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Breaking the Mold: Sugar Ceramics and the Political Economy of 18th Century St Eustatius

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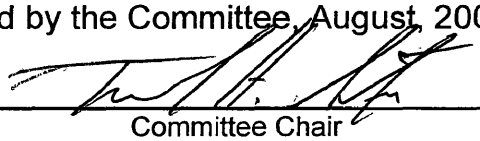

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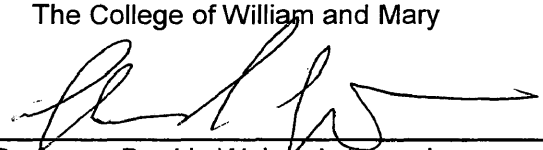

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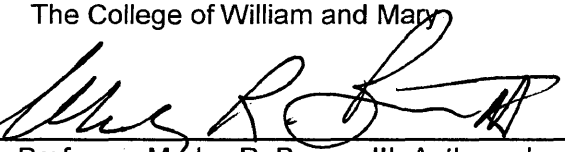

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ABSTRACT PAGE

Redware ceramics made in the Caribbean have long been a fascination for Historical Archaeologists with studies ranging from African "survivals" to informal markets. This study takes these long studied ceramics and looks at them at a regional level. The discovery of a possible ceramic production site next to a midden that contained over 400 sherds of Caribbean redware sugar molds and drips dating to the middle of the 18th century points to the mass production of these ceramics for a market need. As St. Eustatius had few sugar plantations during the 18th century, it is most likely that these ceramics were made and traded for plantation owners on the surrounding British and French islands. This trade from a Dutch island to the French and English islands of a refined good, sugar molds and drips, demonstrates St. Eustatius' role as alternative and illegal market for French and English planters who wished to circumvent the restrictive monopolies of their mercantile capitalist metropoles.

Table of Contents

Dedication	ii
Acknowledgements	iii
List of Maps, Tables, and Figures	iv
Introduction	1
St. Eustatius and the Warehouse Site: Background	6
Sugar Ceramics and the Sugar Making Process	24
Political Economy of St. Eustatius in the 18th Century	36
Conclusion	50
Bibliography	53

Dedication

To My Grandparents

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List of Maps, Figures, and Table

Maps

1. Lower Town 9
2. Excavation Area 9

Figures

1. Representations of sugar molds and drip jars 11
2. Excavated warehouse with pit feature extrapolated 13
3. Profile of west wall of the excavation outside the warehouse 14
4. Drawing of European Sugar mold 19
5. Drawing of white-streaked European Sugar mold 21
6. One possible layout of a sugar-drying house (from Ligon 1673) 30
7. Partial List of estimated expenses to start a sugar plantation (Belgrove) 33
8. Estimated annual costs of a sugar plantation (Belgrove) 34
9. Line graph of Sugar Production on Martinique, 1733-1762 47

Table

1. Measurements for the three types of sugar molds and drip jars 22

I. Introduction

Unrefined red earthenwares produced in the Caribbean have fascinated historical archaeologists (see Haviser 1999). These redwares have been given a great deal of theoretical and archaeological attention largely because they are one of the few products of the historic period made in the Caribbean that survive archaeologically into the present. In addition, these wares have tended to be found on sites associated with peoples of African descent and therefore have been studied for their particular insight into the lives of Afro-Caribbean people (Handler 1963a, 1963b; Heath 1988,1999; Hauser and Armstrong 1999; Petersen, Watters, and Nicholson 1999; Loftfield 2001; Gilmore 2004). Redwares, similar to colono-ware in the Chesapeake, have been interpreted in the frameworks of creolization, African survival, and in informal markets. All of these have provided insights into the archaeological record of enslaved individuals but in this study I chose to look at these redwares in the context of larger regional networks where they supplemented unrefined earthenwares manufactured in Europe.

Peterson, Watters, and Nichols have looked at Caribbean produced redwares as a form of creolization and have sought analogous ceramic forms and decorations in Africa (1999). They argue that a few of the enslaved individuals who were forcibly brought by the Middle Passage to the Caribbean would have had the knowledge of ceramic production and would have used that knowledge in the Caribbean. Individuals would have had to make necessary changes to their craft due to different materials and different social conditions but the essence of their craft would have continued. Therefore, the decorations and forms that are found in the Caribbean

should have similar decorations and forms in the Caribbean. This viewpoint has led some scholars to call these ceramics Afro-Caribbean (Heath 1988; Watters and Nicholson 1999:158). Afro-Caribbean is a term that unequivocally ties an idea of ethnicity (if not race) to these ceramics and this essentialized ceramic type has for some become an interpretative tool to explain who was inhabiting a particular archaeological site at a particular time.

However, such an essentialized notion of these ceramics has been questioned. Hauser and Armstrong have argued that tying ethnicity to an artifact type essentializes ethnicity and ignores many of the other social processes that were going on, along with minimalizing the number of ceramic traditions in Africa (1999:72). Therefore, they have removed the ethnic marker of Afro-Caribbean ware and have renamed these ceramics, low-fired earthenwares (I will use locally produced redwares in this paper to emphasize their place of production), and have sought to place these ceramics into contexts of production and exchange. By exploring the low-fired earthenwares found on St. John's East End, US Virgin Islands they have discovered local and informal markets on the East End. This approach has pushed the interpretation beyond the idea of simply Afro-Caribbean identity but has instead shown how they were used and traded within a larger community (for examples of trade networks for these wares see Watterson and Nichols 1999: Hauser and Armstrong 1999: Gilmore 2004).

This study proposes to look at these ceramics at a larger scale than the informal networks suggested by Hauser and Armstrong by exploring a ceramic production site on St. Eustatius and its associated midden. This assemblage points to

locally produced redwares being produced for a semi-industrial process (sugar refining) and being traded off island to other destinations throughout the Caribbean. Unlike most other locally produced redwares, the assemblage from St. Eustatius have a particular form that limits their function and clearly defines their role (see Loftfield 2001 for an example from Barbados). These ceramics were all in the shapes of sugar molds and drips, which were objects important to the sugar industry and are a form dating from the 12th century AD and probably originated in Asia (Brooks 1983:1-3). Such an assemblage shows that clay resources of the islands were not simply being exploited by the lower classes of Caribbean society within small-scale informal networks but were also being exploited by individuals who were intimately tied to the large-scale networks of the Atlantic World.

To fully understand the role that these sugar molds, drips and associated ceramic production site played on St. Eustatius it is necessary to think about the political-economy of this time period. This study argues that these redwares represent a commodity in the Atlantic market that moved across geographic and political boundaries. Therefore, the analysis of these ceramics and the people who traded these ceramics cannot limit itself to simply thinking about life on St. Eustatius or focus solely on the economic policies of its colonizer, the Netherlands, but rather this study will also focus on the economic policies of the French and English who had a major impact on the fortunes of the island of St. Eustatius.

Sidney Mintz has argued that the Caribbean is connected to the Atlantic world when he said, "Caribbean people have always been entangled with a wider world, for the region has, since 1492, been caught up in the skeins of imperial control, spun in

Amsterdam, London, Paris, Madrid, and other European and North American centers of world power" (1985:xv). This is an idea that harkens back to Eric Wolf's important piece, *Europe and the People Without History*, where he argued that we cannot look at the world after 1400 AD as made up of distinct cultures or societies (1982). Wolf argues that we must see each of these groups as connected within a "totality" and to analyze just a part of this totality without placing that part back into the larger framework would create false reality (1982:3).

In this case study, a site found locally on St. Eustatius will be placed into a larger framework of the 18th century Atlantic political economy. I will use a favorite class of material culture of Caribbean archaeologists, locally produced redwares, to show how the legal structure and mercantile policies of the English, French, and Dutch helped create St. Eustatius as a free port that served as a market for an assortment of illegal goods, including sugar, sugar molds, and drips. However, to reach this conclusion it will first be necessary to sketch the basic history of St. Eustatius as a trade entrepot in the Caribbean and to provide a sketch of the site excavated along Oranje Bay on St. Eustatius demonstrating the different sugar molds and drips found as well as an associated ceramic production site. From there the sugar process will be explained with a particular focus on the role that sugar ceramics and drips played. This process was not isolated and the site and St. Eustatius will be placed into a larger political-economic framework to highlight the mercantilist policies of the French and English as compared to the Dutch. I will conclude by showing how these ceramics moved through the unrestricted market of St. Eustatius and suggest that this movement of relatively benign but nevertheless important goods

is a precedent for the black markets that exist in the present.

II. St. Eustatius and the Warehouse Site: Background

The island of St. Eustatius sits within the northern arc of the Caribbean archipelago. It is small in size, only 21 square kilometers, and dominated by a volcanic peak (Westerman and Kiel 1961:99). It is situated about 12 kilometers north of St. Kitts, and about 25 kilometers south of Saba. The island itself has only one urban center, Oranjestaad, which has been the capital and main port of entry since the first permanent European settlement on the island in 1636 (Barka 2002:106). Although the island has fertile volcanic soil, the volcanic peak is shorter than those on the surrounding islands, which is why St. Eustatius receives relatively little rainfall. In addition, there are no natural sources of fresh water on the island and residents on the island both historically and in the present have a limited supply of fresh water that is collected in cisterns from rainfall (Barka 2002:107). These geographic and geologic features of St. Eustatius have helped shape its history and have permanently hindered its growth as an agricultural colony.

Oranjestaad is split into two areas: Upper Town and Lower Town. Physically, Upper Town is separated from Lower Town by a steep 40-meter cliff (Atemma 1976:11). In 1781 when Admiral Sir George Brydges Rodney took control of the island from the Dutch he described this cliff and paid particular notice to the defensive advantage this feature offered if the people on St. Eustatius had only chosen to defend the island. "The Upper Town is upon a steep Clift, at least seventy foot perpendicular. You ascend to it by a zig zag road, very difficult, steep, & must have cost the Expence of Blood, had the enemy defended it" (cited in Barka 1996:228). Upper Town was the main residential area as well as the location of all the

government offices. Lower Town was the main commercial zone where the majority of the trade warehouses were located (Kandle 1985). Lower Town also lies upon the safest harbor, Oranje Bay. At the height of St. Eustatius' prosperity, there were over 600 warehouses in Lower Town (Barka 1996:228).

