage space. The kitchen was at the same horizontal level as this second storey, built higher up on the hillside on the service wing's south end. Its south and west sides were dug directly into the hillside and appear to have been partially covered by it.

Based on excavations exposing remains of the structure's walls, the kitchen was roughly 8m (26.2ft) wide by 7m (23ft) long. Its interior dimensions were recorded as 6.09m (20ft) by 4.87m (16ft). These walls were made of local slatestone, lime mortared, and roughly 1m thick. A doorway located on the kitchen's northeast corner opened onto a levelled terrace outside, along which a cobblestone pavement led north to the mansion house's second storey. One or more windows were located on the structure's east side looking out onto the terrace. Slate tiles uncovered during excavation indicate that the structure was roofed in slate like many other Calvert-era structures in Ferryland. Its sturdy stone walls likely supported a second storey or upstairs loft, possibly with an east-facing window, which may have served as accommodations or storage space.

Indoors, a set of post molds suggest that a set of steps may have led down from the doorway to the floor. A lack of evidence for cobblestone or flagstone, along with another set of post molds which may have supported floor joists, suggest that the kitchen was likely wood floored. A wood floor would have allowed wastewater to pass between floorboards, made sweeping and cleaning easier, and helped to keep soil pests away. A large fireplace (1.83m by .91m) sat at the south end of the room, built into the wall. A barrel-lined well was dug nearby into the southwest corner of the room. If contemporary with the rest of the kitchen the water it provided would have been invaluable for cooking, cleaning, laundering, and enduring the heat given off by the fireplace.

This structure has much in common with the initial kitchen Edward Wynne described to George Calvert in his letters of 1622 (Cell 1982: 197). The initial kitchen was also detached from the main house and accessed by passageways running between the two. It was stone-walled, had a large chimney, and featured an upstairs chamber. That Wynne carried these elements of the design over to the mansion house kitchen suggests that they were a deliberate part of the careful planning that defines the rest of the Calvert-era construction at the site.

As discussed in Chapter 5, the kitchen's detached design recalls a pattern commonly found in English and Welsh manor houses in the late Middle Ages. These houses often took the form of complex multi-room structures, with detached service wings and outbuildings which housed butteries, pantries, and kitchens and had second storey accommodations or storage space (Barley 1986: 127). Houses such as this were common in Southeastern England in the 15th and 16th centuries (Martin 2000) and would likely have been familiar to Wynne and his men. Oddly, though, as outlined in Chapter 5, this was an increasingly old-fashioned style for elite English houses in the 17th century, which were more likely to locate the kitchen within the main house

(Barley 1986: 226; Broad 2015: 7). This style was then carried across the Atlantic to New England, where the kitchen was brought into the house or placed downstairs in a cellar, rather than in a detached outbuilding (Linebaugh 1994: 5-6). Wynne's decision to place the kitchen in a detached service wing alongside a buttery and pantry, then, seems a curious outlier that requires explanation.

Chapter 5 discusses several possible factors which may have influenced Wynne's design. Early modern kitchens could easily catch fire and reducing the risk of spreading flames may have been an important concern (Grenville 1999: 118). Containing pests and keeping smells away from the mansion house could have been a factor in an era when bad smells were thought to bring illness (Broad 2015: 2; Linebaugh 1994: 16). The logistical challenges of provisioning and supplying the kitchen may have influenced its placement (Pennell 2016: 39); by locating it a detached structure near to the buttery/pantry, adjacent to a kitchen garden, and potentially with access to its own well, the kitchen could be easily supplied on its own without having to access or pass through the mansion house. This placement could also have been motivated by a need to accommodate members of George Calvert's extended household, whether servants or members of the family.

7.3 Chronology

Historical documentation dates the construction of the kitchen to sometime in the six years between 1622, when Wynne wrote to Calvert of the initial kitchen he and his crew had completed the previous year, and 1628, when Calvert and his family first arrived in Ferryland (Cell 1982: 197). The artifact assemblage suggests that the kitchen was used most intensively during the Calvert era and early Kirke eras, from the 1620s to 1640, at which point activity there

seems to have slowed. Two-thirds of the clay tobacco pipe collection date to before ca. 1640, indicating that the most intensive period of deposition was between 1620 and 1640. Maker's marks in the collection support this, all dating between 1615 and 1660. The majority of the case bottles in the collection date to between 1625 and 1675, while wine bottles which were too fragmentary and difficult to date with confidence all dated to later than the 1650s. Although activity in the kitchen may have slowed following David Kirke's arrival in 1638, it appears that the structure continued to be occupied in some capacity. This is reinforced by the presence of a DK token in the assemblage, which would have been issued by Kirke no earlier than the 1640s (Jordan 2006: 3051).

7.4 Activities and Daily Life

As discussed in Chapter 3, the early modern kitchen was a multi-purpose space central to the daily domestic life of the household. Most obviously, it was a space where the household's meals were prepared, but the warmth of the kitchen fire also provided a good location for laundering, sewing, and other domestic tasks (Weatherill 1996: 145). It was sometimes used as a place to store muskets and ammunition, or any books the household may have (Pennell 1998: 205). Whether detached or part of the house, kitchens were generally designed to have close links to butteries and pantries, bakeries, breweries, dining rooms, and other parts of the house (Pennell 2016: 39). Access into the kitchen itself was often relatively informal, with servants, masters, suppliers, and visitors all passing through, but the activities which took place there could be tightly controlled (Pennell 1998: 204; Weatherill 1996: 150). The artifact assemblage from the mansion house kitchen supports this image of the kitchen as a space of varied activity central to the daily life of the mansion house.

Unsurprisingly, the kitchen's ceramic assemblage indicates that this was a space in which food preparation and storage took place. What is of note, however, is that both of these vessel types are present in relatively low numbers. Food processing vessels were represented by only a few milkpans, a fleshpot, and a portion of a large cooking pot or pipkin, while the pots, tallpots, and jars that would have been used for storage made up only 25% of the assemblage, low when compared to other Ferryland structures (see Sec 7.5 below).

As discussed in Chapter 5, the relatively low number of food processing vessels can be explained by considering the sorts of food that would be prepared in the kitchen of a 17th - century English gentry home. These households generally ate large amounts of beef and other fresh meats, presented with vegetables, soups, and sauces (Fox 2013: 173; Gaulton 2006: 164; Rogers 2003: 10-11). Milkpans, pipkins, and pots are poorly suited to preparing large cuts of meat. Instead, these meals would be roasted on a spit or a skewer in front of the fire or braised in a pan (Gaulton 2006: 164; Sim 1997: 20).

Evidence for the preparation of these meals can be found by considering the dishes upon which they would have been served: tin-glazed dishes, plates, and other flatware vessels (Gaulton 2006: 164). Nearly half of the kitchen's ceramic assemblage (48%) is made up of these vessels, indicating that the daily routine of kitchen activities involved preparing high status meals to serve in the mansion house. Servants in the kitchen would have butchered and roasted large cuts of meat over the kitchen fire, resulting in the large proportion of cattle bones in the faunal assemblage. A kitchen garden, mentioned in Edward Wynne's letters (Cell 1982: 201) and perhaps located on the levelled terrace outside, provided lettuce, radishes, turnips, peas, and other vegetables to accompany these meals. A servant's daily activities likely included tending to this garden, gathering its produce, and washing, peeling, chopping, and preparing it.

