January 2013

Circulating Ceramics in the Eighteenth Century Colonial Circum-Caribbean: Towards an Archaeological Model for Inter-Site Comparison

Daniel B. Hughes
University of South Florida, hughesarc@juno.com

Follow this and additional works at: http://scholarcommons.usf.edu/etd
Part of the History Commons, and the History of Art, Architecture, and Archaeology Commons

Scholar Commons Citation

This Dissertation is brought to you for free and open access by the Graduate School at Scholar Commons. It has been accepted for inclusion in Graduate Theses and Dissertations by an authorized administrator of Scholar Commons. For more information, please contact scholarcommons@usf.edu.
Circulating Ceramics in the Eighteenth Century

Colonial Circum-Caribbean:

Towards an Archaeological Model for Inter-Site Comparison

by

Daniel B. Hughes

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
Department of Anthropology
College of Arts and Sciences
University of South Florida

Major Professor: Brent Weisman, Ph.D.
Kevin Yelvington, D.Phil.
E. Christian Wells, Ph.D.
Philip Levy, Ph.D.
Uzi Baram, Ph.D.

Date of Approval:
July 2, 2013

Keywords: The Caribbean, archaeology, eighteenth century.

© Copyright 2013, Daniel B. Hughes
Dedication

To my wife, Skye.
Acknowledgments

I would like to thank the members of my committee, whose guidance has led me in this direction and ultimately, toward this study. I would also like to acknowledge my previous mentors, Dr. Donald Proulx of the University of Massachusetts, Dr. Jerry Kennedy of the Florida Atlantic University, and Dr. Anne Yentsch of the Armstrong Atlantic State University for helping me along the way. I would like to thank the staff of the Florida Museum of Natural History for providing access to the historical ceramic collections over the years and, Dr. Judy Bense and Dr. Elizabeth Benchley for providing data from the University of West Florida. I would also thank the Digital Archaeological Archive of Comparative Slavery for making their data available to me. Finally, it should be noted that while all of the data is borrowed from other sources, any errors are the sole responsibility of the author.
# Table of Contents

List of Figures ........................................................................................................................................ vi
List of Tables ......................................................................................................................................... vii
Acronyms ............................................................................................................................................... viii
Abstract ............................................................................................................................................... ix

Chapter One: Introduction ..................................................................................................................1
  The Caribbean in the Eighteenth Century ......................................................................................1
  Caribbean Archaeology and the Need for a Model .................................................................6
  Conclusions ..........................................................................................................................15

Chapter Two: The Economy of the Colonial Circum-Caribbean: Class
  Structure and Consumption in the Eighteenth Century ..............................................................17
  Charting the Caribbean ...............................................................................................................17
  Competing for the Caribbean ......................................................................................................21
    Spain .........................................................................................................................................24
    England .................................................................................................................................33
    North America ......................................................................................................................40
  France .........................................................................................................................................41
  Netherlands ...............................................................................................................................44
  Trade Routes ...............................................................................................................................47
  Caribbean Social Structure and the Class Order ......................................................................56
  Consumption in the Caribbean ..................................................................................................60
  Conclusion ...............................................................................................................................65

Chapter Three: Commodities and Consumption in the Emerging World-System .....................67
  Mercantilism vs. Capitalism .........................................................................................................67
  The Emergence of the World-System .......................................................................................75
  Commodities ............................................................................................................................88
  Consumption and Taste ............................................................................................................94
  Agency .......................................................................................................................................106
  Conclusion ..............................................................................................................................107

Chapter Four: Methodology ............................................................................................................115
  Beginnings of a Model .................................................................................................................115
    Ceramics ..................................................................................................................................116
    Scale .......................................................................................................................................123
  Sites and Materials ....................................................................................................................128
  Detailed Description of Sites Utilized .........................................................................................132
    St. Augustine .........................................................................................................................132
List of Figures

Figure 1. The Caribbean and its surroundings...............................................................18
Figure 2. Major International Trade Routes within the Caribbean .........................48
Figure 3. National Holdings in the Caribbean in the Late Eighteenth Century .......53
Figure 4. Core Relationship to the Periphery ............................................................81
Figure 5. Core Contested Periphery .........................................................................109
Figure 6. Use of Illicit Goods to Replaced Failed Distributions ...............................114
Figure 7. Showing Location of Archaeological Sites ..............................................129
Figure 8. Correspondence Analysis Scatter Plot of First and Second Components ................................................................................................167
Figure 9. Correspondence Analysis Scatter Plot of First and Second Components ................................................................................................168
Figure 10. Correspondence Analysis Scatter Plot of First and Second Components ................................................................................................169
Figure 11. Correspondence Analysis Scatter Plot of First and Second Components ................................................................................................170
Figure 12 Utilizing the Combined Sample (Monte Carlo Simulations Mean and 90 Percent Confidence Interval) .........................................................172
Figure 13. Utilizing the Casa Rosa (Monte Carlo Simulations Mean and 90 Percent Confidence Interval) .................................................................172
Figure 14. Combined Diversity and Brainerd-Robinson Utilizing the Combined Sample ..............................................................174
Figure 15. Combined Diversity and Brainerd-Robinson Utilizing the Casa Rosa ....174
List of Tables

Table 1. Ceramic Frequencies by Origin of Manufacture .............................................63
Table 2. Ceramics Types within Study and Origin of Manufacture of Each Type .......................................................122
Table 3. Brainerd-Robinson Coefficients ...................................................................162
Table 4. Corrected Result from Hughes 2007 ............................................................182
Table 5. Brainerd-Robinson Coefficients ...................................................................183
Table AA. Unmodified Table of Ceramics .................................................................227
Table AB. Modified Table of Ceramics ....................................................................236
Acronyms

Brainerd-Robinson (BR)

Correspondence Analysis (CA)

Experimental Data Analysis (EDA)

Model for Inter-site Comparison (MISC)
Abstract

In the Caribbean, the eighteenth century symbolized a period of shifting powers in the region. Spain abandoned control of many of the smaller islands in the Caribbean, which were quickly taken over and subsequently controlled by the three major European competitors: England, France, and the Netherlands. These islands would be traded as prizes during various European conflicts that would always spread into the region. Unfortunately, most of the archaeological work that has occurred within the Caribbean has tended to largely focus on the micro-scale analysis. While development of a macro-scale analysis to assist an understanding of the past in the Caribbean is called for, not much has been done yet. This study examines the Caribbean in the eighteenth century to develop a model for inter-site comparison. I shall argue that consumptive patterns are knowable and testable through the archaeological record and may be seen through the development of a model for inter-site comparison. Finally, the connections developed from the importation of various goods, such as ceramics, provide opportunities to test ideas about contested peripheries which can be seen by means of historical data and statistical inference to understand the past relationship between global events and local acts of consumption within the Caribbean.
Chapter 1

Introduction

The Caribbean in the Eighteenth Century

The eighteenth century is a period of great change within the world system. In particular, in the New World, the eighteenth century is a period of economic and political posturing, restructuring, and most importantly, colonial development. In the eighteenth century, the newness of the New World was wearing off and people were starting to stabilize various regions (i.e., the North American colonies and Mexico) which since the first colonies were founded, had shown nothing but need. In order to develop this stability, people within the New World needed to change. It is here that this study starts.

This study examines what I consider to be the hub of the New World: the Caribbean. My main research question is: How can archaeology contribute to a better understanding of the historic development of the Caribbean? The Caribbean continues to be tied to its colonial past and understanding how that past developed is crucial to comprehending the complexity of societal development in the present.

The sheer potential for wealth within the Caribbean colonies made them more valuable than any of the other colonies in the New World, even though they needed tremendous quantities of materials. At times, they were the profit-centers for many of Europe’s powers, with the exception of Spain, which was still removing vast quantities of precious metals out of Mexico and the South American colonies. But even Spain needed
the islands it controlled within the Caribbean in order to ship wealth back from the New World. While it is the concentration of wealth that brought most European powers to the Caribbean islands, it was the agricultural wealth of the region that kept the powers there.

The eighteenth century is an economically divided period. The first half of the century was a period of economic recession among the European cores. At the beginning of the period, various European powers expanded their influence by establishing colonies within the New World along the eastern coast of North, Meso and South American and the Caribbean. The need for new markets and raw materials forced many of them to send colonists to various parts of the New World. In addition, various colonies were also established to protect their interests in the Caribbean region and to siphon off the wealth of Spain, which was sent back annually from the New World.

In order to maintain the centrality of power in the New World colonies, who were coming into their own by commerce, the European powers exerted great control by developing state-sponsored mercantilistic policies that protected commercial interests. Thus, the European colonies developed and expanded becoming more secure in their own foundations. The colonies then, started to differentiate themselves from the general periphery of which they had been a part a century ago. Some colonies were no longer solely dependent upon their mother country for all the goods needed to survive in the New World. Others remained tethered to the materials sent from Europe. This forced many of the European powers to guard against growing political and economic powers of the colonies and to maintain the core/periphery relationship. Colonies, in particular those along the east coast of North America, were becoming self-sufficient and able to create export materials for sale in the Old World and for other colonies in the region. Colonies
in the Caribbean established plantation systems where wealth could be grown and
exported yet they were far from being self-sufficient and required massive amounts of
imports. The combination of expansion and self-sufficiency created competition for
power as wealth flowed from the New World. Europe’s powers sought to ensure that it
continued to fill their coffers while some of their own colonies began to develop into
semi-peripheries seeking to ensure that a proportion of that wealth stayed in the colonies
and they received a share.

Around this time, Spain abandoned control of many of the smaller islands in the
Caribbean, which were taken over and subsequently controlled by the three major
European competitors: England, France, and the Netherlands. These islands would be
traded as prizes during various European conflicts that would always spread into the
region. Thus, the islands and the wealth they produced became extensions of these core
powers and their foreign policies developed to ensure protection and growth. The
Caribbean transitioned into a center of activity designed to siphon-off the Spanish wealth
that continued to flow out of the New World’s mainland colonies. Spanish bullion was a
hard currency, much in demand during the economic contraction from 1600–1750.
England, France, and Netherlands would find both legitimate and illegitimate means of
obtaining this wealth.

The Caribbean became the center of European economic activity within the New
World. England and its triangle trade saw the import of slaves into the region and the
export of sugar and molasses to its colonies in the north east (Mintz 1985). France,
attempting to hold England’s economic advances at bay, held three of the most
productive sugar-producing islands in the region: St. Dominique, Guadeloupe, and
Martinique. Shipping goods from North America through their port in New Orleans,
France moved raw goods out of the Caribbean. The Netherlands, starting its decline then, was however, able to hold onto portions of the Caribbean and establish plantations that sent raw materials back to Europe. In addition, the Netherlands continued to assist, when possible, the rest of Europe by providing shipping services to get cargo in and out of the New World. What was not made in the Netherlands was certainly transported by their merchant ships.

The power of sugar made the Caribbean the most prized of all European colonies (Mintz 1985). The cost of production was high but the rewards were significant. This wealth was thus transferred into power and shaped foreign policy such that wars were fought to keep European states from gaining too much power over each other. Thus, colonies which started as shipping points to illicitly smuggle goods and obtain Spanish specie became more valuable in the eighteenth century.

In addition to the wealth of the Caribbean, its strategic location at the center of the initial sailing routes established by Columbus still had vessels coming into the Caribbean from Europe and through the Caribbean on the way back to Europe. These sailing patterns created crossroads where vessels either preparing for or returning from the long voyage across the Atlantic could put in for relief or other activities as required. In addition, the multitude of islands within the region also meant that multiple nations were close to one another and that ships could likely find a national or at least a friendly port depending on the various treaties and states of war.

As a whole though, shipping within the Caribbean was still not of the level needed by plantation owners. While hundreds of ships plied the waters of the Caribbean on any given day, the demand for goods was often so great that the supplies proved inadequate. The main problem stemmed from the fact that while sugar production was
profitable, it was rarely undertaken as part of a strategy for self-sufficiency. Large plantations were created across the various islands which required a large work force that was often viewed as expendable, and replaceable once worn out. Tremendous effort was put forth by merchant companies to provide slaves to work on the plantations in the New World. Countries like England, Portugal, the Netherlands, and France established routes to bring slaves into the New World. England was awarded the *Asciento de Negros* (*Asciento*) contract by Spain to supply slaves to its colonies. In addition to importing labor, the slaves had to be fed, clothed, and sheltered. No means were established to do this locally and therefore, merchants had to bring necessary supplies from Europe and other parts of the New World. Even the wood used to make barrels had to be brought in as vegetation removal across most islands had used up most local wood resources to serve as fuel to boil down sugar. The large-scale importing of goods and resources into the region thus directly tied the micro-scale actions of the individual to that of the macro-scale world system of production, distribution, and most importantly, consumption of materials.

The eighteenth century also witnessed the abandonment of mercantilism in favor of a capitalist system. Mercantilism is seen as a system whereby a government’s foreign and internal policies are designed to create wealth for the government where as capitalism is an economic and social system designed to create profit for individuals within a free market (Lang 1975:175; Matthews 2010). Within the Caribbean, there were multiple historical events occurring within the region, some occur at all levels, as well as at single levels of various scales. This historical development occurred in a somewhat linear fashion and started in a period dominated by mercantilism at the beginning of the eighteenth century and continues through a change to that of capitalism at the end of the
eighteenth century. This change was evident in the emergence of Freeports, which were ports where navigation and trade restrictions were reduced or removed, and through the decline of major trading companies. At the beginning of the eighteenth-century, control over trade and access to Spanish colonies initiated the Spanish War of Succession (1700-1715) in which England feared that it would lose access to Spanish ports to its rival, France. Mercantile policies and trade protectionism ruled. Countries would not permit their colonies to trade with foreign nations unless it was to benefit their own trade. Colonies remained dependent upon the Old World for commodities manufactured in Europe and shipped over for sale or for trading, providing profit to various companies and European nations. Unfortunately, this type of dependant trade could not be maintained by various European powers. Nations found it difficult to supply commodities to maintain their colonies (especially during periods of conflict in Europe) which spurred the colonies to increase illicit trade and eventually develop free trade (Deagan 1997).

Caribbean Archaeology and the Need for a Model

Archaeologists involve themselves with the studies of the human past and employ methods to discover and examine past events. Closely aligned with history, but reaching farther into the past, archaeology is a science that seeks to understand all processes of humanity through material remnants. It has the ability to look at cultures with a long-term, cross-cultural comparative perspective that no other social science can duplicate (Brumfiel 2003:205; Ewen 2000:38; Sabloff 2008). Through its use of the material past, archaeology can assist history in understanding times that have not been recorded and correct instances where history has biased the past through a limited or one-sided
description of events (Brumfiel 2003:207). Archaeology is thus well-suited to assist the
research of globalization and the world system since both have their foundations in the
past and their development remains largely unexplored.

The study of globalization and the modern world system has indicated that it has
foundations that extend into the A.D. 1400s and even further in the past (e.g., Gunder
Frank 1978)). Regardless of this, the only true way to understand its foundation and
development through to the modern day is to use a multi-scalar approach that involves
balancing perspectives between the micro-scale (local) and the macro-scale (global)
(Lightfoot and Martinez 1995:477; Orser 1997: 190). Such approaches will “enable us to
address not only the macroscale issue in archaeology such as world systems,otechnological development, social evolution, and ecological adaptations, but also the
microscale issues of individual intentionality and social action, cultural construction of
gender, and other ideologies” (Lightfoot and Martinez: 477).

Thus archaeology can provide details of the detailed past by using material
culture. In particular, archaeology is able to provide this voice to sections of society that
are frequently voiceless within historical documents and provide access to the past across
the world (Orser 1996b; Paynter 2000:10). Archaeology can provide a unique
perspective on gender and slavery issues. It uses material remains to show actions and
interactions of daily life to correct the unconscious biases that have been instilled within
the historical record (Brumfiel 2003:207). In addition, it enables anthropologists to
understand the distribution of resources and labor, and how these flows occurred.

Archaeology is well equipped to the study of globalization and the world system.
Archaeologists have been particularly attracted to the use of world systems precisely
because of its “links, politics, economics, and geography into a unified framework that
address the developmental processes of complex societies on a broad and interregional scale” (Stein 1999:27). Although, there are critics (i.e. Wolf 1982; Stein 1999; Bunker 2003:219; Scarlett 2006:114-115), the basic framework is very applicable to the study of the Caribbean in the eighteenth century, primarily because this time period falls well within Wallerstein’s initial formulation for the development of the world-system (Wallerstein 1974). Critiques of the ineffectiveness in its application to prehistoric economies should be taken in account, but its use with regard to eighteenth century Caribbean with the majority of the economic transactions falling within a mercantile or nascent capitalist perspective is well within the time period for which its effectiveness has been demonstrated.

Another problem frequently put forth is the top down perspective, which has always been a problem for archaeologists since we cannot excavate the entire system. We know that agency exists, yet, the top-down perspective is troubling since the macro-level cannot answer all of our questions. Within the Caribbean, this is compounded by the fact that the region has never reached core status and has thus always been at the edge of the core/periphery relationship. This creates excavation reports in the Caribbean that are the product of the very end of a top down approach. Thus our methods need modification so the macro-level can be studied without some of the pitfalls that are seen in other studies.

But what can archaeological scholarship offer with regard to the archaeological methods of the Caribbean? In reviewing the entire series of the International Association of Caribbean Archaeology, it became clear that most of current archaeology as it pertains to the historic periods of the Caribbean largely focuses on single loci examinations. Specifically, only one study was identified that discussed inter-island trade (Gibbson
2007:606-612). As recently as 2007, Kathleen Deagan identified a problem with a lack of comparative analysis where “the exploration of similarities and differences in how these communities [St. Augustine, Pensacola, Hispaniola, Caracas, and Buenos Aires] managed the problem of illicit but necessary economic activity has not yet been explored through rigorous comparative archaeological analysis” (Deagan 2007:114).

More recently, in the *International Journal of Historical Archaeology*, a volume was devoted to the Caribbean. In it Mark Houser (2009:4) re-iterated the need for multi-scalar approaches to understanding research problems in the Caribbean as they related to globalization and how it affected the historical past. He also noted the tendency of historical archaeologists to focus too tightly on the interpretation of the site and agents while sacrificing the comparative of varied multi-scalar levels. Specifically, the archaeology of the Caribbean has focused on plantation life, urban life, cemetery, and military sites (Barka 1985: 393). Unfortunately, while many of the articles shed light on the problems and need for research, none of the articles present any methods of analysis that can be utilized by archaeologists to look at the material past and shape it into an understanding of past relationships as they relate to large scales.

Specifically, archaeologists working in the Caribbean need to break away from the analytical trap that is an archaeological site. All too often, sites are excavated and detailed information is created on the site itself, but little work is done to place these sites into the larger island, regional, or international contexts. Instead, archaeologists have focused on the differences between sites in the Caribbean while ignoring their similarities (Lederman 1998:431; Armstrong and Hauser 2009:589). While some information is certainly related to the general history of the region, at most, this is superficial, not in-depth, and only to help the reader place the site being discussed along a time line and
understand the specifics that are about to be discussed. Very little effort is made, as
Hauser noted (2009:4), to understand the effects of globalization and the multiple scales
that existed as a result of consumption of material goods. Thus, a quantitative model or
methodology for analysis is sought that will allow archaeologists to conduct various
scales of analysis. It will enable the archaeologists to both, tie the data observed on an
archaeological site to the micro-levels of analysis and allow the data to be used for the
meso- and macro-levels of analysis so that archaeologists will also be able to see how
their site fits within the larger picture of the globalization that was developing within the
Caribbean during the eighteenth century. This will enable the archaeologists to step out
of the specifics of their sites and observe or develop other questions that relate to other
sites of varying scales.

Archaeology with regard to the Caribbean is still developing. Histories of the
region and specific islands are still incompletely researched. While some portions of the
Caribbean have had extensive archaeological study, other areas are still lacking basic
contextual studies and have only had limited work from avocational or small academic
investigations. Many islands have no archaeological resource protection mandated by
law. Islands like the Bahamas have had intensive archaeological investigations as result
of their close proximity to the United States. This has enabled different American
archaeologists to study at close proximity an “other” (Trouillot 1992: 20). Other places,
like Cuba, have their own nationalistic archaeology program designed to develop the
history and cultural background of the island.

Unfortunately, most of the archaeological work that has occurred within the
Caribbean has tended to largely focus on the micro-scale and ignore the macro-scale
analysis in the development of an understanding of the past in the Caribbean (Hauser
2009:9; Kelly 2009:800. However, this is simply impossible given the Caribbean’s level of need for imported goods. Recently, archaeologists have begun to recognize the importance of the wider relations that have existed throughout the Caribbean (Hauser 2009; Hauser and Curet 2011; Kelly and Hauser 2009; Kelley and Hardy 2011). It is the goal of this research to offer a possible analytical model which will allow archaeologists a means to analyze the micro- (site level), meso- (regional level), and macro-scales (global level).

As discussed above, archaeologists working in this region of the world have recently seen the need for analysis of a larger scale. I propose to develop a model for the Caribbean that will allow the macro-scale to be observed in relation to individual archaeological sites so that the macro-scale will have a direct relation through the meso-scale to the individual sites where typically micro-levels of analysis occurs. However, to do this, I must first show how such a model is conceived and most importantly, if the model allows archaeologists to examine the macro-scale of activities that were occurring during the eighteenth century in the Caribbean. In addition to demonstrating the model, it is also important to outline what it will show us. This is because, even in the absence of a model, historical archaeologists have the means to investigate the macro-level through investigations of historical documents and history at large. That is to say that information already exists within the historical record that clearly shows some macro-scale results. Activities such as, wars or portions of them that have occurred within the Caribbean have had obvious direct effects on the historical development of the region. So the main questions and true purpose of this document is to show what will the development of model show us about more subtle activities that are reflected within the material record left behind of the daily lives of people living in the Caribbean in the eighteenth century.
Specifically what can the archaeological record tell us that the general historical narrative cannot tell us about development of societies as a result of macro-scale activities in the Caribbean?

A second purpose of this document is to show the interconnectedness of the Caribbean during the eighteenth century, which stemmed from the need for materials goods that have been found within the archaeological records. Too often, archaeologists do not attempt to understand the sites beyond the regional or in many cases, within the Caribbean islands where the sites are located. The significance of the presence of goods from a foreign nation during this period is often written-off as evidence of illicit trade without a complete understanding of how and why such materials are present. Why are they found on a site and what does this mean for the mercantilist policies that were in effect for all of the Caribbean and the people who lived under them? As part of this study I would like to explore some possible meanings of the material remains via both, the larger macro-scale and the micro-scale of analysis.

Based within the questions that this study hopes to answer are three hypotheses:

(H1) It is possible to examine the interconnections between sites within a region based on underlying similarities.

(H2) Global activity both shaped and is observable within the material culture of eighteenth century archaeological sites within the Caribbean.

(H3) The scarcity of materials goods within the Caribbean created an acceptance of foreign goods when colonists could not obtain material goods from their own nations. Thus, individuals would substitute goods of other nations and adapt them for their purpose instead of doing without.
The first two hypotheses are based on the fact that I believe that all scales of analysis are possible within the assemblage of archaeological sites and that large scale regional and global activities do shape the micro-level analysis and so, evidence must be present within site assemblages. However, larger scale of analyses are often difficult because archaeologists tend to focus on the data at hand and often do not attempt, as suggested by Armstrong and Hauser (2009:589), to focus on the similarities across regions that are the result of large scales of influence. The third hypothesis is based on the knowledge that trade during the eighteenth century was difficult. The constant dangers to shipping from storms, piracy, and wars often made it difficult to supply these areas. Regardless of the difficulties in transporting materials to the New World, many nations maintained mercantilistic policies that prevented trade with foreign nations and forced their citizens to deal in illicit goods that could not be obtained by any other means.

For this study, I use ceramics; they are well-documented materials and are commonly found on archaeological sites for the requisite period of study. Ceramics also survive as material records and are stable in all environments. But their most critical characteristic is that ceramics were, and still are, commodities that have both, personal value and value as a commodity. That is to say, within one item, we have the ability to see the agency in the buyer’s selection of goods. We also have an item that is used within regional trade and symbolic of its owner in a wider realm. Most importantly for this study, we have a commodity that is representative of the large-scale economic activity, given there are certain types of traded goods, which result from international trade.

In developing a model, it is necessary to look towards portions of the archaeological record that spans the multiple levels of scale that exists on every archaeological site. Materials goods are needed that have meaning at both the micro-,
This foundational study is an attempt to answer the needs of archaeologists currently working within the Caribbean. It is hoped that through the demonstration of a model, avenues of research can be explored. I hope to show that interconnectivity exists within various scales of societies throughout the world and that our current global economy and society has been the work of the repeated merger of various smaller regions. As the Old World expanded into the new in the sixteenth century, this brought together for the first time, a truly global linkage that to this date has been entwining itself more and more intricately. We talk about global societies and cosmopolitanism and have the ability to create a global society as people recognize the value of other materials,
goods, and cultures from around the world but, in order to understand how it affects us today, we have to first understand how it came about and shaped the history that precedes us.

Archaeologists not only interpret the past but also help those in the present understand how the past has shaped it while guiding the future. Today, the Caribbean is still intertwined with its colonial heritage. Its present and future are guided by this past yet, we do not have a clear understanding of the complexity of this past. Archaeologists working in this region have recognized the problem: the lack of true understanding of the interconnectedness of each nation within the Caribbean and called for tools to help them achieve this understanding.

Conclusions

As stated above, the main purpose is to develop a model but to do this we have to understand what we are modeling. It’s not simply that we are modeling ceramics as they are found on an archaeological site but instead that we are modeling the macro- and meso-level histories of the Caribbean as represented by these ceramics. Thus we need to know the development of European core powers within the Caribbean and touch upon some of the more important aspects of historical analysis. We need to break down the general history of each major European power that existed within the region. Unfortunately, detailed histories have yet to be developed for all the powers that controlled the Caribbean and to the full extent possible we need to reflect the current state of literature that exists on the involvement of each power within the region. This lack of histories, also extends to excavations of archaeological sites across the region (Hauser 2009; Hauser and Curet 2011; Kelly and Hauser 2009; Kelley and Hardy 2011). I have personally observed an abundance of English and Spanish historical information on each
nation’s colonies in the Caribbean, while there is considerably less on the French and Dutch and their colonies in general. This also applies to historical periods. On a personal note, when I was planning this study, Kathleen Deagan was contacted for her views on extending the study back into the seventeenth century. While she stated that it would be extremely difficult to find data on sites from the eighteenth century, pushing further into the past would be even more difficult (Deagan personal communication 2006). This has proven true in that as we move forward in time there is more and more information and data to draw on. The amount of information on the eighteenth century pales in comparison to information that exists on the nineteenth century, which with its large plantation systems, seems to have been a period of focus for much of the archaeological research in the region. Therefore, in order to understand what the materials we are modeling represent, a thorough background is needed on history and society of the eighteenth-century Caribbean.
Chapter 2

The Economy of the Colonial Circum-Caribbean:

Class Structure and Consumption in the Eighteenth-Century

Charting the Caribbean

Before we begin this exploration of various nations in the Caribbean it should be pointed out that there are problems in how we define the Caribbean. The Caribbean like most regions is not static. Some would simply define the Caribbean by its geography or history but it is more complex. Various cultures within the Caribbean have shaped the geography and the history of the region and each defined this place according to their perspective that was further shaped by the various internal developments and external influences affecting the region (Meniketti 2009:46). Thus, through a brief exploration of some of these shaping factors, we can as anthropologists begin to formulate a working “definition” of the Caribbean and then, discuss the national involvements in this region.

Studying the Caribbean would have been simpler had it had comprised of a single island or a small chain of islands that were relatively isolated in the ocean, like the Hawaiian chain. The Caribbean is far from isolated. It covers a broad area bound by the Caribbean Sea, Gulf of Mexico, Straits of Florida, and the Atlantic Ocean and is close to numerous countries (Figure 1). Knight (1990) describes the Caribbean as composed of thousands of islands that stretch from the tip of south Florida to Venezuela and northern South America. But even this is not exactly correct since the cultural boundaries often
extend further than the geographical. While the close proximity of the islands within the region and their environmental conditions fostered this idea of interconnectedness, the fact is that it is impossible to geographically define a place that culturally has “notoriously fuzzy boundaries” (Trouillot 1992:19).

The geography of the Caribbean is further complicated by the concept of the Caribbean that is subject to constant change and re-evaluation by those who live there and later, by those who study it. Since Columbus’ first voyages, the Caribbean was conceptualized and defined by the West, and it is this concept of the Caribbean that most anthropologists are forced to work with. However, it is no doubt a vastly different sense
of place than that conceived of by the native (both prehistoric and historic) inhabitants of the region. It is partially the disconnect between the native and western views that makes the Caribbean difficult to define. Another reason that the definition of the Caribbean is so fluid is due to its changing importance within western political economy. The Caribbean thus suffers from a cultural boundary that has little to no permanence within the world. As Immanuel Wallerstein (1980) notes, this region, was one that he saw as a valuable periphery, extending from northeast Brazil north to the Atlantic shores of Maryland. Although such boundaries have been suggested as a possibility in the eighteenth century (Agbe-Davis 2008:118), the reality is that the areas of British control in North America were clearly separated both, spatially and culturally from the Caribbean of Jamaica and the Bahamas. The only time when such an inclusion of British North American colonies could be made was after the American Revolution when England consolidated its holdings in the colonies of East and West Florida. Attempts were made to develop similar plantation products found in the more southern islands.

For our purpose here, it is best to think of the Caribbean as a region that encompasses the Gulf of Mexico, the Caribbean Sea, and its bordering areas in the Atlantic Ocean. It should include the Greater and Lesser Antilles and will stretch from Florida to northeastern Brazil. These were the regions of the original Spanish efforts of exploration and colonization and areas where Spain attempted to hold or maintain its presence in the light of English, French, and Dutch expansion. Florida was a garrison stronghold and protected one edge of the Spanish Caribbean while northeastern Brazil was under constant encroachment from France and England. Thus, while a geographic boundary is defined here, it is not simply geography but a cultural space that during the
eighteenth century was an arena of dispute of competing European powers (Kelly 2009: 81; Meniketti 2009:46).

I have included *La Florida* as part of the Caribbean during the eighteenth century for this study. Prior to European contact, the region had little formal contact with the islands that today form what most people consider the Caribbean. Successive waves of indigenous peoples spread into the Caribbean islands hopping their way north. However, no archaeological data shows that they expanded into the main land of south Florida which already had its own indigenous populations.

It would not be until Spanish control of the region established in the 1500s that frequent connections were made as the Spanish sought to supply their province from one of their Caribbean centers in Cuba. All of *La Florida* was under the jurisdiction of the Bishop of Cuba while the military was attached to the Captain General within Havana, Cuba (Deagan 1981). While *La Florida* had its own Governor who was answerable to the Council of the Indies back in Spain, the colonies in Pensacola and St. Augustine were tied directly to Cuba and in many ways both colonies were a projection of the Cuba-based military strength. Troops assigned in Cuba were often stationed in St. Augustine and both colonies’ goods and supplies were routed through Cuba. It is possible that had riches been found like in other parts of the New World that *La Florida* would have developed into its own but since no wealth was found, it served as the northeastern-most outpost of Spain’s control within the Caribbean.

Finally, Deagan (1987:3) notes that the colonies in Pensacola and St. Augustine were part of the circum-Caribbean Spanish colonies. Further, in Deagan’s 1987 study, she utilized archaeological materials from as far north as South Carolina which once served as the capital of *La Florida* with Santa Elena. Within her study, the circum-
Caribbean extended as far north as South Carolina and as far south as Venezuela. However, for our purposes here, Pensacola and St. Augustine form the northern-most settlements of the Spanish Caribbean during the eighteenth century as Santa Elena was abandoned by 1571.

Competing for the Caribbean

The Caribbean has a long history of human habitation that stretches to thousands of years before European expansion into the New World. All the major islands had some form of occupation visible when the Europeans arrived and claimed the islands and mainland areas for themselves, displacing the natives in the regions and establishing European settlements. By the time of Columbus’ exploration, the Caribbean had already seen three waves of migrations by the Ciboney, Taino, and the Carib, after whom the Caribbean is named. Various sources detail these migrations (e.g., Harviser 1991; Knight 1990; Watters 1997; Wilson 1997).