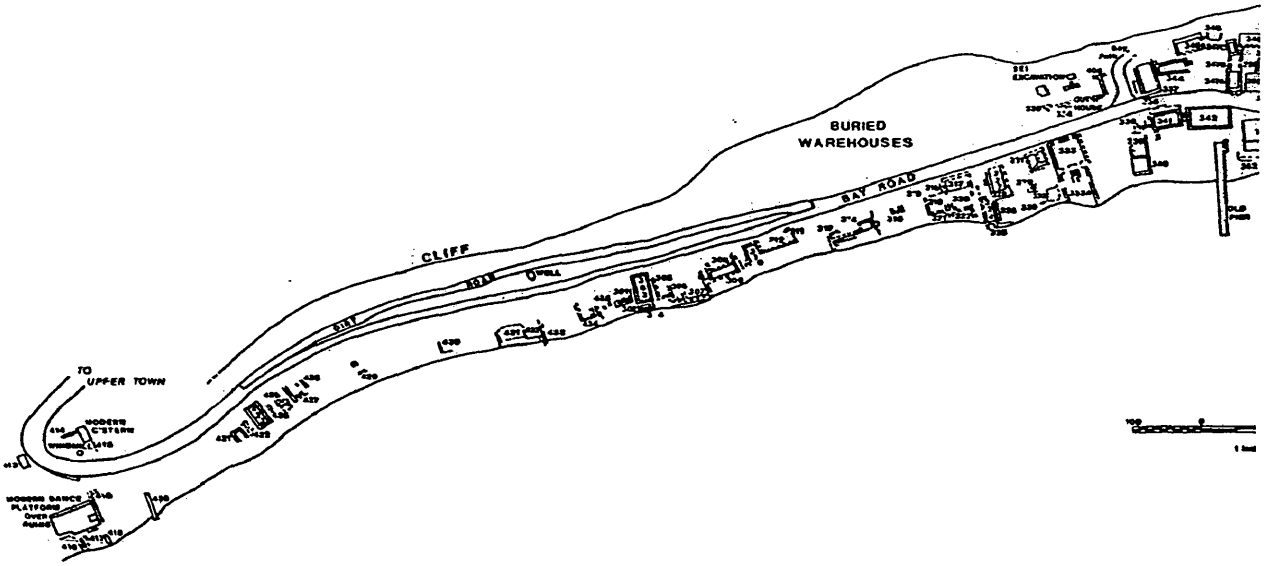
The warehouse district along the bay became the defining feature of St. Eustatius at its height of prosperity (Map 1). The majority of trade, both legal and illegal, occurred in and around the warehouses along the bay. By the 1770's this trade had reached such proportions that St. Eustatius was the busiest port in the Atlantic. In 1779, at least 3,551 ships made port in Orange Bay (Barka 1996:225). These warehouses were stocked with a wide range of goods, but the island was most notorious for selling gunpowder to the rebellious colonists of the thirteen continental colonies (Hurst 1996). This illegal trade eventually led to the capture of the island by the British in 1781. According to Rodney, "It was a vast capture" (Mundy 1830:13) and the goods on the island at the time of capture were valued at over 3 million pounds (Barka 1996:225).

The warehouses themselves varied in construction material and size. Many of the warehouses (particularly ones still standing) were made from red and yellow bricks that were imported from Europe. Other buildings had stone foundations (usually local volcanic rocks but also Bermuda limestone) with wooden walls. Buildings were of various heights including some two-story buildings. From the ruins still visible, most warehouses varied in length between 10 and 12.5 meters and 6 meters wide. By the 1770's space along the bay was at a premium. The rent for many of the warehouses reached the enormous sum of 1.2 million pounds per year

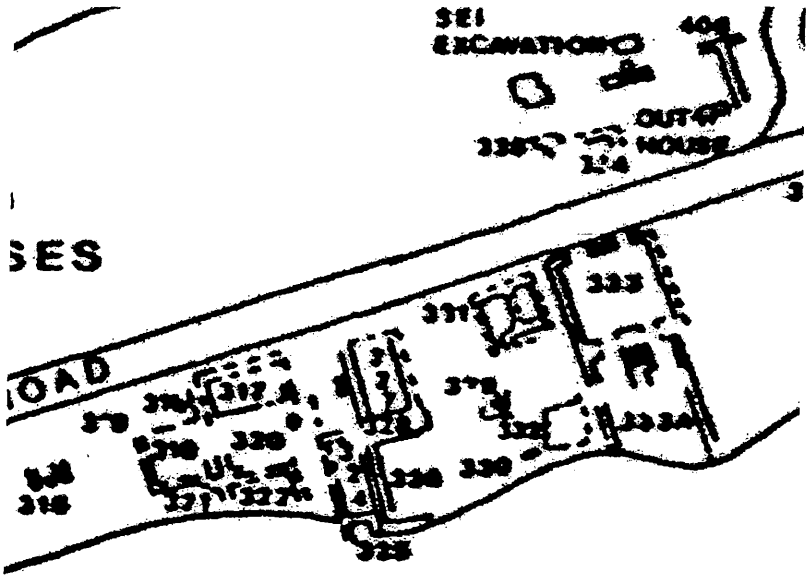
(Barka 1996:227). The warehouse district was bisected by one small road that allowed travel through the warehouses and eventually culminated in Upper Town. As every inch of space along the bay was developed, the warehouse district was extremely congested. Janet Schaw, a Scottish traveler who visited the island in 1775, found the warehouse district of St. Eustatius "most disagreeable." Schaw wrote, "In a few hours after we left St. Kitts, we landed on St. Eustatia, a free port, which belongs to the Dutch; a place of vast traffick from every quarter of the globe . . . The [lower] town consists of one street a mile long, but very narrow and most disagreeable, as every one smokes tobacco, and the whiffs are constantly blown in your face" (Schaw 1971:135-136).

The warehouse district was more diverse than the more culturally homogenous Upper Town (Kandle 1985; Barka 1996). Individuals from all over the Caribbean as well as from various places in Europe, and the Americas chose to settle along the bay in Lower Town and take their chances as traders. As diverse as the traders were, the goods being sold were even more so. Schaw gives the most vivid description of Lower Town:

> From one end of the town of Eustatia to the other is a continued mart, where goods of the most different uses and qualities are displayed before the shop-doors. Here hang rich embroideries, painted silks, flower Muslins, with all the manufactures of the Indies. Just by hang Sailor's Jackets, trousers, shoes, hats, etc. Next stall contains most exquisite silver plate, the most beautiful indeed I ever saw, and close by these iron-pots, kettles and shovels. Perhaps the next presents you with French and English Millinary-wares. But it were endless to enumerate the variety of merchandize in such a place, for in every store you find every thing be their qualities ever so opposite. I bought a quantity of excellent French gloves for fourteen pence a pair, also English thread-stockings cheaper than I could buy them at home. I was indeed surprised to find that the case with most of the British manufactures, but am told the merch[an]ts who export them have a large drawback." (Schaw 1971:137-138)



Map 1: Map of Lower Town (Created by Norman F. Barka from the SECAR digitial archives)



Map 2: Close up of the excavation area and warehouse SE 316 (Map created by Norman F. Barka, from SECAR digital archives)

The people who used the warehouses had their eyes and aspirations looking outwards towards the seas as opposed to inwards towards the island. The trade along the bay would have concentrated on the movement of commodities to other islands in the Caribbean and other ports throughout the Atlantic. Thus, archaeological researchers that wish to better understand St. Eustatius role in the larger Atlantic have an ideal space in St. Eustatius' Lower Town to conduct archaeological investigations.

Excavations Within the Warehouse (SE 316)

In 2006, local development threatened to destroy Warehouse SE 316 and an archaeological excavation was planned to mitigate damage to the cultural resources and collect information about the site (Map 2). The entire warehouse was excavated down to its floor piers, which yielded a significant number of 18th century artifacts. The excavations were halted at the floor piers, which lay 50 cm below the present ground surface. Originally, the warehouse would have had a raised wooden floor that sat upon volcanic-stone piers. There were significant amounts of refined creamware and pearlware, which is consistent with a late-18th century occupation of the site. As there were no artifacts dating to later periods it appears the warehouse was abandoned by the early 19th century.

One 1 x 2 meter unit in the southwest corner of the warehouse was excavated to subsoil. It was within this unit that a midden was unearthed. This 1 x 2 m unit produced over 4,000 ceramic sherds. The majority of the sherds recovered from the unit were unglazed coarse red earthenwares (n=3449). Within this assemblage of coarse red earthenwares were a mix of imported ceramic types from Europe and ceramics produced in the Caribbean. Based on analysis of rim shapes and bases, it

was clear that the vast majority of ceramic sherds recovered from this unit were sugar molds or molasses drip jars used in the sugar production process (Figure 1). Additionally, this midden had over 200 pieces of slag. These slag pieces averaged over 7 centimeters in diameter and represent the results of firing at high temperatures. The unit also yielded a significant amount of white salt glazed ceramics (n=173) suggesting a TPQ of 1720's (Noel Hume 1970:114-120). The absence of creamware or later ceramics within the midden itself suggests that the midden was out of use by 1762 (Noel Hume 1970:123-128). Most likely it was buried to help solidify the foundation of the warehouse that sits on top of this midden. Indeed, the presence of late eighteenth-century creamware and pearlware ceramics in the levels above the midden indicates that the construction of the warehouse post-dated the midden deposits.

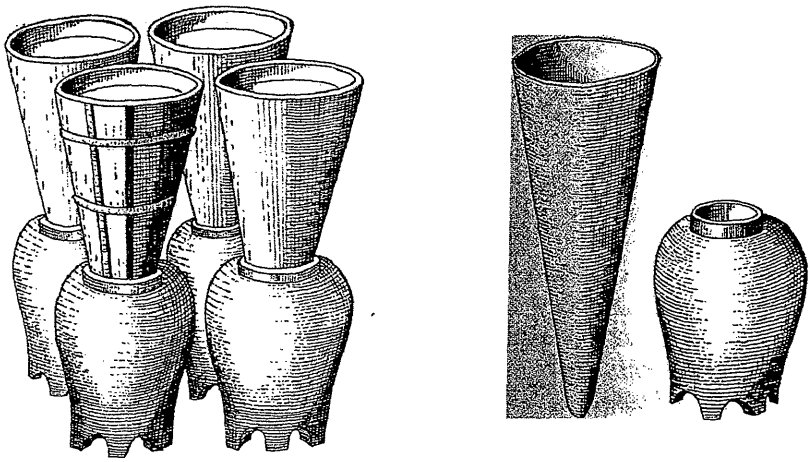


Figure 1: Representations of sugar molds and drip jars. Images after Diderot in Gillespie (1959: Plate II, 41). (Reproduced in Brooks 1983:9)

Excavation Outside the Warehouse SE 316

In addition, a 1 x 5 meter trench was excavated along the north side of warehouse wall down to the subsoil in hopes of uncovering discard refuse from Warehouse SE 316 (Figure 2). Underneath a layer of cliff erosion were layers of hard packed soil disrupted intermittently with layers of sand. One of these layers of sand contained a fair amount of glass and ceramic objects with smooth edges suggesting that they were likely submerged in the ocean during some phase of their existence. It is probable that these layers of sand were deposited by different tropical storms that struck the island. Current accounts of tropical storms, for example, indicate that sand often times is blown or washed 20 to 30 feet inland. The warehouse was located only 10 feet from the shoreline and, thus, easily susceptible to being covered in sand during a tropical storm. Because of the compact nature of the soil and its consistent shape, these hard-packed layers most likely represent an alleyway between warehouses. The continued walking and movement of goods over this soil would explain its extremely hard-packed character. The presence of creamwares indicates that the lowest layer of hard-packed soil has a TPQ of 1762.