In this context, the few ceramic food processing vessels present in the assemblage provide further insight into the lives of the servants working in the kitchen. The milkpans, pots, and fleshpot were the sorts of vessels well-suited to boiling the pottages and stews that ordinary people such as kitchen servants would have eaten. The work of the kitchen could be time consuming; the fire required careful monitoring, cooking could take up several hours of each day, and even then a servant might find themselves working late into the night on laundering, sewing, cleaning and other tasks (Sim 1997: 21; Weatherill 1996: 145-146). A servant would have had to make time to cook their own meals in between these other tasks. These food processing vessels suggest that the kitchen servants were doing just that.

If the kitchen was regularly occupied by servants roasting meat, chopping vegetables, and boiling stews and sauces, the relatively small proportion (25%) of storage vessels present in the assemblage is surprising. The focus on the fishing trade in Ferryland and other Newfoundland communities meant that these settlements relied heavily upon imported foods (Crompton 2001: 148). As a result, storage vessels tend to make up a large portion of Newfoundland ceramic assemblages. As discussed in Chapter 5, the relatively low number of storage vessels in the assemblage may be evidence that some of the goods processed in the kitchen were stored elsewhere, such as in the adjacent buttery/pantry. Wynne and his men had constructed their first kitchen with convenient access between spaces in mind (Cell 1982: 197). Perhaps the cobblestone pathway leading from the kitchen to the mansion house also provided an easy route to goods stored in the buttery/pantry. Servants may have travelled between these rooms to gather ingredients or move storage vessels between them.

Given the elite meals discussed above, fewer storage vessels may also indicate that the kitchen was less reliant on imported foods than the rest of the community. In his letters to

Calvert, Edward Wynne promotes Ferryland's potential to support an elite household with locally sourced food. A kitchen garden had already been established, there was enough nearby pastureland to support a herd of cattle, and the local environment was well stocked with herbs, berries, birds, and game (Cell 1982: 201). Faunal evidence demonstrates that the occupants of the kitchen were taking advantage of these resources, with the remains of cattle, caribou, fish, and bird species all present in significant amounts (Elliott 2018). Faunal analysis undertaken at the mansion house (Tourigny 2009: 180-182) found that its inhabitants consumed significantly more beef than other residents of Ferryland and were the only residents consuming inland willow ptarmigan. Some imported foods would still have been used in the kitchen, and storage vessels would have been reused to store locally produced foods and beverages, resulting in the pots, tallpots, and jars found in the assemblage.

In addition to the work involved in preparing food for the mansion house's inhabitants, the occupants of the kitchen would have also prepared drinks. Case bottles suggest that brandy and other distilled spirits were consumed by the house's residents, while wine bottles suggest the same for wine. Both would also have been useful in storing other goods, such as milk, and for carrying wine from casks, decanting it, and serving it at the table (Wicks 1999: 51-56). The presence of two stemware vessels, delicate and costly, as well as an ornately painted tin-glazed mug may suggest that dishes were washed and stored in the kitchen, while a comparatively plain brown manganese mottled cup and two Westerwald mugs may have been used by servants enduring the heat of the kitchen.

The early modern kitchen was a multi-purpose space used for a wide variety of domestic chores (Pennell 2016: 48). Milkpans may have served as washbasins to aid in the cleaning of clothes and kitchen surfaces. A lead bale seal in the assemblage provides direct evidence that

those who occupied the kitchen were handling unfinished cloth. Copper and tin-plated straight pins, glass beads, copper buttons and a silver buckle may suggest that these individuals were also handling the clothing of the occupants of the mansion house. If the kitchen's well dates to the 17th century, then these tasks would have been made easier with ready access to water.

These items may also be evidence that the kitchen doubled as a home for those who worked there. The two copper buttons would generally be associated with the clothing of less affluent individuals (Gaulton 2006: 218-221). Given this, these personal items likely belonged to a servant working in the kitchen, rather than an occupant of the mansion house. When taken together with the ceramic cooking vessels discussed above, these pins and copper buttons lend further support to the idea that kitchen servants, already spending much of their time working in the kitchen, likely lived there as well.

The early modern kitchen was increasingly a place where literacy and numeracy were valued (Pennell 2016: 98), and two small finds in the assemblage suggest this may have been the case in the mansion house kitchen. A copper book clasp incised with geometric designs provides evidence that there were literate individuals working and likely living in and around the kitchen. As discussed in Chapter 5, clasps had long been used to hold together larger books with wooden covers. Bibles and devotional texts might be held together with clasps and were the sorts of books that often found a home in the early modern kitchen (Pennell 2016: 105). Alternatively, 17th century cookbooks were gaining popularity among members of the English gentry, providing recipes and guides to household management (Masson and Vaughan 1974: 5-13). A clasped book would have been a rare enough commodity that it likely belonged to a member of one of the gentry households which occupied the mansion house, perhaps stored in the kitchen along with any other books the household may have (Pennell 1998: 205).

Finally, a small lead DK token in the assemblage connects the kitchen to local networks of trade and exchange within the community of Ferryland and the Avalon Peninsula. These tokens were a type of small change issued by David Kirke starting in the 1640s in order to facilitate purchases at his taverns and reinforce his political legitimacy in the region (Jordan 2006: 3045-3051). The presence of this token suggests that the kitchen's servants were participating in these small-scale exchanges during the Kirke era, perhaps earning tokens as part of their wage. It is also possible that these coins were minted or altered over the hot kitchen fire.

7.5 Comparisons

The third research goal of this project was to compare the kitchen with domestic structures and working spaces in Ferryland as a means of gaining insight into the kitchen itself. The Calvert-era brewhouse and bakery (Clausnitzer 2011) was chosen as it was built and in use at roughly the same time as the kitchen and served as a location where food and drink were prepared for the community. David Kirke's tavern (Ingram 2015) was selected for comparison, as it was also a place where food and drink were prepared and served. Finally, Ferryland's forge (Carter 1997) was chosen as it was likewise a place where a variety of tasks were undertaken around a steady, hot fire.

7.5.1 Brewhouse/Bakery

Ferryland's brewhouse and bakery was among the early structures built by Edward Wynne and his men. Construction started in 1622, and the structure was in use until the 1640s, when it was dismantled to make room for the Kirke house (Clausnitzer 2011: 40, 115). Lacking evidence for a stone foundation, it was likely a timber-framed earthfast structure, built directly

onto the ground or supported by posts driven into the earth. The brewhouse was 24 feet long by 15 feet wide, with at least a half-storey upstairs and a slate-tiled roof (Clausnitzer 2011: 113-114). The floor was likely cobblestone and had a subsurface drain which carried water away. A nearby well provided ready access to water for brewing and baking. Clausnitzer (2011: 114), considering this architectural plan, argues that the brewhouse was built as quickly as possible so that it could be up and running to provide beer and bread for the settlement. Rapid construction, he argues, would also have enabled Wynne and his men to focus on the construction of the mansion house, which required more time and effort for its sturdy and imposing stone walls.

Clausnitzer (2011: 115) found the brewhouse/bakery's ceramic assemblage to be broadly similar to most sites from 17th-century Newfoundland, with an emphasis on storage and beverage service vessels. The brewhouse contained very few vessels for serving food, and its beverage service vessels included only a small percentage of cups and mugs. Clausnitzer (2011: 116) interpreted this, in combination with a lack of evidence for non-baking cooking activities, as evidence that the brewhouse did not also serve as a domestic structure.