In the sixteenth century, the Caribbean was controlled solely by the Spanish; however, with the fall of the Spanish Empire, this slackened. By the eighteenth century, this region became a complex arena for the testing of foreign policies and economic warfare as the British, the French, and the Dutch increased their control even as Spain fell back towards its colonies in Mexico and South America (Wallerstein 1980:158). However, even as the smallest of the islands were abandoned by Spain and taken up by other nations, Spain itself kept its interest alive on some of the larger islands and maintained control over vast portions of areas that could be identified as the circum-Caribbean.

The Caribbean was the setting for the struggle of the colonial empires. This was
the location of the most valuable commodities such as, sugar and dyes. In addition, a vast amount of raw materials, including precious metals, was shipped through the Caribbean. The purpose of this chapter is to examine the history of the Caribbean with a focus on trade and obtaining an understanding of the goods supplied and control within the circum-Caribbean area. This chapter will be segmented into: Spain, England, France, the Dutch, and Trade. Each part will focus on the aspects of the concerned nation’s involvement in the Caribbean. The purpose is to provide sufficient background so that the final section on trade can be set in light of each nation’s development within the Caribbean.

The history of the Caribbean starts with European contact and Columbus’ voyages. The Caribbean, while not an isolated unpopulated place at the time of contact was, for the most part, colonized as if it were (Mintz 1966:918). The first contact led to an exploration by Spain, in which the Spanish subjugated the native populations and by the 1500s, moved in more permanently to develop the region, either by enslaving or incorporating the native populations or by their removal and extermination. Islands suitable for cultivation became the main staging areas for Spain’s expansion into the larger landmass of the mainland. Once this was accomplished, Spain slowly receded from the Caribbean and instead focused heavily on sites where precious metals were to be found.

The reduction of Spanish influence in the region in the 1600s led to the intrusion of various competing European nations: England, France, and Netherlands who first started with some of the smaller, less fertile islands, and finally, sought to tap into Spain’s wealth. However, all of the competing powers soon realized that in addition to the gold
and silver flowing out of the New World, the Caribbean was not only useful as a port of call, but it was itself a tropical place that was very well suited to agriculture.

While Spain did develop some limited plantations in the Caribbean, its focus was mainly on the gold and silver mines on the mainland. The other European powers mastered the development of an agricultural plantation system here that led to “the development of export commodities for foreign markets” (Mintz 1966: 921). Of the variety of products produced, sugar became the most lucrative, eventually coming to define the region. With the rise in the popularity of sugar came the need for plantation labor that would take the form of indentured laborers and slaves and while indentured labor was prevalent in the beginning, it was not as permanent a source of labor as slavery. Indentured servants who sold themselves into such servitude typically did so for a period of seven years while their labor paid for their passage and food. After their indenture, they were typically given a small piece of land and freed from any obligation.

The development of the labor intensive sugar plantations drove the eighteenth-century Caribbean economy. Sugar production was hard on the slaves and indentured populations that were often forced to work themselves to death (Postma 2005). Initially, the trading in slaves was highly controlled by mercantile companies (e.g. the Royal Africa Company and the East India Company). These mercantile companies were granted charters and contracts by the European powers; in exchange, the mercantile companies were expected to meet annual quotas of goods, in this example slaves, being shipped into and out of the New World. By 1700, the French and English had imported over 500,000 slaves but as the eighteenth century wore on, it was becoming increasingly difficult to supply slaves; which led to the entry of the illicit traders (Knight 1990; Postma 2005). This would lead to the import of “nearly 4 million African slaves” during
the eighteenth century (Knight 1990:112). Although the abolition of slavery affected the Caribbean, it did not end the need for cheap labor to work the plantations and indentured peoples from around the world were brought into the region thereby, contributing to the population and culture of the area. This agricultural, economic, and cultural history adds to the complexity of the Caribbean and helps us to define the area further.

Spain

The Spanish government, in an attempt to control the flow of precious metals, heavily regulated the flow of goods and people to the New World. The Casa Contraction (1542) was created to handle all incoming fleets and their cargoes and to oversee the assembly of all fleets heading to the New World (Bushnell 1994:29). All passengers had to have written permission to go to the New World, a condition that excluded all people who were not of the “true faith” (i.e. Catholic).

With the discovery of the New World by Columbus, the Spanish Crown began to authorize explorations first, between the islands and later, to the Americas. These expeditions were financed by individuals seeking instant wealth within the New World and in return for their undertakings, the Crown granted rights and privileges to individuals and their families. But the Crown expected a share in all wealth obtained thus.

Spanish policies were designed mainly for the exploration of mineral wealth. However, Spain also established policies regarding the indigenous population that lived in these new lands. “In general, Spanish colonialism represented a uniform effort to secure mineral wealth for Spain, and to Christianize the native population” (Hoffman 1994:38).
The Crown viewed the native population in three distinct ways. The first was that they had become the subjects of the King of Spain. The second was that they deserved enlightenment and a chance to accept the Catholic faith. The third was that they were a labor pool to be used for the Crown’s purposes within the New World. Therefore, the Crown, in conjunction with the Catholic Church, set about converting the population in the New World while simultaneously, subjecting them to the Crown’s desire for wealth.

Around this time, significant transformation was taking place within the Old World in the form of a gradual replacement of the feudal style of government to one based on mercantilism that would eventually lead to the capitalist system during the end of the eighteenth-century and the beginning of the nineteenth century. When Spain established its colonies, this transformation from a feudal-based system was still in progress. Therefore, Spain established a mercantilist style trade policy that still had feudalistic qualities.

Spain sought to create a monopoly whereby the colonists would be solely dependent on the Crown for their needs. Spain restricted the good that good been made in the colonies to simple items, “so all kinds of merchandise in considerable quantities had to be sent to America” (McLachlan 1940:11). They were expected to buy all their goods at inflated prices. The Crown received a healthy share of all transactions, while the cost of providing supplies was imposed upon the merchants wishing to trade in the New World. Spain decreed that all commerce was to be conducted exclusively with the Crown (Ewen 1991:29).

Initially, the system worked well. Spain maintained naval dominance and had sizable military and merchant ships to ply the waters and supply the colonies with the goods they needed. The colonies were also newly created, and their dependency upon the
mother country for all the items they needed was great. In addition, the population within
the colonies remained small so that home markets were sufficient to supply the colonists
with basic necessities. As the population grew and the distance to the new colonies
increased, Spain’s decreasing ability to keep pace with supplies became evident. One
example is the difference between Peru and Brazil. Brazil could be supplied with
perishable items since ships could sail directly to port, while the overland trip necessary
to supply Peru resulted in perishable items rotting in transit (Burkholder and Johnson
1980:134).

As the seventeenth century approached, the Spanish colonies changed greatly. At
the end of the sixteenth century and early seventeenth century, colonies in the islands
experienced a decline in population (Frank 1978:50). Prior to this, most of the population
had been trying to establish permanent settlements (Wallerstein 1980:157). The
inhabitants were encouraged to establish plantations where they could exploit native
labor to work their lands. The settlers attempted to raise cattle and crops on the islands
while the Crown pushed for settlements to legitimize claims on the new lands and control
the trade routes (Wallerstein 1980:157). However, the discovery of vast amounts of
mineral wealth in Central and South America shifted the focus of Spain’s settlement
(Frank 1978:47). Colonies were now seen as opportunities for material exploitation
whereby all the goods were to be shipped from Spain and paid for by the New World’s
vast wealth of hard currency.

Spain’s naval strength and supremacy as supplier changed in 1588 with the
destruction of the Spanish Armada. This loss opened the Caribbean to competing nations
with their own mercantilist policies and forced the colonies themselves to become more
self-reliant. The lack of support from the mother country created an adaptive tradition
with the settlers and represented an expression of Hispanic-American culture (Ewen 1991:1). The development of mission systems and haciendas were two areas in which the Spanish colonists expanded to adapt to their new surroundings in both Mexico and Florida. The mission systems were used to draw on native labor resources and aid the production of local goods. Each mission was more than just a church. They frequently contained outlying structures, fields, water systems, and ranchos (Farnsworth 1987:11). The missions in Mexico were a tremendous economic success. They rapidly became self-sufficient in the most basic commodities, producing wool, leather, tallow, beef, wheat, maize, and barley. Surplus was supplied to the military and exported to pay for manufactured goods (Farnsworth 1987:4).

The creation of a hacienda system [ranch and agricultural plantations] involved self-reliant establishments that in turn produced goods for both, the local and regional market systems. The formation of this system represented an alternative to the Spanish Crown’s directives and created an alternative economic production base (Frank 1978:93). This system became the primary form of land holding in Mexico (Farnsworth 1987:29) and enabled Spanish American businesses to thrive during times when Spain could not meet the demand for goods (Frank 1978:70). However, these businesses could not compete with foreign merchants who could supply the necessary goods albeit of better quality and cheaper price (Frank 1978:70; Wallerstein 1980:131). Wolf notes (1982:144-145) that they seemed to be able to do best when they were in secure locations away from competition. David Branding (1977:140), however, described them as “a sink through which drained without stop the surplus capital accumulated in the export economy.” Surplus wealth created by individuals in the regions was generally used to purchase
property to create more haciendas instead of being used to create more wealth or develop commodities for more than local use.

Spain’s inability to supply its own colonies was the main reason for the advancement for contraband trade within its colonial system. Initially, contact was made between foreign pirates as they sailed the Spanish waters looking for Spanish surplus ships (Marcus 1990:xii). They could sell seized goods to the people for whom they were originally intended, thus making an exchange of basic items for hard currency. As the foreign merchants developed their ability to supply goods to their own overseas markets, they came in contact with Spanish colonists in desperate need of basic goods such as various meats and flour. Through the seventeenth century, this gradually led to direct relations between the other nations and Hispanic America as basic needs were frequently supplied via the contraband route (Wallerstein 1980:185). However, based on archaeological evidence, the start of contraband trade can be traced back to the sixteenth century (Skowronek 1992:113). Although it will be discussed in further detail in later chapters, it should be noted that not all the basic needs were primarily in the form of foodstuffs. Basic needs were culturally defined here by the Spanish colonists themselves. One of the most widely sought contraband items sold by pirates was slaves. The need for manpower to dig in the mines created a large market that eventually led to the introduction of other items such as ceramics. Spain’s colonies became so heavily dependent upon illegal trade with its competitors at the end of the seventh century that “that trade with the Spanish metropolis came practically to a standstill” (Bousquet 1980:51). The vastness of this trade was not limited to the islands. In Santiago de Guatemala, the Spanish officials were constantly attempting to curb the rapidly growing black market (Lutz 1994:146). Smuggling became popular in the smaller ports along the
eastern coastline of Central America and was fully developed by the 1680s (Marcus 1990:36, 79). This was made possible by the lack of a competent infrastructure of officials that would put aside personal profit to prevent illegal trade. Spain had a complex bureaucracy in place but it refused to work and created a non-function system. Deagan (Deagan 1987:21) has suggested “that no significant Spanish shipping took place in the Caribbean after 1630” and that contraband trade increased from the sixteenth century to the eighteenth century as a result of this steady decline.

Contraband traders dealt in goods strictly excluded by the treaties. Thus, as the Spanish colonists became desperate for manufactured goods such as, woolens and metal tools that were supposed to have been supplied by Spain under its mercantilist policies, trading increased (McLachlan 1940:12, Marcus 1990:80). It increased to a point where by the eighteenth century, Great Britain had a large market share of the Spanish trade, supplying the Caribbean from its colonies situated along the Atlantic seaboard and Jamaica (Harman 2004:iv). The heavy reliance of these colonies on foreign trade is evidenced by the fact that 75 percent of the imports of Spanish America were from non-Spanish suppliers (Skowronek 1984:8).

During the Spanish conquest, the Crown immediately set about establishing an administrative network and organization of the area so that the colonies would be instantly under the Crown’s control and subjected to taxation by the Crown’s treasury officials (Lochart and Swartz 1983:86). Each region was maintained by a capital, which would be the center of all activities, and the landing spot for all ships sent by the Crown. Also, an extensive network of natives would be attached to the capital (Lockhart and Swartz 1983:86). However, the Spanish government’s system was stretched far beyond its capabilities and was severely hindered by the sheer distance and the ocean. This often
led to an authority over larger areas than the same officials would have had within Spain (Burkholder and Johnson 1990:71) which often resulted in an abuse of powers since the distance prevented checks on those in charge or an absence of authority since some areas were too large or poorly managed (Burkholder and Johnson 1990:71).

Due to the Crown’s desperate need for money in 1687, a sale for the first time of public offices (Burkholder and Johnson 1980:236) was authorized. A variation of the previous theme whereby positions were awarded by the Crown based on service that involved forms of individual investment to the Crown, this endeavor severely altered the administration of the New World. The practice of selling administrative positions often led to unqualified office holders and the high costs involved forced the holder to seek ways of recuperating the initial cost of the office (Burkholder and Johnson 1980:77). This in turn led to the abuse of administrative responsibilities for financial gain. Thus, the short financial gain obtained by the Crown was often outweighed by the amount of illegal activities that occurred in the name of obtaining profits above the basic salary that the position offered. In addition, positions could be secured for the next generation by either the granting or purchasing a futura. The holder of such a right would safeguard the position for their son after their retirement or death. A combination of such activities increased fraud and fiscal irresponsibility within the New World administration.

Even as Spain was battling its troubles in the seventeenth century, many competitors were moving into the Caribbean. The major problem had been that Spain had only populated the larger of the islands and these suffered from mass migrations when precious metals were discovered on the mainland. Spain never developed large sugar plantations, remaining therefore, a minor competitor in the sugar trade (Ewen 1991:20). Part of the problem was that while Spain attempted to create a mercantilistic
system whereby Spanish colonies were forbidden to manufacture goods for their own use (MacLachlan 1940:11), Spain itself could not produce the needed materials internally to meet the needs for such a system.

Spain saw a massive influx of wealth through the bullion shipments from the Crown. As long as the shipments continued, Spain’s currency was plentiful and the populace had access to it. This drove down the value of the currency and the cheap currency created inflation where the price of Spanish-made goods rose beyond that of the average person. This forced people to turn to their neighbors who in turn were able to provide cheap mass produced goods. The availability of cheaper foreign made goods thus reduced Spain’s ability to supply Spanish goods since many of the local businesses could not afford to operate and sell against cheaper foreign goods. Spain suffered from its wealth while its neighbors industrialized and sought Spain’s wealth.

The eighteenth century saw a visibly reduced Spanish Empire and a Spanish Crown and country that were heavily in debt and quite reliant on the continued flow of precious metals from the New World. Its colonies also continued to suffer, producing little goods but maintaining the flow of bullion to Spain. In the early part of the eighteenth-century, the Casa de Contracción which regulated the New World’s activities moved from Seville to Cadiz (Burkholder and Johnson 1980:137; Marken 1994:14). Seville could not handle the larger ships that were being used in the period and the reduction of Spain’s ability to send ships to the New World made the cargo of each one, important. Spain’s fleet decreased over the seventeenth century from about 55 ships annually to 27 and finally, about eight (Frank 1978:172). Unfortunately, while the new port allowed larger ships, the opportunities were even better for illicit trade as contraband
ships often met the fleet just outside the port and transferred illicit materials (Lang 1975:51).

A shrinking naval fleet and Spain’s inability to provision itself much less its colonies in the Caribbean led to the use of wealth to make up the difference through the import of material goods from other nations. Spain’s continual trade deficit only worsened and in the early eighteenth century, there was an attempt to break free of its deficit spending through the creation of Dutch and English style economic policies.

Spain created its first monopolistic trading company, the Caracas Company in 1728 to supply Venezuela (Hussey 1977:65). With the creation of this company, Spain adopted trade practices that had been in effect for over two hundred years in other countries. The success of this first company led to the creation of other less successful companies, including the Havana Company (1740) that supplied La Florida. Although they were able to create small monopolistic markets, they were never on the same scale as their British or Dutch counterparts. In fact, the Havana Company often had to purchase goods from the English to make up for the lack of goods that had been so common in Spanish colonies via illicit trade since the end of the sixteenth century.

Throughout most of the eighteenth century Spain was able to hold on to three of the largest islands in the Caribbean: Cuba, Puerto Rico, and a portion of Hispaniola. One-third of Hispaniola became the French island Saint-Domingue, which in 1803 would become Haiti. The strategic value of these islands lay more in shipping than agriculture as each lay on the inward leg for Spanish shipping coming into the New World. Of utmost importance was Cuba with its port in Havana. The port served as the gathering spot for the Spanish fleet on its return voyage to Spain. The island’s value for Spain was seen when at the end of the French and Indian War (Seven Years War 1753-1763) Spain
traded all of its territory in *La Florida* to England for the return of Cuba which was
captured by the British near the end of the war. While the islands themselves did have
small plantations on them, Spain never invested in the islands once fortunes where found
in its mainland colonies. The islands produced sugar and tobacco and a variety of food
stuffs that were mainly used locally but because of the lack of investment the islands did
not develop the large scale agriculture that was seen amongst the French and British
islands. Finally, the islands served as redistribution ports (Deagan 1987:24). Goods
coming in from Spain, being exported from the mainland, and goods acquired through
illicit contact with nearby nations all came together on the islands and could thus be
redistributed throughout the Spanish system.

England

The valuable resources to be exploited stimulated England and other European
powers to challenge Spain’s monopoly. The Caribbean became a focal point of this
challenge (Marcus 1990:24). The defeat of the Spanish Armada in 1588 ended Spain’s
naval supremacy and foreign colonists no longer feared its mobility. This enabled
unoccupied areas to be settled without anticipation of a Spanish attack as Menendez done
in 1564 when he ambushed the French at Fort Caroline. In 1608, strengthened by her
new competitive abilities, the British settled Bermuda (Marcus 1990:32). Between 1604
and 1640, the English, French, and Dutch invaded the Caribbean, taking over the smaller
islands and establishing themselves without creating any direct contact with the still-
powerful Spain (Wallerstein 1980:159).

In 1655, England seized Jamaica from the Spaniards (Fortune 1984:26-27;
Wallerstein 1980:159). England’s intrusion into the Caribbean was the result of two basic
needs: the first, an attempt to get as much of Spain’s wealth that was flowing out of the New World as possible. Spain shipped its previous cargos in a flotilla system whereby, ships would gather in Cuba awaiting favorable winds to take them back to Spain and if anyone was to be able to intercept any of this wealth they would need to position themselves as close as possible to the shipping points. Thus, a foreign power close by could siphon off portions of the wealth through trade or through such acts as privateering [this was sanctioned pirating whereby a country issued licenses for the raiding of another country’s vessels and colonies (Lang 1975:56).]

One of the consequences of the spread of sugar cultivation to the Caribbean islands was to create a series of advance bases for the European Atlantic powers at the very gates of entry in the Castilian realm of the Indies (Wolf 1982:151).

The second was to supply agricultural products. Besides well known crops such as sugar and indigo, there was a substantial logging industry. England suffered from timber shortages, and loggers set themselves up in coastal Brazil and logged near the water’s edge. When the distance from the water became too great or Spanish forces discovered them, they moved on. Thus the Caribbean served to supply raw materials back to England.

From Jamaica, massive amounts of goods were sold to Spain’s colonies. The proximity to nearby islands enabled the use of smaller vessels. England’s hands-off trade policies did not restrict her traders from dealing with foreign merchants whereas Spain had created specific rules regarding both, trading with foreigners and the prohibition of trading for currency. Spain sought to prevent the outflow at all costs while England sought to increase it.
The major reason for British dominance in the eighteenth century stems from the awarding of the *Asiento*. The *Asiento*, which is Spanish for contract, was the most desired contract in the Caribbean. This contract lasted from 1543-1834 and after 1713, it was awarded to the South Sea Company. The contract facilitated import of slaves into the Spanish Colonies. It allowed one ship of trade items to be imported a year, which was always larger than allowed. The ship also carried cargoes that were 30 percent cheaper than items imported from Spain (Burkholder and Johnson 1980:240). It promised to make the South Sea company an incredible profit since some 275,000 slaves had been shipped over to the New World between 1541 and 1600 (Wolf 1982:203). Lang notes (1978:73) that “illegal traffic in slave ships amounted to 5,000,000 pounds during 1730-39.” However, the treaty also granted British ships in distress the right to stop in Spanish ports for repairs or relief. The contract mainly facilitated the drawing of a giant screen around the Caribbean behind which English ships could illegally trade, either sell goods while delivering slave cargoes, or pull in under distress and sell items (Wallerstein 1980:191). Spain’s colonists could purchase goods from illicit sources at a “cheaper price, and local officials accepted bribes to allow the activity” (Marcus 1990:48). In addition, the proximity to Jamaica allowed Spanish colonists to sail to the port and trade directly with the British. This allowed such companies like the Royal Africa Company, which was licensed to import slaves into the British colonies, to tap into the flow of Spanish silver by selling directly to the Spanish purchasers (Wallerstein 1980:270).

It was a good life for the contraband trader even though Spain acted stringently against contraband trade and occasionally cracked down on such activity in an effort to regain some of its lost revenue.
Conditions in the Caribbean were far more favorable to the illicit trader. There the colonies of various nations were so intermixed that it was easy to trade from one to another unnoticed (McLachlan 1940:86).

In 1737, the South Sea Company flooded the market with cheap goods so severely that in many ports, Spain’s *flota* [annual convoy of ships to the New World] merchandise could not be sold until their supply of British goods was exhausted (Lang 1975:73). Situations like this forced Spain to crack down frequently by seizing ships and imprisoning crews who were either caught selling contraband or found to have Spanish cargoes in their possession (McLachlan 1940:93). These crackdowns could be quite severe and became the major cause for the War of Jenkin’s Ear in 1739 that started before the War of Austrian Succession in 174. But clearly, the risks out-weighted the potential profits to be made.

In the eighteenth century the British came to control various islands in both, the Greater and Lesser Antilles and for short periods, even Florida. Its prize possession was Jamaica which represented its first major military push into the Caribbean. Jamaica remained a central location for illicit and contraband trade, a strategic location for its military, and a prime agricultural producer. This island was a short distance from Cuba and the Spanish markets. Its location also allowed British ships to cross through Spanish shipping channels and provided excuses of distress for British merchant sailors from the North American colonies sailing in the Straits of Florida so they could conduct illicit trade while repairing their ships. Further, expansion into islands such as Barbados and Grenada also became possible. Throughout the eighteenth century, wars and minor skirmishes provided the British the opportunity to control vast quantities of the Caribbean and by the end of the eighteenth-century the British in fact did control many of the
smaller islands in the Lesser Antilles and portions of northeastern Brazil. But the eventual outcome was not so clear in the eighteenth century and even into the nineteenth century, British control over the entire Caribbean was not possible (Kelly 2009:81).

England sought to control its colonies through a mercantilist system, which was a means of controlling access to and shipment of goods. This was a state system level of control whereby the national policy was directed to creating a closed system where raw materials would be shipped to England and refined goods shipped out to its colonies. England maintained control over its own system through the creation of Navigation Acts which were combined into the Duties Act of 1673 whereby, all British goods could only be carried on British ships (Farnsworth 1996:2; McCusker and Menard 1991:47 and Marcus 1990:171). The idea was to reduce the production of locally made goods that could compete with production in England while guaranteeing markets for British produced goods in its colonies. Such trade was allowed but taxed heavily to keep it down. In addition to the taxation of private British merchants, the British developed their own trading companies such as, the British South Sea Company that was allowed monopolistic control over the slave trade.

What is essential in this system is a foreign policy that attempts to force access into other mercantilist systems through concessions obtained via treaties. One of the main avenues for this was to attempt gains through military victories and forming alliances with those in conflict with trade rivals. Such wars as the War of Spanish Succession (1701-1713), the War of Jenkin’s Ear (War of Austrian Succession 1740-1748), the French and Indian War (Seven Years’ War 1756-1763) saw the British advance while the American Revolution saw a major setback to English commercial gains (Marcus 1990:170; Musgrave 2006:147). The British enjoyed significant gains
through the Treaty of Utrecht, which ended the Spanish War of Succession. The victory gave the British the valuable *Asiento* contract to import slaves into Spanish colonies but more importantly allowed British ships in distress to seek safety in Spanish ports. This enabled the British to foster their illicit trade networks and siphon-off more bullion from the Spanish colonial system. In combination with the Treaty of Methuen in 1703, England acquired the rights to Portugal’s colonial ports in Brazil, and gained access to the wealth flowing from the Americas (Frank 1978:108).

Such Navigation Acts and strategic military advancements, however, were both beneficial and harmful to the colonies in the Caribbean. For instance, British policies protected the sugar market by forbidding the import of sugar from other countries. This created a monopolistic situation for the Caribbean sugar plantations and helped keep the price of sugar high. However, when war broke out, the ability to ship goods slowed and plantation owners could not transport their sugar to market. The policies also prevented them from getting goods from other countries and this made the plantation owner a market for other aspects of the system. Overall, it was a system in constant flux and correction. In times of peace, plantation owners prospered while complaining about having to support local garrisons. In times of war, debts would accrue and plantations would be bought and sold.

Sitting quietly on the side of this war and regulation was the illicit trade (McCusker and Menard 1991). The right of access to ports when a vessel was in distress was guaranteed in treaties and enabled the development of access to new markets. Ships in distress could now rightfully enter ports previously closed to them. Thus, illicit trade was promoted by English merchants and institutionalized in the South Sea Company. Illicit trade was part of everyday life and even when restrictions were put back in place,
connections made during the good times continued to persevere in the bad. Jamaica represented the premier port of the contraband trade system (Wallerstein 1980:160). It was an open affair in the port that was “systematically organized” to bring the wealth of Spain and Portugal back to England (Wallerstein 1980:166). The contraband trade became an integral part of the South Sea Company (Wallerstein 1980:14). Agents of the company in Jamaica frequently engaged in private trading with the Spaniards (McLachlan 1940:81). Jamaica was a keystone, a foundation of Britain’s illegal trade with foreign nationals who had the ability to sail to the island. With further expansion, the ability to illicitly trade expanded until the Treaty of Utrecht expanded it so much that Spain actively attempted to curtail it under its own policies (Harman 2004:5; Marcus 1990: 48; Wallerstein 1980:166). But in order to fully understand what was occurring in the Caribbean, it is necessary to know the origins, the players, the goods, and the outcome of the massive struggle to obtain precious metals.

Unfortunately, the British illicit trade could not be sustained when the Dutch in the latter part of the eighteenth-century developed the Freeports whereby ships from all nations were welcome to trade. Thus, in such a port, some part of the illicit action acquired legal overtones. Such ports actually became the source of illicit trade into the British colonies after the American Revolution and American traders sought to maintain the flow of goods into the Caribbean. Such an action forced the British to relax the Navigation Acts and create Freeports on St. George, Nassau, Dominica, and Jamaica whereby American trade could be watched and the status quo maintained (Farnsworth 1996:3).
North America

For a significant part of the eighteenth-century, England’s North American Colonies remained under her control and were governed by her mercantilist policies, while under England’s control the colonies added to economic strength of England’s mercantile policies. However, the American Revolution ended this domination and created a new player in the Caribbean.

In the seventeenth century, England was shipping large quantities of material goods to her colonies and creating surpluses within the colonies themselves. Unlike Spain, England could supply the necessary items to her colonies and maintain a naval force to enforce her supremacy on the Atlantic coast. Besides this, English merchants set out to increase their trade networks with anyone that had the money to buy the goods. Traders were able to tap into the large English supply network and receive vast amounts of trade goods. The English colonies were allowed to become self-sufficient in basic items that England could not produce or sold to other markets. Thus, as the colonists developed goods, they looked for markets to which they could ship them. The English used their Caribbean ports to deal with other English colonies and foreign merchants. Critical to the development of the North American colonies and the shipping of the vast goods was the coastwise trade system that was developed so that North American colonies could produce the foodstuff and materials that were needed to support the island plantation systems (Hughes 2002).

The North American colonies grew a majority of island food since local shipping down the coast was faster and more reliable than the trans-Atlantic crossing that often saw perishables rot in transit. In addition, the colonies supplied wood for making barrel
staves and charcoal for processing the sugar. In exchange, the merchant ships carried the refined sugar and molasses, supplied by the Caribbean.

After the American Revolution, the English quickly formulated policies to restrict traffic of American ships and prevent them from trading with her colonies in the Caribbean. Unfortunately, other nations quickly moved to recognize and admit American ships to their ports. The Dutch were the first such nation. These restrictions would be lifted in 1788 as the importance of maintaining the supply systems outweighed the rest of England’s ability to supply its colonies (Farnsworth 1996:2). With the loss of the American colonies, England’s influence in the Caribbean started to decline.

France

France at times was both, a major and a minor player in the Caribbean. During the eighteenth century, their aim was to counter the growing English power in the region. While France was not successful in its quest to dominate the region, they, like the rest of the European powers, made their mark. At the beginning of the eighteenth-century, things were looking very promising for the French. Like England, France had pushed into the Caribbean to tap into the wealth of Spain that was flowing out. In addition, in 1677, just prior to the death of Spain’s King Charles II in 1700, France received the Asiento contract to import slaves into the Spanish colonies in the New World (Pares 1963). Like, England, the eventual holder of the contract; France looked forward to the opportunity of being permitted into Spanish ports to conduct illicit trade (Waselkov 2009).

This opportunity made the future bright for France. It got even brighter with the death of King Charles II, who left his throne to his nephew Philip V who was also an heir
to the French throne. A possible merger of the two nations or at least a favorable stance toward France and its trade was hoped for. Unfortunately for France, other European powers also realized the problems that this would create and so the War of Spanish Succession (Queen Anne’s War) commenced to prevent the union. France and Spain squared off against England, the Dutch Republic, the Holy Roman Empire, and Portugal. By 1714, it was over. France and Spain had been defeated. Under the Treaty of Utrecht, King Philip renounced his right to the French throne and most importantly over the Caribbean; England was now awarded the Asiento contract (Wallerstein 1980). However, even though the war had been lost, the two nations remained close throughout most of the eighteenth-century and while there were not many examples of triumphs in the partnership on an international level, within various parts of the Caribbean this closeness was used by France to establish various trade connections so that it could continue to siphon off the vast wealth of Spain’s colonies before this wealth reached Spain.

France’s expansion into the Caribbean coincided with British expansion, commencing in the 1600s with the occupation of smaller islands and small portions of the South American coast (French Guiana). France, over time, controlled a group of islands in the Lesser Antilles. France, like other European powers instituted its own form of mercantilism where trade in its colonies was reserved for the Crown and its chartered trading company the Compagnie de la Nouvelle France, was responsible for shipping in most of northern New France and for all of French Louisiana (Waselkov 2009). The need for such mercantilist policies were clear as European competition in the Caribbean grew between France, England, and the Dutch (Kelly 2009:92; Pares 1963). In times of war, French colonists often experienced difficult days because goods were hard to come by. Ships delivering the essentials could only be counted upon during periods of harvest,
during which the value of the goods returning to France outweighed the risk and cost of delivering goods to the colonies (Pares 1963). In times of peace, the colonies could count on being well-stocked and French traders roamed the ports other than their own (Harman 2004; Waselkov 2009). Ports such as Mobile and New Orleans actively traded with most of the nearby nations. In particular, French traders, like all merchants in the region, sought their share of Spain’s wealth that flowed out of the New World.

Within the Caribbean, France did develop three of the most profitable islands, St. Dominique, Guadeloupe, and Martinique. The most profitable of the three, St. Dominique, was perhaps so in the whole of the Caribbean. French products were known to be expensive and of high quality, being sought out in large portions of Europe (Pares 1963). During its peak, it was the main colony in St. Dominique that allowed France to out-produce England in the 1780s in “sugar, rum, coffee and indigo” (Kelly 2009:82). This is in light of the fact that England controlled Jamaica, which had the largest economy in all of the Caribbean. The French ran large plantation systems called habitations which were operated directly as opposed to the more typical British management style of absentee landlords. All these plantations, English and French, required large slave labor to grow and harvest the wealth of the Caribbean. Unfortunately, France was never a major player in the slave trade into the New World and so relied on illicit routes commanded by the English and the Royal Africa Company for this (Pares 1963).

As the eighteenth century progressed, French control began to wane in spite of the exports being high. In 1763, at the end of the Seven Year’s war, France lost a large portion of its islands in the Lesser Antilles to its rival, England. Although these losses were only minor in comparison to its loses in North America, the losses and gains in the
war would reshape its role in the Caribbean. Ultimately, nothing shaped events more significantly than the French Revolution. The French Revolution (1789-1799) impacted France’s colonies where ideas such as freedom filtered down to the habitations and the institution of slavery. On St. Dominique, this came to a head in 1794 with the uprising of free people of color and slaves on the island and resulted in the eventual abolishment of slavery by the new French Republic (later reinstated under Napoleon) (Kelly 2009:84). In 1804, Haiti would break away from France and soon after, other islands would transfer to England as a result of the Napoleonic Wars.