Beneath these hard-packed layers was a layer of beach sand followed by subsoil for four meters of this unit. In the final unit was a cutout pit within the subsoil that extended roughly a half-meter in depth (Figure 3). Within this pit feature were multiple layers of ash. Intermixed within this ash were pieces of white clay and plaster. The ash layers suggest repeated burning at the site. Also, midway through these ash layers was a layer of hard-packed soil perhaps representing a purposeful creation of a new surface. Atop this hard-packed layer are more ash layers suggesting

that this new surface was created to smooth out the floor of this pit so burning could continue on an even surface. This pit feature predates the alleyway above it. Although there are four pieces of creamware and one piece of pearlware within this feature, they are extremely small and come from the top layers. As the ash layers are very soft, it is probable that these pieces of creamware and pearlware were forced down into these ash layers. In addition, land crabs along the shore have been found to move artifacts vertically through layers due to their tunneling. Again, white salt-glazed ceramics were present in the ash layers suggesting a TPQ of 1720's and a probable termination of the pit by 1762. The ash layers produced far fewer ceramics than did the alleyway above it or the units from the warehouse.

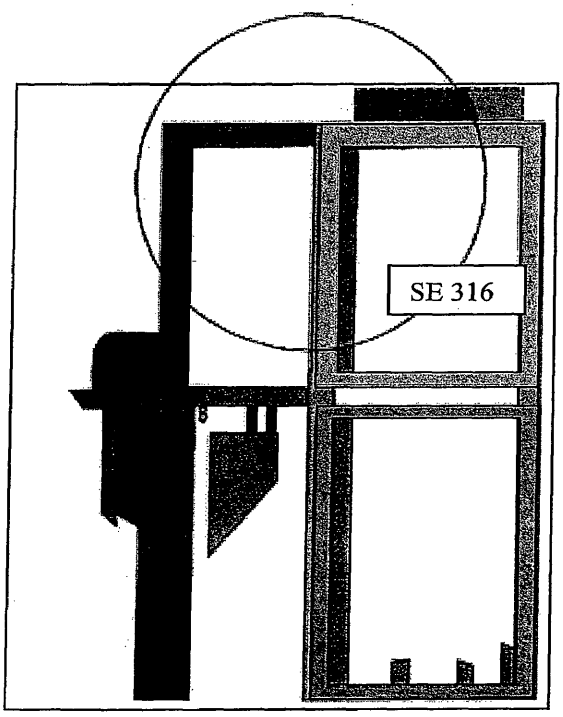


Figure 2: Excavated warehouse with pit feature extrapolated.

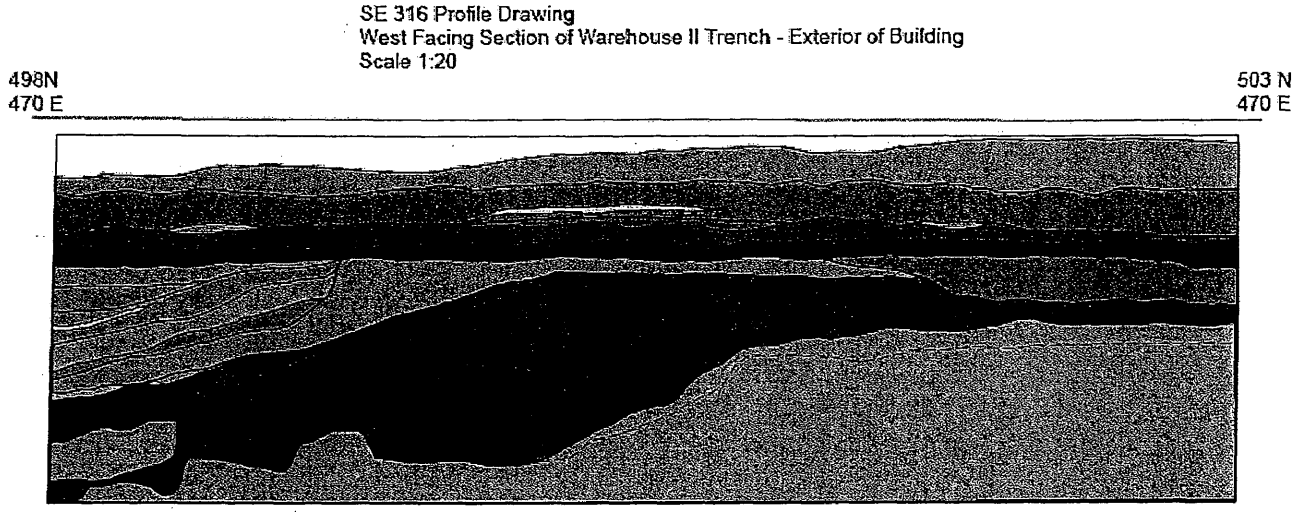


Figure 3: Profile of west wall in excavation outside of the warehouse. Pit Feature sketch in with one layer of hard-packed soil cutting through the layers of ash.

The Sites as One Conceptual Unit

The artifact data suggest the alleyway is contemporaneous with the occupation and construction of the warehouse. Together this period of the site's life started after 1762 and corresponds with the rise of Lower Town as an entrepot of trade for the Atlantic world. However, the pit feature and the midden both predate this period of economic boom and provide insights into the economy of the island before its period as the Golden Rock.

The midden itself gives some insight into the purpose of the site before the warehouse was constructed. The presence of over 500 locally made ceramic sherds suggests that this was likely a site for ceramic production. Many of the locally produced sherds had large pieces of temper that would have made them fragile as a finished product. However, the midden did not produce any clear-cut wasters such as saggers that would definitively point to the site being a ceramic production site.

The related pit feature with its multiple layers of ash suggests an area of

continuous firing. The defined edges of these ash layers show that the firing was done in a controlled space. The intrusion of a hard-packed soil layer within these layers of ash points to the resurfacing of the pit floor and subsequent firing, meaning there were multiple controlled firings as opposed to one single firing episode. However, there were no architectural features associated with the pit feature. St. Eustatius is an island with limited resources and therefore architectural materials were often borrowed from older buildings and ruins. Any architectural material, such as stones or bricks that could have been associated with this pit feature would most likely been reused in the construction of the various buildings in Lower Town. There is a long history of reusing and recycling construction materials on the island as evidenced by many modern buildings that either incorporate the foundations of older buildings or simply borrow stones and bricks from the older buildings and foundations.

Without architectural remains, it is difficult to pinpoint the location of the actual kiln. The ash feature could have been part of an updraft kiln. Updraft kilns were common throughout Europe during this time period and have been found in North America (Barka et al 1984:270, 280-281), but seem to be absent in the Caribbean. Updraft kilns were a two-chamber construction where the fuel for firing was in a lower chamber while the ceramics to be fired were placed in a chamber directly above the burning fuel. This meant the heat from the fire went directly up from the fuel source to bake the ceramics (Barka et al. 1984:270). Norman Barka et al.'s excavations at the Poor Potter site in Yorktown, Virginia uncovered an updraft kiln that included an ash pit (1984:235). This ash pit was adjacent to the kiln

structure itself and was dug into the ground. It was used to accept the swept ash that had accumulated in the bottom chamber of the updraft kiln (Barka et al 1984:235). The pit feature found on St. Eustatius could indeed be the remains of ash pit associated with an updraft kiln. If not the ash pit, then it could certainly have been the place where fuel was added for the firing of ceramics.

However, a ceramic production site on the island may not have required such a complex system as a fully constructed updraft kiln. Current kilns on both Nevis and Barbados have been shown to be single chambered. On Barbados, Jerome S. Handler (1963a; 1963b) has shown that the firing of ceramics often took place on top of a pit made for the purpose of firing. The pit would be excavated first and then a grate (usually of scrap metal) was placed over the pit and the wares were stacked on top of the grate (Handler 1963b:328). The wares were partially enclosed by mud walls and then broken sherds from previous firings would be placed atop the ceramics to be fired to contain heat (Handler 1963b:329). Archaeologically, the only remains of such a firing would be the pit cut out, the layers of ash from firing, the possible remains of sherds (possibly with evidence of burning) and the grate. Although the pit along the bay has gently curved walls where this form of kiln would expect more perpendicular walls, the ceramics themselves show the effects of unequal heat distribution, which would be expected with this type of kiln.

Barbara Heath has explored the current ceramic manufacturers on Nevis and provides an even simpler plan (1988). She found that the current potters of Nevis build a pyre of wood flat on the ground with the leather-hard ceramics placed on top of the fuel pyre. Then once firing has started they will add fuel on top of the ceramics

(Heath 1988:99-101). This simple form of firing is effective for easily firing redwares but it leaves little archaeological evidence. Heath mapped the firing areas of current potters. At the end of the firing potters would sweep out the larger wasters and material into a midden next to the firing center. When the firing was finished there were layers of ash of varying color left upon the soil. The firing area could be extensive depending on the amount of ceramics fired and could extend over 20 feet in diameter (Heath 1988:99-102). The resultant ceramics from this firing were red in color because of the iron oxides in the clay and because they were fired with oxygen present.

The redware pieces found in the pit on St. Eustatius appear to be relatively low-fired production and could have been made either in a simple updraft kiln as has been found in North America, or more likely in a simpler single chamber firing unit such as on Barbados or Nevis. The sherds, in addition to their low firing temperature, show some clouding on their surface and are not uniform in color. Although color can be influenced by several different chemical factors in the clay itself, the various color and clouding suggest that the sherds were directly in contact with the fire as opposed to being in a separate chamber (such as in an updraft kiln) where the flames would not physically touch the sherds (Rye 1981:97-100).

The Sugar Molds on the Bay

The sugar molds and drip jars found in the midden under Warehouse SE 316 along the bay in Lower Town can be split into three types. Typologies have been subject to a fair amount of discussion in the archaeological field in general. Do they actually represent an etic or emic view? Do the categories allow for the changing

social lives of things? (Appadurai 1986) In this case, the typologies are based upon the physical characteristics of the molds and their probable origins of production. Each of the types has a distinct clay body and physical measurement (Table 1). It is most likely that because of their utilitarian nature the type of pot mattered little for its actual use. All of the pots have similar forms and would have adequately served the purposes of the sugar process detailed below. The difference in shapes and measurements are not for use-function but may represent differences in regional styles or technological limitations. Only further study into the origin of these sugar ceramics and their producers, many in Europe, will provide insights into this pattern.

The sugar ceramics utilitarian appearance and lack of decorations suggest that the plantation owners would have bought the pots purely for their use-value. Other considerations would likely have been negligible. It is possible that individuals had preferences for either European ceramics or locally produced ceramics based on criteria other than utility and only future plantation studies with an eye towards this question will be able to provide insights to this issue. However for this study, it is assumed that these ceramics were mostly valued for their utilitarian function and that beyond price the consumers of these goods would have seen little difference in these ceramics. For the archaeologists using an etic view, the differences in the clay matrices used for these ceramics is important because it points to the location of production which helps to recreate past trade networks.