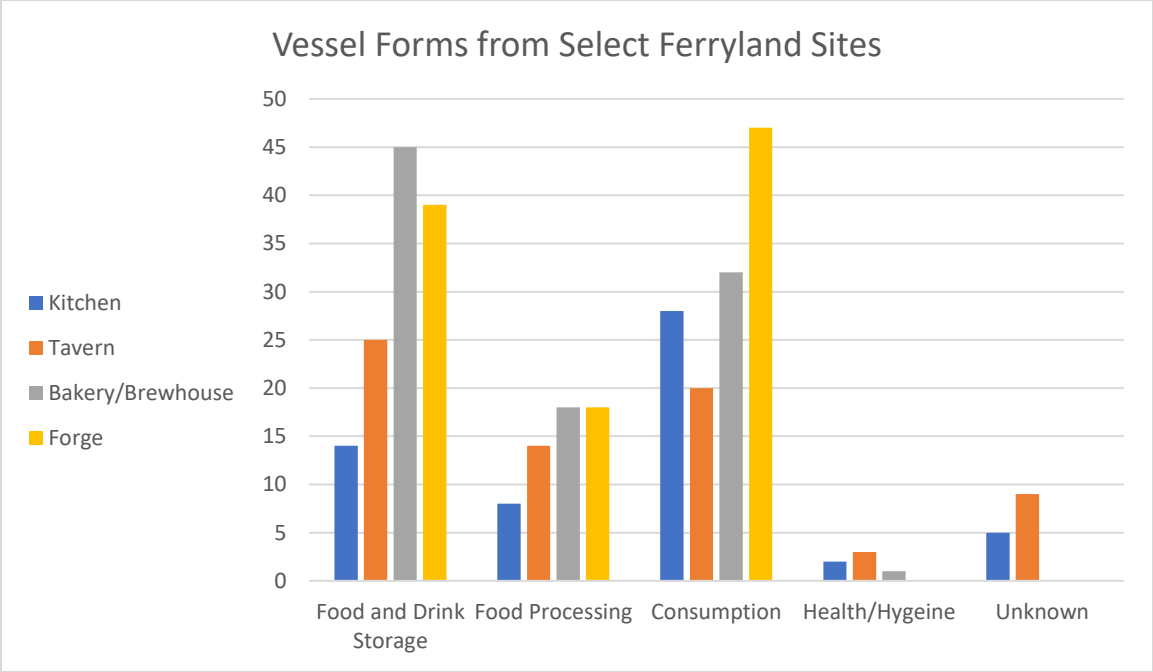

Figure 24: Ceramic vessel forms from select Ferryland sites compared with those from the kitchen.

7.5.2 Kirke Tavern

The Kirke tavern was built after David Kirke's arrival in 1638 and in use throughout the second half of the 17th century (Ingram 2015: 135). Like the brewhouse, it was a timber-framed earthfast structure, 12 feet by 30 feet, with a half or full storey upstairs and glazed windows. The inside was floored with cobblestone, and a subsurface drain allowed water or liquid waste to leave the building. Ingram (2015: 52) argues that these construction techniques suggest that the tavern was built "quickly and with function in mind," and that its relatively large size indicates that it was intended to accommodate a large number of visitors. A large central hearth on the tavern's west wall provided heat to these patrons and a place to gather. Ingram (2015: 134) suggests that the smoke hood over this hearth would have made it a poor location to prepare food unless using a simple pot or cauldron and that instead the tavern's meals may have been prepared elsewhere.

Ingram (2015: 135) found the tavern's assemblage of artifacts to be representative of patterns commonly found in other colonial taverns. The ceramic assemblage contained vessels for storage and food preparation, the majority of the latter being milkpans which may have also been used for storage or cleaning the tavern (Ingram 2015: 71). The tavern also contained many vessels for the consumption of food and drinks. Large quantities of clay pipes as well as glass and ceramic serving and consumption vessels were indicative of a public space regularly filled with people relaxing and socializing (Ingram 2015: 140). Personal items (a copper buckle, two copper buttons, and ten pins) located near the back of the tavern were interpreted as evidence that a servant may have been living there (Ingram 2015: 110).

7.5.3 Forge

Like the brewhouse, Ferryland's forge was among the earliest structures Wynne and his men completed in 1622 and was in use until around 1650 (Carter 1997: 44). Also, like the brewhouse, and the later Kirke tavern, the forge was earthfast and timber framed. The floor of the forge was dirt which became hard packed with fragments of clay pipes, ceramics, and the slag, coal, and other remains of forge activity (Carter 1997: 32-34). The structure was roofed in slate, like most of Ferryland's Calvert-era structures, and may have had north-facing windows, or windows on the northern half of the east or west walls (Carter 1997: 38). Carter (1997: 33-34) argues that the forge was built quickly, using rough and simple techniques, to get it up and operational as fast as possible to make the tools, nails, and other items used in building the rest of the settlement.

Artifacts uncovered in the forge included "a vast amount of material such as case bottle glass, broken pipes, and ceramic fragments," (Carter 1997: 41). Carter (1997: 42-43) argues that

the warmth of the forge's fires, and the variety of clients that would have passed through, would have made the forge a hub of social activity. He envisions clients stopping by to relax, gossip, and share a smoke, a drink, and even a meal while they waited for the smith to do his work (Carter 1997: 42). Other artifacts examined by Carter (1997: 135) indicate that a variety of activities, including gunsmithing, coppersmithing, farriering, and locksmithing also took place in the forge. Some areas of the forge, such as the location of the bellows, appear to have served as refuse dumps, less frequently maintained and potentially a spot to sweep broken bits of ceramic and other artifacts, "thereby allowing refuse to build up over long periods of time." (Carter 1997: 43).

7.5.4 Comparisons with the Mansion House Kitchen

When compared to these three structures, the tavern, the bakery/brewhouse, and the forge, the architectural style of the kitchen immediately stands out as solid, permanent, and potentially imposing. While these three timber-framed, earthfast structures were seemingly built with utility in mind, the thick mortared stone walls of the kitchen suggest that Wynne and his crew of builders took greater time and care in its construction. These other structures were intended to be up and running as soon as possible, producing goods for the colony or, in the case of the tavern, making money for David Kirke (Carter 1997: 33; Clausnitzer 2011: 120-121; Ingram 2015: 17). The kitchen's design instead further strengthens its links to the mansion house and suggests that it would have primarily served the house's occupants, rather than producing goods to be consumed elsewhere in the colony.

Compared to these other structures, the kitchen's artifact assemblage also suggests a relatively private working space in which one or more servants may have dwelt. Relatively low

proportions of ceramic storage vessels suggest that the kitchen may have relied on other nearby storage spaces, such as the adjacent buttery/pantry, while large numbers of tin-glazed vessels provide evidence that meals were carried back and forth between the kitchen and mansion house. Compared to the tavern and forge, the kitchen contained relatively few clay tobacco pipes and glass and ceramic drinking vessels. Surprisingly, it also contained relatively few vessels for food preparation, roughly half as many as those recovered from the forge (Figure 24). This suggests that the kitchen was a relatively private working space where, unlike at the forge, visitors did not regularly pass through or at least, if they did, they did not linger long enough for a smoke and a drink.