Thus at the beginning of the eighteenth-century things were looking very promising for France. It was well aligned with wealthy Spain and was successfully overtaking Spain’s former possessions in the Caribbean, transforming its outer possession into the jewels of the Caribbean with intensive slave based agriculture. Its goods were valued in Europe for their cheapness and quality. But through successive wars, internal conflicts, and growth of competing powers, France lost its foothold as major player in the Caribbean by the end of the eighteenth-century. Shortly after the eighteenth century, it would be reduced to possessing only Guadeloupe and Martinique as its interests in the Caribbean waned.

The Netherlands

The Dutch made a move to tap into Spain’s wealth flowing out of the New World. Rising to become the world’s first identified hegemonic power [defined here as the predominant economic power amongst the core powers of Europe], the Dutch became the shippers for the world as their maritime fleet carried the cargos of the world (Wallerstein 1980). "As of 1670, the Dutch owned three times the tonnage of the English, and more
than the tonnage of England, France, Portugal, Spain and the Germanies combined” (Wallerstein 1980:101). The Dutch were able to profit from the trade and sale of manufactured goods and what they did not produce; they skimmed a profit off from its shipping. Throughout the seventeenth century, this made them one of the largest players in the New World as goods shipped to Spain’s colonies were frequently routed via Dutch ships which participated in the Flota. Their success also made them a target for their rivals and in the second half of the seventeenth century, England would work towards weakening Dutch shipping through direct warfare, mercantilist policies, or the involvement of large scale wars between all of Europe’s powers (Frank 1978).

Dutch possession in the Caribbean remained small and under the direct control of the Dutch East India Company. Dutch settlements were never situated on any of the larger islands nor did they occupy any large area of the mainland. The Dutch West Indies, although small, provided the Dutch access to the Caribbean and allowed it to siphon off the wealth of the New World and the Spanish Empire. The Dutch developed plantation systems on their islands for the production of sugar, tobacco, coffee, and cotton (Barka 1996:223). However, unlike the French and British, the Dutch deviated from the mercantilist policies of product protectionism that was prevalent amongst their competitors. Instead, the Dutch allowed open competition amongst their competitors in their own markets. This enabled both, the British and the French to support their own colonization efforts through price protectionism and made the development of Dutch plantations, risky. Still, the Dutch cemented their presence in the Caribbean and set up plantations.

The Dutch were neutral and offered a semblance of balance in the New World. Long involved in Europe’s wars in the seventeenth century, the Dutch, reduced in power,
were often able to establish some of their possessions as neutral ports during the trade wars between England and France (Chase Dunn 1989:160; Emmer 1998:102). The establishment of Freeports fostered a thriving illicit trade and gave the Dutch access to all commercial activities. War time in the Caribbean meant these Freeports would serve as ports of call for inter-island trade as the foreign ports involved in conflict were abandoned by their merchants who did not want to see their ships seized through privateering efforts. If merchants were to sail, they would ship goods under neutral national flags and deliver their goods to such Freeports where all nationalities were permitted to enter (Emmer 1998:104). This proved valuable during both, French and British conflicts and extremely valuable after the American Revolution when the British forbid the entry of American vessels into their ports. In fact it was the first nation to recognize the independence of the United States when in 1776 the Andrew Doria sailed into Orange Bay on St Eustatius and was recognized by the fort with a cannon salute that was customary to foreign sovereign nations (Klooster 1997). The first Freeport opened in St. Thomas in 1724. Of importance to this trade were the islands of St. Eustatius (Statia) and Curacao. Barka (1996:225) notes that for Statia from 1768-1777, 2,000 ships entered the port and over the next two years over 6,000 ships came through.

The Dutch had also developed significant trade relations with the mainland Spanish through Curacao when during the previous century significant numbers of slaves and other goods where shipped through the port. Although throughout the eighteenth century, trade on the island cooled as the Dutch lost the Asciento contract to the British. Afterwards the Dutch continued to trade with the mainland Spaniards but instead of currency for slaves they instead exchanged illicit goods for Spanish cocoa and tobacco (Wooster 1997).
Trade Routes

Understanding the main trade routes into the Caribbean is important to establish not only its development but the vast international interaction that was not possible in any other place in the world at the time. In addition, since most of the Caribbean was devoted to intensive plantation agriculture that focused significantly on cash crops (such as, sugar) the absence of such trade networks would have prevented the development of the region. As Reitz (1992:14) notes, colonies could had difficulty surviving without the ability to produce domesticated plant or animal products and as such, a large portion of the Caribbean looked to the outside sources to produce this domesticated product while it concentrated on its production of goods to pay for these materials.

Within the Caribbean, there were many trade routes. By the time of Columbus’ exploration, the Caribbean had already seen three waves of migration into the island chain by the Ciboney, Taino and the Carib. These Natives had developed inter-island trade routes established during the dispersal of peoples through the successive waves. In fact, Columbus’ letters spoke of the vast trade network that existed among the islands where large canoes capable of carrying 80 men were used to transport materials and hopped from island to island along the chain (Obregon 1991). The close proximity of the islands enabled a down-the-line trade system whereby goods would be passed along from one island to the other.

The first European trade route established (Figure 2) was that used by the Spanish fleets. Leaving from Seville, the fleet would gather and sail south towards the Canary Islands and then, turn west towards the Caribbean. Using the same route established by Columbus, the fleet would sail into the northern end of the Lesser Antilles where they
would either split and sail to Vera Cruz (sailing between Jamaica and Cuba) or head to Porto Bello or Cartagena to pick up goods from the over-land trade route and the Pacific Ocean. The return trip would involve the gathering of the fleet in Cuba and the sailing of the fleet up the coast of Florida to pick up the winds off Cape Hatteras in South Carolina. This route would take ships through the heart of the Caribbean and provide opportunity for materials to be placed on and off as ships stopped at various ports to pick up provision and make repairs.

Figure 2. Major International Trade Routes within the Caribbean (Figure by author).

The second and probably the most famous was the Triangle Trade route established by the British for the import of slaves into the Caribbean. This would involve English ships sailing along the coast of West Africa to take on enslaved Africans who would then be shipped into the Caribbean and exchanged for molasses. Molasses would
then be sold in the British colonies for tobacco and rum and transported to England where ships would be re-outfitted with inexpensive goods for the trade in slaves (Postma 2003).

The third was the coastwise trade [coastwise trade is a term which describes English Trade along the Atlantic East Coast] which involved the development of trade routes along the Atlantic seaboard down into the Caribbean (McCusker and Menard 1991). In the seventeenth century, English colonies had developed an extensive level of self-sufficiency. Producing crops and trade goods, they were encouraged to trade with other colonies and assist in the maintenance of all English colonies in the New World by creating a linkage between them through the selling of surplus materials (McCusker and Menard 1991:78). Eventually, as the colonies developed, a surplus level of trade gave way to the development of market goods. As the level of trade increased in the seventeenth and eighteenth centuries, England sought to profit from this highly lucrative trade through various Trade Acts.

The benefits of the coastwise trade were that it allowed fresh goods and materials to be delivered to the Caribbean at relatively short notice. In the event of food shortages or natural disasters, ships from the English colonies could quickly resupply the region. One example of this was the city of St. Augustine which sought specific contracts with the William Walton Co. of New York (Harman 2004). Even after the city was forced to receive its supplies from a Spanish trading company, the Royal Havana Company, goods continued to come from New York as the trading company was forced to reestablish contracts with the W. Walton Company since it could not find the necessary goods elsewhere (Pickman 1980:76-78).

The fourth route was actually the multitude of internal, intra-island trade routes which was a variation on the down-the-line trade system used by the original inhabitants
of the region. Many of the Caribbean islands, in addition to planters and slaves, had a well established merchant class (Knight 1990:149). This group traded in various commodities throughout the Caribbean and specialized in the trading of goods across international borders. At the heart of this trade were sugar and slaves, the two most valuable commodities in the Caribbean. Merchants would often loan or allow planters to borrow against credit for future crops. When vessels came in to conduct trade with the planters for their crops they would find that the local merchants had already purchased the goods and were ready to turn it over for profit. Many merchants and planters maintained small vessels for trading and travel and it was not uncommon for small vessels to transport locals to various islands to conduct business and visit various holdings throughout the region. Depending on the price of sugar in various foreign markets, sugar could be bought and sold by local merchants and eventually, traded in various European markets (Sheridan 1973:55). To curb this sugar trade and help maintain high prices in the English sugar market, various English colonies in the Caribbean began to pass local Acts that either prohibited such trade or placed a high tax on the import of such goods (Sheridan 1973:57). Unfortunately, these efforts did little to control the level of intra-island trade that existed. The need for slaves in the Caribbean and an agricultural system that was not self-sufficient meant that the strong merchant class would always have customers for the material goods needed to maintain the sugar industry.

The establishment of Freeports after 1724 created the fifth and final route for trade. This was perhaps the greatest event to signal the breakup of mercantilist policies and protectionism and the creation of a free market system associated with capitalism. Even in the modern world economy, the desire to create spheres of free trade is a tricky
business since such zones create opportunities for some and lead to difficulties for others. The development of Freeports in the Caribbean by the Dutch provided for the first time, an opportunity for the Dutch to capture the essence of the Caribbean’s wealth while at the same time did not require as much investiture of wealth as the other nations required to prevent unregulated and illicit trade within their Caribbean holdings. These ports so named Freeports were locations where trade restrictions were eliminated and tariffs substantially reduced or eliminated. In English ports, only English ships could conduct trade and all transactions were subject to the Navigation Acts. In Freeports, vessels from various nations could meet and exchange goods. It also provided a location for previously illicit trade to be conducted safely. The notion of back-alley illicit trade was never really the case, but there was always a risk for any merchant pulling into a foreign port to conduct what was essentially illegal commerce. The opportunity of a Freeport allowed the merchants to conduct business in a safe setting. Risk was reduced and international trade increased.

From the outset of European expansion into the Caribbean, Spain had been a key nation. Spain moved quickly into the eastern edges of the Caribbean and then, moved west to Mexico and Central America. Skowronek (1984:6) notes: “by the beginning of the eighteenth-century Spain had controlled parts of the Caribbean for more the 200 years.” But things began to change in the seventeenth century.

The development of the Caribbean can be told as a story of competing powers who sought the wealth of the region. In the sixteenth century Spain controlled the Caribbean, that is until wealth was found on the mainland, then Spain diverted its attention from the Caribbean. With its attention diverted elsewhere and material wealth flowing out of the New World, foreign countries turned their gaze westward and sought
opportunity in the region largely abandoned by the Spanish. The English, French, and Dutch were the leading nations that sought opportunity in the Caribbean, in particular to find ways to siphon off Spanish bullion and find other opportunities in the tropical climate (Armstrong and Hauser 2007:583).

Between 1604 and 1640, the English, French, and Dutch invaded the Caribbean and took control of all the minor islands (Figure 3). Thus, as the world began to contract, the contest for core domination began and the English, French and Dutch turned to the Caribbean to preempt it. They colonized zones that were easy to acquire and then, by seizing trade, sought to obtain the economic advantages that they would have had by direct colonial rule in those areas still controlled by Spain and Portugal (Wallerstein 1980; Mintz 1985; Marcus 1990; Burka 1999). Also of note is an event that occurred in 1655 when the English seized Jamaica and opened up a large port for the development of illicit trade within the region (Wallerstein 1980). Thus by the beginning of the eighteenth-century the Caribbean was becoming what could be viewed as a cosmopolitan region (during periods of peace) with various nations living within a short sailing distance of one other. It also witnessed the beginnings of turbulence as the events on European mainland echoed here and the contest for domination was fought in the developing world.

Not all economic exchanges within the Caribbean involved illicit trade, the Caribbean was being quickly transformed by the various European powers. The remnants of the native groups were pushed further and further to the edges of the islands or incorporated into the newly established towns that were springing up on the larger of the islands. Immigrants from Europe were transforming the region to take advantage of the favorable climate for crops and the wealth associated with Spanish silver which was the standard currency in the islands (McLachlan 1990).
This transition would guide the history of the Caribbean for the rest of the eighteenth-century as the Caribbean would be transformed from a Spanish backwater and site of illicit trade to a region that would become dominated by sugar plantations and the trade in African slave labor that was so critical for the operation of all plantations (Knight 1990; Pares 1968; Postma 2005). The rise of the Caribbean plantation system would also see a rise in the economic stature of the region; this in turn would see the start of nascent capitalism during the decline of the mercantilist period.

The development of sugar plantations would become the driving force of the eighteenth-century Caribbean economy that would develop the Caribbean as an international cross road for nations. The wealth within the region, and the wealth that flowed through it, made the Caribbean and its various ports the ideal location for foreign
nations to exercise mercantilistic policies as a means of accessing more of the regions wealth. These policies were successful for some and dismal failures for others but eventually all fell to the pressures of illicit commerce and produced the first Freeports in the region in 1724.

The development of these Freeports signals the ending of mercantilism and a shift towards a capitalism market system. When the colonies were first established, they were heavily dependent upon their country of origin to supply them with the need materials. The initial dependency would become the status quo as raw materials would be shipped back to the Old World in exchange for refined materials that would be shipped back. However, over the course of the seventeenth century many of these colonies were progressing to becoming self-sufficient and no longer needed as many materials from the Old World. In fact countries such England and France’s colonies were ready to start the production of refined materials themselves and they would have had not strict mercantilist policies been in place that restricted the types of goods that could be manufactured. The shift to capitalism was not quick throughout the eighteenth century but its foundation rested in the ideas of illicit trade and the notion that once colonies were established, they would be subjected to contestation by other core powers (Wallerstein 1974: 355). Although Wallerstein would have capitalism starting in the 1400s, I suggest that its beginnings were not equal in all regions and that it started in the Caribbean in the 1800s. While under mercantilism, no country would want its peripheries touched by foreign completion. Examples of these come from the French exclusive or the British Navigation Acts and may other proclamations. However, each nation also wanted to increase their own trade output and doing this meant they would have to look for new markets where to sell their own goods. Typically, this type of trade was considered illicit
trade but it was not the same as pirating because one side considered their ships to be conducting legal trade. An example of such illicit trade occurred in the city of St. Augustine. Prior to the Treaty of Utrecht and the awarding of the *Asciento* that permitted British ships to stop in Spanish ports if they were in distress, British ceramics accounted for less than one percent of the total recovered from archaeological sites in the city while after the treaty, British ceramics increased to approximately 10 percent from 1700-1763 (Hughes 2002). Their trading system was transformed to a bi-lateral trade network that involved a lot of what the Spanish Crown would have considered illicit trade while the British saw an opportunity to exploit a new market.

One of the major concerns over the development of capitalism in the Caribbean is slavery and its contribution to the transformation to capitalism. Patterson (1977:407-409) outlines many of the arguments over this issue of whether or not slavery and the institution that guided the development of the plantation system was pre-capitalist or not. In my view, slavery is a pre-capitalist mode of production that fostered the development of capitalism when taken to such grand heights as seen in the Caribbean of the eighteenth-century. Eric Williams (1944) argues that it was slavery in fact that was initially so important to mercantilism since producers sought ways to reduce their labor cost so that their profits could be given a boost. Yet, if capitalism was ever to be achieved, slavery would have to be abandoned by all participants of the market. So when British the economy depended on the West Indies, they ignored slavery but when it was no longer major source of wealth they sought to abandon it (Williams 1944:91). It seems that while the wealth was easily achieved and mercantilist policies controlled the markets, slavery was the means to maximize profits. But when free markets brought forth capitalism then, slavery as an institution needed to be eliminated to level the playing
field. Finally, capitalism also had a secondary effect on the slaves themselves, given the wealth generated brought new ideas and the desire for slaves to partake in the benefits of their own labor. This would eventually lead to revolts around the Caribbean and make the maintenance of the systems, costlier.

Caribbean Social Structure and the Class Order

While the main purpose of this study is developing and testing the archaeological model, a brief description of the social structure as existed here, is provided to help the reader understand the societies that were consuming the materials that the model is based upon. Social structure within the Caribbean varied through the region based largely upon nationality. Although there were common themes that were consistent to all, each portion of the Caribbean structured itself upon its European nationality. The most formal of the social structures that existed was that of Spain. Spain’s systems were similar to those of the other European colonies in that it had aristocratic levels and officers of the military and crown but within its class system, were additional structures. Spain fiercely restricted those allowed to go to the New World. Consistently restricted were Spanish women which led to many of the men living in the New World marrying indigenous women. This led to the establishment of multiple levels of societal organization. The main social organization was based on three levels: Penisulares, Criollos, and Mestizos. Indigenous peoples and slaves were recognized. At the top of the social ranking were the Penisulares who were pure Spanish citizens of the Old World. As such they could hold the highest civic offices and in places like Puerto Rico and St. Augustine, they held governorships (Deagan 1983:40). Criollos were individuals of pure Spanish birth but born in the New World. Spain felt that birth in the New World made individuals
inherently weak and as such their class was restricted to lower level offices and social functions. The final class was the *Mestizo*. These were individuals born out of the union of the Spanish and the local indigenous peoples or with peoples of African descent. On the surface, the crown recognized all social levels as citizens and afforded each class the same rights as one another with the exclusion of certain offices. However, with wealth and power came privilege so those at the top were far better than those below them.

Socially and economically though, the class distinctions generally had the same conditions of the modern upper, middle and lower class with the exception that the highest levels were reserved for aristocracy and pure born Spaniards. For example a middle class Spaniard in Spain could buy an office in the New World and increase his social standing in the New World. *Criollos* and *Mestizos* could become very wealthy but were still shut out from the highest offices because of their birth. Typically to assist their status, wealthy *Criollos* would send their children to live in Spain and thus provide advantages to the next generation which they would have been denied by birth. Within a large part of the Caribbean, indigenous populations and slaves were very limited. By the eighteenth century, most of the native populations in the Caribbean had been significantly reduced and as the Spanish colonies did not really develop the level of interest in plantation agriculture, they did not need large labor forces. Escaped slaves, who fled south into *La Florida* from the British Colonies were typically granted freedom and allowed to serve in the military post their conversion to Catholicism.

England and France were organized in similar fashion in that while they maintained an aristocratic control—via large landholders—over the various islands and territories within the Caribbean. While France’s social structure was a little more rigid than England’s with its *Etats-Generaux* (three systems including nobles, commoners, and
clergy), it followed the pattern of land ownership-based social structures within the system (Hester 2011:48). Landed gentry were stationed just below the royal-appointed figures. Typically, the social pecking order was those who held the royal offices or were aristocrats by birth. Below them were the larger plantation owners, followed by middle level planters, property owners, and small planters, freemen, servants, and slaves (Dunn 1972:116). By the eighteenth century, a lot of these societal levels had been settled but there were remnants of social mobility handed over from the previous century when smaller land holders were able to harvest crops successfully and then, expand their land holdings until they became the major land holders. Though the larger land holders were already upper class individuals from the gentry of their nations, they had no formal title but were still well-situated to be able to acquire and amass large land holdings. In England, many such large land holders served in both, the Parliament and the House of Commons (Sheridan 1973:58-60). Delle (1998: 70) notes that this class also included support services to the wealthy planters such as layers, merchants, and factors. For the English, many of the wealthiest planters did not reside in the New World and instead had people in place to oversee their holdings while many of the French land holders actually lived on their holdings.

They differed from Spain in it that the lowest classes above the slaves in England and France included a significant amount of freemen and servants. Freemen were the merchants, craftsmen, and laborers. Some of this class was made up of former indentured (engages in French) servants whose passage to the new world was paid for by the persons whom they served. Typically, the length of indenture varied but was not uncommon to last up to a decade. Upon completion of the indenture, the individuals were given money and land to re-start their lives in the New World. However, the practice of indenture was
very limited in the eighteenth century as the harsh working conditions associated with sugar production reduced the numbers of those willing to undertake such indentures and slaves who could do the work were cheaper and a permanent work force. Unlike, the Spanish Caribbean, slaves were a large portion of the population of French and British holdings.

The Dutch were organized in a somewhat different way with the Dutch government which was in fact a confederation of smaller duchies and stadholders under the States-General. In this government, there were no monarchs although there were some semi-hereditary positions. Most of the holdings in the Caribbean were established by the Dutch West India Company. However, colonization was organized at first by patroonships [Dutch companies] which operated as semi-feudal holdings and later by colonizing societies (Emmer 1998:84). Typically, each island was organized in a burgher. Citizenship within the burgher could be granted, inherited, obtained by marriage, or even purchased as was the case for many foreign nationals on the island of Statia (Barka 1996). Class restrictions were mainly dependent upon wealth in that the wealthier you were, the higher your stature was in society. Most burghers or citizens had equal access and hard lines dividing the citizenry were limited. However, like most of the Caribbean, the Dutch also maintained large slave populations on some islands where individuals had amassed large holdings. However, it should be pointed out that the Dutch never controlled any of the large islands within the Caribbean. What plantations there were, were limited in size and production as the Dutch in general ran their locations as trading locations to siphon off trade goods created in the New World for re-sale back in the Old World. Dutch sugar plantations also had to compete with international players as they did not restrict the sale of sugar within the Netherlands.
Finally, this discussion on class structures is only a brief introduction since the research focuses on the development of the model. That having been said, it is clear that societies developed were to either match the already existing structures back in Europe or organized to provide a structure for societal management to incorporate new classes of individuals such as, the various indigenous groups and slaves that did not exist in Europe in such numbers to warrant such social concepts. But even with this organization, it needs to be understood that in general, all individuals within the various classes had access to material goods. This includes, in places, the slave populations of the islands who were often permitted to develop limited goods for sale at local slave markets and later at markets in general. The proof of this is the fact that materials such as, refined ceramics do show up within the archaeological record on various sites within the Caribbean and indicate that they were purchased for use.

Consumption in the Caribbean

Within Spain’s sphere of influence, the social structures was strict in that people were prevented from holding offices but they were not strict in that they prevented individuals from accumulating masses of wealth and using that to symbolize their natural birth status or achieved status. Deagan’s work on St. Augustine has firmly established that individuals utilized the symbolic nature of refined ceramics as display items and indicators of power and status (Deagan 1993). While specific areas have been typically defined as male status areas, the kitchen areas were defined as for the females. However, fact remains that in some households both, males and females wielded control and acquired status and prestige from it. Goods were available for purchase and regardless of social standing, which meant that one could buy a good if one could afford it and this is
cited by Hughes (2002) when he notes that within the city of St. Augustine, the *Criollo* and the *Mestizo* households had access to both, Spanish and British goods and that the predominantly the middle and lower class individuals purchased the cheaper British-made wares. In addition, a direct firsthand account by Andres de Barcia who chronicled the history of the *La Florida* from its founding to 1722, demonstrates both, the scarcity of material goods and the desire to bring merchants regardless of nationality into the city of St. Augustine. Barcia’s (1970) accounts of the eighteenth-century are the most valuable because he lived in the city of St. Augustine at the time and his accounts represent more actual events rather than the generalized history written of the preceding century. From these accounts, which are organized by decade, we learn that the city and the garrison in Pensacola were often in dire straits with regard to the necessary goods. They frequently sought these materials from the British and the French merchants and this highlights the condition of the economy. In 1703, Don Joseph de Zuniga requested that part of the annual *situado* be paid directly in cash (de Barcia 1970:349). Half of the money was to be sent in silver and the rest in smaller currency since there existed a small market economy where all people could participate and purchase whatever was available. In 1746, the Governor even allowed free trade with the British since he believed that the goods were better and cheaper (Harman 1969:53). But while the documentary evidence indicates that all levels of society had the ability to purchase goods, the archaeological record shows the materials people were buying and consuming.

To take this discussion further, I revisited my research on the city of St. Augustine, which during its colonization by the Spanish was considered a frontier city in the Caribbean (Hughes 2002; Meniketti 2008). Specifically, I examined the sites that were utilized as the foundations for Kathy Deagan's St. Augustine Pattern which used
binary categories. This pattern was recently the focus of Barbara Voss' re-evaluation of the pattern through an examination of labor (Deagan 1983; Voss 2008).

Three sites from St. Augustine were selected for the initial analysis of eighteenth century ceramic materials because they were occupied between 1702 and 1763, represented three distinct class levels in the city, and were known to have closed contexts: the Avero site, de Hita, and de la Cruz (see Methods for a detailed discussion on each of them). Data utilized for this was compiled in 2008 and has been reformulated here to understand the nature of materials that the three distinct social classes were using (Hughes 2008).

To begin, there are many ways in which we can start looking at the consumptive narrative that is evident from the material culture recovered from each site which is representative of the micro level of scale of analysis. Each site contained a variety of ceramics that made up a consumptive pattern that could be classified as tableware. One of the most widely used methods in archaeology is to tally the percentage of recovered sherds and examine their types as a percentage of the overall matrix (Table 1). Here, the materials are organized by the origin of manufacture so that we can understand where the materials are ultimately coming from and see which level of society is using these materials. The sites are ordered left to right by economic status with the Avero representing the upper class and the de la Cruz, the lower class.

Thus we see that the de la Cruz site actually utilized more English-made ware whereas the middle class and upper class sites utilized ceramics predominantly from Puebla, Mexico. Both, Deagan (1983) and Voss (2009) however, note that the preponderance of material recovered, points to a pattern that is predominantly classified as Hispanic in design and origin. While this may in fact be correct, the evidence here
suggests that all classes of individuals utilized and consumed ceramics. From the wealthiest to the poorest in the community, they consumed goods that were both, from the county of their origin and from other sources.

Table 1. Ceramic Frequencies by Origin of Manufacture.

<table>
<thead>
<tr>
<th>Origin of manufacture</th>
<th>Avero Site Total</th>
<th>%</th>
<th>de Hita site Total</th>
<th>%</th>
<th>de la Cruz Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spain</td>
<td>1</td>
<td>.14</td>
<td>5</td>
<td>.43</td>
<td>1</td>
<td>.76</td>
</tr>
<tr>
<td>England</td>
<td>128</td>
<td>18.08</td>
<td>304</td>
<td>26.05</td>
<td>76</td>
<td>57.58</td>
</tr>
<tr>
<td>France</td>
<td>10</td>
<td>1.41</td>
<td>23</td>
<td>1.97</td>
<td>0</td>
<td>.00</td>
</tr>
<tr>
<td>Puebla</td>
<td>412</td>
<td>58.19</td>
<td>601</td>
<td>51.50</td>
<td>40</td>
<td>3.30</td>
</tr>
<tr>
<td>Mexico City</td>
<td>151</td>
<td>21.33</td>
<td>208</td>
<td>17.82</td>
<td>7</td>
<td>5.30</td>
</tr>
<tr>
<td>China</td>
<td>1</td>
<td>.14</td>
<td>13</td>
<td>1.11</td>
<td>4</td>
<td>3.03</td>
</tr>
<tr>
<td>Guadalajara</td>
<td>5</td>
<td>.71</td>
<td>13</td>
<td>1.11</td>
<td>4</td>
<td>3.03</td>
</tr>
<tr>
<td>Total</td>
<td>708</td>
<td>100</td>
<td>1167</td>
<td>100</td>
<td>132</td>
<td>100</td>
</tr>
</tbody>
</table>

*Data derived from Hughes 2007.

In looking at other nations, we can also utilize such accounts like *Lady Nugent’s Journal*, who in 1801 commented on how different kinds of wealth were displayed at the numerous parties she attended. But more importantly, she notes in her description of the Sunday markets that even the lowest of the classes had access to material goods and slaves could freely trade their own goods and establish wealth. Maria Nugent (1907:89) described the “innumerable parties of negros, laughing, dancing and singing, and dressing their food on the roadside, and all hurrying to get to Kingston; for, alas! Sunday is the great market day.” She further notes that it is a long tradition and confirms the custom of allowing slaves the opportunity to develop their own goods for sale. Even the allowance
of simple gardens could produce goods for sale, generating income, and improving the
lives of slaves at little or no cost to the plantation owner. Slaves on many of the islands
were allowed up to 1 to 1.5 days to work their own plots or trades (Sheridan 1973:259).
They could grow crops, raise animals, or work trades including factoring for other slaves’
goods to create their own wealth or just improve their living conditions. These markets
were not only for slaves to trade but also for plantation owners who frequented them
when the need arose as was the case with Thomas Thistlwood who was forced to buy
food stuff in such a market when it could not be found elsewhere during a food shortage
on the island of Jamaica (Hall 199:69). The first such Sunday market to be reported in
Jamaica occurred in 1662 and while much of the materials on sale were foods stuffs,
items from the plantations themselves also found their way into the markets (Patterson
1975). Evidence of this practice comes from the island of Montserrat which was settled
by the English and the Irish settlers. As part of their excavations of the Galways
plantation, Pulsipher and Goodwin (2001:201) noted that within the slave village of the
plantation, large quantities of European ceramics were recovered but these were not the
discards from the great house. The authors noted the wares were part of the goods
commonly found in the market towns and bought by the slaves for their homes.

The purpose here is to show that all classes of individual had the ability to
purchase and consume goods. In general, as the eighteenth century progressed, more and
more goods became available but simultaneously, more and more individuals began to
participate in the market system. People were able to participate irrespective of their
class whether they were upper class like the Avero family in St. Augustine or Lady Maria
Nugent in Jamaica, or even lower class garrison soldiers belonging to the de la Cruz
family or even lower class slaves on the Galways plantation.
James Deetz has identified what is called the Georgian order for the social organization in this period. This social order he notes (1996) is expressed in terms of materials objects which reflected a new world order. This order and its expression within materials objects is one of the key elements demonstrated by Anne Yentsch in her study of the Calvert family of Maryland who specifically sought to use ceramic materials as well of other items to display their social identity (Yentsch 1994:276). Similarly, Kathleen Deagan’s St. Augustine pattern is a Hispanic version of the Georgian order whereby people utilized materials gods as social indicators (Deagan 1980). The eighteenth century was one of change where new social orders were taking hold in Europe and spreading into the New World. Deetz (1996:67) notes that this was period…” where the individual sought themselves within their culture through use of materials goods. Combined with this new social order were the changes in the economy.

Conclusion

Access to material goods was not restricted by class but by the wealth of individuals in the Caribbean. Wealthy planter elites or Penisulares and the wealthy Criollos would have been able to purchase and display their ostentatious wealth, although it should be noted that wealth did not restrict even the lowest of social classes from obtaining materials goods. While wealth is a causal factor in recovery of materials goods on archaeological sites, one of the main factors in determining the types of materials present is based on the access. Under the mercantile system, laws restricted the types of trade and goods that were produced in the New World. Various classes could only consume what was available in the market. If their colony was suffering from lack of shipments of material goods then, no goods were available in the market [This was more
typical of Spanish colonies than the British]. However, the lack of goods within one’s systems could always be overcome thanks to the contests for markets through purposeful but illicit trade.

Whether its Deetz’s (1999) Georgian order or Deagan’s (1983) Hispanic identity, people in the eighteenth century were able to express their world views through material objects. In fact, consumerism was encouraged under mercantilism. The large trading companies, licensed by the governments, sought to have all the goods they shipped, purchased. All the ranks of society had access to and utilized material goods to denote social meaning. The results of these social displays are evident within the archaeological records which testify that people consumed good such as, ceramics for not just their function but to display social meaning.
Chapter 3

Commodities and Consumption in the Emerging World-System

Mercantilism and Capitalism

Within the Caribbean, there were two forces guiding the economics in the eighteenth century: Mercantilism and Capitalism. The fundamental problem lies in understanding the transition from mercantilism to capitalism and, when and where this occurred. The question is: did capitalism evolve from mercantilism or did it manifest in various regions resulting from unique but parallel circumstances (Baram, personal communication 2009; Orser 1996a:194; Wolf 1982:85)? Even today, there can be competing types of production within the single world system (Chase-Dunn 1989:27). Wolf (1982:85) indicates that there are two views on the shift from mercantilism. The first is that capitalism is a direct, linear continuation of the processes that were developing in the world under mercantilism. Authors like Max Weber (1958), Andre Gunder Frank (1978), and Immanuel Wallerstein (1974) advocate this position of linear development (Wolf 1982). The second view is that capitalism’s development is not a linear mechanism associated with the expansion of mercantilism instead, it is a completely new phenomenon. Wolf indicates that this was the position favored by Karl Marx who thought that the profound changes were more than growth in a system; it was “as a qualitatively new phenomenon, a new mode of mobilizing social labor in the transformation of nature” (Wolf 1982:85).
However, there are circumstances and regions where capitalism replaced traditional economies and created new modes of production. Within the Caribbean, there does appear to be a transition from capitalism to mercantilism (Kuhn 1996). This shift is briefly discussed as a result of the development of Freeports and the revocation of many of the regulations and forms of protectionism that for centuries had kept trade regulated by European powers as an extension of their own mercantilist policies. Mintz (1985:58) notes that “it is common to describe the period between 1650-1750 as one of mercantile trading or commercial expansion, and to treat only the industrial phase in the late eighteenth as real capitalism.”