Plain European Sugar Ceramics

European sugar molds and molasses drip jars are made out of finely sorted red clay with few visible inclusions. The ceramics were fired in an oxidized environment

giving them a uniform red color from surface to core. This set of ceramics is the physically thinnest of three types examined (Table 1). One defining characteristic of this type was the relatively small aperture at the bottom of the mold. This aperture was made with only a small amount of clay rolled on the end and is different from the other mold types where the lip was an extension of the ceramic body itself (Figure 4). Additionally, the ceramics were wheel thrown. These ceramics could have come from anywhere in Europe but were probably from England and Holland. Spanish ceramics tended to have mica as a tempering agent and mica is absent from St. Eustatius assemblage (Brooks 1983:2). Additionally, the major ceramic producers in France were from Bordeaux where white clay was used in sugar mold manufacturing (Brooks 1983:12). All of the ceramics in the assemblage are made from red clays.

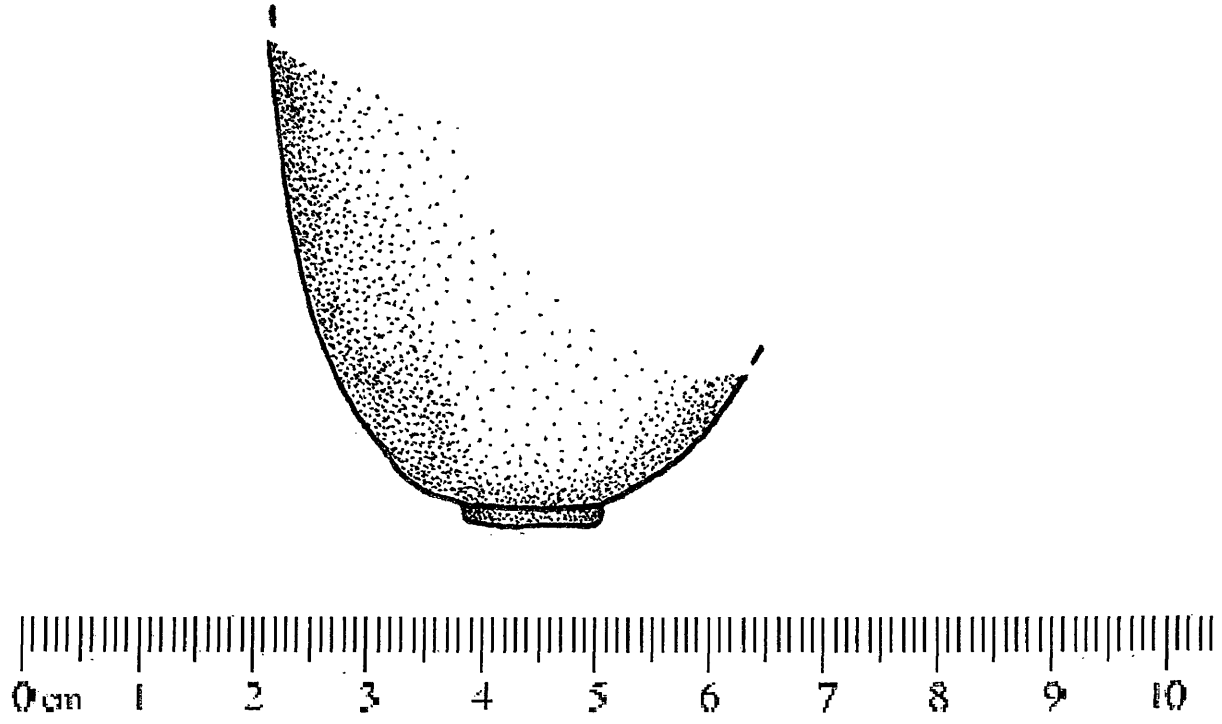


Figure 4: Drawing of a European Sugar mold. Drawing is actual size (Image drawn by JoAnne Miller).

European Sugar Ceramics with White Streaked Interior

Red-bodied European sugar molds and molasses drip jars with white streaked interiors were also present at the site (Figure 5). The majority of these ceramics had a uniform paste with no temper visible. These ceramics are thicker than those previously described and have larger openings. The defining feature of these ceramics is a thin layer of white clay streaked in the interior. This clay is thinly applied and is apparent at various thicknesses in the interior. It was probably a slip, a thin layer of watery clay washed over the clay body (Rye 1981:20), that was quickly applied with little attention paid to uniformity. Similar ceramics were made in London and York and it has been argued that this white clay interior helped create a non-stick surface, which would have been beneficial for the extraction of sugar from the molds (Brooks 1983:4). As will be explored below, steps were followed to help prevent the drying sugar from sticking to the interior of the ceramic and this may have been one available option. As there has yet to be found documentary evidence of these ceramics in the market it is unclear how these ceramics and their possible non-stick surface compared in price and popularity to the plain red-bodied European sugar ceramics described above.

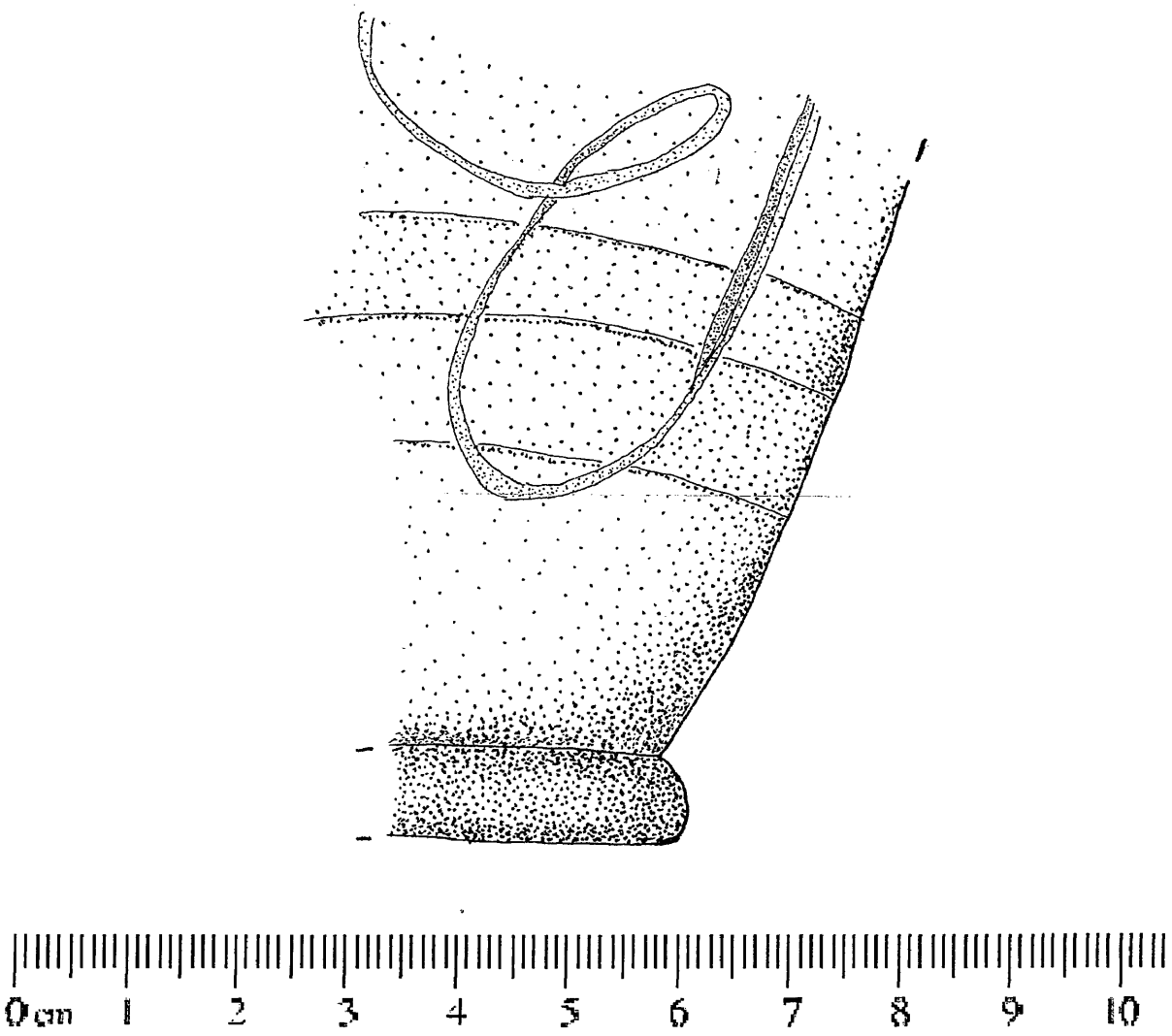


Figure 5: Drawing of a white-streaked European Sugar Mold. Note this was the only sugar mold sample that showed any surface manipulation beyond faint horizontal lines. Whether the incised curves are part of a larger B or some other decoration is unclear. As this was the only decorated sherd it is difficult to determine its meaning. (Drawing made by JoAnne Miller)

Locally Produced Sugar Ceramics

The third type of sugar mold and molasses drip jar fragments recovered from the site are visibly different from the European types. They were fired in an oxidized atmosphere, but at the thickest parts of the sherds (shoulders and rims) a reduced core

is visible. This suggests that the sherds were not fired at high enough temperatures for long enough to fully oxidize the core. Additionally, tempering material makes up 10% of the paste and is clearly visible with the naked eye. These ceramics match other locally produced red earthenware ceramics found in Upper Town on St. Eustatius. These sherds were on average the thickest of the sugar ceramic types. Their general size falls in between the white streaked European sugar molds and drips, which were the largest, and the European red-bodied sugar ceramics, which were the smallest. Interestingly, the locally produced molds' smaller aperture, or nipple, is in the same shape and size of the white streaked European redwares as opposed to the much smaller nipple of the European red-bodied sugar ceramics.

	Rim Inside Diameter	Rim Outside Diameter	Maximum Thickness	Minimum Thickness
Locally Produced Redwares				
Drip Jar	146.67	129.00	18.50	8.00
Mold/Nipple	52.50	22.50	16.25	9.50
Mold	309.14	288.69	19.19	10.28
White Streaked European Redwares				
Drip jar	122.40	80.80	12.20	8.80
Mold/nipple	50.8	20	11	6.75
Mold	367.14	352.25	14.07	9.11
European Redwares				
Drip Jar	112.78	101.22	10.33	6.28
Mold/Nipple	18.00	6.91	7.36	5.91
Mold	243.33	227.06	15.54	7.33

Table 1: Measurements for the three types of sugar molds and drip jars found in the midden along Oranje Bay.

Summary

From the archaeological evidence, it appears that ceramics were being produced on Oranje Bay. The ceramics being produced were in the form of sugar molds and drips. These distinct forms served a specialized role in the sugar refining process. Interestingly, these locally produced ceramics were found in the same context as coarse earthenware sugar molds and drips from Europe. The presence of

these three ceramic types and the presence of a ceramic production site raises a number of questions that will be raised in the next sections.

III. Sugar Ceramics and the Sugar Making Process

Although the rise of industry on St. Eustatius is intriguing, the discovery of over 3400 sugar ceramic sherds of both European and local production raise a wide array of questions. What was their role in the sugar refinement process? Why would over 3400 sherds from sugar ceramics show up on the shores of St. Eustatius? Why were they not in the Upper Town near the plantations? What does this tell us about the place of St. Eustatius within the Atlantic World?