The presence of smaller, more personal items in the kitchen is similar to the Kirke tavern, in which a copper buckle, buttons, and pins were interpreted by Ingram (2015: 141) as evidence that someone likely lived in the tavern. By contrast, these sorts of items were not present in the forge or the bakery/brewhouse, in which, according to Clausnitzer (2011: 116) “there was no long-term domestic occupation … its only use was for the production of beer and bread.” As discussed above in Chapter 6, a valuable silver buckle and lead bale seal provide evidence that sewing, mending, and other domestic service chores were taking place in the kitchen, but the copper buttons, pins, and glass beads in the assemblage may have once adorned the clothing of a servant who lived in the kitchen.

7.6 Consumption, the Kitchen, and the Household

The material culture assemblage described above reflects specific decisions made in provisioning the kitchen. Large quantities of tin-glazed vessels, for instance, were acquired and brought to the kitchen because they were fashionable and signified the taste and status of those

who ate off of them. This would have been clear to any guests of the mansion house, but also to those individuals within the household. Eating from tin-glazed dishes, or serving meals on them, would have reassured members of the household of their status and their Englishness, making, as discussed in Chapter 3, "ethnic and social identity more individual and more portable," (Pope 2013: 45) and making settlement in North America imaginable.

The large cuts of meat served upon these tin-glazed vessels would have also communicated the status of those consumed them. As discussed in Chapter 3, previous studies at Ferryland have associated beef consumption with the luxury and elite foodways of the Kirke family (Tourigny and Noël 2013: 235). This provides a good example of how constraints of price or availability can alter the meanings goods are afforded. Fresh beef, increasingly available to rural farmers in 17th-century England (Rogers 2013: 15), was difficult to acquire in the context of a Newfoundland fishing settlement. Those who were able to acquire large cuts of meat, such as the Kirkes and possibly the Calverts, would have communicated their social status to the community in doing so.

Acquiring material goods is one aspect of consumer behaviour, but these goods take on meaning through use (Henry 1991). The servants who worked in the kitchen, roasting the large cuts of meat, cleaning tin-glazed dishes, mending clothes, and working unfinished cloth, would have thus played a crucial role in imbuing meaning onto the artifacts described above. The labour involved in preparing meals for the mansion house—tending to the garden, monitoring the cook fire, chopping and roasting meat and vegetables, boiling sauces—would have been an expense directed away from the fishery. Just as Tourigny and Noël (2013: 242) argue that the Kirkes' ability to dedicate resources to raising cattle was an indicator of their status, the labour of the Calverts' kitchen staff would have been a similar indicator.

The “couple of strong maids, that (besides other worke) can both brew and bake” (Cell 1982: 203) whom Wynne requested to staff Calvert’s kitchen, then, would have played an important role in the Calvert household as would later servants in any household which subsequently occupied the mansion house and made use of its kitchen. The domestic tasks they undertook daily kept the household running and were a key factor in reproducing the social identity of an English gentry family in a Newfoundland context. Their labour enabled a family like the Calverts to carry their social status across the Atlantic.

7.7 Detached Kitchens

The prevalence of detached kitchens on the landscape and in the society of late medieval and early modern England has been a puzzling question for architectural historians and archaeologists working in the UK. At issue is how common these structures may have been, how they can be identified and distinguished from other structures, and what their presence can tell us about early modern English society. The final research goal of this project was to contribute to this ongoing discussion.

Martin and Martin (2000: 14) began the debate on detached kitchens by arguing that the large, complex detached kitchens of the manor houses built between 1450 and 1550 were biasing architectural historians’ interpretations of these structures. They led scholars to link detached kitchens to the social status of a household; households with detached kitchens were thought to enjoy greater social status than their neighbours. Martin and Martin (2000: 15), however, suggested that many surviving detached kitchens were going unrecognized, having been attached to the main house during subsequent renovations, or altered into agricultural sheds or other outbuildings. “Detached kitchens,” they argued, “were, after houses and barns, the most common

type of building during the 15th and 16th centuries in Southeast England," (Martin and Martin 2000: 14).

Other scholars put forward alternative explanations for these detached kitchens. As the structures Martin and Martin (2000) described were relatively large and complex, it was suggested that they might represent detached service wings, or servants' accommodations (Broad 2015: 1). Another alternative was that these structures represented a pattern known as the unit system, discussed in Chapter 5, in which members of an extended household were accommodated in a smaller house built off the main structure.

The unit system was common in Wales in the 16th and 17th centuries (Smith 2007: 19). There it sometimes involved multiple outbuildings, with detached bakeries, brewhouses, and kitchens turning a house into more of a small complex of structures (Smith 2007: 19). These outbuildings sometimes had their own gardens or orchards and were often used as accommodations for unmarried or widowed women (Smith 2007: 23). According to Smith (2007: 26-28) by the early 1600s it was customary among the gentry families of north Wales to include a secondary house as part of a marriage arrangement as guaranteed accommodations for the wife in the case of her husband's death. "Moreover," he explains, "when not serving as a widow's dwelling the unit was considered a detached service range, specifically an outside kitchen. The arrangement was ubiquitous among the lesser gentry of north-west Wales," (Smith 2007: 28).

The mansion house kitchen may be an example of this Welsh version of the unit system being adopted in North America. In his analysis of Ferryland's brewhouse/bakery, Clausnitzer (2011: 117-121) argues that Calvert's colony was initially designed as an estate, rather than a town. He points out that Wynne's letters to Calvert refer to the brewhouse as a room, suggesting

it was viewed as a part of a larger complex, and that his request for maids to do the brewing and baking indicates that these were intended to be done on a domestic scale (Clausnitzer 2011: 119). With the addition of a detached kitchen and service wing, and possibly a kitchen garden, the mansion house complex closely resembles the Welsh pattern described above.

Wynne was a Welshman whose writings indicate familiarity with both the mountains of north Wales and the ports of the south, and who shared a surname with one of the country's more prominent gentry families (Gaulton and Miller 2009: 112-113). As such, he would have likely been familiar with the small collections of outbuildings that characterised the homes of Welsh gentry, and these could have served as models for him to base the design of Calvert's estate. When, anticipating the future arrival of Calvert and his household, Wynne combined an earlier house and kitchen into the mansion house and constructed the detached service wing and kitchen next door, he may have had accommodations for Calvert's wife or other members of the household in mind. The Welsh iteration of the unit system would have given Wynne an efficient way to allow the physical space of the house to adapt to changes in household structure, and in the meantime, the kitchen could double as servants' accommodations or additional storage space.

7.8 Conclusions

The structure referred to in this thesis as the mansion house kitchen sat dug into the hillside at the rear of a multi-room service wing, adjacent to a two-storey manor house. It was built sometime between 1622 and 1628 as part of a larger complex of structures which would later come to be known as George Calvert's mansion house. A levelled terrace between the two structures may have served as a kitchen garden.