Mercantilism, as Lang (1975:175) notes, has four underlying principles. The first principle is that wealth is essential to power. Those able to project power out into the world only do so at tremendous expense. The second principle is that power is essential for wealth since those that wish to maintain their wealth must have the power to protect it from others. The third principle is that wealth and power are “each proper ultimate ends of national policy” (Lang 1975:175). The fourth and final principle is that there are times when military security demands economic sacrifices. Combined, the four principles set out a definition of mercantilism as a state or national policy directed towards the protection or expansion of trade.

Mercantilist trade prevailed in much of the European controlled New World as these powers sought to protect trade with their colonies from the outside markets and foreign powers. An example of such protectionism was England’s Navigation Act that forbade trade items to be carried on any other ships except British ones. It was a costly system to maintain since each colony was tied directly to its mother country and the control of each system often led to frequent conflict (Mintz 1985:46, 58).
Although many (Wallerstein 1979; Mintz 1985; Chase-Dunn 1989, Johnson 1996) place capitalism in Europe starting in and around 1640, Wallerstein (1979:260) notes that a system-wide recession forced a contraction from 1650 to 1730 resulting in mercantilist policies in Europe and its colonies where the core powers could create areas of protectionism to prevent the loss of power and wealth. Not until 1760, and the Industrial Revolution, would a capitalist mode of production rise within the European cores and the Caribbean during the period of Freeport development as discussed in the background chapter.

In explaining the archeology of capitalism, Matthews (2010:15) notes that capitalism is the development of individual freedom found within Marx’s use values and exchange values. The use value of a commodity is one that allows the commodity to satisfy a want while its exchange value is able to “command other commodities” (Foley 1999:101). Commodities are “non-use-value” for their owner (producer) and must be exchanged to have use value to their non-owner (buyer) (Marx 1962:64) because each commodity has a certain value tied to its exchangeability, which is based within the given quantity of human labor that each commodity possesses. A ceramic pot made at home for use at home is not a commodity since it has not been exchanged. If it is exchanged, then, its use value is set by the materials and time it takes the maker to create (i.e. clay, labor, and firing) the pot. The exchange-value is the value that someone who needs the pot will pay for it because the pot satisfies some want (i.e. a cooking pot). So use value within the commodity can only be achieved through the exchange of the commodity while it is the labor that must instill within the commodity its “social use-values” (Appadurai 1986:8). Thus, the creator places the use value of the commodity that then will be defined by its exchange-value as a commodity so that its use value can be
achieved by the recipient. However, Matthews (2010:15) states that “capitalism reforms this understanding [the relation between use and exchange-value] by making these qualitative aspects, the part’s use-value, less significant than….their exchange-value.” So previously under mercantilism, a pot exchanged had a specific use value based on the labor put into its creation but under capitalism the amount of labor placed within does not matter since the pot only has value if someone needs it and this depends on the price they will pay for it. The more people need the pot, the more valuable it becomes since with basic supply and demand, the materials may be exchanged for more or less than their use value.

In addition to the role of use- and exchange values, Marx also tied the circulation of commodities to the exchange of money and with forms of capitalist production (Appadurai 1986:7; Marx 1962). Commodities for Marx were able to be “converted into the common measure of their values, i.e. into money” (Marx 1962:72; Orser 1996a:192). As such, commodities could be cross-traded based on their exchange-value in relation to monetary equivalent. This is very important given the fact that many of the European powers moved into the Caribbean precisely to siphon-off Spanish wealth through the exchange of goods for Spanish reales.

However, Matthews (2010:3) notes that in addition to use and exchange value the commodities themselves can take on social values and have “elicited associations of things that people seek to be connected with to construct themselves.” Marx (1962:53) termed this the fetishism of commodities. Leone (1996:16-17) notes that Marx’s attempt was “deliberate and carefully considered” in that he desired to strip away familiarity so that through the understanding of the exchange value one could better understand the social relations that exist. William Pietz (1987:25) indicates the term originating in
“intercultural space created by ongoing trade relations between cultures so radically different as to be mutually incomprehensible.”

Pietz (1985:7) goes further to articulate that the fetish occurs in between two cultures undergoing a cross-cultural situation whereby the commodity is defined against social values between the two different groups. However this seems to take the term to its origins and assumes when that the groups in question must be almost contradictory to one another when Marx’s use assumes familiarity amongst the participants. But for are purpose here the question is if the material remains uncovered from excavations are [or here the ceramics that we wish to use in the study] fetishes? Do they represent a social relation or take on their own social relation (Fine 1999:102)?

Marx’s formulation of fetishes has often been critiqued and reformulated. Arjun Appadurai sees commodities as objects intended for exchange and that what would be Marx’s fetish is instead a single moment in the social life of an object (Appadurai 1983:13). These commodities live in the situation and as such must be studied therein. Fetishes are not real per se save for the moment when they are being observed. An example would be an heirloomed object whereby the social meaning within the object is no longer the same as when it was first purchased. Daniel Miller puts forth that when we focus on the material object that it will always appear fetishistic and that we will ignore the underlying social relations to focus on objectification (Miller 1987). Instead Miller argues that we should focus on consumption and the ability of work to transpose alienable objects into inalienable, although he uses a very wide definition of work to include not only the physical labor associated with the production but work as in the act of consumption such that objects take on social meaning and provide the means for cultural engagement (Miller 1987:190-191). Thus the act of consumption socially alters
the meaning of the commodity and no longer contains the social meaning that Marx saw as a bridging object between two different groups within a society.

Robert Albritton (2012:68) notes that commodity fetishism often emerges when we assume that commodification is complete and the social relations within the commodity have been assigned a value. He argues that we must be on guard against assuming that commodification is ever complete and that people only relate to one another through commodities. This is similar to Daniel Miller’s argument where we should avoid assuming that the only social relation is the one contained within the commodity.

Finally, it should be pointed out that Mark Leone (1999:17) rejects all of these notions of fetishism, thoughts of work and consumption as focus, and the notion that we are studying commodities in a moment of their social life. Instead he suggests that all of these views are only half truths or a dialectical image such that artifacts are not the same as commodities and commodified relations. Instead he argues that we should see artifacts as mirrors of culture and the building blocks of culture and are something that should be explored to understand the variety of meanings that can be instilled within them (Leone 1999:17).

Are commodities or materials in this study fetishes and tied directly to social meaning? Do the commodities replace the social interaction between production and consumption? I would not go so far as to say that the materials in this study are fetishes since it is clear that commodification is not complete. We can see that while meaning is instilled within the object, it can change over time. In some ways I would agree with Leone and his view that we should reject the various strict interpretations, although I would disagree with Leone’s assumption that artifacts are not commodities (Leone
The mere fact that a commodities’ social life, as Appaduria would put it, has ended with it disposal, does not mean it is no longer a commodity. I see the recovery of artifacts as commodities that are frozen in time. They do have multiple histories and can represent the social meaning but yet they are at their base level commodities, goods that have been created for exchange and have both an exchange value and use value. But while being market driven, it is important to note that for archaeologists it is the social meaning to people and how they use such items to see themselves within the world and this is what drives my approach to the role that commodities play in the interaction between production and consumption.

Thus under capitalism, exchange value becomes more important and with it social meaning and use of commodities, which to stand in for social meanings, also increase. The individual, and not the state, now has control of the system and it is this individual who thus profits from the increased exchange value. Similarly, Mathews (2010) sees capitalism as a state of revolution or crisis in that profit is used to create new commodities that in turn allow us to create new social relationships that help the individual to set themselves within the social context of their making. This is similar to Mark Leone’s definition that defines capitalism as a set of social relations by which people sustain themselves (Leone 1999:4). However, another definition, one that I would tend to agree with, comes from Virginia Dellino-Musgrave (2006:73) whereby capitalism is a system that creates “specific economic and socio-political relations.” Although many anthropological definitions of capitalism tend to focus on social relations, we must keep in mind that it is first and foremost an economic system and definitions of capitalism that stray too far towards the social relations aspect tend to forget this. Thus, during this period in the Caribbean, I see capitalism breaking away from national protectionism of
trade, as seen in mercantilism, allowing the individual to compete and determine their own relationships within the economic system.

Within the Caribbean, the inability of nations to supply their colonies properly allowed for substantial profits as the exchange-value of basic materials increased beyond already established high prices during periods of shortages. New modes of social thinking such as the Georgian model proposed by Deetz (1996) created social relationships whereby commodities took on great social meaning and as such had greater exchange value since the goods represented more than just their use value. The need for goods created a cycle whereby profits from their sale could be reinvested into new materials to repeat the cycle allowing those tied to production to be able to sell their labor in such a system.

Thus, within the Caribbean, with the development of Freeports as a means to capture a portion of the illicit trade, open markets allowed commodities to be freely exchanged for the first time. Prior to this, mercantilism created a system whereby the exchange-value was controlled and often set by the monopolies created by European powers. After 1760, trade within the Caribbean was set by market forces in which freely traded commodities had their values set by their exchange-value rather than by their use value as had been the case under a monopolistic system such as mercantilism. While some would argue the root difference between mercantilism and capitalism is the difference between a commodity’s use value and exchange value, it is in fact the increase in the social relationships that capitalism creates and allows commodities to take on (Delle 1998:25). Take the instance of sugar, prior to the development of capitalism, sugar in England was a closed market controlled by mercantilist polices. Its exchange value was controlled to mimic its instilled use value, while after the development of
capitalism, its exchange-value was freed from mercantilist policies that dictated trade regulations. This in turn allow for the creation of additional forms of social values.

The Emergence of the World-System

Before we can understand what archaeology can contribute to the anthropological and historical understanding of the modern world system and globalization, it is necessary to comprehend the world system and globalization [Note throughout this section I try to use the spelling of world-systems associated with authors that I am referencing although I would prefer world-systems theory, it can be referenced as world system, world-systems, world-systems analysis]. This section will address the issues of globalization and discuss what a world system is. It will also discuss archaeology’s potential towards the study of anthropology and history as they relate to scholarly work within the Caribbean.

The study of globalization is a complex multi-faceted field that examines the increased interconnectedness of the world. It is enveloped within technology, politics, economics, and the creolization of culture. “Globalization used herein relates to social economic, cultural, and demographic processes that take place within nations, but also transcend them, such that attention limited to local processes, identities, and units of analysis yields incomplete understanding of the local” (Kearny 1995:548). In other words, these are the linkages that exist between the various scales where the global can have an effect on the local and vice versa.

However, even with a clear understanding of a definition of globalization, there is no single methodology for the studying the phenomenon. Within the literature, there are four recognized categories of research clusters: global capitalism, global society, global
culture, and world-systems approaches (Chase-Dunn 1999:187-215; Sklair 1999:143-163). While each perspective recognizes that the world is ever changing and is intricately woven, each takes a different path towards its research (Friedman 2000:636-656).

Within the study of global capitalism (economic globalization according to Chase-Dunn 1999:192) are researchers who focus on the effects of transnational capitalist forces that produce consumerism, thus transforming the world into a capitalist world or exploiting the periphery in order to move capital into the core region (Sklair 1999:156-158). Chase-Dunn (1999:192) notes that global capitalism spans the globe with economic relationships forged in markets, finance, goods and services through networks created by transnational companies.

Related to global capitalism is the study of the effects of creating and converting various nations and peoples into emerging markets (Schartzman 2006:277). This is accomplished through the ever increasing use of technology to both move money and resources through the system (Chase-Dunn 1999:192). Jorgenson and Rice (2005:60) note that the “expansion of production and consumption usually takes the form of global commodity chains in which resources are added or modified at every chain”. In addition, the use of technology and the intensification of the periphery results in the incorporation of various portions of the society deep within the periphery, as the people living within the periphery can now be empowered through technology to participate in the global capitalist economy. Thus, global capitalist studies are possible, as Arrighi (2004:527) notes, because “capitalism is the first and only historical social system that has become truly global in scale and scope.”

Global society draws on the idea that there is a commonality amongst the people of the world and that we are living under similar conditions. Chase-Dunn (1999: 191)
classifies this approach under his concept of common ecological constraints that exist throughout the world. This can be seen in such things as the global recognition of the changes in the earth’s climate. People in such a global society realize that they are not alone and that they are participating in a larger world. Such was the case with the eighteenth century Caribbean, where colonists of different nations struggled to live in a frontier region.

This is not the same as global culture, although global culture is complementary within the perspective of a global society (Sklair 1999:151). There is, however, recognition of multiple cultures making up the global society much like the modern United States society which is comprised of multiple cultures. In addition, the individual participates within the global society and is responsible for its creation at the macro and micro levels (Herkenrath et al. 2005:161).

Finally, within the global society perspective is the idea, or a return to the idea, of cosmopolitanism (Martinelli 2005:245). While this will be discussed later, I have summarized it here since it is related to the view of global society. Cosmopolitanism is a conception of world society that advocates for cosmopolitan democracy. It is a “universal global society held together by an arching legal framework of cosmopolitan law and authority and a set of cosmopolitan institutions which disconnect legitimate political authority from its traditional anchor in fixed territories (Martinelli 2005:247).” Within global society is the growing perspective, based on a basic set of goals, such as global warming, of a sense of a larger world community and a fostering of “multiple citizenships” through overlapping identities (Martinelli 2005:249-250). In addition, within this suggestion of cosmopolitanism is the idea that, as globalization occurs, a shift in market forces and a reduction of the local identity also occurs (Arrighi 2004:535;
Friedman 2000:654). As groups are pulled into the global economy, they align themselves with markets and core powers, thus creating a hybrid cosmopolitan society that takes on some of the characteristics of the core while reducing their own national or ethnic identities.

While closely aligned to the concepts of global society, global culture is based in the modern world as it studies the effects of mass media in creating it (Sklair 1999:151), such that it helps de-territorialize nations and globalize culture (Kearney 1995:553-557). Media broadcasts allow various nationalities to live anywhere in the world and still have access to programs in their native language. These broadcasts also allow various populations to be exposed to other cultures through access to media that is not a product of their nation.

Within this arena is the idea of creolization which has historically been used to define and identify people of mixed African or Native American ancestry with that of Hispanic ancestry. Thus one of the results of the globalized media is that creolization occurs as societies adopt new traits. However, it should be noted that creolization also has ties to the ways global society was previously perceived through concepts of cosmopolitanism. It has been used to define the generations of people born in the New World, who adopted the existing Creole community as an ethnic reality and identifier of interracial mingling (Dawdy 2000:109-110). However, a simpler definition of creolization is the integration of various cultural traditions over time (Ewen 2000:31; Dawdy 2000:111).

Dawdy (2000:111) notes that creolization would appear in the archaeological record in three phases. The first was a transplantation phase where the individual maintained households that resembled those from the area he hailed from. The second
was an acculturation phase where individuals aligned themselves with an ethnic identity and blended Old and New World ideas. The final phase of hybridization was where the ethnic identity collided with the dominant culture and forced a negotiation and acceptance of ideas associated with the ethnic identity.

Also, under this model of global culture, Chase-Dunn (1999:191) viewed global culture as the proliferation and adoption of Western values as they related to such areas as the recognition of human rights and the rights of political democracy. This view of global culture was also very similar to the cosmopolitan view, which was espoused by the global society model. This similarity does, however, show that in the future there will most likely be a merging of both, the global society and the global culture models. Ideas of the influence of mass media and popular culture will be subsumed as one of the cultural factors that allows the global society to realize similarities and eventually transition into what Arrighi (2004: 535) classified as a hybrid cosmopolitan or nascent cosmopolitanism. Such early stages of cosmopolitanism are often seen but not appreciated within studies of acculturation, ethnogenesis, and creolization where the final stage of cosmopolitanism was not achieved (Dawdy 2000:111).

The final aspect of globalization and of importance to this study is that of a world-system approach. While there is a recognized connection across the globe, it has largely been approached using the world-system theory established by Immanuel Wallerstein, which laid the groundwork for the understanding of the world system and its key concepts. Thus in understanding Wallerstein’s world-system, one is able to conceive the modern world system by analyzing the past to comprehend these connections and how they were formed.
Wallerstein, in his ground-breaking book, *The Modern World-System*, defined the world system as “a social system, one that has boundaries, structures, members groups, rules of legitimation, and coherence” (Wallerstein 1974: 347). It was a system that allowed researchers to view economic and societal interaction over long periods of time (Chase-Dunn 1999:194, 2005:172-173; Schwartzman 2006:300). In addition, to being a research perspective towards globalization, it was also widely used in the study of political economy (Roseberry 1988:166; Wells 2006a: 267).

When initially envisioned, the world-system was a break from various theories of under-development and dependency which tended to focus only on the periphery (Roseberry 1988:166; Stein 1999). Wallerstein incorporated ideas of underdevelopment and mini-systems to formulate his view of what became the world-system (Goldfrank 2000:159-162). These ideas led to the development of an economic framework that was broken down into successive zones that Wallerstein defined as core powers, semi-peripheries, and periphery units. They were intricately tied to each such that neither was able to exist without the other (Goldfrank 2000: 168). Core powers were those regions or states that dominated the economic system (Chase-Dunn and Hall 1997: 271; Wallerstein 1974:349). More than a single center or core power could exist at the same time (Braudel 1977:81). Semi-peripheries were regions or states that dominated the economic system but were subject to exploitation by the core powers (Chase-Dunn and Hall 1997:274; Wallerstein 1974:349). These regions or states were often in a state of flux as each semi-periphery attempted to become a core power, or were once a core and lost their ability to dominate the economic system. The periphery was a region or state dominated by the core and semi-periphery (Chase-Dunn and Hall 1997:273; Wallerstein 1974:349). The hierarchy of the core/periphery is defined by inter-societal networks through which labor
and natural resources are exploited out of the bottom to maintain the economic positioning of the top (Chase-Dunn 2005:172-173) (Figure 4). Wallerstein saw labor as the “forces and relations of production of the economy as a whole” (Goldfrank 2000: 168).

Figure 4. Core Relationship to the Periphery (Figure by author).

Traditionally, the relationship of the core, semi-periphery, and periphery was based on “bulk goods” or “necessities” and the labor associated with the production of these items. Bulk goods/necessities are items that are of importance to everyday life (i.e. wheat shipments), and control (i.e., production, distribution, and consumption) of these items is a means of exploitation according to Wallerstein (Wallerstein 1974:307; Williams 1992:10; Chase-Dunn and Hall 1997:13). Further, true essentials or necessities could be separated from non-essentials based how critical they were to the establishment and sustenance of social and political order (Williams 1992:10). In addition, Wallerstein recognized specialized trade in what he refers to as “preciosities” (Wallerstein 1974:302). Preciosities were items that were not needed for the maintenance of society, yet the exchange of these items occurred at every level of the system (i.e. gem stones). At the same time, exchanges of “preciosities” were thought to occur within the outlying regions
that, due to the lack of an exchange of bulk goods, (i.e. trade beads) were not within the system (Wallerstein 1974:302; Williams 1992:10; Chase-Dunn and Hall 1997:13).

However, research into world-systems has moved beyond Wallerstein’s formulation based on bulk goods/necessities to create a much more fluid system that attempts to avoid so much of the top-down criticism that has been directed against its use in studying the past (Stein 1999; Wolf 1982; Bunker 2003:219; Scarlett 2006:114-115). Chase-Dunn (2005:175) developed an approach to the world systems theory that “retools the conceptual apparatus that emerged from the first generation world-systems scholars.”

Today, other types of exchange such as, political/military, luxury, preciosity, prestige goods, and information are recognized as intertwined factors, in particular where there is often more than a single mode of production (Chase-Dunn and Hall 1997:13, 59; Hall 2000). There is an understanding that these other types of exchanges are key to systems where local leaders monopolize exchanges as a form of control, moving us beyond a system based on the exploitation of bulk goods to one where other means of exploitation or control are possible.

In the 1970’s, two of the main critiques of the Wallerstein’s world-systems theory were based on the sociological issues of state power, state formation, and the mechanisms by which capital is self-expanding. Combined all three were focused on how capitalism itself emerged (Skocpol 1997; Arrighi 1998:113). These two critiques were entitled the “nondebates” by Giovanni Arrighi (1998) in that as world systems theory progresses in the 1990s people still pointed to them as reasons that world-system theory did not in fact work and should be cast aside. However, Arrighi sees these as challenges that are answerable. The problem for Arrighi was Wallerstein’s formulation of the development of capitalism, which Wallerstein postulated was a result of a crisis in feudalism that
created the need for change in the sixteenth century. Arrighi (1998:125) instead agreed with the work of Fernand Braudel who saw capitalism as starting in the fourteenth century. For Braudel (1977:40) capitalism developed in what he termed “merchant capitalism” which was a small layer within the economy of materials life. Merchant capitalism thus did not exist for most people until the eighteenth century when the market economy and capitalism expanded to become a more dominant form. This view of the development of capitalism and the world-system allows for a better progression as opposed to Wallerstein’s crisis theory. While certainly the crisis gave it a push, what Braudel is getting at is that capitalism and market economies have existed in small settings in the historic past and that capitalism did not rise like a phoenix from the ashes of a collapsing feudal economy but instead was one of many potential trajectories that have existed throughout time. Using Braudel’s model, and with the evidence of capitalism existing in the Italian city states, Arrighi (1998:127-128) saw the solution to the nondebates of the 1970s whereby a fringe market economy took hold in the competition amongst city states which would set the ground work for larger competition as cores grew to encompass larger states within the sixteenth century.

Within the specific area of our study, a test and critique on the use of world-systems was conducted by historian, Steven Stern (Stern 1988, Wallerstein 1988). While most of Stern’s argument and test focuses on silver mining in Latin America, Stern also uses the sugar production in the Caribbean as a secondary test case. Although he does not provide the details of his case, he instead draws upon the work of Sidney Mintz. In it he see the problem of the evolution of labor as problem not being properly dealt with in world-system theory, although he acknowledges the importance of the world-system theory as a way to explain Latin America’s and the Caribbean’s incorporation into the
system through mercantilism (Stern 1988:863). The base problem is that Wallerstein incorporates slave labor on sugar plantations as part of the capitalist system whereas Stern (1988:865) would rather they be described as “peasants and petty commodity producers.” Stern’s view is that local conditions better explain social conditions and to some degree this view is justified as it is described above where slaves had the ability to participate directly within the economy. However, in rebuttal to Stern’s comments Wallerstein draws on the work of Sidney Mintz as well to demonstrate that in fact Mintz’s position is more in line with Wallerstein’s notion that slave labor was in fact linked to the world economy and that you could not separate the proletariat or the slave from the system in which they participate (Wallerstein 1998:880). Unfortunately, this use of Mintz by Stern backfired because Stern did not take into account that Mintz had in fact addressed the issue that he was accusing Wallerstein of overlooking. While this criticism failed because of the line of reasoning, I think that the criticism is still justified if we consider our earlier discussion on some of the nondebates of the 1970s. In Wallerstein’s rebuttal he states (1988):882) that he believes “that there is only one kind of capitalism, the single kind that has historically existed.” However, as discussed above, if we take into account the work of Braudel then there may in fact have been multiple capitals in the past and that the large scale capitalism world-system did not in fact start to reach globally into the Caribbean until the eighteenth century. This gets to the argument postulated by Wolf above whereby some researchers put forth a linear development of capitalism. Whereas the problem of such linear models is that once invented the shift is complete and does not take into account the ebb and flow of such developments over time. Thus, I would agree with Stern’s argument that the slaves were not wholly incorporated into the world-system because the Caribbean was at the time still
transitioning to a capitalist market and the fact that they were participating in limited ways would be a better indicator that they were transitioning to such a system. This shifting to a capitalist system is one of the reasons that slavery itself could not be supported in the long term.

Critics of the world-system from within Anthropology have pointed out that several problems still exist within its formulation and that when corrected they reduce the significance of the theory and its hierarchal system (Stein 1999). One of the most serious problems, as pointed out by Gil Stein (1999:19), “lies in the fact that the assumption of core dominance denies any kind of agency to the periphery.” Although, agency as put forth by Anthony Giddens (1979) reduces the ability of the core to influence and at times dominate the actions of individuals such that if “actors are regarded as cultural dopes or mere ‘bearers of a mode of production’ (Giddens 1979: 55).”

This lack of the individual is what Eric Wolf (1982) was attempting to explain with his work, *Europe and the People without History*. Wolf (1982) asserted that the individual was removed from the historical process and the world system that transpired around them. Top-down approaches were difficult in that the individual was cast aside for greater sweeps of social history (Bunker 2003:219; Scarlett 2006:114-115). Unfortunately, a bottom-up or a top-down approach is an argument for what is lacking in both approaches. The influence of both approaches on interpreting any given archaeological site will most likely lie somewhere in the entwining of individual activities and broad scale events.

Another criticism of world-systems has been its difficulty in transitioning into the past. Wallerstein’s initial formulation starts in the 1500s and moves forward with the beginnings of a world system that is drastically different from the past in which no
macro-global society existed. Although Wallerstein has noted that there have been mini-
systems in the past, Christopher Chase-Dunn and Thomas Hall have attempted to push
the concept back to account for the rise and fall of large chiefdoms. However, the
problem remains that the world system was formulated on economic theory and
capitalism, which did not exist in the greater past (Chase-Dunn 2005:172; Kohl
1990:221; Stein 1999). Kohl (1990:220-221) puts forth a “position that altogether rejects
any correspondences between capitalist and pre-capitalist or Western and non-Western
societies often tends to distort our vision of the present and idealize the past.”

Stein (1999) further points out that if we are to embrace the world-system as
envisioned by Wallerstein, we need a framework for a model with clear assumptions of
how the system works and may be applied to pre- or non-capitalist societies. However, if
we adopt the changes suggested by Chase-Dunn and Hall, what we get is “a construct that
gains broad cross-cultural applicability to virtually all interregional networks everywhere,
but does so by sacrificing all analytic specificity.” (Stein 1999:26) Whether this is true
remains to be seen. Today, world systems are widely used to study both, the modern
world system, globalization, and research pertaining to the past societies that are neither
pre- nor non-capitalist.

Finally, a recent article by Thomas Hall, Christopher Chase-Dunn, and Nick
Kardulis was published in 2011 to address world-systems and its relation to archaeology
(Hall et al 2011). They note that over the last three decades various researchers have
been developing the world-systems to address issues associated with critics of its use and
that these modifications are part of any theory testing as is critical analysis (Hall et all.
2011:267-268). They argue for the use of world-systems [note the s at the end of
systems] analysis and conceptualize it as a paradigm that has evolved out of world-
system theory and that it takes into account that in the past there have been multiple systems that have been interconnected that the paradigm is base in macro analysis (Hall et al 2011:239). While the overall goal of their article was to demonstrate world-systems analysis as a tool for archaeologists to work within the realm of prehistory, there are two take away points. The first is that all too often archaeologist brush past world-systems theory based on arguments of the 1970s and limited exposure to Wallerstein’s first book. They often fail to see that world-system theory, world-systems, and world-systems analysis have been taken up by subsequent generations. A prime example was the creation of the Journal of World-Systems Research which published its first quarterly issue in 1995. The second is that world-systems analysis serves as a method for macro-scale analysis given that “one cannot ignore intersocietal interactions (Hall et al. 2011:266).

Overall, there are and will continue to be critiques of world-system theory. While some of the critiques are more substantive than others none have yet to force the abandonment of its use and it continues to spread as a major research perspective. Within my research here I would still argue that Wallerstein is incorrect in his assumption of a linear development of capitalism. In fact one of the reasons that the Caribbean is so interesting during this period of study is that it is a period of change where capitalism comes into play within the region. Such transitional periods have always been of interest for archaeologists as they provide an opportunity to see how culture reacts to changes. But regardless, the use of world–systems is still seen as a way to formulate a macro-scale study as it serves as an explanatory way to visualize the macro-scale actions that were undertaken by major nations within the Caribbean.
Commodities

Archaeology concerns itself with the material remains of the past but amongst the material remains are objects that fall under the category of a commodity[Note commodities have also been discussed previously under mercantilism and capitalism section]. These objects are different from other remains in that they are the items that Appadurai (1986:5) notes tie archaeology to “several kinds of cultural anthropology.” These objects have value to their owner beyond those things that are needed for subsistence (Douglas and Isherwood 1979:38) because all commodities represent a good that was either created by the owner for exchange or acquired by the owner in some form of exchange. Commodities then, are goods that have been created specifically for some sort of exchange (Orser 1996a:191). Still, this is an over-simplistic view and a thorough examination of commodities will perhaps yield a better understanding.

One of the most important studies on commodities is Marx’s (1962:1) Das Capital where he defines a commodity as an object designed to satisfy some want in society (See discussion on use and exchange value and commodity fetishism above under mercantilism and capitalism). This is because each commodity has a certain value tied to their exchangeability, which is based within the given quantity of human labor that each commodity possesses. So use value within the commodity can only be achieved through the exchange of the commodity while it is the labor that must instill within the commodity its “social use-values” (Appadurai 1986:8). These social uses of commodities were, to Marx, both perceptible and imperceptible since the direct connection to the labor instilled within the commodity was not always tied to the physical property of the commodity but was still perceptible to the human mind (Marx 1962).
Thus, the creator would define the use value of the commodity that in turn defined its exchange value.

As stated above, Marx also tied the circulation of commodities to the exchange of money and with forms of capitalist production (Appadurai 1986:7, Marx 1962). This notion while great for those researchers working within the modern economy does not help anthropologists working in societies that do not have money or are a pre-capitalist economy. Appadurai (1986:10-13) discusses how barter and gifts (in the form of gift counter gift) can be forms of exchange that link trade to commodities. However, if we can go back to Marx’s broader concept of the commodity satisfying some other social need in addition to discussing its uses and exchange values, this will allow anthropologists to get a better picture of the commodity and enable us to maintain some of Marx’s concepts in the use and exchange-value of commodities since the ultimate goal is to satisfy a need.

However, to understand better the commodities that we are discussing, it is first necessary to understand why the Caribbean at this time was not strictly a cash economy. Certainly those with cash reserves could certainly spend it on commodities but most of the economy did not run on cash or at least on cash at hand. Within the Caribbean, there were many types of markets. As discussed above their were markets days were slaves could sell materials that they either created themselves or act as merchants selling good that they had acquired. But slave run market places were minor in considering that on every island everyday markets and merchant’s shops existed from which materials goods could be purchased. However, it still was not as simple as having shops full of goods and satisfying the need to purchase goods. This is because the markets system was still very complex throughout the Caribbean. In places like *La Florida* European-manufactured
goods were often very difficult to come by as the area was not a major trade port. The garrisons in Pensacola and St. Augustine produced very little in the way of goods. Harman (2004) notes that occasionally St. Augustine was able to export some limited fruit but mainly exported ballast. It however, was lucky in that as a Spanish garrison it had access to the crown’s wealth and when payment was shipped as part of the situado, the garrison could afford to pay directly for the goods or arrange for the crown to pay for the goods. But as stated before most areas did not have direct access to such wealth and instead the Caribbean operated much like a modern futures market. Planters could sell their next crop prior to the harvest for needed cash or goods to continue their operations. Often the crops would be sold to factors who in turn could re-sell the crop later at profit. This would in itself create situations where the crops (typically sugar) acted in place of currency and in fact sugar was used from time to time as currency (Mintz 1985). The factoring of an islands’ main product often made it very difficult for ship captains to conduct trade as they could not find planters who had crops available for purchase for their return trips because they had already been purchased and were held. Factors for the Royal Africa Company received annual salaries of 6,000 lbs of sugar (Hancock 2000:13). This type of futures market also created problems with absentee land lords like those in England who often sold crops for which they could not deliver. This types of sales lead to the often rapid turnover of ownership of many of the plantations as debts had to be settled. To avoid this planters who were large enough or could pull together other planters could ship the materials themselves directly to market where an agent on behalf of the planters would sell their goods directly (Hancock 200:23-24). Thus there were three real means for planters to exchange their goods and obtain the needed cash or credit for which they could in turn use to purchase needed goods and services. The first was
bartering with ship captains directly. Independent ships were always looking to exchange goods for agricultural products that they could ship elsewhere for profit. Planters could consign their crop to a factor that could produce lines of credit and cash for the next season’s crop. Finally, planters could direct sell their own products to distant markets in an attempt to get better pricing than factoring. In all, such systems created the main economy of the Caribbean. The economy ran on production crops and in turn created systems, for barter, cash and credit. If goods were available people could participate in such an economy and when the economy dried up in times of war, crop failure or market over supply people could still turn to the black market. Many of the Spanish colonies were forced to turn to the black market since most of them did not have products to participate in the Caribbean’s agricultural economy, instead they had to participate in the regions fringe economy where goods were for direct sale.