To understand the purpose of sugar ceramics and their larger context on St. Eustatius, it is first necessary to understand the complexities of the sugar making process. The following discussion outlines the process of sugar making and highlights the function of sugar-industry ceramics in the process.

Sugar Processing

As the sugar industry developed, the industry and techniques around it became more formalized and better understood. The best time to plant, the proper way to organize one's fields and labor, and the rotation of crops developed into a detailed science in the 17th and 18th centuries. Planters made careful studies of productivity and finances and several planters published manuals that served as guides for starting and maintaining sugar plantations in the Caribbean (see for example Martin 1750; Anonymous 1752; Belgrove 1755). These planter manuals varied in detail but normally ran from the planting of sugar to the best ways to organize their enslaved labor force.

Sugar plantations in the Caribbean during the 18th century relied upon the work of enslaved Africans. Sugar cane cultivation was a physically demanding work

particularly during the harvest when enslaved Africans had little time to sleep because the mill was working nearly all day (Mintz 1985:49-50). For the sugar planter, the enslaved Africans were often treated as simply another cog in their plantation machine and for the Caribbean this often meant the continued importation of enslaved Africans. However, enslaved Africans were not passive in this agricultural industry but were active members in this process, albeit not in a position of overt power. Enslaved Africans not only resisted enslavement but also were essential to the sugar making process beyond the labor that they supplied. Many enslaved individuals became essential to planter's success because of their knowledge and experience in sugarcane cultivation and sugar production. Although this essay does not focus on enslavement in the Caribbean, it is important to remember that all of the sugar production discussed in this essay rested upon the labor and abilities of enslaved Africans.

Sugarcane itself takes over ten months to reach maturity (Mintz 1985:51). While the sugar is growing, it requires constant attention, as weeds must be removed regularly from the fields. Although, sugar is not a water intensive crop it does require water at a relatively constant rate during its maturation (Barrett 1965:149-154), and this consistency in water proved one of the greatest challenge to sugar planters on St. Eustatius with the island's sporadic pattern of rainfall and lack of fresh water sources. Although cisterns were used to supply water for people and animals, not enough rainwater was conserved to irrigate sugarcane fields. Therefore, St. Eustatius was subject to the whims of the climate, which greatly retarded its growth as an agricultural colony.

The most labor-intensive part of sugar processing was the harvest. The yield of sugarcane juice from sugar cane was directly proportional to the time between the cutting of the cane and its processing. The longer the cane had before it was crushed for its juices the more the juice dried out. Therefore, to optimize the process planters had their processing mills working 20 hours a day during the harvest season with the sugarcane being processed within a day of it being cut (Schwartz 2004:3).

Once the sugarcane arrived at the mill, it was crushed in some fashion. There were several different forms of crushers used (Barrett 1965:154-158). The crushers were usually metal cylinders, although wooden cylinders with metal plating were often used, and were powered by various sources of energy including windmills, watermills, animals, and eventually steam (Sheridan 1974:114). Crushing the cane stalks was one of the most dangerous jobs of the sugar making process because the sugarcane had to be manually placed into the cane crushers. For the enslaved Africans who manned this post, they ran a serious risk of having their arm caught in the cane crushers and often a machete or hatchet was kept within close reach to sever the arm and thus preventing the person from getting pulled into the crusher (Mathieson 1926:63).

Underneath the crushers was a trough that would collect the sugarcane juice. This juice would then flow down a trough to a series of copper cauldrons. The bagasse, the spent and exhausted cane stalks, were collected and used as fuel to fire the furnaces under the copper cauldrons.

In the boiling room of the factory, enslaved laborers skimmed impurities from boiling sugarcane juice as it traveled through a series of smaller and smaller

cauldrons. Additionally, various reagents were added to the boiling liquid to help remove impurities and improve the consistency of the juice (Barrett 1965:159-161). The fire provided for the boilers could have been arranged in several different ways depending on the availability of fuel and the desire of controlling individual boiler's temperatures (Barrett 1965:161). Fuel became a major concern for many of the islands, particularly the smaller islands where there were not significant forests. If wood was not readily available, then bagasse, palm fronds, and possibly animal dung were used for fuel.

The last and smallest copper cauldron, or *teache*, was the most important cauldron in the series (Barrett 1965:161; France 1984:119). That *teache* was manned by the most skilled sugar processor, known as the sugar master, usually an enslaved individual who had proven his or her ability as an expert in sugar processing. When the boiling sugarcane juice reached the proper viscosity, the sugar master "struck" the juice and pulled the kettle off the fire. If the sugar juice was struck too early or too late then the quality and quantity of the final sugar product would be greatly reduced (Mintz 1985:49). There were a variety of methods of testing the viscosity of the sugarcane juice, including collecting the juice on two fingers and seeing if it pulled out into delicate strings (Martin 1750:38). Whatever the strategy was, experience was essential, and therefore only the most skilled and experienced enslaved workers were put to this task.

Once the sugar had been removed from the boilers it was poured into large coolers, large wooden vats or troughs, for several days (Sheridan 1974:117). After the juice had cooled, the planter had two options. At this point, the sugar was still in

a liquid state with a high concentration of molasses. Molasses was an important byproduct because it could be used as food for the enslaved population or it could be distilled into rum (see for example, McCusker 1989; Smith 2005). However, molasses was the secondary product of the process, and the resulting sugar was the major cash component of sugarcane. Sugar was valued on a sliding scale of purity largely based upon visible color (Mintz 1985:77-78). Brown sugar, or muscavado, was unrefined, had a brown color because of its high molasses content, and brought the lowest price on the market. On the other end of the scale was the refined sugar that had almost no molasses. To achieve this high purity, the muscavado would have to be refined again, usually by sugar refiners in Europe, in order to remove all lingering molasses.

The lowest cost option for planters at this stage was to move the cooling sugar juice from the coolers into wooden casks known as hogsheads. These hogsheads would often have had a hole drilled in the bottom that was plugged, usually with dried sugarcane stalks, when the sugar was first placed in them. The plug would remain in the hogshead for up to a week allowing for the sugar to crystallize and the liquid molasses to collect at the bottom (Barrett 1965:162). Once the plug was removed, the molasses would drain out and either be collected in troughs or ceramic jars known as drips. The collected molasses could then be sold as a by-product of the process or it could be manufactured into several products including rum. The hogsheads of sugar would then be shipped to Europe to be sold. This sugar would be bought directly by consumers as raw muscavado, or by sugar refiners who would then refine the sugar into a purer, whiter form.

The other option for the planters was to pour the cooling sugarcane juice into sugar molds. The sugar molds were conical in shape with a large opening on one end and a small opening at the other. As the cooling sugar was still in a liquid form it was necessary to plug the small opening when it was first poured into the mold. As with the hogshead option, a certain amount of time was allowed for the sugar to crystallize and the molasses to gather at the bottom. Once sufficient time had passed, the plugs were removed and the molasses was collected in ceramic drip jars or within troughs (Figure 6). The molasses would be removed for processing, and a relatively refined light brown sugar would be left in the sugar mold (Barrett 1965:162-163). When the sugar was removed from the mold, a sliding scale of whiteness could be seen on the sugar cone produced based on its location with the purest, whitest sugar at the broadest end and the most unrefined, darkest sugar at the narrow end where the molasses had drained out. These various grades of sugar would be separated and then either placed in hogsheads to be shipped to Europe or placed in molds to go through draining process again (Sheridan 1974:117).

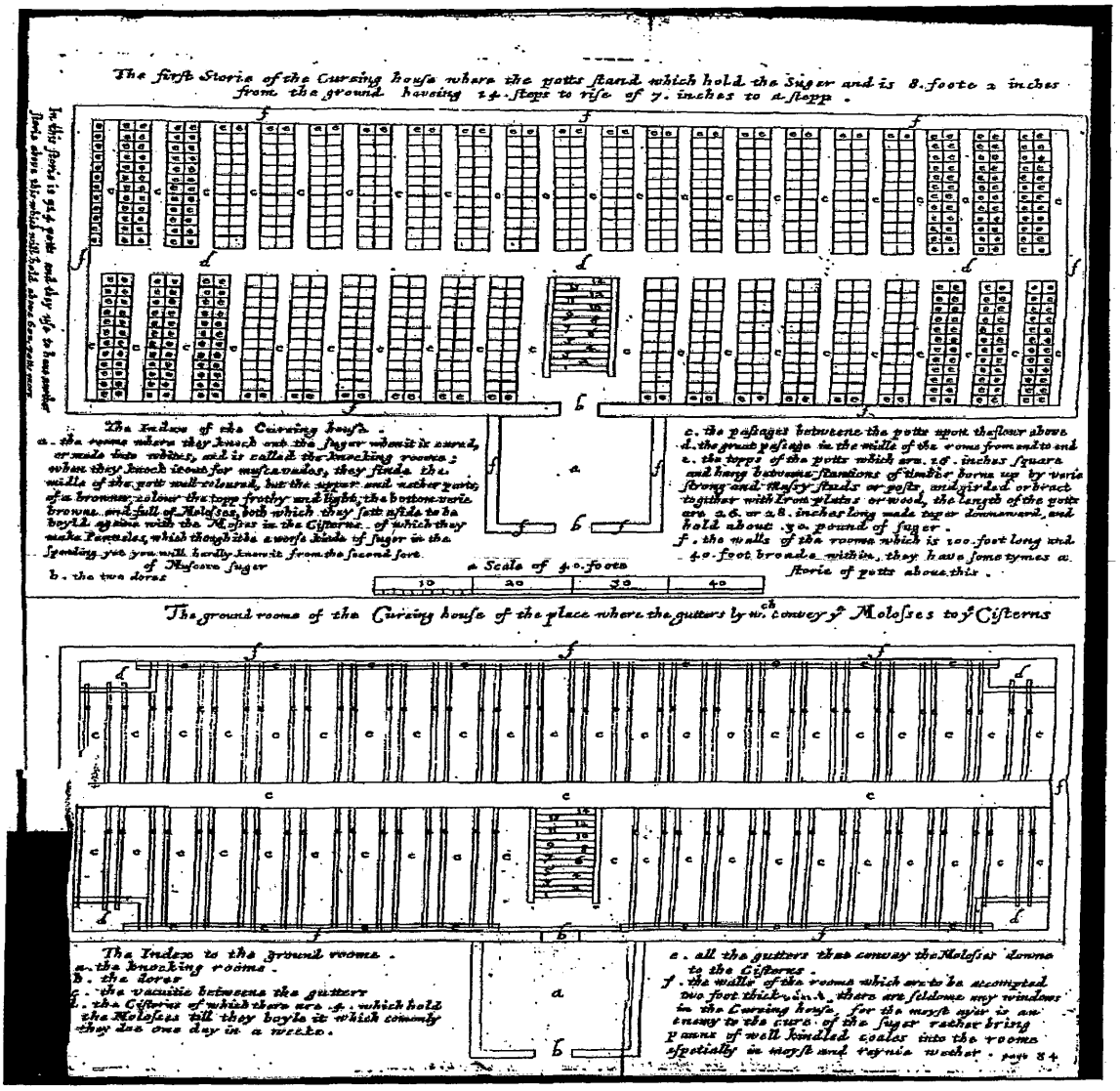


Figure 6: One possible organization of a sugar-drying house. In the top portion of the image the pots are visible as small circles held in a row over a trough that collected the molasses (Ligon 1673:84).