Evidence from clay tobacco pipes suggests that the kitchen was used most extensively during the period from 1620 to the 1640s but continued to be used in some capacity afterwards (Figure 25). During this time a variety of domestic tasks occupied the kitchen. Tin-glazed earthenware and faunal remains indicate that large cuts of meat, especially beef, would have been cut and roasted over the fire before being carried into the mansion house. Pins, beads, a buckle, and other clothing items provide evidence that clothes were mended and cleaned in the kitchen, while a lead bale seal suggests that raw cloth was worked there. Some of these items also suggest that the kitchen may well have served as a dwelling for the servants who worked there. While it was in use, the kitchen would have been a regular hub of domestic activity critical to the daily life of the mansion house.

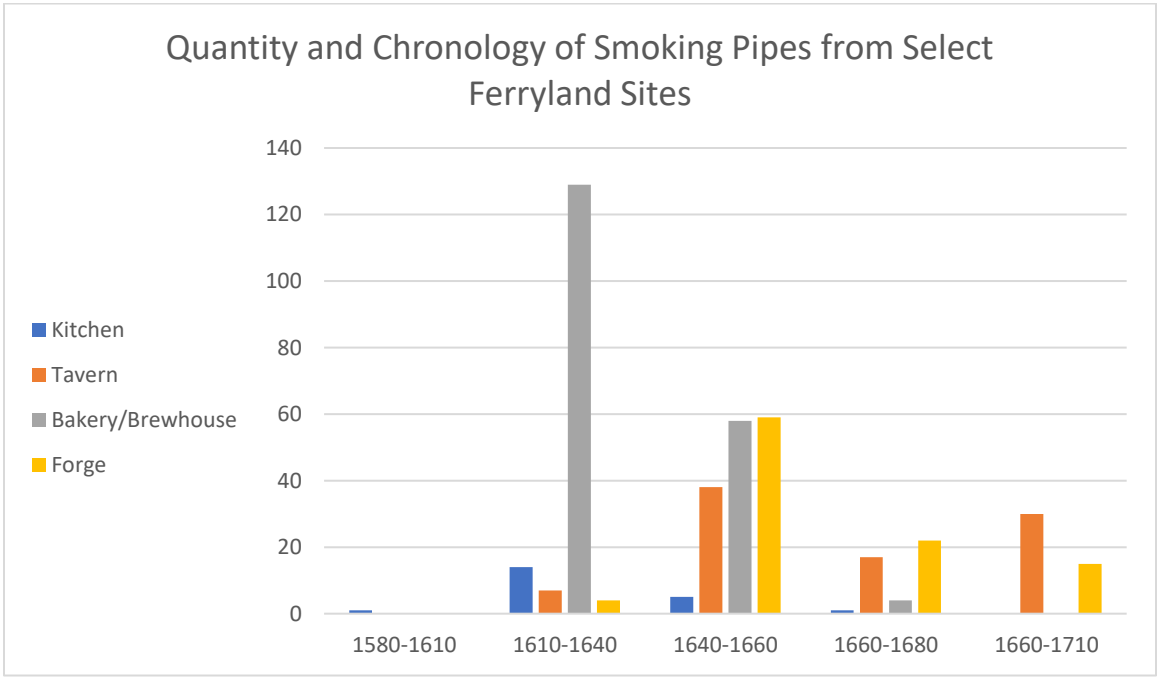

Figure 25: Clay tobacco pipe quantities and dates from select Ferryland sites compared with those from the kitchen.

That activity in the kitchen seems to have slowed during the 1640s, however, may reflect other changes taking place at the settlement at the time under David Kirke's tenure. Kirke's vision of the settlement involved a shift from a nucleated fishing village to an economically diversified settlement trading in wine, tobacco, and provisions and taxing local planters (Gaulton 2013: 280). Part of Kirke's modifications included changes to the Calvert-era infrastructure, including the brewhouse which served Calvert's mansion house (Clausnitzer 2011: 121). The kitchen and service wing may have been saved partly because their sturdy stone walls would have withstood Ferryland's acidic soils better than the wooden sills of the forge and brewhouse (Gaulton 2013: 280). The kitchen may also have been useful in housing members of the Kirke family, or some of the servants or seasonal workers they employed, helping to explain items such as the DK token which indicate that its use continued after Kirke's arrival. In any case, the kitchen's role in relation to the mansion house complex and the rest of the community seems to have changed under the Kirke's tenure. Eventually, sometime after the 1640s, its hearth was walled up and the structure was repurposed, signalling a change in the use of the mansion house complex itself.

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Appendix A:
Ceramic Vessel Lots from the Mansion House Kitchen

Vessel Number: 1 Events: 630, 849
Ware Type: Manganese Mottled Vessel Form: Mug
Catalogue #'s: 688784, 686992

Vessel Number: 2 Events: 630
Ware Type: North Devon Gravel Vessel Form: Milk Pan
Catalogue #'s: 688818, 688408, 502562, 691536a-c, 689263, 502564a-c

Vessel Number: 3 Events: 630
Ware Type: Saintonge Vessel Form: Bowl(?)
Catalogue #'s: 688259

Vessel Number: 4 Events: 630
Ware Type: Borderware Vessel Form: Cup(?)
Catalogue #'s: 691546, 686993

Vessel Number: 5 Events: 630
Ware Type: Portuguese Redware Vessel Form: Bottle or Costrel
Catalogue #'s: 502553

Vessel Number: 6 Events: 630
Ware Type: Somerset Type Vessel Form: Unidentified storage vessel
Catalogue #'s: 687442, 688826a-b, 688409a-b, 688255a-o

Vessel Number: 7 Events: 630
Ware Type: Somerset Type Vessel Form: Porringer, large cup, or bowl
Catalogue #'s: 686985, 677558

Vessel Number 8: Events: 849
Ware Type: Somerset Type Vessel Form: Unidentified Storage
Catalogue #'s: 704845a-b

Vessel Number: 9 Events: 630
Ware Type: Somerset Type Vessel Form: Pot
Catalogue #'s: 687272a-c

Vessel Number: 10 Events: 849
Ware Type: North Devon Gravel Vessel Form: Fleshpot
Catalogue #'s: 692268a-b, 692267, 689947, 691150

Vessel Number: 11 Events: 849
Ware Type: North Devon Gravel Vessel Form: Milk Pan
Catalogue #'s: 701906

Vessel Number: 12 Events: 849
Ware Type: North Devon Gravel Vessel Form: Pot(?)
Catalogue #'s: 689998a-c

Vessel Number: 13 Events: 849
Ware Type: North Devon Gravel Vessel Form: Milk pan
Catalogue #'s: 707528

Vessel Number: 14 Events: 849
Ware Type: North Devon Smooth Vessel Form: Tall pot
Catalogue #'s: 690392

Vessel Number: 15 Events: 630
Ware Type: North Devon Smooth Vessel Form: Cup
Catalogue #'s: 687438, 688819a-g, 687434a-b

Vessel Number: 16 Events: 630
Ware Type: North Devon Smooth Vessel Form: Jar or pot
Catalogue #'s: 688978

Vessel Number: 17 Events: 630
Ware Type: North Devon Sgraffito Vessel Form: Flatware
Catalogue #'s: 679933

Vessel Number: 18 Events: 630
Ware Type: North Devon Smooth Vessel Form: Pot(?)
Catalogue #'s: 688257

Vessel Number: 19 Events: 630
Ware Type: North Devon Smooth Vessel Form: Hollowware
Catalogue #'s: 691541, 691542a-e

Vessel Number: 20 Events: 849
Ware Type: North Devon Smooth Vessel Form: Storage jar or pot
Catalogue #'s: 691498