Therefore, if we continue to focus on the broader concept of a commodity being an object that satisfies a social need, then, we must also continue to focus on how these objects are obtained through various forms of exchange. For Appadurai (1986:13) this involves examining the complete trajectory of a commodity through the process of production, distribution, and consumption, which makes up what he calls a ‘commodity situation.” This situation is further broken down into what he calls the commodity phase, commodity candidacy, and the commodity context. The commodity phase describes the movement of goods in and out of the commodity state, while the commodity candidacy refers to the criteria which define the commodity’s exchangeability. The commodity context refers to the social activities that link the candidacy and the phase of a commodity. Thus, the movement of goods in and out of the commodity state, through
candidacy and context further produce the social life of a commodity and lead to the commoditization of goods.

In addition to bridging the gap between capitalist and non-capitalist economies, Appadurai (1986:16) also makes an effort to define commodities further, stating that they are “doomed to sterility unless they illuminate commodities in motion.” How such motion is to be tracked is debatable. Appadurai offers his view that commodities have social lives that result from commoditization (Orser 2002:193). While Appadurai sees a social life being created through the commodity situation, Orser (2002:193) sees the value of studying the cultural biography of a commodity which is based within the work of Igor Kopytoff (Kopytoff 1986). Kopytoff’s cultural biography focuses on the fact that commodities can shift in and out of Appadurai’s commodity state. Kopytoff, on the other hand, focuses on the particular object in question (Orser 2002:193). Appadurai (1986:17) states that Kopytoff is “less comfortable with the opposition with singularization and commoditization.” This difference is really a matter of scale. Kopytoff sees the cultural biography of a particular object while the social history of things in Appadurai’s perspective involves the large-scale dynamic of trade and the exchange of large classes of goods (Kopytoff 1986).

A different view on how to study the motion of commodities through their various states of production was offered by Wallerstein and Hopkins (2000:223) via the “commodity chains.” They studied the role of labor in the world economy, and said that commodity chains could be applied to studying the flow of commodities. Commodity chains, according to Wallerstein and Hopkins (2000:223) examined only the aspects of production and labor of the commodity, while completely ignoring the distribution and consumption ends. The object was thus to examine the economic flow across states and
frontiers such that the true understanding of the labor that went into the creation of Marx’s use value could be truly understood. The study of the flow of commodities thus considers the labor, tools, raw materials, and even the food needed for the workers to produce a finished commodity. In addition to commodity chains (as developed under world-systems theory) there has been the recent development of both global commodity chains (GCC) and global value chains (GVC) (Bair 2005: 160; Newman 2012: 155). While they will not be discussed at length here, it is pertinent to mention them in that GCC and GVC focus on chains associated with local level and regional level respectively, whereas commodity chains primarily focuses on the macro-level of study and is still in use (Bair 2005;164). A drawback however, is that in the past, very few commodities were developed involving complex lines of materials and labor. However, if we were to examine the creation of rum in the eighteenth century, then, we could conceivably draw out the entire triangle trade network that led to the final commodity of rum (this could include the need for ships, crews, sugar, and the slaves that produced the sugar, and workers who produced the rum). Such a chain would map the various interconnected processes that existed within the definition of the use value of commodity so that its commoditization could be better comprehended. The drawback is that the consumer does not have to consume (Douglas and Isherwood 1979; Miller 1995a). The consumer does not always see the intricate chain of labor and goods that go into the finished commodity. So, if a commodity chain was to have a useful application to study goods in motion then, it would have to expand to allow the study of the chain into and through various states of commoditization. Combined with either a social life or cultural biography model, the commodity chain analysis would assist in the modeling of the commoditization process.
As discussed under the discussion of capitalism, commodities are goods that have social value. They have multiple histories and can represent social meaning. The goods that have been created for exchange have both an exchange value and a use value. This value is instilled within the object and is actualized in both the exchange process and social processes that they can represent. In studying the material culture of the past, archaeologists need to be able to accurately identify goods that have been commoditized or have the ability to be commoditized by understanding consumption practices to determine what materials have been consumed from outside sources. These commodities through the study of their use, exchange, and social development will assist archaeologists in coming to terms with the economic and social lives of the goods recovered.

Consumption and Taste

Evidence of consumptive behavior exists in archaeological records. It is formulated using the material culture excavated from archaeological sites and highlighted using specific research designs that pay particular attention to sampling strategies and analysis so that a clear picture of the consumptive behavior can be understood by the archaeologist. However, consumption is one of the most often over-looked aspects of the archaeological record. This is not to say that most archaeologists think that artifacts recovered from sites were not actually used on the site (Skowronek 1984), but that consumption as an idea is not what most archaeologists think about as a theoretical foundation to their specific research designs developed for their excavations. Mostly, archaeology concerns itself with the production/distribution side of the production/distribution/consumption equation. Archaeologists often neglect the fact that both, production and consumption are not in fact “independent processes” and that the
changes in either need to be formulated within the search for changes within consumption (Baram 1996:108).

Therefore, in a majority of archaeological studies, an understanding of consumption is not the object of most archaeologists’ research and focus. Mullins (2004) notes that the idea of consumption has been avoided by archaeologists because of its association with mass materialism or conspicuous consumption and that the “vast corpus of consumer scholarship has not yet had a significant influence on archaeology and archaeology has had very little impact on interdisciplinary consumer scholarship (Mullins 2004:197). In addition, archaeologists have also been working on ideas of production and distribution using ideas of consumption as the proof the production and distribution chain (Hirth 1996:209).

But consumption is increasingly coming into its own within archaeology as archaeologists realize that some of the basic ideas they have been working with, are actually based on the consumption theory and that new research potential exists here (Fine 1995; Miller 1995b:141). Mullins (2004:197) defines consumption as a “social practice through which people simultaneously construct understandings of themselves and are positioned within the world” by consuming goods.

If consumption was thought of in the study, it was simply interpreted to show the availability of goods that resulted from production and distribution (Cook et al. 1996: 51) or the result of material culture studies. “Such studies exemplify the kind of fetishism to which material culture studies are always prone, when people are superseded as the subject of the investigation by objects, and become essentially labels for their movement or pattern” (Miller 1987:143).
In addition, the identification of consumption of “western” goods used to be thought of as an example of cultural loss by anthropologists and archaeologists (Miller 1995c:264). Thus researchers would often move away from a complete picture of consumption in order to reach what they thought was the natural consumption pattern of a pure, untainted (i.e. bereft of the influence of western cultural materials) culture.

But within studies on consumption, lie three basic approaches: pattern studies, consumer choice studies, and consumer behavior studies. Of the three, consumer behavior is the most complex. It is also the broadest of the three with scholars working within various ideas of consumption and so, most of this section will be devoted to discussing these and the scholars associated with them. While it is also the purpose to critique the leading theories, it should be understood that there are no leading theories in consumption and that all of the three basic theoretical associations are still in use in various forms throughout archaeology.

The first of the theories is that of pattern studies (Cook et al. 1996:51). While not overtly a consumptive theoretical perspective, it is based within ideas of artifact or material culture mindsets as proposed by James Deetz’s In Small Things Forgotten (1996). Within this work, Deetz developed the idea of the Georgian mindset whereby consumer practices reflected the cultural pattern of the period. In particular, Deetz noted that there was an increase in the use of material goods from the seventeenth to eighteenth century and that this increase in consumption was related to the desire to express identity through material goods. Within this idea of pattern studies, came additional studies such as Anne Yentsch’s (1994) work dealing with Chesapeake families, Kathleen Deagan’s (1983) St. Augustine pattern, and most notably, South’s (1997) Carolina artifact pattern. Of all these studies, South’s work is the most often used today (Lee Decker 1991:32;
Johnson 1999). His use of artifact groupings is widely used throughout archaeology because of the ease of comparing sites based on the predetermined artifact groupings: such as the kitchen, architectural, and personal. While this methodology and framework can be useful for comparative purposes, the use of material patterns is problematic. Mullins (2004:199) states, “any archaeology focused on cultural tradition in its most inflexible sense risks posing cultures as an appropriate mechanism to explain material patterns, rather than the subject that needs to be explained itself.” Thus archaeologists using this perspective run the risk of assuming a consumptive pattern that is based on the larger set of ideas which do not fully explain why the artifact is appearing in the material record (Appadurai 2001:42). In other words, archaeologists run the risk of losing the individual and not paying enough attention to agency in the selection and consumption of material goods. Traditions cannot adequately be used to explain the archaeological record; instead, the material culture is indicative of consumer behavior that is partially based within historic traditions. The individual cannot be separated from choice, or as I shall discuss later, taste.

The next theoretical perspective is called consumer choice (Carroll 2000; Cook et al. 1996: 52). This theoretical perspective is still widely used and is particularly popular within zooarchaeological studies. This approach uses the methodological procedure of indexing artifacts. It utilizes a household level of scale and enables access to goods to be one of the key drivers where an individual’s economic status is a key guiding factor that influences the materials record (Spencer-Wood 1987; Cook et al. 1996:51).

In general, as Wurst and McGuire (1992: 192) note, consumer choice models share three basic traits of emphasizing gender and the household, using the individual as the basic unit of analysis, and focusing the choice of goods as a
symbolically meaningful action. One of the most widely used is George Miller’s economic scaling system for the study of ceramics (Cook et al. 1996:51; Miller et al. 1994:245). Miller et al. (1994) searched for types of artifacts that would allow the creation of indices and sought information to tie the indices to the socio-economic status of the inhabitants of the site (Cook et al. 199:52; Baugher and Venables 1987; Orser 1987). Some researchers use the information to go back to create pattern studies (Yentsch 1994). Cook et al. (1996:52) notes that the most extreme practitioners went as far as to attempt to circumvent the documentary record and felt that the data and conclusions would not require the historical record.

While this approach attempts to tie information directly with the inhabitants, critics of this approach contend that individuals “are not and never were completely free to choose the goods which they consume” (Carroll 2000:165). In other words, practitioners may have seen a record of consumption that indicated that inhabitants of sites belonged to a lower socio-economic status when acts of consumption may in fact reflect differences in taste or just availability of goods within certain regions. Such materialism “concedes consumers relatively little consequential impression over the meaning of goods; it implies that middling consumers will generally purchase whatever the market place provides or dominant social tastes dictate; and it tends to pose consumption as a rather logical goal-oriented social activity” (Mullins 2004:206).

While some socio-economic conditions may in fact be discernible in the archaeological record, archaeologists must fully understand the availability of the goods they are researching and determine how much of the consumption record is a result of the consumer acting as an agent, or a representation of the unconscious choices of the
population, or a lack of availability of choice. For example, if a wealthy consumer wanted to purchase a tea set at a market and the two choices available were an expensive partial set and a complete inexpensive set and they purchased the complete set, how would consumptive choice then reflect socio-economic status in the archaeological record if all the data linkages are not traced?

In turning to consumer behavior we see that, initially, there were those who left the consumer choice groups and then, there were those who expanded the scholarship on consumption outside of archaeology proper. Some of the participants within consumer choice turned away from artifact indexing and patterning to look for more generalities within consumption.

Consumer behavior studies focus on research that provides quantitative data that can be grouped to reveal “patterns” of expenditure and by extension, consumption (Cook et al. 1996:52). Using quantitative data, consumer behavior focused on searching for behavior that consumers “display in searching for, (acquiring), using, evaluating, and disposing of products, services, and ideas which they expect will satisfy their needs.” (Henry 1991:3) Henry (1991:4) further defines four main aspects of consumer behavior as: “the decision to consume, acquisition (sometimes called “procurement”), use, and post-use disposition.” These four aspects contribute to our understanding of consumer behavior. In this perspective, the consumer is studied in a comparative way through the use of databases that allow the comparisons of patterns to be achieved through statistical analysis (LeeDecker 1991:31).

Some of the shortcomings of this approach to the study of consumption deal with scale and some of the broad-sweeping assumptions that have been made regarding socio-economic behavior (LeeDecker 1991:32). With regard to scale, the use of a household
has been identified as one of the problems. Such a narrowly defined study really can only apply to those sites contained within the study (e.g., Mullins 1996). This problem is further complicated when archaeologists attempt to make broad general assumptions based on the work of a few households, applying the consumptive pattern to the rest of the region or society since the individual may not be representative of the region. In contrast, if an archaeologist attempts to use a few items and tracks them across broad areas, then, we lose the identification of the individual within the study and draw negative feedback claiming loss of agency.

Cook et al. (1996:52) also include a discussion of a wide variety of anthropologists and other scholars who have taken on consumption under their definition of consumer behavior. While each may not exactly fit the consumer behavior approach, there is currently no significant approach defined in consumption studies that would encompass their theories/work. For our purposes here, they will be linked to consumer behavior studies and a brief discussion will be developed for each.

The first of these scholars is Mary Douglas (anthropologist) who with Baron Isherwood (economist) (1996) put together a study, *The World of Goods*, which is one of the most cited references in modern studies of consumption. The book “develops the argument that goods are part of a live information system” (Douglas and Isherwood 1996: xiv). The book also serves as a critique of economic theory and is, in many ways, focused on economists and their assumption of the maximizing individual (Miller 1995b:142). By their own definition, Douglas and Isherwood (1996:37) see “consumption as a use of material possession that is beyond commerce and free within the law, we have a concept that travels extremely well, since it fits parallel usages in all those tribes that have no commerce.”
While this book is of great value to the study of consumption, a major drawback is that it does not exhibit a methodology that would entice an archaeologist to use the research. This is not to say that the last sections those that deal with social implication and the study of consumption, are not of value, but what archaeologists primarily use this source for, is as a critique of economics (Douglas and Isherwood 1996). This is because, as discussed above, many scholars working within consumption focus their work on the study of commodities, which by definition falls within the study of economics. So hoping to escape the mistakes of traditional economic theories, archaeologists cite Douglas and Isherwood (1996).

The second is Paul Mullins (1996: ix) who studied “relationships between ideology, material consumption and African American’s struggle to secure civil and consumer privileges.” Working in Annapolis, Maryland, Mullins has shown how African-Americans purposefully utilized brand name-goods to offset racial stereotypes within the community even when the purchase of such goods came at an increased price (Mullins 2011:142). Mullins demonstrates the range of ways in which “consumers negotiate dominant influences and socialize goods in distinctive ways” (Mullins 2011:142).

The next scholar, Bourdieu, is also among the most widely cited by archaeological theorists according to Miller (1995b:148). Bourdieu has three notable works which archaeologists draw on for the study of consumption. These are; *Outline of a Theory of Practice* (2007), *Distinction* (1984), and *The Logic of Practice* (1980). Within these three volumes, Bourdieu looks at the role that objects play in the “naturalization of ideology” (Miller 1995b:142).
Bourdieu’s work links those anthropologists who are primarily concerned with social relations. They view goods as merely a means for uncovering these relations, and give more serious attention to material culture itself along with the specific means by which culture is constructed within both a social and material world (Miller 1995c:276). Bourdieu’s critics have attacked his assumption that historically, agency was less developed and that people were more aligned with routines (Smith 2001:156). Bourdieu associated this concept with *doxa*, whereby individuals acted according to social conventions established by society (Bourdieu 2007:167-169). In addition, along with the doxa, Bourdieu believed that in the past it was the unique individuals who overcame *doxa* and thus created history (Smith 2001: 159). However, this problem may be overcome by archaeology, which enables the voices of those that are not part of the historical records to speak, and therefore, break the silence of doxa and instill more agency into the past.

Daniel Miller comes up next for his modern perspective and approach to consumption. Archaeologically-trained Miller contextualized his ideas of consumption “in terms of a well-established analysis of culture as objectification” (Miller 1995b:143). Of importance is Miller’s (1995a:25) views on the freedom of choice where consumers can only consume what is available to them, a notion that becomes important when we study production and distribution of goods in the 1700s. In places like the Caribbean, many types of goods were simply not available to the consumer. The difficulties in distribution combined with the mercantilist policies set forth by major European powers profoundly impacted what people could consume at the time.

The next scholar to be widely cited is Nicholas Thomas (1991) and his work, *Entangled Objects*. Thomas’ work demonstrates the complex and varied means by which objects have multiple changing meanings within society. In his work, Thomas explores
how goods in the south Pacific acquired new meanings and thus, became entangled to
express a “dialectic of international inequalities and local appropriations” (Thomas
1991:207). His work has “implications for global power inequalities without digressing
into the complexities of the mode of production debate within Marxian thought.” (Baram
1996:113) However, this work, like Douglas and Isherwood’s (1996), has not lead to the
addition of new studies. Instead, it is simply cited to acknowledge that multiple
meanings exist for goods as they progress through various pathways of consumption.

In addition to the scholars mentioned above are the many others like Ajun
Appadurai who approaches commodities and consumption through the study of exchange
and examines the exchangeability of goods (Appadurai 2001:46; Miller 1995b). Ben
Fine proposes that we examine consumption through a chain of vertical and horizontal
sequences where we examine “the entire chain of consumption” (Fine 1995:127). He
also suggests that we need to re-examine the use of production within consumption and
recommends that scholars should investigate consumption through the study of political
economy (Fine 1995). Finally, as noted by Miller (1995b:143) are the scholars Rutz and
Orlove, who in 1989 published an edited volume entitled, The Social Economy of
Consumption. As its title suggests, the authors attempted to focus on consumption within
social economy and persuade economic anthropologists to study both, the production and
distribution sides of the process in addition to consumption (Miller 1995b:143; Rutz and
Orlove 1989).

In retrospect, it is clear that there are a variety of theoretical approaches to study
consumption, many of which are in vogue today. Within archaeology and in particular,
the CRM industry, studies that utilize “pattern studies” and “consumer choice” are still
widely used because they are in some ways foundational authors in historical
archaeology. Most archaeologists, in their undergraduate and later studies, have been exposed to such authors as James Deetz, Stanley South, and Susan Spencer-Wood, but few understand that they are learning specifically about consumer studies and very few are exposed to the depths needed to utilize modern approaches for consumer studies. Those archaeologists who use the ideas of consumption also tend to tie their research to the study of commodities and have, as Rutz and Orlove (1989) suggest, attempted to tie their studies of consumption to economic anthropology (Miller 1995b:150).

Taste is manifested within consumptive behavior itself and as such, will be discussed here as a component of consumption. However, like the varied concepts within consumption studies, it is not simple to define. Kant (1949:286) notes that

all one wants to know is whether the mere image of the object is to my liking, no matter how indifferent I may be to the real existence of the object of this imaging. It is quite plain that in order to say that the object is beautiful, and to show that I have taste, everything turns on the meaning which I can give to this representation, and not on any factor which makes me dependent on the real existence of the object. Everyone must allow that a judgment on the beautiful which is tinged with the slightest interest is very partial and not pure judgment of taste.

Thus, taste is associated with the meanings within objects and within the meanings of consumption. For the purposes of archaeologists, taste is manifested within the archaeological record and found within the material culture that we study (Stahl 2002:837).

But where does taste lie within consumption? Stahl (2002:837) notes that taste helps us understand the dialectic between consumption and production embodied within the object and the consumer. For Bourdieu (1984), taste is manifested within the individual, as it was with Kant, who saw taste as embodied outside of the object.
Taste classifies, and it classifies the classifier. Social subjects, classified by their classifications, distinguish themselves by the distinction they make between the beautiful and the ugly, the distinguished and the vulgar, in which their position is objective classification is expressed or betrayed. (Bourdieu 1984:6)

But how does taste manifest itself within the archaeological record if it is manifested within the person?

Bourdieu saw taste as a representation of class embodiment. Thus, he reasoned that very few objects could individually represent a class in their own right as a symbol for taste, since all goods can be consumed by various classes. His examples of such goods that could transcend class include caviar and tea (Bourdieu 1984:21). Instead, most goods must acquire the respectability of having taste through their social use. These social uses may be further divided between goods being objectified by individuals and embodied by the incorporated collective (Stahl 2002:837).

This idea of social use is compounded by the fact that, although goods can be appropriated by people of lower classes in an attempt to raise their own social standing (through consumption of goods associated with taste), they do not rise in standing because such individuals will not truly be able to appropriate the association of taste since they cannot truly understand the associated social meaning of the commodity (Bourdieu 1984). Thus, archaeologists working within consumption must be aware of the social entanglement of the goods they recover from archaeological sites.

Thus, we can see through Kant and Bourdieu that taste is represented in the individual. Taste, for Bourdieu, is confined with the embodiment of social class but it is also embodied within the social use of the individual. This individual should then be viewed as a social actor and issues of taste should thus be associated with agency. Actors
“routinely incorporate ‘what went before’ in anticipations of ‘what will come next’” into acts of taste (Giddens 1979:84).

These preferences are not fixed but are, rather, locked in a dance of supply and demand, production and consumption, shaped by past choices and dispositions, but continually reframed by social tensions both within and outside the local setting (Stahl 2002:833).

Thus, the material record represents an actor’s choice from available commodities and is a direct reflection of their taste. The material record thus indicates preferences of individual acts of consumption based within the framework of what goods were available for consumption within the region and the habits of the individual that frames their social identity.

Agency

Various discussions so far have been tied to larger perspectives and frequently, have only noted agency with regard to either a problem or criticism of the larger top-down views of globalization and world systems. However, the agency is real and the individual does have the free will to both, recognize traditions and determine when they wish to break from the familiarity of patterns that educated them and surrounded their existence (Giddens 1979:71; Smith 2001:158). Agency is, as Giddens notes (1979:55-56), a continuous action where the individual throughout his life is able to make choices through various acts and knows that at any time, the agent may choose a different path.

This is however, in contrast to Bourdieu’s doxa where the space in which individuals participate in society is structured such that only a few can break free and be true agents. (Bourdieu 1984:110; Smith 2001:157-158) Giddens (1979:84) also sees Bourdieu’s habitus in this way stating, “actors sustain the meaning of what they say and do through routinely incorporating what went before and anticipations of what will come
next into a present encounter.” The difference between the two theorists is that Giddens sees that the actor will often choose against free choice if there is a fear of societal repercussions whereas Bourdieu sees societal pressure and an individual who is bound by tradition and cannot change (Giddens 1979; Bourdieu 1984; Keys 2002:241; Weber 1958).

Delle (1998:6) notes it is through human agency that material culture acquires its meaning and that agents can manipulate and change that meaning. Thus, while commodities may have meaning instilled by the labor that created them, it is ultimately the use value where meaning is applied by the individual, since agents can “manipulate things according to their own necessity and interest allowing them to construct, maintain, and transform their social values” (Musgrave 2006:49).

Conclusion

Ideas of mercantilism, capitalism, commodities, agency, consumption, globalization, and taste, are viewed as having an intertwined relationship particularly when we study the Caribbean in the eighteenth century. What follows is a discussion of how I envision the complexity that surrounded the events that occurred within the Caribbean. For it is this complexity that affects the acts of consumption that ultimately create the assemblages that archaeologist recover from archaeological sites.

In the eighteenth century, there was a growing globalization that was developing as a result of European expansion into the New World. Along with this increasing globalization, was a mercantile system whereby each of the competing European powers sought to dominate their own system of core/periphery relations through the creation of various regulations that forbade trade with other nations. At the same time, these same
nations were attempting to expand into foreign markets in order to contest these markets. This expansion would eventually lead to the creation of a free market system that would break mercantilist policies and create trade based on capitalist principles. In order for this to happen, certain ideas of globalization and world-systems theory become very important.

The first is the relationship between cores, semi-peripheries, and peripheries. This relationship is based on one of exploitation where the core draws on the peripheries for cheap labor and raw goods. Thus, cores consume at the expense of those peripheral to them or at the expense of other core powers whose own system is contested and diverted. This brings out the second point: where once a periphery is within the system, peripheries can be contested (Figure 5). This can be through force, legal or illicit trade, or a trading of regions in treaty negotiations (an instance of this is when England made significant gains via the 1713 Treaty of Utrecht). The third item pertains to “necessities.” Originally, Wallerstein referenced these goods in line with bulk goods. However, in the past decade within world-systems theory it has come to be understood that there are many ways to reformulate the theory by looking at other means of exploitation and broadening the idea of commodities (Chase-Dunn and Hall 1997:13, 59). Therefore, the means of exploitation, the means of control/exploitation, are not tied to a variety of individual concepts but that of simple ‘basic necessity.”

However, unlike Wallerstein, I do not take a limited view of “basic necessity” to mean some type of bulk good. Instead, the concept of “basic necessity” used here is more closely related to that of basic needs as presented by George Homans (1941) who viewed this as being able to undergo functional shifts in culture/society, which is more of a functional and structural-functional approach. This view was formulated in his attempt
to find commonality in Malinowski’s functionalism and Radcliff-Brown’s structural-functionalism. Certain aspects of “basic necessities,” according to Homans (1941:141), may temporarily serve the needs of the individual but after meeting these needs they can serve a further function, satisfying the needs of the group or vice versa. Thus “basic necessity” as applied in this study allows for the cores to exploit the semi-peripheries and peripheries by controlling access to basic necessities such as, ceramics or any commodity that is key to the function and survival of both, culture and society. Cores can exploit these groups by controlling everything from large wheat shipments to small items such as, tea sets used as symbols of group identity. Through this expansion, the control of commodities along with a rise in the importance social and exchange-value becomes a key component for the means of exploitation of a contested periphery and more importantly a means to create multi-lateral trade networks within the Caribbean.

Figure 5. Core Contested Periphery (Figure by author).
The world-system model is used to explain the production and distribution of commodities such as ceramics throughout the region. It explains why various core powers were actively contesting portions of the Caribbean and why goods were being shipped to and from the region. Typically most regions did not have potters who could produce anything beyond basic utilitarian ware. Most of the large production facilities were staged within larger communities where multiple shops could produce goods for export. Refined ware was often imported from Europe and was in high demand as items to project social status. They were finished goods and were one of the key materials that Wallerstein envisioned as being commodities that would be shipped from the core to the periphery. Although Wallerstein would view these materials as preciosities, I would view the required materials for societal maintenance as important as his bulk goods in developing and maintaining core/periphery relationships. This would be more in line where capitalism creates specific economic and socio-political relations through the production, distribution and most importantly consumption of commodities. Thus they were materials and goods that a core could utilize to exploit markets within the peripheries as people put more in to meaning into commodities and increased their exchange value.

The distributions of ceramics were ideal under a mercantilist system because the distribution system ended with a set of defined consumers within the periphery. Even in areas where a periphery was contested, the distribution still ended within the periphery of consumers. The producers had customers who needed such goods. This was evident in the identification of English materials with Spanish archaeological sites such as those within the city of St. Augustine. But it should be noted that while ceramics recovered from archaeological sites were indicators that these materials were consumed on the site,
they were also representative of the goods that we did not see within the archaeological record. A shipment of flour for instance may have had a crate containing ceramics from England. The material recovered could thus help understand large connections that had occurred over time that may not be as evident.

Finally, work in consumption has been moving beyond the consumer behavior approach. Researchers such as Douglas and Isherwood, Appadurai, Bourdieu, Orlove and Rutz, and Miller have been taking consumption theory into new areas. Most important to this study is Miller’s (1995b) view on freedom of choice where he states that, consumers can only consume what is available to them. This notion holds importance when looking into production and distribution of goods in the 1700s since in places like the Caribbean, many types of goods were simply not available to the consumer. The difficulties that some nations had in distribution combined with the mercantilist policies set forth by major European powers had a profound effect on what people could consume at the time. This was reflected in Douglas and Isherwood’s perspective where the individual could not behave as an economizing individual since consumption was not always governed by rational choices. In the Caribbean, people often purchased illicit goods since legitimate goods could not be guaranteed. Even if they were available, they were not in prices, people could always afford.

Fortunately, Bourdieu also helps us break the confines of bounded consumption placed upon the individual, and to some extent society, through his views on taste. Taste is manifested within consumptive behavior itself, but it is not as simple to define. For Bourdieu (1984), taste is manifested within the individual, as it was with Kant (1949:284), who saw taste as embodied outside of the object since individuals using goods instilled a meaning into those goods. Stahl (2002:837) notes that taste helps us
understand the dialectic between consumption and production embodied within the object and the consumer. Thus, taste is a driving factor in the creation and consumption of new products that are important to control at the macro-level. As old goods become common and their use value increases, new goods with a higher exchange value are created, adopted, and social meaning is then, applied to them. These social uses split the divide between goods being objectified by individuals and embodied by the incorporated collective (Stahl 2002:837). They also enable the larger scale systems to directly interact with the individual as cores control the means of production and distribution for consumption on a global scale.

Taste is also where the agency manifests itself because the agency cannot be denied in the process of consumption. That is to say, that the individual should be viewed as a social actor and issues of taste should thus be associated with it. Whereby actors “routinely incorporate ‘what went before’ in anticipation of ‘what will come next’” into acts of taste (Giddens 1979:84), their “preferences are not fixed but are, rather, locked in a dance of supply and demand, production and consumption, shaped by past choices and dispositions, but continually reframed by social tensions both within and outside the local setting (Stahl 2002:833).”

Taste allows people to explore cosmopolitan-like ideas where concepts of nascent cosmopolitanism can occur. People have the ability to reach out, adopt other materials, and alter their identities so that there are multiple identities within the agent. They can adopt and substitute as needed and still maintain a primary character. They can also participate in the capitalist economy, as Matthews noted (2010) that capitalism is based on ever increasing changes that provide new commodities for people to purchase.
Thus, the material record represents an actor’s choice from the available commodities and may be a direct reflection of their taste and identity. The material record indicates preferences of individual acts of consumption based within the framework of what goods were available for consumption in the region and what may reflect the taste of the individual as he attempts to frame his social identity. It is through the use of archaeological records that we can examine the materials and goods that were left behind as indicators of social processes that we can no longer observe first hand. However, within the Caribbean, archaeologists have tended to focus on the meaning within individual sites and have utilized the data from excavations to reconstruct the past within local situations. The calls for methods to expand include analyses on large scale remains and as such we need to examine items which are themselves connected not only to the local but also, the regional and the global. As such, the use of items such as, ceramics which are global commodities designed for global consumption can help us bridge the distance between the acts of individual consumption that manifest themselves within agency and taste, with those of global production and distribution that created the commodities in the first place. In the eighteenth century, archaeologists demonstrated that social views were changing in that people were instilling social meaning within the material goods. Consumerism was developing and displays of social status were extended to include items such as ceramics as these goods stood as substitutes for personal identification. As ceramics took on more and more meaning, their exchange values increased beyond the use value instilled within these types of goods. This makes ceramics and ideals material in that they are commodities that were subject to changes in taste. As such the changes in taste manifests themselves in new types and styles that can be dated. Furthermore, they were commodities under mercantilism and while this
exchange value changed they are commodities with the capitalist system that continues today.

Finally, within the eighteenth-century Caribbean, we see a place where world politics and economic processes were playing out on macro-, meso- and micro-levels. Various colonies within the Caribbean were, at times, in desperate need for material goods that could be provided by other European powers. Goods not available through the mercantile system were replaced or substituted by commodities created for trade by other European powers (Figure 6). Individuals within these various colonies had a choice, to do without or find necessary replacements.