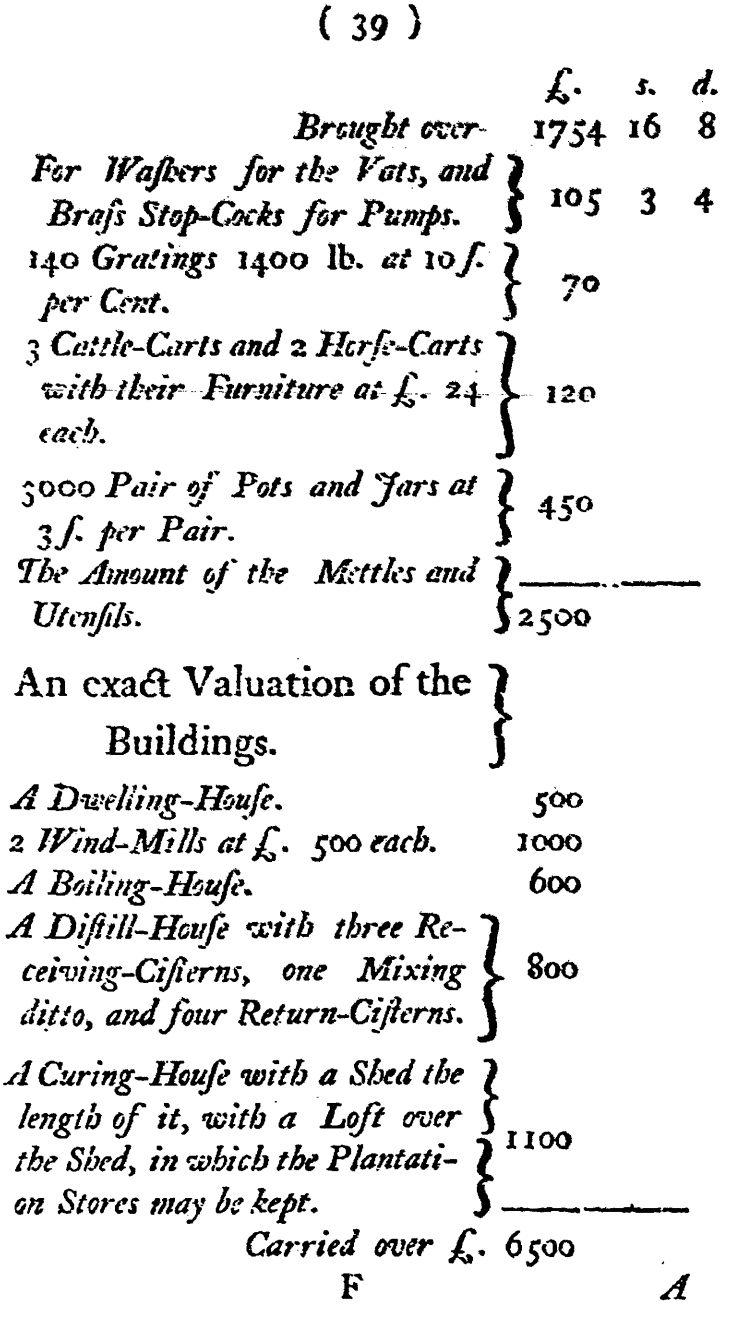
For many planters this was the last stage before shipping sugar to the Atlantic markets. However, Caribbean sugar planters could chose to send their sugar through an additional process of semi-refining called "claying." Claying was a process that expanded from the option of placing the cooling sugar into the ceramic sugar molds. Once the sugar had begun to crystallize in the mold a thin layer of wet clay was added to the top. The water in the clay would percolate through the sugar matrix and collect

molasses on its way down. Antiguan sugar planter Samuel Martin (1750:41) described the process saying "clay-batter is only the means of filtering the water thro' the sugar by easy degrees, so as to wash the grains of sugar from all yellowness, or tinge of mellosses [molasses], without dissolving the smallest particles." The collected molasses and water would pass through the hole at the bottom of the sugar mold leaving a whiter sugar in the mold (Sheridan 1974:117-118). The resulting clayed sugar was the whitest that could be produced without sending the sugar through an additional refining process, which was illegal in the colonies (see Chapter IV), and received the highest prices of non-refined sugar in European markets.

The decision to use sugar molds and/or to clay sugar was a complex question of maximizing profits. The use of sugar molds extended the amount of time required in the refining process, which was further increased if planters chose to clay their sugar. There is also a spatial issue connected to the use of sugar molds, which required far more space than hogsheads. If there was not enough space for the curing to take place and the planter had more sugar than they wanted refined then it may not have been practical to use sugar molds or to clay. Beyond this, the time element meant that a small subset of the planter's labor force would spend time placing clay on the sugar or removing clay from the sugar molds as opposed to laboring on other parts of the sugar process. Alternatively, whiter sugar sold for more and the use of sugar molds increased the amount of molasses produced, which was used to make rum, a valuable byproduct of the sugar making process. Both Martin (1750) and the Barbadian sugar planter William Belgrove (1755) argued that claying sugar was more profitable than simply shipping muscovado.

Although time was an issue, the cost of sugar molds themselves was the biggest expense. Individually the sugar molds did not cost much (3 shillings), but the quantities used made them a significant cost. Barbadian planter William Belgrove estimated that the 3000 pair of molds and drips needed for a 500-acre plantation would cost 450 English pounds (Figure 7), which was only 50 pounds less than the estimated costs for the dwelling house (1755:39). Since these ceramics could become very expensive, planters tried to minimize the number of molds bought and developed several methods that tried to preserve the fragile molds. One of these methods was the curing of the molds. The molds were often dumped into water or liquors filling the pores of the ceramic mold and thus limiting the amount of sugar that would stick to the sides of the molds (Anonymous 1752:21). When the sugar was removed from the mold, it was hoped that a crystallized sugar cone had formed and would easily slide out of the cone. Sugar that stuck to the sides of the mold represented a loss of total sugar produced as well as providing extra steps for the extraction of sugar from the mold that increased the chance of the sugar mold breaking. Additionally, the temperature of the sugar that was placed in the molds had to be carefully monitored because if the sugar was too hot it could crack the molds (Belgrove 1755:12). Even with these precautions, molds would have still broken. Sugar molds were certainly hoped to last more than one episode of claying and a sugar mold that had already been through the process once may have been more desirable as all the pores would have been filled from the first claying and the subsequent sugar placed in the molds would be less likely to stick to the sides of the mold. Nevertheless sugar molds broke, and each year planters had to buy more. Returning to Belgrove's calculations

is illuminating (Figure 8) because he expected that the buying of new molds would account for 2.5% of the annual expenses of the plantation (1755:43).



(39)

	£.	s.	d.
Brought over	1754	16	8
For Waſhers for the Vats, and Braſs Stop-Cocks for Pumps.	105	3	4
140 *Gratings* 1400 lb. *at* 10*ſ. per Cent.*	70		
3 *Cattle-Carts and* 2 *Horſe-Carts with their Furniture at £.* 24 *each.*	120		
3000 *Pair of Pots and Jars at* 3*ſ. per Pair.*	450		
The Amount of the Mettles and Utenſils.	2500		
An exact Valuation of the Buildings.			
A Dwelling-Houſe.	500		
2 *Wind-Mills at £.* 500 *each.*	1000		
A Boiling-Houſe.	600		
A Diſtill-Houſe with three Receiving-Ciſterns, one Mixing ditto, and four Return-Ciſterns.	800		
A Curing-Houſe with a Shed the length of it, with a Loft over the Shed, in which the Plantation Stores may be kept.	1100		
Carried over £.	6500		

F A

Figure 7: Partial List of estimated expenses to start a sugar plantation of 500 acres. Note the 3000 pairs of pots and jars costing 3 shillings a piece or 450 pounds per year. Interestingly the actual dwelling house was valued at only 50 pounds more than the sugar pots (Belgrove 1755:39).

(43)

Brought over.	£. 640	
The Book Poſter.	40	
To Salt Proviſions for the white Servants.	100	
To 300 Quintles of Salt-Fiſh for the Slaves at 15 ſ. per Quintle.	225	
To 700 Buſhels of Oats for the Horſes at 2 ſ 6 d. per Buſhel.	87	10
To Cloathing for 300 Slaves at 10 ſ. per Head.	150	
To the Tax of their Head at 2 ſ 6 d. each.	37	10
To the Parochial Tax of 500 Acres of Land at 1 ſ 3 d. per Acre.	31	5
To Labour ſpent upon the High-ways for the 500 Acres, as 50 Negroes is required to Labour two Days, and is worth 1 ſ 3 d. per Day.	6	5
To Tax of two Wind-Mills at 2 ſ each.	2	
To 500 Pair of Pots and Jars, Annually at 3 ſ. per Pair.	75	
To Repairs of Negroes at 5 l. per Ct. *upon their Prime Value, or 5 per* Ct. *or 15 per Annum.*	600	
Repairs of Cattle at 10 l. per Ct. *upon their Value, or 10 l. per* Ct. *or 15 l. per* Annum.	150	
Carried over.	*l.* 2144	10

Repairs

Figure 8: Estimated annual costs for the plantation. Note the 500 pair of pots and jars that only cost 3 shilling individually but 75 pounds annually or 2.5% of the annual budget (Belgrove 1755).

Summary

The planters' decision to use sugar molds and drips and to clay sugar became one of costs and benefits. Although the final product sold at a higher price, it also required a higher cost of production in terms of additional time, space, and labor. Sugar planters were aware of these economic issues as evidenced by the planter's manuals that they created. However, the understandings of the sugar industry only provide a general context for the use of sugar molds and drips and it is necessary to look at the political economy of the 18th century Atlantic world to fully understand the context for the sugar ceramics found along Oranje Bay on St. Eustatius. There were certainly the issues described above about choosing to use sugar ceramics but there were also issues of mercantile policies, monopolies, and tariffs which also contributed to the planter's choice to use sugar drips and molds or not. In this next section, these various issues will be explored to provide the specific context for the presence of the sugar molds and drips from the Oranje Bay site.

IV. Political Economy of St. Eustatius in the 18th Century

During the early colonial period, mercantilist thinking dominated the political economic structure of the Atlantic economy. Mercantilism was defined by having extractive colonies that produced raw goods solely for their European metropole (Williams 1944:55). In return, the metropole was responsible for sending finished goods to the colonies, which were banned from manufacturing finished goods by the metropole. This system was maintained by each nation-state through protective tariffs and control of the shipment of goods. The system was bolstered by a military presence in the colonies, which explains the large number of forts and batteries that dot the Caribbean landscape (Frederick Smith personal communication). Mercantilism allowed the metropole to establish monopolies on the raw materials being imported into the country from the colonies (Delle 1998:3). The Caribbean historian Eric Williams described the mercantilist system within the analogy of a child/parent relationship where the colonies were children and parents were the metropole. Williams wrote,

> "And since, as dutiful children, they were to work for the greatest glory of the parent, they were reduced to a state of permanent vassalage and confined solely to the exploitation of their agricultural resources. Not a nail, not a horshoe, said Chatham, could be manufactured, nor hats, nor iron, nor refined sugar" (1944:56).