Vessel Number: 21 Events: 630
Ware Type: Verwood Vessel Form: Storage jar or pot
Catalogue #'s: 690143

Vessel Number: 22 Events: 849
Ware Type: Portuguese Redware Vessel Form: Bottle or costrel
Catalogue #'s: 693260

Vessel Number: 23 Events: 849
Ware Type: Unidentified Whiteware Vessel Form: Unidentified storage

Catalogue #'s: 701109

Vessel Number: 24 Events: 849
Ware Type: Spanish Heavy Vessel Form: Jar
Catalogue #'s: 701941

Vessel Number: 25 Events: 849
Ware Type: North Devon Smooth Vessel Form: Chamber Pot
Catalogue #'s: 701111a-c

Vessel Number: 26 Events: 849
Ware Type: Saintonge Polychrome Vessel Form: Chafish dish or costrel
Catalogue #'s: 693281a-b

Vessel Number: 27 Events: 849
Ware Type: Exeter Coarse Sandy Vessel Form: Jar, bowl, or cup
Catalogue #'s: 690006

Vessel Number: 28 Events: 849
Ware Type: Somerset Type Vessel Form: Unidentified hollowware
Catalogue #'s: 688381

Vessel Number: 29 Events: 849
Ware Type: Somerset Type Vessel Form: Milk pan
Catalogue #'s: 687389

Vessel Number: 30 Events: 849
Ware Type: Somerset Type Vessel Form: Unidentified vessel
Catalogue #'s: 691551

Vessel Number: 31 Events: 849
Ware Type: Somerset Type Vessel Form: Milk pan
Catalogue #'s: 707294

Vessel Number: 32 Events: 849
Ware Type: Somerset Type Vessel Form: Milk pan
Catalogue #'s: 707526a-c

Vessel Number: 33 Events: 630
Ware Type: North Devon Smooth Vessel Form: Tall pot
Catalogue #'s: 688254a-s, 688260, 502554, 690143, 687270a-b, 681730a-f, 679932a-b, 686983a-g, 687269a-b

Vessel Number: 34 Events: 849
Ware Type: North Devon Smooth Vessel Form: Tall pot
Catalogue #'s: 706784a-c, 689579

Vessel Number: 35
Ware Type: Bellarmine
Catalogue #'s: 707281
Events: 849
Vessel Form: Bottle

Vessel Number: 36
Ware Type: Bellarmine
Catalogue #'s: 688698a-b
Events: 630
Vessel Form: Bottle

Vessel Number: 37
Ware Type: Westerwald
Catalogue #'s: 701944a-b, 691828
Events: 849
Vessel Form: Hollowware

Vessel Number: 38
Ware Type: Westerwald
Catalogue #'s: 701945a-c, 681724, 588406
Events: 630, 849
Vessel Form: Hollowware

Vessel Number: 39
Ware Type: Tin-Glazed Earthenware
Catalogue #'s: 692765
Events: 849
Vessel Form: Mug

Vessel Number: 40
Ware Type: Tin-Glazed Earthenware
Catalogue #'s: 698477
Events: 849
Vessel Form: Flatware

Vessel Number: 41
Ware Type: Tin-Glazed Earthenware
Catalogue #'s: 707279
Events: 849
Vessel Form: Hollowware

Vessel Number: 42
Ware Type: Tin-Glazed Earthenware
Catalogue #'s: 690093
Events: 849
Vessel Form: Galley pot

Vessel Number: 43
Ware Type: Tin-Glazed Earthenware
Catalogue #'s: 701136b-c
Events: 849
Vessel Form: Flatware

Vessel Number: 44
Ware Type: Tin-Glazed Earthenware
Catalogue #'s: 690632
Events: 849
Vessel Form: Unknown

Vessel Number: 45
Ware Type: Tin-Glazed Earthenware
Catalogue #'s: 704833
Events: 849
Vessel Form: Flatware

Vessel Number: 46
Events: 849

Ware Type: Tin-Glazed Earthenware
Catalogue #'s: 691029
Vessel Form: Plate

Vessel Number: 47
Ware Type: Tin-Glazed Earthenware
Catalogue #'s: 701256
Events: 849
Vessel Form: Bowl

Vessel Number: 48
Ware Type: Tin-Glazed Earthenware
Catalogue #'s: 693120
Events: 849
Vessel Form: Flatware

Vessel Number: 49
Ware Type: Tin-Glazed Earthenware
Catalogue #'s: 693039
Events: 849
Vessel Form: Unidentified

Vessel Number: 50
Ware Type: Tin-Glazed Earthenware
Catalogue #'s: 619477
Events: 849
Vessel Form: Hollowware

Vessel Number: 51
Ware Type: Tin-Glazed Earthenware
Catalogue #'s: 701891
Events: 849
Vessel Form: Unidentified

Vessel Number: 52
Ware Type: Tin-Glazed Earthenware
Catalogue #'s: 702081a-b
Events: 849
Vessel Form: Flatware

Vessel Number: 53
Ware Type: Tin-Glazed Earthenware
Catalogue #'s: 688251
Events: 849
Vessel Form: Plate

Vessel Number: 54
Ware Type: Tin-Glazed Earthenware
Catalogue #'s: 688868
Events: 849
Vessel Form: Lobed dish

Vessel Number: 55
Ware Type: Tin-Glazed Earthenware
Catalogue #'s: 689473a-b
Events: 849
Vessel Form: Hollowware

Vessel Number: 56
Ware Type: Tin-Glazed Earthenware
Catalogue #'s: 707590
Events: 849
Vessel Form: Flatware

Vessel Number: 57
Ware Type: Tin-Glazed Earthenware
Catalogue #'s: 690630a-d
Events: 849
Vessel Form: Flatware

Vessel Number: 58
Ware Type: Tin-Glazed Earthenware
Catalogue #'s: No #

Events: 849
Vessel Form: Hollowware

Appendix B:
Clay Pipe Bowls from the Mansion House Kitchen

Catalogue #s	Event	Description	Date	Notes
688154	630	Bowl	1580-1610	Barrel
691528	630	Bowl	1610-1640	Barrel
493057	630	Bowl	1610-1640	Barrel
692166	630	Bowl	1610-1640	Barrel
680083	630	Bowl	1610-1640	Barrel
689453	630	Bowl	1610-1640	Barrel
687223	630	Bowl	1640-1660	Barrel
493056	630	Bowl	1610-1640	Elongated
688376	630	Bowl	1660-1680	Elongated
689439	630	Bowl	1640-1660	Barrel
691526	630	Bowl		Unidentified type
720295	849	Bowl	1610-1640	Barrel
701764	849	Bowl	1610-1640	Barrel
719955	849	Bowl	1610-1640	Barrel
690309	849	Bowl	1610-1640	Barrel
704290	849	Bowl	1640-1660	Barrel
692922	849	Bowl	1640-1660	Barrel
690182	849	Bowl	1640-1660	Barrel
720012	849	Bowl	1610-1640	Barrel
707208	849	Bowl	1610-1640	Barrel
688670	849	Bowl	1610-1640	Barrel
690297	849	Bowl	1610-1640	Barrel
690049	849	Bowl	1640-1680	Barrel