Figure 6. Use of Illicit Goods to Replaced Failed Distributions (Figure by author).
Chapter 4

METHODOLOGY

Beginnings of a Model

I have chosen to develop a model to assist archaeologists in seeing the larger picture and the inter-connection between sites. Certainly, a simple method of analysis could be developed that would help archaeologists process and arrange data. An example of such a method would be Stanley South’s artifact patterning method of arranging and grouping data. Through consumption analysis, we could draw conclusions on artifact patterns and thus compare sites against one another. However, this type of analysis is very site-specific and difficult to use as tool for comparing large quantities from multiple sites. Thus, a model will not only allow the researcher to develop questions and see where the data takes the research but will also handle large quantities of data and multiple sites that span the region. As previously discussed, a need for large scale analysis has been identified within the archaeological community and I hope to develop a model, called the Model for Inter-Site Comparison (MISC), in which archaeological sites throughout the Caribbean can be examined. The MISC is shaped and guided by concepts of consumption (i.e. consumption and the lack of free choice), world-systems theory and globalization, capitalism, and cosmopolitanism. In combination, they will enable the creation of a methodology, so cosmopolitanism and nascent capitalism can be understood within the core-periphery relationships. This is because these ideas shape events at the
macro- (global), meso- (regional), and micro-scales (household) within the Caribbean and as such can be viewed through the development of an appropriate method. Therefore, methods based on consumption of goods are used here because the goods are not simply acquired for consumption. They are acquired because of their associated use value that helps people maintain and reproduce the societies in which they wish to live (Mandelle 1999:109; Wells 2006b:282). However, as previously stated, people did not have the ability to consume goods of their choice because of socially defined parameters and the lack of freedom inherent within the act of consumption. Thus, two things must be first discussed before the MISC can be developed: The first is, what type of material is to be studied and the second is, at what scale is it to be studied? Answers to these two questions have profound effects on the methods selected within any archaeological study. This is because people are intertwined with their material world and the objects around them shape and represent their ideas of the world they live in (Bourdieu 1984:76; Miller 1987:86). Goods studied must be sensitive to the scale applied and vice-versa. In the event that either is inappropriate, then, the conclusions reached through analysis cannot be adequately supported and the study will be incomplete.

Ceramics

Ceramics have been one of the artifact classes most consistently relied upon for archaeological examination of the past (Musgrave 2006:12). As an artifact class, the material is highly durable and under most conditions suffers little degradation within the archaeological records. Ceramic material also has a variety of characteristics that allow archaeologists to quantify and place them in chronological order and often serve as indicators for periods of occupation on sites where found. The recovery of ceramics at a site is also an indicator that they were utilized by the inhabitants of that site (Skowronek
In addition, the various construction methods and decorations applied to their surface further help archaeologists classify and order them on the material’s basis of style, age, and in some cases, value (Majewski and Schiffer 2007:1976). However, it is not these simple aspects of the materials that have led to high use of ceramics for analysis. It is the fact that ceramics have social meaning both, instilled and applied by users (Stahl 2002:829; Pikiray 2007:290). They are unique in that they possess excellent preservation qualities and represent individual consumer practices (Hughes 2007). All of these factors in combination make ceramics an ideal choice of a material for analysis.

The importance of social meaning is the factor that determines what materials are necessary for the development of the MISC. Artifacts such as, ceramics become “vehicles for culture, vehicles for meaning…” and are commodities that can help us understand the past (Stahl 2002:831). Douglas and Isherwood (1996:62) see such commodities (goods created for exchange) as “good for thinking” that should be used as a “nonverbal medium for human creative faculty.” In addition, such commodities are very useful for studying the period to be analyzed because, this is a period of change between mercantilism and capitalism and as such the exchange-value becomes increasingly important during this period. Materials such as, ceramics have use values instilled within them as part of their production for the creation of their exchange-value but also the ability to have an exchange-value in which different meanings can thus be instilled in the object.

Thus, ceramics are ideal for use as the primary material of study. Further, they enable archaeologists to understand and test the economic relationships at a site by indicating the sources of core/periphery relationships. They are a testing ground for theoretical ideas of consumption, habitus, and taste which are reflected within the
ceramic frequencies themselves. They represent the end-stage of consumptive practices whereby trade practices based within the world system produced and distributed the materials so that they could be consumed in turn. They are the result of a combination of the larger world and the individual expressions of ideas of habitus and taste. Through ceramics, people could express ideas of cosmopolitanism as they create a heightened exchange-value because of inherent failures in the supply system that forced them to use foreign goods and shape them to their own use.

Finally, it should be noted that the use of ceramics as a medium was not without risk. All too often, people assumed that individual types of ceramics recovered from sites represented complete sets when in fact that is far from case. Prior to the 1830s, most people would not have had matching sets of ceramics (Miller et al. 1994:238). Instead, during this period of study, ceramics would have been purchased as individual items. This often created diversity within the site’s artifact assemblage. Another, misplaced assumption was that ceramics on slave sites were often the result of materials handed down from the main houses or the homes of the overseers when in fact this notion removes the ability of the slaves to participate in the local economy which was certainly not the case. Further, the supply of slave labor with ceramics often took the form of what was available in the market and goods were purchased as needed subject to what was available. Thus slaves often had the ability to purchase ceramics goods and were often supplied with the same materials found in the main house. In addition, archaeologists have frequently divided ceramics based on table ware and utilitarian ware. This divide was based on early consumption studies driven by the differences in social meaning applied to table ware that were known to represent a more social aspect of their owner as an outward presentation whereas utilitarian ware represented the more internalized social
aspects of their owner (Deagan 1983; Lightfoot and Martinez 1995:479). Voss (2008) showed how the exploration of the utilitarian ware also enabled the identification of relationships with indigenous populations within St. Augustine, Florida. In addition, since ceramics could be divided into temporal periods, manufacturing styles, and paste, George Miller (1991:2) argued that archaeologists frequently tried to lump ceramics from different periods together and did not understand that this style of analysis was inappropriate with the more refined dating chronologies and macro-scale analysis. However, the limiting of such analysis to a period of a decade or so does not lend itself to macro-period analysis where large scale trends may be observed. While very specific data can be examined if the scale of analysis is shortened, however, long-term trends should not be overlooked either since it is in the long term where large scale effects can often be viewed.

Within this study, the quantification of ceramics recovered and organized by type from selected sites will be undertaken as one of the primary methods of analysis. In addition, this study will limit the types of ceramics to the trade-ware type. Trade-ware ceramics are defined here as those ceramics, which are made for exchange and are commodities. This is in stark contrast to items that were made for personal use which would not be commodities and therefore, would not be traded. While this eliminates many of the locally produced ceramic types, this aids the comparison of types throughout the region [see Section on scalar resolution]. Locally made ceramics for local consumption cannot be used for comparison purposes, as they will have limited or no representation on other sites. However, this study will include many utilitarian wares, as sub-categories of table ware. Utilitarian ware has not been differentiated within this study. Future analysis making this distinction between utilitarian and non-utilitarian
wares may prove useful for future investigations. In addition, if possible, the origin of manufacture of each type of ceramic ware will also be utilized in the analysis. This will allow for the possible identification of trade information.

The types of ceramic goods that will used in this analysis encompass those made in Spain, England, France, Germany as well as those from New England and Mexico (Table 2). The specific types of ceramics vary in the study based on their type, paste, decoration, and glazing. Some of the types include Majolica, which is “a distinctively Hispanic category of glazed, wheel-thrown ceramics. Majolica are distinguished by a soft earthenware paste covered by an opaque vitreous enamel or glaze” (Deagan 1987:53). Varieties of these types were produced in Spain and in Mexico. The sample also includes various types of Delft which like the majolica is also tin-glazed enamelware. It was made in England and was one of the most popular types of ware until the invention of Creamware, which was also made in England and very popular. Its popularity declined with the ascent of English-made Pearlware. Creamware was made from a thin hard white body paste with clear enamel while Pearlware was made from the same paste but had cobalt added to the enamel which often left its trademark bluish appearance. Like the Majolica and Delft, the French also produced a tin-enamel ware called Faience. In addition to the well-known types of ceramics, there was a variety of refined earthenware which was categorically different from the coarse earthenware, the difference in the two being the quality of the paste and the firing temperatures (Noel-Hume 1970). Coarse earthenware is by themselves a non-vitreous soft-fired ceramic. In order to make the ceramic water tight, some form of glaze had to be applied to the ware. Refined earthenware is typically fired at a higher temperature to make a harder paste and provide some level of vitreousness. The idea through the eighteenth century was to try to
make a paste that would equal porcelain which was vitreous (Hughes 2002). One example of vitreous ware made in Europe was Stoneware which was a very hard item made in lead-glazed, salt-glazed, and plain types. These wares were produced in many countries, however, the Rhenish variety was a style made in Germany and was known to be carried by British merchants. Porcelain was first made in England in 1745 and it quickly spread throughout Europe but prior to this, most of the porcelain was the product of Spanish trade routes from China through Vera Cruz and into European markets (Deagan 1987:96).

Finally, because of a lack of standardization in the identification of ceramic types, studies where these types are broken down into various sub-categories within an identified type will be quantified under the main type. The grouping of these into one type will allow for a better comparison of such sites where they were not sub-categorized. An example of the difficulty of standardizing data is provided by a Spanish Majolica called Sevilla Blue on White. This ware, prior to its identification by Kathleen Deagan, was frequently classified as an Unclassified Blue on White. Deagan (1987:62) notes that this type was so designated in most of the Florida Museum collection because of its lack of identification. No Sevilla Blue on White exists within any of the site collections at the museum and although there are mostly some in the collections, the type is most likely hidden within the unclassified wares.
### Table 2. Ceramic Types within Study and Origin of Manufacture of Each Type.

<table>
<thead>
<tr>
<th>Ceramic type</th>
<th>Origin of Manufacture</th>
<th>Ceramic type</th>
<th>Origin of Manufacture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abe Polychrome</td>
<td>Puebla</td>
<td>Olive Jar Early</td>
<td>Spain</td>
</tr>
<tr>
<td>Afro-Caribbean ware</td>
<td>Unknown</td>
<td>Olive Jar Middle</td>
<td>Spain</td>
</tr>
<tr>
<td>Agate ware</td>
<td>England</td>
<td>Olive Jar Late</td>
<td>Spain</td>
</tr>
<tr>
<td>Aromanica Polychrome</td>
<td>Puebla</td>
<td>Olive Jar glazed</td>
<td>Spain</td>
</tr>
<tr>
<td>Aztec Polychrome</td>
<td>Mexico City</td>
<td>Pearlware annular</td>
<td>England</td>
</tr>
<tr>
<td>Ashby ware</td>
<td>England</td>
<td>Pearlware</td>
<td>England</td>
</tr>
<tr>
<td>Basque 3</td>
<td>England</td>
<td>Pearlware hand painted</td>
<td>England</td>
</tr>
<tr>
<td>Black slat glazed</td>
<td>England</td>
<td>pearlware slip</td>
<td>England</td>
</tr>
<tr>
<td>Blue and Green Basin</td>
<td>Spain</td>
<td>Pearlware transfer print</td>
<td>England</td>
</tr>
<tr>
<td>Brown Salt-glazed Stoneware</td>
<td>Unknown</td>
<td>Pearlware indeterminate</td>
<td>England</td>
</tr>
<tr>
<td>Castillo Polychrome</td>
<td>Puebla</td>
<td>Porcelain Chinese</td>
<td>China</td>
</tr>
<tr>
<td>Colours</td>
<td>Unknown</td>
<td>Porcelain English</td>
<td>English</td>
</tr>
<tr>
<td>Columbia Plain</td>
<td>Spain</td>
<td>Porcelain Indeterminate</td>
<td>Unknown</td>
</tr>
<tr>
<td>Creamware</td>
<td>England</td>
<td>Hand Painted Over Glaze Porcelain</td>
<td>Unknown</td>
</tr>
<tr>
<td>DeBe blue dash</td>
<td>England</td>
<td>Puebla Blue on white</td>
<td>Puebla</td>
</tr>
<tr>
<td>DeBe Blue-on-White</td>
<td>England</td>
<td>Puebla Polychrome</td>
<td>Puebla</td>
</tr>
<tr>
<td>DeBe Indeterminate</td>
<td>England</td>
<td>Redware Glazed</td>
<td>Unknown</td>
</tr>
<tr>
<td>DeBe Mang on white</td>
<td>England</td>
<td>Redware Unglazed</td>
<td>Unknown</td>
</tr>
<tr>
<td>DeBe Plain</td>
<td>England/Holland</td>
<td>Refined earthen ware</td>
<td>Unknown</td>
</tr>
<tr>
<td>DeBe Polychrome</td>
<td>England</td>
<td>Remyware</td>
<td>Unknown</td>
</tr>
<tr>
<td>DeBe hand Painted</td>
<td>England</td>
<td>Ebenish stoneware</td>
<td>Germany</td>
</tr>
<tr>
<td>Elers stoneware</td>
<td>England</td>
<td>Stantonage Paience</td>
<td>France</td>
</tr>
<tr>
<td>El Moro</td>
<td>Mexico City</td>
<td>Stantonage Silp</td>
<td>France</td>
</tr>
<tr>
<td>English Majolica</td>
<td>England</td>
<td>San Agustin Blue-on White</td>
<td>Puebla</td>
</tr>
<tr>
<td>Faience brown</td>
<td>France</td>
<td>Scratch Blue</td>
<td>England</td>
</tr>
<tr>
<td>Faience Blue on white</td>
<td>France</td>
<td>Sevilla Blue on Blue</td>
<td>Spain</td>
</tr>
<tr>
<td>Faience Indeterminate</td>
<td>France</td>
<td>San Louis Blue-on White</td>
<td>Mexico City</td>
</tr>
<tr>
<td>Faience Plain</td>
<td>France</td>
<td>San Luis Polychrome</td>
<td>Mexico City</td>
</tr>
<tr>
<td>Faience Polychrome</td>
<td>France</td>
<td>Santa Maria Stamped</td>
<td>Mexico City</td>
</tr>
<tr>
<td>Figspring Poly</td>
<td>Tovarh Mexico</td>
<td>Seine Polychrome</td>
<td>France</td>
</tr>
<tr>
<td>Greyware</td>
<td>Unknown</td>
<td>Storage Jar</td>
<td>Spain</td>
</tr>
<tr>
<td>Grey salt glazed stoneware</td>
<td>England</td>
<td>Indeterminate Coarse Earthenware</td>
<td>Unknown</td>
</tr>
<tr>
<td>Guadalupea Polychrome</td>
<td>Tovarh Mexico</td>
<td>Indeterminate Blue on white majolica</td>
<td>Unknown</td>
</tr>
<tr>
<td>Huejtejingo Blue-on-white</td>
<td>Puebla</td>
<td>Indeterminate Lead glazed Coarse earthenware</td>
<td>Unknown</td>
</tr>
<tr>
<td>Huetejingo Blue on blue</td>
<td>Spain</td>
<td>Indeterminate polychrome majolica</td>
<td>Unknown</td>
</tr>
<tr>
<td>Huetejingo Blue-on-white</td>
<td>Spain</td>
<td>Indeterminate lead glazed stoneware</td>
<td>Unknown</td>
</tr>
<tr>
<td>Isabella Polychrome</td>
<td>Spain</td>
<td>Indeterminate slipware</td>
<td>Unknown</td>
</tr>
<tr>
<td>Jackfield</td>
<td>England</td>
<td>Indeterminate Stoneware</td>
<td>Unknown</td>
</tr>
<tr>
<td>Lead-glazed Indeterminate</td>
<td>Unknown</td>
<td>Indeterminate tin enamel</td>
<td>Unknown</td>
</tr>
<tr>
<td>Lead-glazed Slipware</td>
<td>Unknown</td>
<td>Indeterminate white majolica</td>
<td>Unknown</td>
</tr>
<tr>
<td>Lancasterware</td>
<td>Spain</td>
<td>Indeterminate Redware</td>
<td>Unknown</td>
</tr>
<tr>
<td>Majolica Indeterminate</td>
<td>Unknown</td>
<td>Unglazed incised</td>
<td>Unknown</td>
</tr>
<tr>
<td>Marine ware</td>
<td>Unknown</td>
<td>Unglazed plain</td>
<td>Unknown</td>
</tr>
<tr>
<td>Mexican Red Painted</td>
<td>Mexico City</td>
<td>Whirlstoneware</td>
<td>England</td>
</tr>
<tr>
<td>Mount Royal Poly</td>
<td>Puebla</td>
<td>White salt glazed stoneware</td>
<td>England</td>
</tr>
<tr>
<td>Nottingham</td>
<td>England</td>
<td>Yawal Blue on white</td>
<td>Spain</td>
</tr>
<tr>
<td>Olive Jar</td>
<td>Spain</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Scale

In any discussion on the analysis of the Caribbean region, scale is often an important factor (Trouillot 1992:29; Miller 1995d:12; Stahl 2002: 835; Hauser 2009:4).
Whether we are dealing with core-periphery relationships from a top-down perspective or looking for examples of agency from a bottom-up perspective, it is the scale and resolution that provide the means for any study to perform in accordance within its design (Armstrong and Hauser 2009:601). Scale refers to the spatial, temporal, and formal limits of a project, and its associated scalar resolution defines the methods and formulates the types of results that can be achieved (Agbe-Davies 2008:112). While the physical and cultural boundaries and their differing scales have already been discussed within the section on background discussion, they will be touched on again here.

Studies regarding the Caribbean have always examined the historical background of the region but have for the most part avoided drawing the historical data into their results and conclusions. All too often, the analysis has been site-specific or at best, island-specific (Kelly 2009:80). This has led to the avoidance of macro-level scalar analysis across the region. Voss (2008:974) notes that when dealing with empires, it is difficult for archaeologists to deal with “the multiple scales of social relationships that resulted from and fostered the wide spread movement of goods and people.” Thus, typical levels of examination have tended to being limited to the micro-level scale analysis within the Caribbean when actually a multi-scale analysis is called for to create a clearer picture of the past.

Often in archaeological studies, the micro-level of scale is typified by a study at the household level of analysis. This is just above the individual and is comprised of the various individuals that make up the household. It is one level in which agency exists, where the actions of the individual can at times be clearly understood against the large backdrop of the world. The household is also the typical unit of study within consumption since it is often the actions of a household working in conjunction as a
group that provides for all the individuals within it (Smith 2004:85; Pietylowski 2007:259). However, the household is only one unit of analysis and will not be solely utilized in this study. Primarily, this study cannot use only single household data, because the period of examination of a century does not permit the examination of materials from just single households. Their membership and composition changes over time and multi-component sites are often the result of multiple households that may have existed on a single site over the span of the century. However, at the same time it does not prohibit single households from being included in the study. Some households may in fact be multi-generational units that occupy the same location; having a membership that is based on loose associations of a family bond while others may be a true household and only represent a single occupation.

Within this study, the archaeological site will be the base unit of scale. The site is defined as the quantified frequency type of ceramics recovered from excavations of the each archaeological site. The ceramics are a portion of the assemblage of each site but for our purposes here they will serve as the representative of each site. But while it has previously been pointed out that the site itself is an analytical trap, we must use it to demonstrate a method for avoiding some of the pitfalls at this level of analysis. As such this study will be utilizing archaeological research from various researchers throughout the region, the unit of study is set at the archaeological site or the grouping in which the archaeological site was examined by the original study that produced the data that is here being used. In some cases, as discussed below, the sites are comprised of extended households and in others; it is comprised of multiple households and activity areas. However, in each case, the site was the unit through which the data utilized in this study was obtained. This is utilized to show the diversity and flexibility in the MISC so that
various types or units can be included in the study. The benefit of using such a scale is that it enables the comparison of a multitude of archaeological sites found throughout the region regardless of size or period of occupation. The main drawback is that within the consumer choice model of consumption theory it is typical to tie the level of analysis to that of the household since it connects the act of consumption to that of the individual. Nevertheless, while some of the sites are household units and this type of analysis can be undertaken, it is for the purpose of developing the MISC that it is thought that the household level is too restrictive a format.

The object is not to create a new micro-level analysis on any one of these particular sites but to demonstrate a methodology through which each of these sites can be examined on a larger scale of analysis. Hauser (2009:9) argues for the use of multi-site analysis as the starting point for a broader understanding of cultural issues that transpire across the Caribbean. It is expected that data from each of these sites does represent some of the micro-level of individual consumer choice as ceramics recovered from each site represent the agency of the individuals within the site as they purchased and utilized the various ceramics in the context of the site.

The period of examination also represents our temporal scale. The eighteenth century is an arbitrary determination but it is one in which other archaeologists seem to work. A better examination for the period of study would have been simply 1600 to 1750 that was identified by Wallerstein as a complete cycle of expansion and contraction of the world-system (Wallerstein 1980). Unfortunately, finding data from the eighteenth century is difficult in itself let alone trying to find sites from the seventeenth century in order to do a statistical comparison (Kathleen Deagan, personal communication 2006). In addition, the periods after the eighteenth century saw an increased complexity with
regard to nationality in the Caribbean. Various portions of the Caribbean changed nationality and in some cases achieved independence (such as Haiti in 1804). Thus, the eighteenth century was chosen because it was a quantifiable period and for which data could be achieved. The period also represented a period of change as mercantilism came to an end. It was also a period where no significant core power was able to achieve hegemony. The powers controlling the region were in a flux with Spain and the Netherlands being on the decline and England and France on the rise. Earlier in the seventeenth century, the Netherlands had lost control over its shipping status as England and France had built their respective cores off of the Spanish Empire. Later in the nineteenth century, England would achieve her hegemonic rise.

The problem of finding data also created a secondary problem within the study in that each of the sites was different from the other. When I set out to gather data, it was hoped that there would be sufficient data readily available such that I could compare household vs. households and plantations and manor houses to similar types of sites located in different portions of the Caribbean. Such data was simply not available to provide this desired level of control over the functional differences between locations within larger sites and the difference between the smaller sites. However, in an earlier formulation of the model to be developed here, I was able to examine data between house sites in the city of St. Augustine and the combined data from the Presidio Santa Maria in Pensacola, Florida (Hughes 2007). The data from St. Augustine and Pensacola represented two different levels of scale and primary functions of use as the Presidio was mainly a garrison while the St. Augustine data was from a location that had a fully developed town in addition to the garrison. I compared them using a multi-step quantitative method (Hughes 2007). The results were encouraging because it was
expected that since the sites were all Spanish, they would have similar patterns even though all of the sites had such stark differences in population, function of the site, regional trade patterns, and period of occupation. Similarity was expected because each site and its inhabitants were subjected to the same trade restrictions and were expected to use goods delivered from Spain. They were under Spain’s sphere of influence and expected to show similarity. The assumption was that sites of varying degrees of location would have some similarity as patterns associated with national identity and constricted access to a system that forbid the importation of foreign goods would re-produce a similar pattern over the region. Thus Kathleen Deagan’s (1983:266) “Hispanic” identity pattern was expected in the Presidio as was a high level of similarity but none was found (Hughes 2007).

To summarize, the scale of this study is confined temporally to that of the eighteenth-century. Sites need to have their occupations fall within this period. They must also fall within the spatial limits of the Caribbean, which while vague at times, would need to encompass the Gulf of Mexico, the Caribbean Sea and extend as far north as to include La Florida. The British colonies along the northeastern Atlantic are not included within the Caribbean as they are part of a different region and within the British system of coastwise trade. The scale is comprised of the archaeological site as originally excavated as a unit for comparison. This is noted to be, in some cases, comprised of households but in other cases, a large unit. It is a scale based on the studies from which the data were obtained. The scalar resolution of the study is set by the use of ceramics as the artifact type to be utilized throughout the analysis. It is expected that similarity will be observed in sites that have the same nationalities given that similar social meaning will be instilled into the materials goods and that mercantilist policies would create a set of
available materials to choose from and that within this set of goods, similarity can be seen when compared to sites of differing nationalities regardless of time and site function.

Sites and Materials

Within this study, an attempt has been made to utilize data that currently exists within the literature of the field. While it would have been possible to excavate and obtain additional data from a new site, it did not seem prudent when data currently existed. In addition, the use of existing data enabled a re-examination of materials in a different perspective than that in which the materials had already been collected. I make use of previously excavated sites in the Caribbean and their associated ceramic assemblages where micro-levels of analysis already exist and allow additional lines of evidence to be shown as being present. This is expected to strengthen the usability of the model such that it will demonstrate that archaeologists can re-examine old excavations and ask new questions. The model will allow new excavations the ability to link to sites previously thought of as lacking a shared connection.

The four sites from St. Augustine (see Figure 7) represent individual households and include the Avero (8SJ61) (SA-7-5), de Hita (8SJ5405) (SA-7-4), de la Cruz (SA-16-23), and the Fatio site (8SJ71). These sites are often used in analyses of colonial St. Augustine; their inhabitants are representative of a wide portion of the population of the city (McMurray 1975; Deagan 1976; 2008, personnel communication; Voss 2008). The Avero, de Hita, and the de la Cruz sites were predominantly occupied during the latter part of the first Spanish period and assemblages from these sites were representative of the period of 1700 to 1763; the Fatio site was occupied from 1758 to 1763. The Avero, de Hita, and de la Cruz represented three sites that were often used since they represented
the affluent, middle, and lower classes households within the city of St. Augustine. The fourth site, Fatio, represented an affluent merchant who moved into the city towards the end of the Spanish occupation during the eighteenth century.

The two sites from Pensacola are the Presidio Santa Maria de Galve (8ES1354) and the Presidio Isla de Santa Rose (8ES22). The Presidio Santa Marie de Galve was occupied from 1698 to 1719, while the Presidio Isla de Santa Rosa was occupied from 1722 to 1752 (Bense 2003; 2004:48; Benchley 2009, pers. comm.). These sites represented garrisons established for the protection of the western side of La Florida and were the primary settlements of the population. Assemblages from these sites represented the combined data for the population, and not individual households like those from St. Augustine. While the Presidio Santa Marie de Galve occupation started in
the seventeenth century, its occupation is primarily eighteenth century, as it was created in the last two years of the seventeenth century.

Two sites from Jamaica, Stewarts Castle Main House Phase I and the Seville Plantation House 16 Phase I, were utilized from the DAACS inventory. The Stewarts Castle Main House represented a period from 1754 to 1810 and had a mean ceramic date of 1790 (http://www.daacs.org). The main house assemblage was representative of a household with a large plantation that grew from 167 to almost 1200 acres in size by 1799, after which it was mortgaged by the Stewarts and managed from London. The second site was the Seville Plantation House 16, which was the site of a first-period African slave settlement. The phase I occupation of the site had a mean ceramic date of 1733 and dated from the early to mid-eighteenth century (http://www.daacs.org)

Two additional sites (Jessups I and II) were selected from Nevis. Jessups I dated to the early to mid eighteenth century with a mean ceramic date of 1741, while Jessups II dated to the late eighteenth and early nineteenth century. Jessups II had a mean ceramic date of 1779 (http://www.daacs.org). Both sites represented slave villages owned by Edward Jesup [sites are spelled Jessup], who had two plantations on the island of Nevis.

The final site was a historic dumpsite located along the Casa Rosa Scarp wall. The site was associated with sixteenth century -twentieth century occupations of old San Juan Puerto Rico (Magana 1988). During the period of its construction, the city of San Juan was occupied by approximately 5000 individuals plus the garrison that occupied the fort. The population was comprised of the typical classes found within Spanish North America but unlike other Spanish sites in the collection, there were also slaves inhabiting the city. In addition, the city contained small Irish and French populations. Within the stratigraphic levels are identified eighteenth century data that are the result of the
construction of a portion the Case Rosa Scarp wall, built between 1784-1800. “The excavations consisted of a number of units in the interior of the construction pit, a stratigraphic column from the surface to 6 m below the surface, and excavation of a small refuse deposit near the surface dating to the nineteenth and twentieth century’s” (Magana 1988:3). Stratigraphic layers representing data from the late eighteenth century were re-tabulated from various units to form a single data table.

Eleven sites were utilized within the test and a more detailed description of each site may be found below. In addition, as a control within the diversity analysis, we created a super site based on the combination of all the frequency data for all the sites. It should be noted that while this is a small sample of the numerous eighteenth century sites that have been excavated in the Caribbean, it is a large sample of the data that is available. As part of this study, attempts were made to contact as many Caribbean archaeologists as possible to obtain data. Flyers were sent to the International Association for Caribbean Archaeology meetings and Society for Historical Archaeology meetings. Originally, this study also hoped to gather data on the seventeenth century Caribbean but was scaled back upon the advice of Kathleen Deagan who described the difficulty in gathering collections for her study *Artifacts of the Spanish Colonies of Florida and the Caribbean 1500-1800* (Kathleen Deagan, personal communication 2006). In addition, I feel that if we use her study as model for sample size then this study’s selection of eleven sites is supported. In Deagan’s study, she utilized ten sites, seven of which were from St. Augustine, as the basis for study on Spanish ceramics (Deagan 1987).
Detailed description of Sites Utilized

St. Augustine

Four sites were utilized in this study from the city of St. Augustine Florida. Founded in 1565, the city was the second capital of the Spanish La Florida. It was a city located in the backwaters of the Spanish Empire and served as a last refuge for ships and sailors prior to their return voyage across the Atlantic Ocean. It was a strategic garrison that held foreign adversaries at bay and prevented the establishment of foreign military powers along the valuable return route of Spain’s bullion fleets.

The four sites from St. Augustine represent individual households and include the Avero (8SJ61) (SA-7-5), de Hita (8SJ5405) (SA-7-4), de la Cruz (SA-16-23), and the Fatio site (8SJ71). These sites are often used in the analyses of colonial St. Augustine; their inhabitants are representative of a wide portion of the population of the city (McMurray 1975; Deagan 1976; 2008, pers. comm.; Voss 2008). The Avero, de Hita, and de la Cruz sites were predominantly occupied during the latter part of the first Spanish period (1565-1763) and assemblages from these sites were representative of the period between 1700 and 1763; the Fatio site, a late first period site, was occupied from the period of 1758 to 1763. The Avero, de Hita, and de la Cruz sites were often utilized for analysis within the city of St. Augustine and have been well-studied (Deagan 1976; 1983; 1987; 1991; McMurray 1975; Shephard 1975; 1983; Voss 2008).

Avero

The Avero site represented an affluent Criollo household (Hughes 2002). Excavated in the early 1970s by Kathleen Deagan (1976), it was also known as the National Greek Orthodox Shrine. The Avero family lived on the site. They were a
wealthy family within the city of St. Augustine. The site was occupied from 1712 to 1763 when the Spanish abandoned St. Augustine and when all of La Florida was ceded to England in exchange for Cuba. The analysis of the site conducted by Deagan follows early consumption analysis and was one of the first sites used in the development of her St. Augustine Pattern, which in many ways is based on Stanley South’s South Carolina artifacts pattern (Deagan 1983; South 1997). The original lot on which the house stood had a small tabby structure in 1712 which was replaced in 1735 by a larger coquina house when the owner of the lot Antonia de Avero married a captain of the garrison, Josef Gullen. Gullen later died leaving Antonia very wealthy with an additional building and a business within the community. Then Antonia, a very wealthy woman married Joaquin Blanco, who was himself a high-ranking official. Blanco managed all of the supplies which the garrison received as part of its situado payment. From 1753 to 1763, the house underwent remodeling and development until the house was abandoned in 1763 (Deagan 1976:82-83). The site represented a wealthy family within the city which not only had direct access to the garrison’s situado payment but also had the wealth to be able to purchase any additional goods available within the city markets. Antonia’s last husband had an annual salary which was six times more than the lowest yearly wages of the common soldier stationed in the garrison.

de Hita

The de Hita site (aka the Gerónimo José de Hita y Salazar Site) was excavated by one of Kathleen Deagan’s students, Steven Shephard in 1975. Shephards’s excavation was later re-evaluated by Kathleen Deagan (1983) when a part of the site that was excavated was revealed to belong to a different site. This site was representative of a
middle class and a well-connected Criollo family. Shephard determined that due to the family’s position in society and their wealth, they had the means and taste for European and Hispanic trade goods and they relied to a lesser degree on British made goods than most Mestizos (Shephard 1975:99). The house lot that was excavated belonged to Gerónimo José de Hita y Salazar, he was the son of Adjutant Don Pedro de Hita Salazar and grandson of Pablo de Hita y Salazar, who had been the Governor General and garrison commander in the previous century. Gerónimo had been born in the New World and was by birth a Criollo and thus banned from higher positions within the Spanish New World society. He served as a private within the cavalry and was the commanding officer of Ft. Mose, although no additional pay was awarded him. His annual salary was half that of the Avero but still three times higher than a regular infantryman within the garrison. He was not wealthy but came from a prestigious family within the community. The site was a tabby structure and was believed to have been occupied throughout the period between 1700 and 1763 (Shephard 1983:74). Although, the de Hita site represented a middle class Criollo as per his pay records, it may be best to think of this site as representing the upper half of the middle class within the St. Augustine community. The de Hita’s pay certainly did not indicate status and connections, although he clearly had both since he did not join the garrison until age 25. In addition, his command of the soldiers at Fort Mose would have been difficult had he been the true private that his rank indicated. It is likely the rank of private was somewhat honorary in order to get him on to the garrison’s payroll to subsidize his wealth. Otherwise, it would have been difficult to have served as a mere private for 18 years (Shephard 1975:7).
De la Cruz

The de la Cruz site was excavated by Charles Fairbanks in 1972 and the analysis of the site was incorporated into a master’s thesis by Carl McMurray (1975). The house lot was occupied by Maria Sebastian de la Cruz who was of Mestizo descent. She married Joseph Gallardo, also of Mestizo descent, who was a soldier in the garrison. The property contained two tabby structures and showed coquina block construction. The mean ceramic date from excavations of the site was 1754.07 (McMurry 1975:96). Although the property was clearly depicted on a city map of the 1740s showing two structures, it was believed to have been first occupied from around 1727 until 1763. Evidence of a high percentage of English made ware from this site has been used by others such as, Kathleen Deagan to show that lower class individuals could only afford cheaper English or Native American made ceramics and that high status items were used by the city’s elite to demonstrate their “Hispanic” identity (Deagan 1983:266). The linkage of the site to a lower status is based on Joseph Gallardo’s pay of 91 pesos a year, which was over 6 times lower than that of the Avero household. Combined with the family’s social status of both adults being of Mestizo origins, one can see that the site was representative of the lower class within the St. Augustine community, which was comprised of Penisulares, Criollos, and Mestizos. They were both of mixed race having at least one parent or grandparent who was Native American.