For Caribbean sugar planters and most other colonial entrepreneurs, mercantilism was a paternalistic economic system that ensured a market for plantation goods but stifled the colonies' potential economic expansion and made them dependant on imports from their metropole.

The policy of mercantilism is exemplified in the classic triangular trade

model. By keeping the production of finished goods out of the colonies, the European metropoles retained their export market for finished goods. They would send these finished goods to both the American colonies and Africa. Africa became a major supplier of labor while the colonies provided raw materials. This system rested on the economic theories of the day that favored a positive balance of trade where the European metropole tried to export more goods at higher prices then they imported (Smith 1776:543-567). If the balance of trade were favorable then the metropole would be considered financially successful. The metropole could not let the colonies produce finished goods because it would have jeopardized their position within the triangular trade and consequently destroy their favorable balance of trade. Without this favorable balance of trade, and without their colonies, most European metropoles feared they would lose their prominence in the Atlantic world and their privileged core position. William Cary, an 18th century English economist, summarized the nature of this system and its moral implications when he said:

> "by which means the Kingdom is become the centre of trade, and standing like the sun in the mist of its plantations, does not only refresh them, but draws profit from them, and so indeed is it a matter of exact justice that it should be so" (1717:50, quoted in Deerr 1950:410) .

However, William's parent/child metaphor begs the question: are children always dutiful? England and France, the major colonial powers in the Lesser Antilles during this time passed numerous laws and heard numerous court cases about their colonists trading with foreign nations. One of the biggest enablers was the Dutch (Sheridan 1974:37-43). To understand St. Eustatius, and the reason why so many sugar molds and drips would be found along the bay, it is not only important to understand the Dutch colonial policy but also to explore the mercantile policies of

both the British and the French, particularly focusing on the mercantile policies towards sugar.

Mercantile Policy of England and France

The mercantilist system as practiced by England and France was an overbearing system in which the metropole controlled all aspects of trade. Anthropologist Sydney W. Mintz (1985:46) describes the British mercantile model as "Buy no finished goods elsewhere, sell none of your (tropical) products elsewhere, ship everything in British bottoms." The British mercantile system really took form with the passage of the Navigation Act of 1660, an act that took precedent over the several proceeding Navigation Acts, which forced all of the British colonies' trade to use British ships (Sheridan 1974:43). Additionally, sugar refining was banned in English colonies, while heavier and heavier tariffs were placed upon clayed sugar sold to the home market (Deerr 1950:232-233). The one exception to this rule was Barbados. Barbados had been producing clayed sugar from its founding in the early 17th century, and its place as one of England's most profitable colonies allowed for this exemption (McCusker and Menard 1985:164-165).

The French followed a similar model to the British. The French government passed a set of laws similar to the Navigation Acts called the *Pacte Colonial* with similar motivations (Deerr 1950:427). Jean Baptiste Colbert, a French Government Minister, helped create the French version of mercantilism during the 1660's including the imposition of heavy export duties on all goods sold by the colonies to foreigners in 1664 (Deerr 1950:408). France's policy echoes the British system that Mintz described, and French Caribbean historian Robert Stein best sums up Colbert's

impact on French Caribbean trade: "Colonial planters could sell only to Frenchmen; colonial commodities had to travel aboard French ships; sales of French West Indian produce to foreigners had to take place in French ports; and colonists could purchase goods sold only by Frenchmen" (Stein 1988:6-7).

Within both of these nations there was strong pressure to control the trade of the plantation owners. By controlling where the sugar was shipped and what the purity of this sugar was, the refiners and grocers in England and France could maximize their profits. They helped maintain a monopoly on sugar and actively sought to keep out foreign sugar that could threaten their hold on the market (Deerr 1950:416,427). Adam Smith, proponent of the free market capitalist system, pointed out that these merchants may not have had any idea whether their trade was best for England (or France), but they knew a monopoly was best for them and therefore they actively sought to enact legislation to protect their market (1776:545). The refiners and grocers who manipulated sugar prices were located in the metropole so they could add additional pressure for legislative support. They also had one other advantage over plantation owners. The excess sugar that was imported and then refined could be reexported to other markets. Therefore, these groups had a variety of markets to sell their commodities and were not limited to the restricted home markets like their colonial suppliers.

The plantation owners themselves were active participants that helped shape this game of monopolies and legislation. Many plantation owners from the very beginning of the imposition of protective tariffs understood the nature of the mercantile system and actively sought ways to maximize their gains (Williams

1944:96-97). In 1661, the President of the Assembly and Council of Barbados wrote in a petition to the Commissioners of Planters, "If all the commodities of the Island be by the new act forced into one market, the result will be a glut and a still further fall in the price of sugar" (cited in Deerr 1950:410). If the plantation owners produced too much sugar they would glut the market, lower prices, and consequently cut into their profit margins. Therefore, plantation owners were known to withhold some of the sugar that they produced to keep market prices high for their sugar (Sheridan 1957:75-82). Rather than leave this excess sugar to rot on the plantation, the plantation owners most likely sold their surplus in alternative markets. Neutral ships such as the Dutch often provided these markets and this trade with ships outside of the colonial authority represented a gray area in the legal structure of the time and was usually deemed illegal by France and England. The trade with the Dutch, and in particular St. Eustatius in the northern Caribbean, was one reason the English abandoned their colony on St. Croix. The English could not prevent trade with the Dutch and the colony therefore did not produce any agricultural product for England (Deerr 1949:244).

Another key element in the mercantile system was the selling of refined goods to the colonies. The control of refined goods by the metropole forced the colonies to remain dependant upon their metropole (Williams 1944:56). Additionally, refined goods represented the European part of the trade dynamic. Production of refined goods and industry on the islands was prohibited. This prohibition not only protected the balance of trade but was also a way to protect the job market in the metropole. It was feared that if the colonies started their own

industries and refined their own sugar jobs would be lost for the sugar refiners at home (Deerr 1950:467).

One of these industrial products was the sugar industry ceramics that were used in sugar refinement. For the British colonies, the demand for sugar ceramics was never high because the claying of sugar was heavily taxed in all of their colonies except Barbados, which received a tax exemption (McCusker and Menard 1985:164-165). Although even this may be misleading as an inventory of Jamaica in 1722 had 1100 wooden sugar pots listed (Armstrong 1990:151). These sugar pots may represent the Jamiacan planter trying other alternatives for sugar molds because of the restrictive policies of England. For a large island such as Jamaica where there were significant forests this could have been an option but for the majority of the smaller islands wood was a scarce fuel source that would have been primarily used for construction and the fuel for the sugar boiling house, and therefore the desire for molds would have to had been filled through other avenues including illegally through St. Eustatius.

However, the French demand for sugar ceramics is more apparent because claying sugar was a common practice. Although the French had banned sugar refining in their colonies, they never taxed clayed sugar as heavily as the British did (Deerr 1949:231). This policy made claying an attractive economic option that was heavily practiced by most French Caribbean colonies.

With most planters in the French Caribbean claying their sugar, there was a high demand in the French colonies for sugar molds and drips. Although Bordeaux was a major ceramic center in France (Brooks 1983:12), it appears that they were not

able to produce enough sugar ceramics to sate the market. Alternatives to the earthenware ceramic molds were explored including the use of more fragile terra cotta molds (Stein 1988:124). However, one possibility to fulfill this market was for plantation owners to buy their molds from other countries including England and the Netherlands.

The Dutch

The Dutch never developed as strict a mercantile system as the French and English in the Caribbean mostly because they lacked agricultural colonies in the late 17th century through the first half of the 18th century. During the first half of the 17th century the Dutch dominated the sugar trade through their colony in northeastern Brazil. In 1660, the Netherlands had more sugar refineries than any other country. In 1661, Amsterdam alone had 60 refineries (Wallerstein 1980:44). However, with the imposition of restrictive laws by the English and French and the loss of northeast Brazil to Portugal in 1654, the Dutch lost their prominence in the sugar trade (Goslinga 1971:333-334). Although their expertise in sugar production was widely respected, they had little overseas colonies to produce sugar. This did not change until the settlement of Suriname in the 18th century.

Since agriculture was not to be the Dutch's way to profits in the West Indies, they embraced a trader mentality where they served as the middlemen in the Caribbean. The Dutch role as middlemen was enhanced during periods of war when the French and English would fight while the Dutch would help provide the missing goods to the French and English colonies. In the northern Caribbean, St. Eustatius emerged as the Dutch entrepot for trade (Barka 1996:223-224). St. Eustatius, small in

size and unreliable as an agricultural colony because of unpredictable rainfall, was situated ideally along the trade winds running north through the Lesser Antilles (Attema 1976:14). Additionally, St. Eustatius has a well-protected natural harbor for ships to anchor. These factors helped create St. Eustatius as a traders' haven, and by the late 18th century, it was the busiest port in the Atlantic World, drawing more than 3000 ships annually (Hiss 1941:96; Barka 1996:225).

It should be noted that this paper focuses only on the Dutch policy in the West Indies. The Dutch in the East Indies had successfully created several agricultural colonies including Java, and governed these colonies with a stricter mercantile plan. In part, the financial strength and better management of the Dutch East Indian Company as compared to the Dutch West Indies Company spurred the stricter mercantilist thinking in the Dutch East Indies. Additionally, the Dutch were the major power in the East Indies while in the West Indies they were often involved in military and pirating disputes with the English, French, and Spanish (Emmer 1996:206-209). The Dutch West Indian Company experienced periods of bankruptcy and played only a minor role in stimulating agricultural development in the Caribbean colonies. By 1738 the Dutch West India Company had become almost a non-factor as other companies and private ships began to control all Dutch trade in the West Indies (Postma 1990:203).

St. Eustatius and the Sugar Trade

In 1636, a group of Dutch colonists permanently settled on the uninhabited island of St. Eustatius (Attema 1976:11). The original goal was to make St. Eustatius an agricultural colony and it had early success with tobacco (Attema 1976:16).

However, by the 1660's St. Eustatius had followed the general trend in the Caribbean and had begun to produce sugar. At the same time, St. Eustatius became a bargaining chip in the diplomatic arena of Europe, and the island changed hands several times (Attema 1976). The majority of these governmental changes occurred with little violence, but several times the island was forcibly seized and partially razed (Attema 1976; Hartog 1976a). However, by 1696 the Dutch had regained control of St. Eustatius and the island enjoyed a period of relative peace until 1781. It was during this period of stability that St. Eustatius saw its rise from an insignificant agricultural colony to one of the wealthiest trade outposts in the Caribbean.