Appendix C:
Glass Vessel Lots from the Mansion House Kitchen

Vessel Number: 1 Events: 849
Vessel Form: Case Bottle
Catalogue #'s: 689003

Vessel Number: 2 Events: 849
Vessel Form: Case Bottle
Catalogue #'s: 706746a-b

Vessel Number: 3 Events: 849
Vessel Form: Case Bottle
Catalogue #'s: 701092a-b

Vessel Number: 4 Events: 849
Vessel Form: Case Bottle
Catalogue #'s: 691203

Vessel Number: 5 Events: 630
Vessel Form: Case Bottle
Catalogue #'s: 689521

Vessel Number: 6 Events: 849
Vessel Form: Case Bottle
Catalogue #'s: 689383

Vessel Number: 7 Events: 849
Vessel Form: Case Bottle
Catalogue #'s: 708228

Vessel Number: 8 Events: 849
Vessel Form: Case Bottle
Catalogue #'s: 688882

Vessel Number: 9 Events: 630
Vessel Form: Unidentifiable Wine Bottle
Catalogue #'s: 498786

Vessel Number: 10 Events: 630
Vessel Form: Type D Wine Bottle
Catalogue #'s: 494031, 494047

Vessel Number: 11 Events: 630
Vessel Form: Type A or B Wine Bottle
Catalogue #'s: 494035, 494093

Vessel Number: 12 Events: 630
Vessel Form: Type C or D Wine Bottle
Catalogue #'s: 494030

Vessel Number: 13 Events: 630
Vessel Form: Type C or D Wine Bottle
Catalogue #'s: 494040

Vessel Number: 14 Events: 849
Vessel Form: Unidentifiable Wine Bottle
Catalogue #'s: 706301, 688879

Appendix D: Ferryland (CgAf-02) Kitchen Midden – Report on Faunal Remains

Performed by Deirdre Elliott, Memorial University of Newfoundland

September 2018

Methodology

This report provides the results of analysis of a sample of faunal remains (selected by J.D. Archer[i]) recovered from the Kitchen Midden at Ferryland (CgAf-02) from the 2011, 2012, and 2013 field seasons. Analysis of faunal material from Ferryland was conducted using the zooarchaeological reference collection in the Archaeology department at Memorial University of Newfoundland, as well as relevant web-based and print resources (Cannon 1987; Gilbert 1990; Gilbert et al. 1996; Hillson 2005; Perdikaris et al. 2004; v. Busekist 2004; VZAP 2015). Specimens were first identified to class (mammal, bird, fish, bivalve) on the basis of general skeletal characteristics, such as the thickness of cortical bone and the presence of cancellous (spongy) bone. Specimens were considered identifiable beyond this level only if diagnostic features such as articular surfaces and processes were present, and/or if a significant proportion of the element was represented (an element is defined as the original, complete bone in the body). If an identification could not be made with certainty (for example, if a reference specimen was not available, if the specimen was slightly abnormal, or if not quite enough of the element was present to be fully certain), the specimen record was given a "*cf.*" label. For all specimens that were identified below class, the taxon (scientific and common name), element, completeness (how much of the original bone is present), portion (which part of the original bone), stage of epiphyseal fusion, and side (left, right, or midline) were also noted where possible. Where possible, mammal specimens unidentifiable below class level were grouped into size classes (see Appendix 1). Small mammals include those smaller than a rabbit/hare. Medium mammals include those between (and including) rabbit/hare and wolf. Large mammals include those larger than a wolf (such as a large pig, or deer). Very large mammals include moose and adult cows, though only some elements in their skeletons can be distinguished from smaller mammals when fragmented.

All identified specimens were examined for evidence of cut marks, gnaw marks, digestion, and burning, all of which can speak to cultural practices and/or the depositional environment (for example, the presence of carnivores). These features were scored by presence/absence, and anatomical locations on the bone of cut or gnaw marks were noted where applicable, in order to aid in reconstruction of butchery or scavenging patterns. When evidence of burning was present, the extent of burning was scored on a scale from 1 to 6, following the recommendations of Costamagno et al. (1999) and Stiner et al. (1995), as overall patterns of burning in the assemblage can provide insight into cooking, disposal, and site preservation conditions. Extent of weathering, following a modification of the scale presented by Behrensmeyer (1978), was also noted for each specimen (Appendix 2).

Results and Discussion

A total of 529 faunal specimens from the Kitchen Midden at Ferryland (CgAf-02), weighing a combined total of 1862.0 g, were analyzed. A breakdown by class is given in Table 1 (NISP = number of identified specimens, %NISP = percent of total NISP of all taxa). The faunal assemblage as a whole was well-preserved, however due to a high degree of fragmentation within much of the assemblage, the majority (68%) of specimens were unidentifiable below the level of class, and an additional 1.3% of specimens were unidentifiable to class. The majority of specimens (71.5%) were identified as mammal, though this number likely reflects differential preservation and recovery methods to some degree; fish (23%) and bird (4.7%) remains are likely under-represented. A breakdown of vertebrate specimens by taxon is given in Table 2.

Table 1: Kitchen Midden, Ferryland (CgAf-02) faunal remains by Class

Class	**%NISP**	***(NISP)***	**%Mass**	***(Mass[g])***
Mammal	71.5	*(378)*	97.0	*(1805.7)*
Bird	4.7	*(25)*	1.0	*(18.4)*
Fish	22.5	*(119)*	1.9	*(35.9)*
Indeterminate	1.3	*(7)*	0.1	*(2.0)*
TOTAL	**100**	***(529)***	**100**	***(1862.0)***

Table 2: Vertebrate taxa identified in the Kitchen Midden, Ferryland (CgAf-02) faunal assemblage

Taxon	Common Name	%NISP	*(NISP)*	MNI
Mammal	Indeterminate mammal	82.0	*(310)*	
Artiodactyla	Even-toed ungulate	2.9	*(2)*	
Rangifer tarandus	Caribou	13.2	*(9)*	1
Sus scrofa	Domestic pig	26.5	*(18)*	1
Bovidae	Cow/sheep/goat			
Bos taurus	Domestic cow	33.8	*(23)*	2
Caprinae	Sheep/goat	5.9	*(4)*	1
Carnivora	Carnivore			
Canidae	Dog/wolf/fox	1.5	*(1)*	1
Phocidae	Seal	11.8	*(8)*	
Pagophilus groenlandicus	Harp seal	4.4	*(3)*	1
TOTAL MAMMAL		**71.5**	***(378)***	**7**
Bird	Indeterminate bird	76.0	*(19)*	
Anatidae	Duck/goose/swan	66.7	*(4)*	1
Laridae	Gull/tern	16.7	*(1)*	
Larus sp.		16.7	*(1)*	1
TOTAL BIRD		**4.7**	***(25)***	**2**
Fish	Indeterminate fish	27.7	*(33)*	
Gadidae	Cod family	87.2	*(75)*	
Gadus morhua	Atlantic cod	12.8	*(11)*	3
TOTAL FISH		**22.5**	***(119)***	**3**
Indeterminate		1.3	*(7)*	
TOTAL		**100**	***(529)***	**12**

Identified mammal remains are largely from domesticated animals (primarily pig, cow, and sheep/goat), as well as harp seal, caribou, and the remains of what is likely a single domestic dog. Identified bird remains are from common, locally available wild species. Finally, identified fish remains are comprised exclusively of cod, likely from the commercial fishery.