Fatio

The final site located in St. Augustine is the Fatio site. The site’s occupation dates between 1758 and 1763. It was the site of residence of Cristóbal de Contreras and his family. Contreras was a wealthy merchant and it is believed that he had his shop on
the site (Deagan 2007:109). Contreras was a *Penisulares* who through marriage with Dorotea de Anaya became a part of a well-to-do *Criollo* family. Dorotea’s family most likely owned the lot prior to its occupation but Cristóbal de Contreras did not occupy it until after his marriage, which occurred in 1758. The family’s economic status is not known as Cristóbal did not serve in the garrison and thus his income was from other sources. He is believed to have been a merchant and was known to own slaves, which indicates that his wealth combined with his birth in Spain accorded him and his family elite status. The artifact assemblage at his household site suggests that Cristóbal participated in illicit trade and sold those goods in his shop and used them in his household. Since Cristóbal was not a member of the garrison, he did not receive the *situado* and thus, a partial subsidy payment in material goods. Such goods during this time period were supplied by the Royal Havana Company which in turn purchased goods from William Walton and Co. of New York and this could explain why they were present at this site. However, since they were found here, it is assumed that the identification of such materials was more indicative of conscious purchases on Cristóbal’s part. (Deagan 2007: 112).

**Pensacola**

Two sites have been discovered at Pensacola. They represent the western end of Spain’s province of *La Florida*. They served to protect the province from French encroachment into the region. While most of the research done in Spanish Florida was focused on the City St. Augustine, in the last decade, the University of West Florida, (UWF) under the direction of Dr. Judy Bense, began developing a program and shifting the focus of research in *La Florida* westward towards the City of Pensacola where a
series of Spanish Presidios and settlements were established by the Spanish Crown. This study utilizes data from two of these Presidios; the Presidio de Santa Maria de Galve and the Presidio Isla de Santa Rosa. What made these western garrisons interesting was the short-lived occupation allowing glimpses into Spanish life on the frontier. Both sites, like St. Augustine, relied on the *situado* for supplies and pay for the soldiers living at the forts. The *situado* was the key to the economy and when payments or shipments failed, it placed the local inhabitants in a crisis as it did in the larger city of St. Augustine. In addition, unlike the city of St. Augustine which had English connections, the garrisons in Pensacola were courted by the French who desired Spanish trade as much as the Spanish in this region greatly needed material goods. The French town of Mobile and city of New Orleans were just down the coast and inhabitants of both nations were able to use small vessels to conduct their illicit trade. Unlike St. Augustine, Pensacola was not on any of the major shipping routes and therefore, opportunities to conduct trade with others nations except the French, really did not exist.

The Presidio Santa Maria de Galve was selected as the site to represent western *La Florida*. The Presidio was founded in 1698 and lasted until 1719 when it was attacked and occupied by France during the War of Quadruple Alliance (1718-1720). Initially populated by 400 residents, it took two years for the number to fall to 100; and within another three years, the population had risen to 700 (Bense 2004: 48). The population fluctuation at the Presidio was due to the addition of shipwrecked survivors and people fleeing to the safety of the fort during English incursions into the region. In addition to portions of the fort, the University of West Florida excavated multiple buildings that included residential and public structures. One of the major conclusions, based on the excavations, was that the residents of the fort were not self-sufficient. Most
of the material goods and foodstuff that were utilized by the residents were the result of materials being either traded or imported by the Spanish government. Bense (2003) indicated that the results showed the struggles of a garrison with no nearby missions to provide the food stuff required to support a frontier community. Such supporting missions were critical to the city of St. Augustine as mission corn crops were shipped to the city as well as providing labor available for conscript. Based on materials within the assemblages, Bense (2003) was able to conclude that the residents of Santa Maria de Galve relied heavily upon two resources: The first was the situado, the annual supply shipment that garrisons received from which soldiers received both pay in the form of coin and materials necessary to live. The situado for the city came from Veracruz and was shipped out after the annual fleets brought goods to Vera Cruz from Spain. The second type of trade involved illicit trade and their closest neighbor, the French town of Mobile that was located immediately to the west.

The Presidio was a mixture of all the social ranks within the Spanish New World. There were wealthy elites and lower class Mestizos and while there was strict segregation in the residential portions of the fort, the site assemblage used for this study is a compilation of all the data combined to create a group identity. Most likely, if individual house units were separated out like those from St. Augustine, more variation in the assemblages between the wealthy and the poor would exist. However, it is important to note that by combining all of the materials present on the site, we get a better picture of the total of trade goods present within the community, and therefore, a better sense of the community.

Presidio Isla de Santa Rosa was occupied from 1722 to 1752. The Presidio was the result of the need to protect the western portion of La Florida. After the failure of the
Presidio Santa Maria de Galve in 1719, the garrison protecting the Pensacola region was re-established and the fort was relocated to the Santa Rosa Island. Over the fort’s 30 years, the population fluctuated between 80 and 400 individuals (Roberts 2004). The first mainly consisted of a stockade-style fort with a church and small village, each rebuilt numerous times over given the hurricanes that hit and destroyed most structures (Roberts 2004:28). The site comprised of multiple barracks for the garrison, “eight houses for officers and 24 houses for workmen.” (Bense 1999:15) In addition, to the troops stationed within the garrison, a few families lived within the small village. Like the previous Presidio, Santa Rosa was dependent upon the *situado* for food and supplies. Although, there was information indicating that unlike Santa Maria, there was more effort towards developing a means of self-sufficiency as the inhabitants attempted to develop farms and hunted on the mainland (Roberts 2004), it was unfortunately the lack of self-sufficiency and continual exposure to storms that eventually forced the residents to abandon the Presidio and seek refuge on the mainland permanently.

The Presidio was excavated by Hale Smith and the Florida State University in 1964 and then, again in 1973 and 1985. These three field seasons led to the positive identification of the fort. Data utilized in this study comes from the three field seasons conducted by the University of West Florida (UWF) in 2002, 2003, and 2004. Data were obtained from Dr. Elizabeth Benchley who provided the raw frequency count for the entire collection. Although, it is reported that Smith identified the location of structures, excavations by the UWF were not able to define the use-areas as had been previously identified through the excavations of Santa Maria (Roberts 2004). The assemblage of ceramic data were similar to Santa Maria in that it represented a total of the assemblage. Individual practices of consumerism were not present at the individual level but as stated
before the collection represented all the material that would have been available to the
inhabitants of the Presidio.

Puerto Rico

The Casa Rosa collection comes from excavations conducted on behalf of the US
Army Corps of Engineers in 1988 by Carlos Solis Magana (Magna 1988). The data come
from excavation units placed inside the scarp wall of the Castillo de San Felipe del Morro
which is located in Old San Juan, Puerto Rico. The excavations were related to work that
the Corps was conducting in order to rehabilitate portions of the scarp wall associated
with the fort and were part of the Corps’ compliance with Section 106 of the National
Historic Preservation Act, whereby a Federal agency must determine if its undertaking
will have any effects of historic properties [historic properties are those resources that are
eligible for listing in the National Register and can include archaeological sites, historic
structures, landscapes, cemeteries and traditional cultural properties] eligible for listing in
the National Register of Historic Places. The excavations occurred just to the east of the
San Augustin bastion of the Castillo and are just inside the bastion. In addition, the San
Juan gate leading to the harbor is located nearby and is protected by the San Augustin
Bastion.

Built in 1540, El Morro was a defensive powerhouse that kept other nations at bay
and protected the island of Puerto Rico, which was first claimed for Spain by Columbus
who visited the island in 1493. Over the years, the fort was expanded and the wall
protecting the fort lengthened to fortify a large portion of San Juan. San Juan and all of
Puerto Rico were located in the center of Caribbean politics and because of its fertile
lands, this was a site where the Spain attempted to develop sugar plantations to mimic the
achievements of its rivals in the region. During the eighteenth century, the population on
the island exploded from about 5,000 in 1700 to over 150,000 in 1799 with over 30 towns
located through the interior (Merkling 1997:21). Within the City of San Juan, the
population jumped from 2,000 to 6,000 in 1771 and back to 5,000 in 1785 (Magna 1988

Like many Spanish New World colonies, the inhabitants suffered because of
Spain’s inability to provide supplies to them consistently. Multiple times during the first
half of the eighteenth-century, the Governor requested permission to trade with foreign
nationals to help supply the inhabitants on the island. In 1765, Spain relaxed it policies
for Puerto Rico to allow it to trade with other nations in the Caribbean (Merkling
1997:31). While Puerto had a thriving legal trade with almost 3,000 ships officially
coming through the island’s ports, illicit trade was rampant island-wide as foreign goods
were sought after. Finally, Puerto Rico served the Spanish Caribbean as a base of
operations for privateering activities during periods of war. Its location in the middle of
the Caribbean gave corsairs as safe haven to patrol the shipping lanes of other nations
(Merkling 1997:33)

The scarp wall which connects to El Morro connects all of the bastions and
forming one of the primary defensive lines for the city and fort was constructed between
1784-179. The archaeological materials were discovered during construction activities as
part of a rehabilitation project for the scarp wall. Data were obtained from three
evacuation trenches and an expansion unit. Materials recovered date to 1784-1800, and
represent infill materials used to stabilize the wall construction. The materials are
representative of the waste of the municipality of San Juan during that period. The
materials are most likely a result of the location being used as a dump by local inhabitants
and these materials represent an eleven year period of use by San Juan. Magna (188:128-129) notes that excavations in San Juan should take into account the materials found within the excavation as household refuse would be limited with the availability of a near refuse dump site. The materials were thus not the result of one individual household but again, were representative of materials that would have been available to the population in the surrounding community. Magna (1988:132) noted that the materials may have been a representation of the commercial activities of two commercial companies; the Barcelona Company and La Factoria mixed in with a little illicit trade.

Jamaica

Two sites were selected from the island of Jamaica. The two sites, Seville House 16 and Stewart Castle Main House each were occupied in the eighteenth century and represented sites associated with one of the more important English-controlled islands in the Caribbean. When the English seized Jamaica from the Spanish, their initial intention was to open a base of operations that would allow them to tap into the Spanish bullion shipments from the New World. What the English eventually got was a strategic center of the Caribbean where illicit and legal trade occurred in everything from agricultural products to slaves. The island was also fertile in its own right and was made up of large sugar plantations. Data for both sites were obtained from the Digital Archaeological Archive of Comparative Slavery, which can be found at http://www.daacs.org/. DAACS’s purpose is to be able to provide data for comparative researchers. The websites and electronics archive was maintained by the Department of Archaeology at Monticello.
Seville House 16 is a house related to the Seville Plantation where a slave village existed (Armstrong and Galle 2007). Excavated by Douglas Armstrong between 1987 and 1993, the site was known to contain an African burial within a house compound. The site was excavated as part of the Seville African Jamaican archaeological project and was a property owned by the Jamaica National Heritage Trust (Armstrong and Houser 2004:11-12). While certainly other older burial grounds were known, the recovery of one from inside a house compound was unique. The house was part of a slave village and was aligned with other houses in two rows as part of the plantation’s slave quarters (Armstrong and Kelley 2000:377). The village dated from 1670 to 1721 and was later abandoned in 1780 when a series of hurricanes hit the island three years in a row (Armstrong and Houser 2004:12). Data from eighteenth century occupations were used in this study.

The house was first identified through a pedestrian survey, which identified ceramics and foundation material on the surface. The excavation consisted of 66 1x1 meters units (Armstrong and Galle 2007). House 16 was identified as one of 20 houses associated with the oldest slave village linked to the plantation. The house was located on a path that went up the slope from the planter’s house and the fields. The plantation was a sugar plantation where the fields were located on the fertile plain adjacent to the ocean. Continuing up-slope were the sugar works, the overseer’s house, a house belonging to a midlevel manager, and then, the great house (Armstrong and Kelly 2002:376). The house itself measures five by three meters, being built on a foundation of rock and brick (Armstrong and Galle 2007) and consisting of two rooms. Across the flooring and yard, which served as an extension of the household, was a crushed marl limestone surface. The overall patterning of household materials indicated that the
household had limited financial means yet materials recovered showed imported items being present. These materials along with locally produced items indicated that even within the slave labor context, there existed a consumption of trade materials. No information exists on the slaves or families that occupied the household. Such documentation rarely exists for individuals who generally had little voice in society other than those that may be resurrected through archaeology.

The Stewart Castle Main House was first excavated by Charles Cotter in 1957 as part of an excavation into a Taino Midden. The Main house and associated slave village were first excavated by DAACs in 2007 in association with the University of Virginia and the University of West Indies Mona who each supplied student labor (Galle 2007). The house belonged to James Stewart I who received a land patent in 1754 for 167 acres. His son, James Stewart II, inherited the property in the 1780s and proceeded to take loans out against the property, which were somewhat typical of plantation owners who frequently needed funds to make it through bad years hoping that the next year would be better. Unfortunately, by 1799, the property was subdivided, which was most likely due to the failure to pay the mortgages.

The main house compound was built around the 1770s and most likely, was constructed by James Stewart I. Later additions to the structure were undertaken by his son who married and had six children therefore, creating the need for more space. The house is designed much like a fortified compound and may specifically have been designed to serve as a manor to protect the family from threats from the sea, slave revolts, or maroons (Bates 2007). The main house had rooms extended to dual towers and the walls were fortified with broken glass along the tops. “The castle complex includes two defensive towers on the house itself, a cellar and water tank for daily and emergency use,
and in most cases, slits in the high castle walls instead of windows” (Bates 2007:24). Little is known about Stewarts castle as research on the castle has centered on spatial analyses (Bates 2007; Galle 2007).

Nevis

Two sites belonging to the Jessups’ estate were utilized as part of this study. Like the sites in Jamaica, data from both sites were obtained from the Digital Archaeological Archive of Comparative Slavery (DAACS), which may be found at http://www.daacs.org/. DAACS’s purpose is to be able to provide data for comparative researchers. The websites and electronics archive is maintained by the Department of Archeology at Monticello. The Jessups’ sites are the results of multiple landholders who sold or traded the land over the eighteenth century. The plantation was first noted in 1720 as being owned by Ann Abbot who married a Phillip Dewitt who became the owner (Galle and Leech 2011). By 1736, a majority of the property was then owned by Edward Jesup [note only one ‘s’ in his spelling which differs from the site named Jessups]. Two years later, Jesup would own the entire plantation (Galle and Leech 2011). Much of what is known about the plantation is contained within the archives located in Southampton. Edward Jesup’s manager kept prolific inventories for the management of the plantation and as such, we know that in 1749, the plantation contained 53 men, 29 women, 18 boys, and 11 girls (Galle and Leech 2011). But to date none of that information has been tied to specific households so specifics and actual occupants are unknown.

The archaeological investigations on the site were extremely limited and designed to serve preliminary data collection for future work. The first excavation by Roger Leech took place in 2003 (Galle and Neiman 2010). The next excavation occurred in 2006 with
basic shovel-testing of both the Jessups I and II sites, which were the locations of slave villages for the plantation. These were conducted by archaeologists from DePaul University, the University of Southampton, and National Museums, Liverpool (Galle and Leech 2011). In 2008, the St. Kitts-Nevis Digital Archaeology Initiative conducted additional work. Thus in 2006, a total of 27 shovel-test pits were excavated while in 2008, 176 shovel tests and a single 1x1 meter test unit were excavated at the Jessups I site. The Jessups II site had a total of 93 shovel-tests and unfortunately, it was adversely impacted by the construction activities before additional testing could be conducted (Galle and Neiman 2010). Data from 2006 and 2008 excavations were obtained and utilized in this study.

Jessups I was the location of the earliest slave village for the plantation while the Jessups II site came later. The first site was occupied in the first half of the eighteenth-century while the latter was occupied in the later part of the eighteenth-century. Research conducted by the DAACS focused on the dating of archaeological materials recovered from the site although a summary of the site analysis has noted that the increased presence of Afro-Caribbean ware, a locally produced ceramic (Galle and Leech 2011). The use of locally made ware may have allowed slaves to increase material consumption to individual or local production in order to supplement materials not supplied or not available (Galle and Leech 2011).

Components of a Model for Inter-Site Comparison

As discussed above, the MISC to be developed has to take into account both, the historical context in which the Caribbean is situated and utilize the data created through use of available archaeological data. Thus, a combined approach is sought here, which
when implemented, allows the researcher to examine the archaeological record and simultaneously take advantage of the vast historical documentation that exists. This approach utilizes both, a statistical approach and a historical analysis approach. The statistical approach was initially based in an Exploratory Data Analysis (EDA) approach whereby, a small example of the dataset was used to determine what type of statistical analysis could be undertaken. The use of an EDA allows for the problem, data, and analysis to formulate a model that can then be utilized through standard statistical inference whereby the data can be fed into a model for analysis and conclusions. One of the main problems learned through this approach is that statistical analysis based on parametric tests on such things as the mean of the datasets which makes it very difficult to quantify. This is often the problem when there are datasets of variable sizes and, when, in the case of ceramic frequency, there are a lot of zeros in the dataset creating a ceramic mean that prevents comparison. Thus, through the use of an EDA approach, non-parametric analyses were identified which would not need the use of mean statistics of the assemblage (Hughes 2007). Instead, part of the MISC was developed to use a three-step multivariate quantitative assessment of the ceramic assemblages. The three steps enabled a comparison of frequency distribution of various sample sizes, and when combined, provided multiple methods for examining the data so that inferences could be properly evaluated.

Statistical and Historic analysis

A three-step multivariate quantitative assessment and historic analytical method were developed as part of the MISC. In addition to providing the ability to apply multiple methods of evaluation, the selection of a multiple step process of statistics and
historical data analysis enabled ideas of consumption (i.e. the lack of free choice), world-
systems theory and globalization, and capitalism, to be tested. No single analysis is
sufficient in scope to be able to examine such a wide array of concepts. Thus, through
use of various types of tests and historical information, we can examine theoretical ideas
based on relationships that exist within the data.

Brainerd-Robinson Coefficient analysis

The first of the three quantitative analyses is the Brainerd-Robinson (BR)
similarity coefficients analysis. Developed as a means for seriation based on ceramic
data, W.S. Robinson and George Brainerd hypothesized that because of the change
associated with ceramics over time, ceramic types that were closer in date should have
similar characteristics allowing for the separation and grouping of stratigraphic layers
based on these types (Brainerd 1951; Robinson 1951; Wells 2006b:38). Robinson
(1951:293) states with reference to his example of using ceramics that have “similarity of
percentages of different types of pottery in use is evidence that the deposits are close
together in time and dissimilarity of percentages is evidence that the deposits are far
separated in time.” Brainerd (1951: 307) notes that “factors such as regional differences
in culture and social stratification suggest themselves as the likely causes of variation
alternative to chronology.”

The BR analysis allows us to measure similarities by measuring the absolute
value of the differences of the percentages of types on any given pair of sites (Cowgill
1990; Wells 2006b). Collections that have similar percentages are then, thought to have
high similarity while those that have differing percentages are thought have a low
similarity or be dissimilar. “Thus the similarity between sites can be determined by
setting up a series of analysis by pairs” (Hughes 2007:72). The formula representation of the BR analysis is as follows:

\[ br_{AB} = 200 - \sum_{i=1}^{N} |P_{iA} - P_{iB}| \]

Where “\( P_{iA} \) is the percentage representation of attribute or type \( i \) in assemblage \( A \), and \( P_{iB} \) is the percentage representation of attribute or type \( i \) in assemblage \( B \). The sum difference is subtracted from 200, because the maximum possible “distance” between the two collections base percentage, is 2.” (Wells 2006b:38) This allows for a comparison between two collections. Where the analysis involves multiple collections, the analysis is repeated in pairs such that a \( br \) value is created for \( AB, AC, BC \), and so forth. The result is that a \( br \) value of 200 represents the highest possible value and a strong similarity while that of 0 demonstrates dissimilarity. However, the difference between the two is over 200 and interpretation of the scale can be simplified by dividing the result by 200 so that similarity thus becomes 1 while 0 represents dissimilarity (Wells 2006b:38). Once a result is achieved, a final check of the data is needed for cases where similarity is close because a pair of Frequency Tables could show similarity if the percentages of a few categories in the Tables are close. This could ultimately skew the table towards similarity when the pair may in fact be more dissimilar. This can be resolved by a review of the data to validate the differences in categories across the pairing (Wells 2006b:40). Finally, data created through a BR analysis is tabulated in a similarity coefficient matrix.

This analysis combined with historical data will allow us to test various ideas, if such similarity is seen within the analysis. For example, I would like test ideas of world-systems, consumption, and the impacts of growing capitalism vs. mercantilism but these may not in fact be the underlying causes of the observed similarity. Similarity could result from other things such as the sampling, use of the materials selected, access, and
numerous other reasons. However, the focus here should be first to see if the BR analysis shows us results that require further exploration. It is anticipated that some similarity should be expected within the BR analysis given the mercantilist system had restricted access to limited materials and were produced by a nation for their own colonies within a close period of analysis. However, if sites that do or do not share similar nationality show some degree of similarity then, we must seek answers to explain the results.

Correspondence Analysis

The second analysis is the Correspondence Analysis (CA). This analysis, as with the previous one, also does not rely on mean but instead utilizes frequency data that can contain zeros, since not all types of ceramic are present on each site such as, ceramic tables assembled for inter-site comparison (Clouse 1999:94-95; Farry 2005:26). It is also an analysis that can handle large frequency counts that often skew data when one or more types is a large percentage of the total frequency of an assemblage (Clouse 1999:95). “Importantly, the analysis reduces domination by frequency counts and focuses on relationships between groups of objects and their context” (Wells 2006b:36). Given its multivariate nature, CA is also capable of identifying more subtle relationships than that produced by the BR similarity coefficients (Wells 2006b:36). Data within a CA is organized within two-way contingency tables that enable viewing of the data in a graphical representation of the two-dimensional relationships (Clouse 1999:96; Wells 2006b:6). CA is created using principal components analysis of chi square residuals that are used to graphically display the rows and columns to allow the visualization of the relationships within the data matrix so that relationships can be identified (Clouse...
“There is no formal definition of distance between rows and columns so CA pays more attention to “shape” and less to “size”’’ (Clouse 1999:97).

The plotting of the first and second principal components will allow for the visualization of the relationship between the archaeological sites and all of the ceramic types contained within all of the sites. If any of the cases are similar they will appear close to one another in the two dimensional graphical plot. Further, if we include the ceramic types with the sites themselves, then, we can compare their relationships with the cases (sites) and variables (ceramic types). Under this analysis, we can produce two analyses: The first will use the sites and the ceramic types to examine the relationships between the cases and the relations of the cases to the variables. The second will utilize the origin of manufacture whereby each site will have its frequency count applied to an origin of manufacture and this will be used as the variable and plotted with the cases (sites) so that relationships between the cases and variables can be examined.

Diversity Analysis

Diversity analysis is the third type of analysis. Diversity is a measure of “the number of different classes of items present in an assemblage” (Kintigh 1984:45). Developed by Keith Kintigh (1984), the “Divers” program, runs an analysis that can be used as a statistical test to examine the richness in variability and determine the relative diversity of ceramic types. It “refers to the structure of a population or sample, composed of distinct categories, in terms of the distribution of its members along its categories” (Wells et al. 2004:636). This method uses a Monte Carlo simulation (“Divers”) where the diversity of the assemblages is plotted against a site that supplies the simulated frequency distribution that should be the expected norm (Kintigh 1984).
The strength of this test is that it enables the user to compare sites with varying frequency sizes (Hughes 2007). The measure examines the number of classes (types of ceramics) present in an assemblage while providing a control against which assemblages may be measured (Kintigh 1984:44-45). To avoid the pitfall of a single site dominating the table and creating “circularity,” data from multiple sites and when possible, from independent sites need to be sought and incorporated (Kintigh 1984:52-52). Thus, sites from multiple locations serve to balance each other and prevent one site from dominating the collection.

The Divers program thus, looks at the structure of the sample, in this case ceramics, and how these items are distributed amongst the cases (Wells et al. 2004; Hughes 2007). This allows researchers to measure samples of different sizes (Kintigh 1984:44). Once run, the Divers program produces the results graphically where the population is examined utilizing a Monte Carlo simulation against one of the cases. This can either be a specific case required for examination or a random one. In addition, the sum of the frequency for all types can be utilized as a test for comparison of the totality of available types within the region. This would thus eliminate all the zeros from the dataset. Divers “produces a graph that shows the mean and confidence intervals for the number of ceramic types and then plots the cases/sites to see if they are more or less diverse than the site selected” (Hughes 2007:72).

Kintigh (1984:45) identified two major assumptions associated with the use of his diversity model. The first was that within an artifact typology and cultural relationship, there were underlying frequency distributions. The second was that it was assumed, in this case, for sites within the Caribbean, that a dataset was comprised of elements chosen at random from a distribution that was culturally derived. Sites that had more or less
diversity as compared against the model could be identified to simply be more or less diverse. The specific nature of this relationship though, is the question that must be resolved to understand the causes of variation seen in the archaeological record.

Historical Analysis

This is operationalized by what Ben Fine (1995) has suggested as an analysis of the chain of vertical and horizontal sequences. This is a study of the connecting linkages of both production, distribution, and consumption and of how those linkages intersect to formulate patterns that we can recognize as properties of the commodities that we wish to study through consumption (Stahl 2002:835). With such an analysis, archaeologists can take a vertical approach and start with the smaller scales of analysis so that, artifacts can be properly identified and discussed accordingly within the local site histories. Then as they are studied, a vertical scale of intensity can be applied enabling archaeologists to seek answers along horizontal paths of inquiry while heading towards analysis on a larger or global scale. Ceramic frequency data will represent the horizontal plane in which all sites occur. In other words, the ceramics recovered on each site represent data that can be interpreted at the micro-level (local) where the individual sites exist and the agency occurs. They can also provide details at the meso-level (regional) of scale where they are representative of regional trade practices that include both, the legal and illicit trade. They also represent the macro-level (global) where these goods are part of the larger global scale of trade where goods are shipped over from Europe and are themselves indicative of national mercantilist policies. In some ways, this resembles the study of commodity chains, GCCs and GVCs and in fact it is but as Newman (2012:160) points out while these approaches typically focus on the vertical when what we want is for
people to explore the horizontal connections at each level of the chain and allow the three
types of statistical analysis help us to identify the vertical levels of the meso- and macro-
levels that are shaped by production, distribution, and consumption materials within the
Caribbean.

Thus, an individual ceramic assemblage found at each site represents the micro-
level (local) of analysis. As discussed previously, this is where archaeologists in the
Caribbean typically focus. While background data supplied to the site is typically local,
little effort has been made to expand this up to the meso- and macro-level. Using the
three types of analysis, we should be able to see the relationships at the meso-level
(regional) of analysis where we can apply regional history to help understand the
relationships that have been identified. Finally, within the CA analysis, the use of origin
of manufacture as a category for classification, will allow an analysis at the macro-level
(global) of investigation. Here, can we can apply historical data from the global scale
which will enable the combination of individual site data and macro-history. Thus, the
ceramic statistical analyses will supply the vertical data and the historical background
provided in the previous chapters shall provide historical data as horizontal levels are
examined. Thus, meaning can be applied to the statistical data in a more meaningful way
by adding historical data to the results of the analyses.

Since each site has already had an analysis conducted by various archaeologists
working on the selected sites, little work will be done at the micro-level (local). It is
beyond the scope of this project to develop inter-site comparisons at the micro-level
(local). However, this type of analysis is not beyond the individual researcher and it is
hoped that data achieved through this research as applied to the sites can create new lines
of inquiry through the identification of regional and global relationships.
Methodological Issues

In the development of the methodology there are some issues that need to be discussed. These issues are critical in understanding the results because these issues will have the most dramatic affects upon the results and could create the appearance that the portions of all of the models are either more or less sensitive. The first issue is the scale of time. As mentioned above, George Miller (1991:1) argues that archeologists working in the historic period should avoid lumping site assemblages together to create what he terms “mega-assemblages.” While this study is doing exactly what he is arguing against as there is potential value in such analysis, Miller’s caution is not entirely unfounded. To start, Miller sees an appropriate level of lumping to be done in 10 year periods. This is because over the course of time trends and materials change over time; making such comparisons unreliable. While I would argue that this is not completely true, there is some validity in that the methodology here utilizes a period of time that spans 100 years. Sites at the beginning of the period most likely do not have the same materials and interconnectedness to macro-scale events that sites have within a ten year span of occupation. But in development and testing of the model the purpose here is to see how sensitive it is and if it can produce results that will provide archaeologists with a useful tool for analysis. Certainly, a shorter span of time would be more beneficial but would not allow for the examination of longer trends that can only be done with such grouping of sites. Plus many of the sites span multiple generations and thus contain connections that are within the ten year groupings.

Miller (1991) also points out another problem in the use of utilizing other people’s data. For example the details on how much of any one archaeological site or
area within each site was excavated are vague. Miller is pointing out that there would be better comparisons if we actually were able to compare sites that are relatively comparable in size, percentage excavated, and location of features explored. This would then create a homogenous sample where we would finally be able to compare across sites with the same types of controlled data. Unfortunately, I have yet to see two sites excavated in the same way and portions and features treated equally so that a proper comparison can be made. Thus with the acceptance of other people’s data comes the variation in excavation techniques and in the types of sites excavated. Ideally when I first started to develop this methodology, I began with sites from the city of St. Augustine where the sites being all from the same location presented an ideal situation. The results were promising but the scale was limited to just sites that occurred within the same city and spanned from 1700-1763. I also relied on table wares which are inherently more socially visible types of wares than utilitarian wares. The removal of utilitarian wares also removes a lot of locally produced wares as table wares were typically imported as a result of lack of skilled craftsmen and materials to produce such refined earthen wares in the New World. Thus separation within the context of study within the city of St. Augustine provided more sensitivity whereas within this study the inclusions of such types will most likely result in some types of wares that are locally produced. While an attempt will be made to refine the data, some will remain that will make the data less sensitive, although it is hoped that by their inclusion I can test the sensitivity of a complete assemblage.

Another factor that could make the model either more or less sensitive is related to Miller’s (1991) arguments in that the type of sites being utilized here are not of the same size, inhabitants and frequency counts. When I attempted to gather data I tried to
find sites that would be similar such that I could categorize the types of sites and perform individual analyses on them to show how effective the model would be on various types of sites. However, acquiring data from various sites as already discussed was very difficult. Thus there is variety in the various site types that includes site size and site function. For example in St. Augustine the sites are from continuously occupied households where the Casa Rosa in San Juan is a collection of household refuse. The site is a local dump versus a families refuse. The scale of each site and assemblage that each reflects is sure to have some type of affect on the results of the test of model. But while some sort of effect is expected, the purpose here is to test the methodology and show that its usefulness applies to the widest variety of site types because although individual sites exist they do not occur within a vacuum. Sites that occur over time and location are still part of the larger scale of activities that were occurring in any given period.