The sugar industry on St. Eustatius never reached the same scale as the surrounding agricultural islands of the English and French. At the height of St. Eustatius' prosperity, there were over 80 plantations on the 21 square kilometer island and many of these plantations produced crops besides sugar, especially provision crops (Barka 2002:122). As St. Eustatius was not a major sugar producing colony few records exist that point to how much sugar it produced but there are several references to the level of production and the amount of sugar being shipped from St. Eustatius' shore. In 1750, one ship leaving St. Eustatius recorded carrying 494 hogsheads of sugar, or approximately 134 metric tons. However, this figure is suspect because St. Eustatius at this time was known for carrying other colonies' sugar and shipping it as Dutch sugar (Barka 2002:122). In 1737, one Englishman believed St. Eustatius was only producing 500 to 600 hogsheads (or approximately 163 metric tons) of sugar annually (Calendar of State Papers 2000:Item 318 I, Vol.

43, 166-171).[1] In comparison, William Belgrove estimated that just one 500-acre estate on Barbados would produce over 240,000 pounds (approximately 108 metric tons). The island of Martinique in 1736, only a year before the St. Eustatius was estimated to only have produced 163 metric tons, produced 14,900 metric tons of sugar (Deerr 1950:235-236). Perhaps the most indicative demonstration of St. Eustatius' small-scale sugar production but large sugar exportation is that in 1770 St. Eustatius produced 600,000 pounds (272 metric tons) of sugar while exporting over 20 million pounds (9071 metric tons) of sugar (Hartog 1976a:37). The discrepancy in the amount of sugar produced and the amount of sugar exported points towards the source of wealth for the island: trade and the re-exportation of foreign made sugar.

One of the items that was caught up on this system of trade was sugar molds and drips. Sugar-industry ceramics were part of the finished goods to be produced by the metropole. However, they were not always produced in sufficient quantities to fulfill the demands of the colonies. For the British this was not a crucial dilemma. With the exception of Barbados, the British Caribbean colonies exported little clayed sugar to the English market and dried much of their sugar in wooden hogsheads (McCusker and Menard 1985:164-165). However, there is also the distinct possibility that the British planters in the Caribbean were claying sugar and then sending it illegally through St. Eustatius to the other European colonies. With the English mercantile policies causing a monopoly situation, British planters needed to find other markets to sell their sugar in order to keep their production high without

[1] Conversions are a complicated enterprise during this time period because every country and island had a different measure for a hogshead. This estimate is based on McCusker's study in which he says the original measure of a hogshead was about 600 lbs of sugar (1989:784).

driving prices down. One option was to send the sugar to St. Eustatius where it would be transported by Dutch ships to the refineries and markets throughout Europe. This would have been a relative easy process as Statian merchants had become experts at forging documents and therefore could easily have disguised the source of the sugar (Pares 1975:204-207).

However, in the case of sugar molds and drips, it was not British but rather the French who represented the largest market. The connections between Statian merchants and the French planters and merchants of Martinique and Guadeloupe had been steadily growing in the 18th century. This was most evident at the start of the Seven Years War (1756-1763), which spilled over into the Caribbean. Before the British decided to attack Guadeloupe, they blockaded the French islands and St. Eustatius (Pares 1975:164). The blockade on St. Eustatius shows the British acknowledgement that many of the necessities of Guadeloupe were flowing through the merchants of St. Eustatius. This blockade was eventually abandoned because the British were not able to stop the flow of goods through St. Eustatius to the French islands (Pares 1975:210).

The French, by allowing and in fact encouraging the production of clayed sugar with their policies, had created massive demand for sugar molds in their colonies. France itself had trouble keeping up with this demand and other options for making sugar molds were explored (Stein 1988:124). The sugar molds along the bay are evidence of this growing demand. The fact that there are molds and drips from Europe next to molds and drips of Caribbean production (and likely from St. Eustatius itself) shows the level of demand. Even by using other countries' ceramic

production to meet this market demand there was a perceived notion that more molds were needed. Locally produced ceramics were needed to augment this market. Unfortunately, the data for Guadeloupe's sugar production during this time is unclear, but the neighboring Martinique has clear records of their sugar production and with few exceptions sugar production continued to rise from 1730 onwards (Figure 9). The growth of the sugar industry on Martinique coincides with the trade in sugar ceramics from the bay site on St. Eustatius.

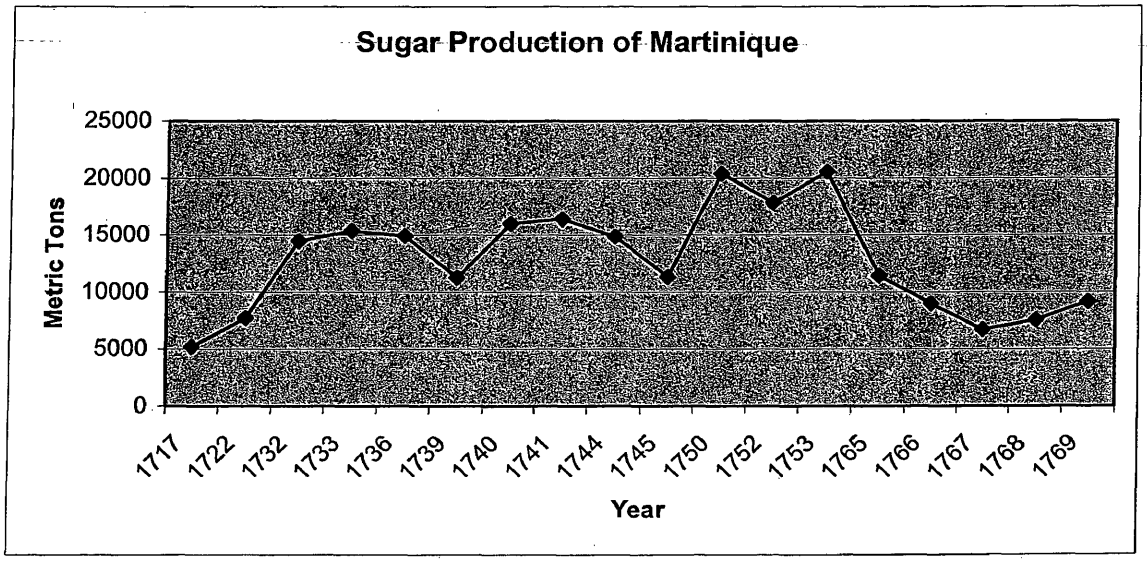


Figure 9: Sugar Production of Martinique with years before and after production on the St. Eustatius site (1733-1762). (Deerr 1950:235-236)

There is one final element that must be added to this discussion. Up until this point, this essay has talked of markets, legislation, market needs, nations, and wars. Through these mechanisms it has been demonstrated that St. Eustatius was an ideal place for traders to gather and because of the forces talked about above many of these traders partook in illegal markets. The individuals who traded from the shore may have been partially propelled by larger market forces but they also had agency and

connections outside of these larger markets. St. Eustatius in the 18th century was a place of diversity. Traders came from all over Europe, the Caribbean, the Americas, and Africa. These individuals who came to St. Eustatius would have often maintained connections to their families, friends, and social groups from those areas where they originated. Evidence of this on St. Eustatius includes the Jewish community relying on aid from New York and Curacao to help rebuild the synagogue on the island (Hartog 1976b:6-7), the constant contact between merchants in Virginia, London, and their family members on St. Eustatius (Mason 1937:417-418,419-420, 422-425, 438), and the numerous other individuals who did not exist isolated upon the island.

Summary

The economic policies of the European powers in the 17th and 18th century in the Caribbean sought to control the flow of goods to and from their colonies. In this way, they hoped to create a favorable balance of trade as well as monopolies in the homeland. This philosophy often ran contrary to the goals of planters on the islands and the planters took actions to circumvent these restrictive policies. One option open to planters was to choose to use a free port such as St. Eustatius. This was an option largely structured through the mercantile policies of the time but also by the various other non-economic networks that existed between the people of the islands. The people on St. Eustatius embraced this middleman role and they and the island flourished in supplying and shipping goods from its shores. The recent excavations explored above give tangible evidence of this trade. Sugar molds and drips were in high demand for many of the nearby French colonies (and probably the English as

well) and when the French could not successfully sate this market with goods produced on the mainland, planters would have turned to other sources including manufactured goods from other countries (illegal) and manufactured goods produced in the Caribbean.

Nordstrom's informants located the precedence for modern illegal trade networks in the trade restriction policies of the English during the 17th and 18th centuries (2007:162-163).

In this paper, the political and physical environment of St. Eustatius during the 18th century has been explored to show how St. Eustatius cannot be seen as a bounded entity but instead as member of one of these extra-state networks. St. Eustatius was not simply a Dutch periphery, but rather a market that served not only the Dutch, but also the French and English colonists in the Caribbean along with traders from throughout the Atlantic world. Such a viewpoint helps demonstrate the type of trade that was traveling through St. Eustatius even before it reached the height of its fame in the final quarter of the 18th century.

Sugar was the crop of choice for most of the Caribbean during the middle half of the 18th century, but for St. Eustatius it always represented a small portion of their profits. Planters chose alternative means to gain their fortunes, one of which was the movement of goods, normally restricted by the French and English, to the colonies of the French and English. These goods ranged from sugar to refined ceramics. The sugar molds and drips represent a physical manifestation of this illegal trade. Located along the bay, away from the plantations, and on an island that only viewed agricultural production as a secondary enterprise, these ceramics suggest the moving of commodities between the islands as opposed to within the island.

Both the French and English viewed these decisions with great disgust. This disgust was no better represented than by the Governor of St. Christopher's (modern day St. Kitts), William Matthew who wrote in 1737, "There are not six sloops in all

belonging to all St. Eustatius, a poor beggarly place with not two in it of the rank of a gentleman" (Calendar of State Papers 2000:Item 318 I, vol 43:166). To those on St. Eustatius, this trade was not illegal or morally reprehensible because they were simply following the movements of the market. For many of these traders taxes and tariffs were simply obstacles rather than obligations (Nordstrom 2007:116). The courts of Admirality of Britain saw many cases dealing with ships sailing from St. Eustatius. One British representative confessed his goal was to destroy St. Eustatius because of its illegal trade. That the merchants of Statia were adept at avoiding enforced regulations is apparent in one Judge's conclusion that closely mirrors a recent ruling by the United States Supreme Court on pornography, "I know French sugar very well, and can see perfectly well whether the sugars are of the growth of the French islands or not" (cited in Pares 1975:125). Such a statement was issued because French sugar was being smuggled through St. Eustatius with forged paperwork claiming the sugar had been produced on St. Eustatius.

These extra-state networks were already established on St. Eustatius during the middle half of the 18th century. It was not based around the more noticeable and sexy commodities such as gunpowder that St. Eustatius became infamous for in the 1770's, but rather simple sugar ceramics that were viewed as essential for planter's increased profits in the neighboring English and French islands. More conclusive evidence for industrial production along the bay would only reinforce the market need for these sugar molds and drips, and shows how perceptive traders on St. Eustatius could have filled the void between the refined goods provided by the metropoles and the refined goods desired by the colonies.

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