The minimum number of individual animals (MNI) that might have contributed to the assemblage was calculated for each useful taxon, based on the frequency of the most numerous sided element, after mends or potential mends (i.e. a specimen identified as the proximal end of a humerus may have originally mended a specimen identified as the distal end of a same-sided humerus, and the two specimen together would therefore count as one individual). However, given that recovered assemblages are almost never complete, and that complete skeletons are rarely deposited, MNI can be misleading, and should not be taken as the true frequency of various taxa in the diet.

Identified mammal remains are predominantly those of domesticates – primarily cow, followed by pig and sheep/goat. It should be noted that the majority of the identified pig remains

were teeth, and it is these from which the MNI for pigs was derived. It is not known at this point whether this indicates the presence of salt or fresh pork, as head portions are present in both. However, the predominance of head parts suggests that pork was entering the household as butchered cuts (either fresh or cured), and not whole. Since the Kitchen Midden assemblage was not analysed in its entirety, this pattern of body part representation may shift with further analysis. As demonstrated by Guiry et al. (2012), both imported barrelled salt pork and locally-raised pork were available at Ferryland (at least in the 17th century). There has historically been little standardization that would conclusively bias the assemblage in favour of a select few elements (see Guiry et al. 2012 for a discussion), and butchery techniques are similar for both fresh pork and pork to be cured. Salt pork is recorded frequently in historic records, and salt beef is not unknown (though it is less common). Although recipes and records do exist for salt mutton/lamb/goat elsewhere, these meats do not lend themselves as well to salt preservation (Bowen 1993), and were more likely kept live on site or nearby and consumed fresh. Documentary records and other faunal analyses from Ferryland do suggest rearing of livestock – perhaps even on a large scale – though the practice does not appear to always have been a stable one (see Hodgetts 2006 for a summary of 17th century accounts). Body part representation for both cow and sheep/goat in the Kitchen Midden is more even than for pigs, suggesting the consumption of fresh (or at least local) beef and sheep/goat. Stable isotope analysis ($\delta^{13}C$ and $\delta^{15}N$) of the pig remains recovered from Ferryland may provide further evidence for either case (Guiry et al. 2012). Interestingly, the identified caribou remains suggest that some members of this household were partaking in local hunting, though it is hard to say whether this was for sport or for subsistence is not known (Hodgetts 2006). The assemblage of mammal remains is curiously contradictory, containing a significant proportion of both higher quality meats (various cuts of fresh beef, mutton, and hunted foods such as caribou), and lower quality meets (such as pig head parts and cod). Though the sample size is too small to say anything with certainty, this ambiguity may be the result of a mixing of two distinct time periods (each characterized by a different spectrum of animal resources, whether due to climate or socioeconomic status), or the assemblage is representative of a kitchen in which two classes of meals were being prepared. No significant differences in the abundance of different taxa or body part were observed across events, save for in seal remains, which are concentrated in event 849.

The identified bird remains from the Kitchen Midden suggest consumption of opportunistically-hunted sea birds, with little or no input from domestic bird species. Fish remains consisted exclusively of cod-family fish. Not all elements within the cod skeleton are diagnostic to the level of species, and other cod-family fish – such as haddock and pollock – exist in the area, and so many elements are identified as “Gadidae”. However, no specimens were identified as these other species, and so it can safely be assumed that at least the majority of the Gadids are likely to be the only positively identified Gadid species – Atlantic cod.

The Kitchen Midden remains appear to have been accessible to carnivores (likely dogs and/or foxes), as they display a relatively average incidence of carnivore gnawing, as compared to other historic sites (see Table 4, below).

Table 4: Presence of carnivore gnawing in the Kitchen Midden, Ferryland (CgAf-02) vertebrate faunal assemblage

	Kitchen Midden (n=529)	
Taxon	**%NISP**	***(NISP)***
Bos taurus	26.1	*(6)*
Caprinae	25.0	*(1)*
Sus scrofa	11.1	*(2)*
Rangifer tarandus	22.2	*(2)*
Indeterminate	2.4	*(9)*
TOTAL	3.8	*(20)*

Cut marks were identified relatively frequently within the Kitchen Midden assemblage. Though overall numbers of remains with evidence of cut marks are too low to definitively reconstruct butchery patterns, cut marks observed are consistent with common butchery practices that produce bone-in cuts of meat (though boneless cuts may also have been consumed). Though cut marks are rare on fish and bird remains, this is likely due to the obscuring of cut marks by weathering (see Table 5).

Table 5: Presence of cut marks on vertebrate taxa in the Kitchen Midden, Ferryland (CgAf-02) faunal assemblage

	Kitchen Midden (n=529)	
Taxon	**%NISP**	***(NISP)***
Gadidae	1.2	*(1)*
Anatidae	25.0	*(1)*
Phocidae	9.1	*(1)*
Bos taurus	73.9	*(17)*
Rangifer tarandus	22.2	*(2)*
Artiodactyl	50.0	*(1)*
Indeterminate	19.8	*(73)*
TOTAL	18.1	*(96)*

Incidence of burning in the Kitchen Midden assemblage is very low, with only 1.1% of specimens exhibiting evidence of having been burned, and all of these to the stage of calcination (burning extent 5 or 6), which is indicative of direct exposure to high temperatures (over 500 °C) over period of several hours (Lyman 1994:386-389). This indicates only occasional disposal (accidental or deliberate) of food remains in a fire, or that the ashes of these fires were disposed of elsewhere.

The assemblage as a whole was somewhat well preserved, with half of the specimens exhibiting weathering to stages 1 or 2, with nearly all of the remaining specimens having weathering to the 3rd stage (see Table 6) (stages are a modified version of those presented by Behrensmeyer, 1978). This is average preservation for archaeological assemblages in general, and good for archaeological sites in Newfoundland, and is an indicator that, overall, taxonomic identification and the identification of bone modifications (cut and gnaw marks) was not severely hindered by weathering, though some fish and bird remains may have been lost to weathering.

Table 6: Extent of weathering in the Ferryland (CgAf-02) Kitchen Midden faunal assemblage

Extent of Weathering	%NISP	*(NISP)*	%Mass	*(g)*
1	1.0	*(5)*	0.4	*(6.9)*
2	49.5	*(262)*	70.8	*(1317.7)*
3	46.3	*(245)*	27.1	*(505.4)*
4	3.0	*(16)*	1.7	*(31.6)*
5	0.2	*(1)*	0.0	*(0.4)*
TOTAL	**100**	***(529)***	**100**	***(1862.0)***

Summary

The faunal remains analysed in this assemblage point towards a reliance on domesticated species (pigs, cows, and sheep/goats), supplemented (at least periodically) by locally available fish (probably procured through the commercial cod fishery), seals, caribou, and sea birds. Though a much larger sample will need to be analysed before more definitive conclusions can be made, this small assemblage provides an intriguing starting point for answering questions pertaining to socioeconomic differences in foodways, or to variation through time. These questions may be more easily answered when faunal data are combined with artifactual and documentary sources. Given the generally good preservation at the site, more can also be learned regarding butchering practices, cooking, disposal, and the different consumption practices across the site once a larger portion of the total site assemblage is analysed in detail.

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[i] The sample collected for this analysis represents roughly 25% of the faunal assemblage excavated from 2011-2013 and was recovered from the Colony of Avalon conservation laboratory in April 2018.