The final factor that I wish to discuss is the data itself. In the earliest formulations of the model as I previously indicated I utilized data from the city of St. Augustine. All of the data that utilized had been excavated by the University of Florida under Dr. Kathleen Deagan and her students. The data thus had a common structure and had in fact even been re-examined at a later date to improve the analysis and remove misinterpretations associated with the analysis. The data utilized was in fact confined to stratigraphically identified layers that belonged to the time period, meaning that the materials were free of contamination. Unfortunately, not all of the data that I was able to obtain was so pure. Furthermore, I added data from additional site and I increased the variation as materials analysis was subjected to other individuals. This is not to say that they were not as diligent or thoughtful in their own analysis as those conducted by the University of Florida but instead that one must recognize that not every type of material
can always be positively identified from excavations. Identification and interpretation are in fact a skill and as such there is varying skill levels within each analysis and data collection. For example within some sites there are large quantities of unknown materials, if for instance one lab technician is particularly good at identifying some types verse other type of ceramics then the frequency and type counts will be strong on one type and weak in another. This subtle variation can have results in that the types of analysis being performed do not recognize individual types. The types could be labeled as A, B, or C and it would not matter as the analyses will not improve upon what is put into the data table. It further does not account for variation in analysis. It assumes that the frequency data is 100 percent correct when in fact the identification of such types is seldom 100 percent.

Combined, the problems within the analysis will have an effect of the results. But it remains to be seen to what degree the problems will affect the results. Overall they should make the model less sensitive than some of the original trials of the model. However, the data that has been acquired and shaped for this test of model reflects the types of sites that span the period in question and region of focus. If the model is to prove useful and answer the call of archaeologists to develop new methods and new tools to examine large scale analysis in the Caribbean then we have to test it against what we find in the Caribbean in the worst possible cases and then figure out ways to improve the tool.
Chapter 5

Results

Sites and Ceramics Assemblages

In examining data from the eighteenth-century Caribbean sites, it becomes apparent that there is a tremendous in the events and places. Analyzing this at the micro-level clarifies that, each site represents a vast quantity of data that must be compiled to understand of the events of the past. Archaeology aims at pulling all this information together to re-create an understanding of the past. However, we are often faced with an incomplete picture; a dialectic of a version of the past based on observations of the material past and historic events. It is hoped that this study demonstrates a MISC that can be used as a comparative tool to show that there are avenues for research within intersite comparison with regard to the archaeology of the Caribbean.

The results of the various analysis and historical research created two sets of information to be analyzed. The first was the ceramic data using which a database of the 11 archaeological sites was constructed. The second was historical data, drawn from historical information carried forward as part of the analysis formulated from the background research.

Data from the 11 archaeological sites was combined into a single Table. Frequency and type were the only information migrated from data supplied from various databases (Bense 2004:61; Benchley 2009, pers. Comm.; Deagan 2006, pers. comm.;
Each dataset was examined and re-organized so that individual typologies could be streamlined to the most practicable extent possible (See appendix B & C). Locally made ware such as Native American or site-specific wares were eliminated from the data set as these were not typically found throughout the region and were more a result of local trade and not intra-regional trade. Finally, the combined data set was then re-examined to refine the master set through the removal of extraneous types of ceramics, which were only found on single sites. Prior to this refinement of the data table, there was a total of 166 types of ceramics (See Appendix A). After the refinement, 93 types of ceramics remained within the Table for the analysis.

To finalize the Table, two additional steps were necessary: The first was the creation of a twelfth dataset, which was added to the table by combining the frequency of each type across the 11 archaeological sites. The twelfth set was formulated to create a group that represented the combined variability and was thought to be closer to a representation of the total variability of types that would have been available through various trade networks across the Caribbean. The second and last step was to identify the location origin for each of the ceramic types. In the case where European ceramics were identified, their location was placed simply under a general location by country.

Ceramic types whose provenance could be identified in the New World with specific locations were utilized. It was felt that the scheme would allow for a better examination of trade at both the macro- and meso-levels of analysis. European manufactures had the same types made at various locations of the country and shipped over from a few key locations in each country. They thus were treated as a single source for identification purposes. Origin of manufacture, although useful data, was designed to only be used during a specific CA analysis. The final data table is located in Appendix B.
and represents 11 archaeological sites and one fictitious combined sample, representing 61,112 sherds.

BR Analysis

The first analysis conducted was a Brainerd-Robinson coefficient analysis (br). In this test, a br value of 200 typically represents the maximum possibility that some level of similarity exists throughout the data that is being compared (Hughes 2007:72). However, as discussed previously, the br coefficient was rescaled by simply dividing the corresponding value by 200 so that the maximum value for similarity became 1.0 (Wells 2006b:38). Data from each site was paired allowing all 12 samples to be compared against one another. A table was compiled that represented the analyses of various sites against one another (Table 3). Note those coefficients nearer to 1.0 show signs of close similarity while those that are closer to zero have limited or no similarity.
### Table 3. Brainerd-Robinson Coefficients

<table>
<thead>
<tr>
<th>BR Coefficient</th>
<th>Presidio Santa Maria</th>
<th>Avero</th>
<th>de Hita</th>
<th>de la Cruz</th>
<th>Patricio</th>
<th>Presidio Santa Rosa</th>
<th>Jessup II</th>
<th>Jessup I</th>
<th>Seville House</th>
<th>Casa Rosa</th>
<th>Combined Data</th>
<th>Stewarts Castle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presidio Santa Maria</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avero</td>
<td>0.29</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>de Hita</td>
<td>0.52</td>
<td>0.52</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>de la Cruz</td>
<td>0.22</td>
<td>0.41</td>
<td>0.52</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patricio</td>
<td>0.31</td>
<td>0.36</td>
<td>0.42</td>
<td>0.34</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presidio Santa Rosa</td>
<td>0.38</td>
<td>0.29</td>
<td>0.33</td>
<td>0.17</td>
<td>0.19</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jessup II</td>
<td>0.00</td>
<td>0.06</td>
<td>0.09</td>
<td>0.15</td>
<td>0.09</td>
<td>0.04</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jessup I</td>
<td>0.00</td>
<td>0.11</td>
<td>0.14</td>
<td>0.27</td>
<td>0.08</td>
<td>0.02</td>
<td>0.48</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seville House</td>
<td>0.00</td>
<td>0.10</td>
<td>0.09</td>
<td>0.14</td>
<td>0.09</td>
<td>0.21</td>
<td>0.23</td>
<td>0.31</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casa Rosa</td>
<td>0.19</td>
<td>0.06</td>
<td>0.19</td>
<td>0.10</td>
<td>0.14</td>
<td>0.64</td>
<td>0.06</td>
<td>0.04</td>
<td>0.17</td>
<td>0.61</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Combined</td>
<td>0.45</td>
<td>0.32</td>
<td>0.42</td>
<td>0.31</td>
<td>0.34</td>
<td>0.64</td>
<td>0.06</td>
<td>0.04</td>
<td>0.17</td>
<td>0.61</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Stewarts Castle</td>
<td>0.05</td>
<td>0.02</td>
<td>0.03</td>
<td>0.09</td>
<td>0.03</td>
<td>0.02</td>
<td>0.23</td>
<td>0.06</td>
<td>0.14</td>
<td>0.06</td>
<td>0.03</td>
<td>1.00</td>
</tr>
</tbody>
</table>
Examining the Brainerd-Robinson analysis (See Table 1), it is apparent that no single site has a high level of similarity to any other. A case with this level of similarity should fall with a \( br \) value of greater than .8. However, there were instances where dissimilarity was clear. These would be cases where the \( br \) value would be less than .1.

In looking at the cases against the combined sample, which was interpreted as having the possibility of representing all types of ceramics available to all 11 sites, the only site that was clearly dissimilar was the Jessup II site. If we continue to examine the table, we can see that the combined sample does share some similarity with a few sites. In particular, Casa Rosa, the Presidio Santa Rosa, and the Presidio Santa Maria share some level of limited similarity. Additionally, there is some level of similarity between the Avero, de la Cruz, de Hita, and Fatio sites, as well as between the Casa Rosa and the Presidio Santa Maria, and the Jessup I, and Jessup II sites. In all cases, the similarity falls between .4 and .07 and is not to be considered a strong example of close similarity. Not surprisingly, the sites that share the most similarity with the combined sample are sites that are comprised of a combined sample themselves. Also of interest is the fact that even sites found within the same city such as St. Augustine do not have strong similarity to one another. While they do share some similarities, the strongest relationship is between the Avero site and the de Hita sites with a \( br \) value of .52.

Correspondence Analysis

The second analysis performed was a Correspondence Analysis (CA). The usefulness of CA is that it enables the creation of a visual representation of the relationship through scatter plots of the first and second components of the analysis. The purpose is to visualize relationships based on groupings or correlation of data centroids in
a two-dimensional space. The resulting scatter plot of the various sites based on the ceramic frequencies that comprise them is represented in Figure 8. The first and second components are plotted against one another. The first eight factors explain 85 percent of the variance. There are three sites: Fatio, Presido Santa Maria, and Jessup II which appear to be isolated from the central cluster of sites. All of the other sites are somewhat centrally located and massed. Of note is the centrality of the combined data sample.

As part of the CA, a second analysis was conducted to examine the relationship between the archaeological sites and the point of origin of manufacture of the ceramic ware with the sample. The resulting scatter plot of the first and second components of this analysis is contained within Figure 9. The first four factors explain 85 percent of the variance. Again, like the previous analysis, the combined sample is centrally massed, although it appears that a large amount of ceramics whose origin of manufacture is unknown is also close to a combined sample centroid. Of note within the plot is the de Hita site, which is grouped with ceramics from Spain, Tonala, Mexico, and ware from Mexico City. Also of interest is the massing of most of the sites between England and ceramics of unknown origin.

However, like the previous Brainerd-Robinson analysis, data were examined to see if there were any materials that could be skewing the analysis. It was questioned whether the central massing of the combined sample may be creating a sink of sorts that could draw the centrality of relationships to it by creating a repetition of classes thus weighing factors more heavily than they should be, and preventing the viewing of the relationships that exist. Figure 10 represents the re-examination of the relationship between the sites and the ceramic types. The first seven factors represent 82 percent of the total variance. Like the first analysis, a second CA was repeated to show the
relationship between sites and the various ceramics’ origin of manufacture without the combined sample. Figure 11 shows the results. The first four factors explains 84 percent of the variance.

In examining the result of the CA analyses, the first result is that the combined sample does affect the results of the CA. CA using its analyses improves our understanding of the relationship between sites and the individual ceramics. Its location as a central sink appears to help spread-out the effects of individual ceramics within the analysis such that Figure 8 is more clear with the combined sample present than the subsequent analysis without it. In examining the scatter plot, it is obvious that like the Brainerd-Robinson analysis, the Jessup II site clearly does not show a relationship with the other sites. Also, there does seem to be some relationship between Stewart Castle, de la Cruz, Jessup I, Seville House, Casa Rosa, Avero, and the Presidio Santa Rosa. The de Hita, Fatio, and Presidio Santa Maria, appear to be the outliers. However, it must be noted that certain sites have relationships with certain types of ceramics. In the center of the plot are a variety of Spanish and English types. Of note is the fact that the El Morro ware which was thought to be a problem and may have weighed the results disproportionately within the previous BR analysis, is located at the fringe of the plot and does not appear to have much, if any, relationship with the individual sites. This validates the results of the BR test where the El Morro ware did not significantly alter the results.

In the results of the second CA analysis, the use of the combined sample data was not needed because a clearer picture of the relations of the various sites to the points of origin of the manufacture of various ceramic types could been seen regardless of the data. Figure 9 shows the scatter plot without the use of the combined sample. Of note here are
the ceramics from France, which are on the outer edge of a central mass of sites. The central mass of sites constitutes the English ceramics, Spanish ceramics, and ceramics of unknown origin. However, it needs to be mentioned that the results for the English sites and their relationship with their Spanish counterparts must be derived from the English ceramics and ceramics of unknown origin since none of the English sites contain known Spanish ceramics. Finally, it should be mentioned that there appears to be a relationship between the locally produced ceramics from Tonala, Mexico, and the de la Cruz site.

Finally, it should be pointed out that within the entire analysis, the examination of the first two factors do not explain much of the variance. The best is contained within Figure 10 which only explains 85 percent of the variance utilizing the first four factors. In many ways, this is like the previous BR analysis where the results are limited and not as clear as preferred. Typically, a clear result would be explained with the first two factors explaining a variance of over 80%.
Figure 8. Correspondence Analysis Scatter Plot of First and Second Components ($\chi^2 = 9.46, df = 935, p = .786$).
Figure 9. Correspondence Analysis Scatter Plot of First and Second Components ($x^2 = 81.44$, $df = 99$, $p = .90$).
Figure 10. Correspondence Analysis Scatter Plot of First and Second Components ($x^2=856$, $df=850$, $p=.432$).
Diversity Measure

The final analysis conducted utilized a diversity measure. As discussed in the methodology section, this analysis was developed by Keith Kintigh (1984). The results are created with a program called Divers where the diversity is calculated and tabulated into a plot file that can be opened and plotted. The plotting program also developed by Kintigh is called “Divplot.” Through the course of examination of the plot results, it was noted that some of the data was not being produced in the plot even though the output file

Figure 11. Correspondence Analysis Scatter Plot of First and Second Components ($x_2=87.55$, $df=90$, $p=.553$).
showed them. A discussion with the program’s author, Keith Kintigh, revealed that the original Divers program was not designed to handle the large frequencies and as such, Kintigh developed a new version called “Divers5” to compile and verify the previous data (Keith Kintigh, 2012 personal communication). In addition, the new compilation was not recognized by the plotting program Divplot. Upon discussion with Kintigh, it was determined that the best method would be to verify the data using Divers5 from the original program and hand plot the missing data from the Divers5 output file. The analysis was thus compiled utilizing a Monte-Carlo simulation that was set to run at 500 simulations with a confidence interval set at 90 percent.

The analysis was run twice, once with the combined sample as the sample that all other sites would be compared against. It was then, run again with Casa Rosa selected as the site, which the other sites would be examined against. Based on the first simulation and data within the Table, Casa Rosa appeared to be a median case where there were sufficient types of ceramic within its sample but there was an adequate amount of diversity amongst the group. Although it should be noted that that Casa Rosa in fact does not plot within the figure because of a limitation of the Diver software in plotting over a sample size of 20,000 [Keith Kintigh is revising the plotting program to handle larger cases but was unable to reformulate the program for this study. Casa Rosa plots at Sample size of 22865 and Richness of 40 which would place it just below Santa Rosa if it were able to plot. This would indicate that it too is well below the expected diversity.] Figures 12 and 13 show the plotting of the simulation, the mean, and the 90 percent confidence intervals. Site plots that fell above or below the mean were interpreted to have more or less diversity than the cases that they were compared against.
Figure 12. Utilizing the Combined Sample (Monte Carlo Simulations Mean and 90 Percent Confidence Interval) Note Casa Rosa plots outside bounds of model.

The use of the combined sample (Figure 12) is interesting although its success is indeterminate. The results clearly show that all of the sites with the exception of the de la Cruz site have less diversity amongst their samples than the combined sample. The de la Cruz site result is unexpected since the combined sample should have more diversity.
Although it should be noted that the higher level of diversity is just outside the 90 percent mean deviation. So while it does have more diversity than the combined sample, it is not by much. Finally, the results of the diversity analysis were examined to see if any one site was dominating the sample. Kintigh (1984:52-52) argued that the creation of a circularity should be avoided and that multiple sites should be included in the analysis to prevent a single site from dominating the analysis. If such circularity did exist within the analysis, it would have resulted in the use of the combined data sample (although the use of such a combined sample was initially put forth by Kintigh (1984)).

The diversity analysis was repeated (Figure 13) without the use of the combined sample so that a clear picture of the relationships between the sites themselves could be established. As discussed above, Casa Rosa was selected and this analysis revealed that Jessup I, Jessup II, and the Seville House all had the same levels of diversity as the Casa Rosa site, as they all fell within the 90 percent confidence interval. Stewarts Castle, alternatively, had less diversity and all of the other sites had more diversity than the Casa Rosa site. In addition, if we were to treat this as a CA and identify groupings, we could say that there was some level of relationship amongst the diversity of the Avero and the de Hita sites as they were somewhat equally distant from the established mean of the Casa Rosa.

Finally, an additional analysis was created that combined the results of the diversity with those of the similarity BR analysis. The result was the re-creation of the diversity plot with the addition of the $br$ coefficient placed next to each site vs. the sample used to compare the other sites. Figure 14 shows the diversity analysis with $br$ coefficients from the combined sample. Figure 15 shows the $br$ coefficients from Casa Rosa. I have chosen to add Casa Rosa into the figure 14 even though as stated before it
plots outside of the model. I have it within the figure so that BR analysis can been seen in conjunction with the other data.

Figure 14. Combined Diversity and Brainerd-Robinson Utilizing the Combined Sample.

Figure 15. Combined Diversity and Brainerd-Robinson Utilizing the Casa Rosa.

The results of these additional analyses enable us to visualize relationships within two analyses simultaneously. The first analysis (Figure 14) shows the relationships of diversity and similarity against the backdrop of the combined sample. It is apparent that
sites such as Jessup I, Jessup II, Seville House, and Stewarts Castle have less diversity as well as little to no similarity with the combined sample. In addition, sites that bear some similarity with the combined sample do not have nearly as much diversity as the combined sample. The de la Cruz site is an oddity in that it has more diversity but only a small fraction of similarity with a $br$ value of .31. The second analysis (Figure 15) shows combined results using the Casa Rosa site. The results of repeating the analysis without the combined sample are even more perplexing in that the Casa Rosa site only shares similarity with the Presidio Santa Maria, while it has both, more and less diversity than the other sites. While the Presidio Santa Maria has more diversity, the fact that it shares some similarity with the Casa Rosa may have to do with the site’s short period of occupation of twenty years. This short term of existence is the earliest amongst all sites tested and as a result, it may have been exposed to a lot of foreign trade while Casa Rosa was a strong Spanish garrison on the well-defended island of Puerto Rico and as such, it too may have experienced more trade than some of the other Spanish sites.

Historical Analysis

Historical information is also of high importance here. As discussed in the methodology section, the idea is for archaeologists to bring data forward, i.e., keys points of information that will have a direct bearing on the analysis. All too often, historic data is just anecdotal and designed to support the data from the material record of the archaeological site or simply to create a setting into which the archaeologist frames the analysis. Within the methodology section, it was discussed that historical information would be utilized to conduct analysis on various levels of scale and that is the intention here.
There are two levels of analyses that need to be considered: the macro- and meso-levels of analyses. It is interpreted that the macro-level consists of historical, world-level events. These events come from the various core powers but simultaneously create implications on the various lower levels of analysis. The meso-level of analysis is a regional level where events can shape both, the micro- and macro-levels. An example of both the macro- and meso-levels of historical events would be the War of Jenkin’s Ear where the English Captain Jenkin was caught by the Spanish Navy and accused of smuggling in the Caribbean (Hughes 2002). His ear was removed as punishment for smuggling activities and Captain Jenkin would eventually display this fact to the English Parliament who would vote for war with Spain creating tumult in the Caribbean. This war would however, be subsumed under the larger War of Austrian Succession which was already occurring and affecting the region. It is an example where meso-level activities affected various levels as they expanded the larger war by adding Spain to the list of enemy nations and creating local opportunities for raiding Spanish ships.

At the macro-level of analysis, there are a few key points that will be considered. The first point is the fact that Spain as a nation was not able to fully support its colonies. It attempted to control its colonies using mercantile trade restrictions but was for the most part was unable to enforce them. The incident involving Captain Jenkin was a rare instance of Spain attempting to regain some control over the situation surrounding illicit trade within its colonies. In addition, right at the beginning of the century, Spain and France lost the War of Spanish Succession where England was awarded the valuable Asiento contract to bring slaves into the New World for Spanish colonies. The second point was that England was very successful in hindering the advancement of France in the Caribbean during this period through several wars in Europe and was able to fully
expand it colonies such that they were all, for the most part, extremely successful. An example of this is New England, which became fully self-sufficient and was able to export materials of its own within the Caribbean. Added to this, was the fact that England was able to restrict her colonies with enforceable trade restrictions under her own mercantile policies. The third point refers to France’s limitations. While France attempted to become the dominant European power during this period, England kept France in check through war and prevented France from expanding through conquest. Repeated losses slowly reduced French forces and the number of islands it controlled in the Caribbean. France clung to power here by maintaining control of the two most productive sugar-producing islands. The final point is that the Netherlands, while a limited player in the Caribbean created the first Freeports, which forced all the other core competitors to open all their ports as Freeports of trade. This action although regional had global re-percussions, as it signaled the end of mercantile policies and the development of capitalist ones.

At the regional or meso-level of analysis, several points of interest may be seen: The presence of illicit trade that was occurring within all of the ports of the Caribbean should be mentioned with particular emphasis in the Spanish colonies where it was rampant. Second, throughout the period, the Caribbean was largely dependent upon the European cores (or other regions like the English colonies in North America) for material goods. The Caribbean was an exporter and not self-sufficient. The close proximity of various islands allowed for regional trade with very little cost. The typical expenses in fitting out a vessel from Europe to the New World required that certain amounts of materials be shipped. Larger ocean-going vessels frequently sailed to the Caribbean, but it was the smaller sailing vessels (at the time the vessels were no larger than a skiff with a
sail) that enabled trade between the islands (Deagan 1987:24). Finally, the Caribbean served as sort of a crossroads of trade. Various nations had both regional and trans-Atlantic trade routes that converged within the Caribbean. It was this crossroads phenomena that brought in goods from various nations so that they could be shipped via the illicit local routes.

Discussion of the results

An examination of the results is necessary to help determine if the model itself is successful or not. I must strongly emphasize though that the interpretation of the results is secondary to the determination of the usefulness of the model to produce results that are worth exploring. A discussion of the potential meanings of the results will be provided below though.

BR Analysis

To say that that there were clear results would far from the case. While I had anticipated that there would be some similarity, the results would have been better if there had been clearer similarities between some of the sites. In other words, the BR coefficient should have been closer. Specifically, I would have desired more similarity between sites in the city of St. Augustine and those located in Pensacola given their proximity. However, the strength of the analysis is that each site may be examined in relation to one another so that none of the sites within the data set can skew the data. This allows us to feel more certain about the results. So while the results differ from expected, they do show that very of few of the sites show similarities and of those that do, the levels of similarities are not very strong.
CA Analysis

This analysis through the plotting of the first and second factors does show some interesting results. The difficulty lies within the levels of variance within the results. While it is hoped that the plotting of the first two components shows something from which we can infer some meaning, the level of confidence that it will show some meaningful data is not as high as it would be if the level of variance had been explained in large part by a high percentage of the first two variables.

The Diversity measure: This analysis would have to be the most successful of three although the fact that the de Hita site shows the most diversity than the combined sample is somehow troubling especially since that combined sample should have comprised of the de Hita site and contained the same level of diversity. The use of Casa Rosa though was very successful in showing there were sites with the same level of diversity as it and others that were more and less diverse than it. This is indicative of success in that it now forces us to ask ‘why.’ The Critical analysis of the history of the period: This is not a statistical test yet I feel that this is a successful application and means to bring the historical context typically found within archaeological investigations into the results discussed above. Authors need to provide a synopsis of the relevant historical data. This data is then, the result of the historical research and can thus, contribute to a discussion of the conclusions that results. The problem with archaeological reports using history to create a setting is too well-documented and as such by making this part of the model I feel it provides a successful example of how to apply the types of analysis that is needed. Although it should be noted that the true benefits will come later with inferences and interpretations that can ultimately made in conjunction with use of the model.
Finally, I think it is necessary to examine the model as a whole. While there are aspects that are most successful, the purpose here is to develop a model instead of a single test. To begin with, the model is successful in that it involves tests that assist archaeologists in dealing with the types of data that we typically encounter. There are numerous types of artifacts that comprise any assemblage and when we attempt to compare types across sites, there are often differences in frequencies. Three types of statistical analyses were chosen for sensitivity to those factors. Though they were sensitive, how useful is the model for conducting inter-site comparison and how valuable is it in conducting comparisons at the scales that we are trying to achieve?

Overall as a critique of the model, we may say that it is successful. It does show archaeologists the potential areas for inter-site comparisons and highlights the fact that new information and avenues of research exist at large scales of analysis. However, is it very sensitive to those scales? No, it is not. The problem may lie within the types of tests selected or the types of materials selected; however, I first posit that the macro-scale is not readily visible within most of these sites to begin with. If it were so obvious, there would no need for archaeologists to develop the means for inter-site comparison and examine regional scales as has been called for. This may be one of prime factors here, in that inter-regional connections are not as evident as we would desire and designing tests to identify them is problematic because they cannot bring about the level of clarity that we desire.

Problems with the MISC

In looking back at the compilation of the results, a few items warrant additional discussion. The first is the MISC. Overall, it appears to be successful because it can
provide evidence of the entanglements that individual sites were exposed to from larger scale events, regional, and global activities. It is also possible to compare sites that exist within a wide region such that we can now look for and further refine our analysis on each of the individual sites by showing that such connections, if not obvious within the material record, do exist on some level. However, it did not produce results that were as clear when a smaller scale of analysis from sites located only in Florida was conducted utilizing the same methodology (Hughes 2007). In comparison to Hughes 2007 study of Florida sites, it does not appear to be as effective as desired. However, in consideration, that the sample size of sites doubled and the number of sherds went from 37,880 to over 61,174 and 122,348 with the combined sample and the number of types identified in the final database increased from 64 types to 93 types of ceramics, the results do show promise. In the earliest stages in the development of the model only table wares were used. The use of the MISC here includes utilitarian ware and it is believed that such inclusion lead to a high mixture of unknown ceramics within the overall sample. However, the test run in 2007 garnered better results. (Hughes 2007). Looking at the results of the tests of the model there is information that we can gleam from the data that may in future improve the results of the model as currently run. The first issue is that of the BR analysis. The 2007 study had an error in the results that should be corrected here. The corrected results can be seen in Table 4.

While the results do not show such a strong similarity, the results show a slightly stronger similarity. This difference in results is an indication that the numbers of types of ceramics does have an effect on the results of the BR analysis. As discussed above, I tested the analysis to see if the BR analysis was being skewed by a type of ceramics called El Moro ware which is a type of utilitarian ware that is common and found in large
quantities on most of the sites selected. At the time of the removal, the ware only changed the results slightly and I thought that it did not influence the results of the BR analysis. Thus to better understanding how the number of types influences the results and how utilitarian wares can affect the results I sought to redo the BR test with the thought of removing items that may influence the BR analysis and improve the results. With that in mind I removed the following types from the table: indeterminant wares, olive jars, storage jars, and El Moro wares. The results of the remaining seven types of ceramics can be seen in Table 5.

Table 4. Corrected Result from Hughes 2007.

<table>
<thead>
<tr>
<th>BR coefficient</th>
<th>Presidio Santa Maria</th>
<th>Avero Site</th>
<th>De Hita</th>
<th>de la Cruz</th>
<th>Fatio 18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presidio Santa Maria</td>
<td>1.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Avero Site</td>
<td>0.29</td>
<td>1.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>De Hita</td>
<td>0.32</td>
<td>0.52</td>
<td>1.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>de la Cruz</td>
<td>0.22</td>
<td>0.42</td>
<td>0.53</td>
<td>1.00</td>
<td>-</td>
</tr>
<tr>
<td>Fatio 18</td>
<td>0.32</td>
<td>0.38</td>
<td>0.44</td>
<td>0.36</td>
<td>1.00</td>
</tr>
</tbody>
</table>
Table 5. Brainerd-Robinson Coefficients.

<table>
<thead>
<tr>
<th>Region</th>
<th>Pre-Hispanic</th>
<th>Sheri's</th>
<th>Eocene</th>
<th>Fossil</th>
<th>Pliocene</th>
<th>Eocene</th>
<th>Fossil</th>
<th>Pliocene</th>
<th>Eocene</th>
<th>Fossil</th>
<th>Pliocene</th>
<th>Eocene</th>
<th>Fossil</th>
<th>Pliocene</th>
<th>Eocene</th>
<th>Fossil</th>
<th>Pliocene</th>
<th>Eocene</th>
<th>Fossil</th>
<th>Pliocene</th>
<th>Eocene</th>
<th>Fossil</th>
<th>Pliocene</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Hispanic</td>
<td>1.20</td>
<td>1.00</td>
<td>1.00</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheri's</td>
<td>0.56</td>
<td>0.70</td>
<td>0.68</td>
<td>0.72</td>
<td>0.74</td>
<td>0.73</td>
<td>0.72</td>
<td>0.74</td>
<td>0.73</td>
<td>0.72</td>
<td>0.74</td>
<td>0.73</td>
<td>0.72</td>
<td>0.74</td>
<td>0.73</td>
<td>0.72</td>
<td>0.74</td>
<td>0.73</td>
<td>0.72</td>
<td>0.74</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eocene</td>
<td>0.56</td>
<td>0.68</td>
<td>0.72</td>
<td>0.68</td>
<td>0.72</td>
<td>0.73</td>
<td>0.68</td>
<td>0.72</td>
<td>0.73</td>
<td>0.68</td>
<td>0.72</td>
<td>0.73</td>
<td>0.68</td>
<td>0.72</td>
<td>0.73</td>
<td>0.68</td>
<td>0.72</td>
<td>0.73</td>
<td>0.68</td>
<td>0.72</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fossil</td>
<td>0.90</td>
<td>1.00</td>
<td>1.00</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pliocene</td>
<td>0.74</td>
<td>0.73</td>
<td>0.72</td>
<td>0.72</td>
<td>0.73</td>
<td>0.73</td>
<td>0.72</td>
<td>0.73</td>
<td>0.73</td>
<td>0.72</td>
<td>0.73</td>
<td>0.73</td>
<td>0.72</td>
<td>0.73</td>
<td>0.73</td>
<td>0.72</td>
<td>0.73</td>
<td>0.73</td>
<td>0.72</td>
<td>0.73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eocene</td>
<td>0.74</td>
<td>0.73</td>
<td>0.72</td>
<td>0.72</td>
<td>0.73</td>
<td>0.73</td>
<td>0.72</td>
<td>0.73</td>
<td>0.73</td>
<td>0.72</td>
<td>0.73</td>
<td>0.73</td>
<td>0.72</td>
<td>0.73</td>
<td>0.73</td>
<td>0.72</td>
<td>0.73</td>
<td>0.73</td>
<td>0.72</td>
<td>0.73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fossil</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pliocene</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eocene</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fossil</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pliocene</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eocene</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fossil</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pliocene</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td>0.94</td>
<td>0.90</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The removal of the ceramics dramatically improve the results of the BR analysis in such a way as to increase most case by a factor of .2 in some cases. This brought some of the cases into a higher level of similarity. In particular the highest level of similarity previously at .64 between the Presidio Santa Rosa and the Combined sample now sits at .81. While the new information shows a higher a level of similarity, it also creates more questions in that more similarity does not mean anything without the interpretation. Questions like why does it show more similarity? Is it because of access to similar types of goods or trade routes? Also more importantly what does the improved similarity tell us about the model itself and the actions of unidentifiable wares and utilitarian wares? Finally, it does show that the results can at the very least be improved from the base study which takes into account many factors that can skew the data itself as described in the methods chapter. In the future, it may prove useful to refine the selection criteria of materials selected to table ware and eliminate utilitarian ware and ceramics whose origins of manufacture are unknown. In addition, if the data can be further refined to eliminate show of the issues discussed in the methodology it may be possible to improve the BR analysis even further.

However, restricting the number of cases could also affect the results of the model as it could support the addition of other artifact classes that could also be readily available on sites. For example, if glass bottles could be identified on each site and broken down into color of the glass, these too could be inserted along with the ceramics. The fluidity of such a model is that you can either reduce the variables to specific classes or increase the number of variables. Although based on the use of the model here, it would seem that the more the variables the decreased is the sensitivity of the model. Achieving such a balance will be up to future researchers.
A second problem that should be discussed is the difference between the study and the previous test conducted in 2007 in regards to the CA analysis (Hughes 2007). The previous study had much stronger results than the current study. The problem as discussed here is the level of significance. In the CA utilizing the sites and ceramic types the analysis was only able to explain 27 and 31 percent of the variance with the first two components whereas the 2007 study account for 70 percent of the variance within the first two components. The strength of the analysis on the smaller amounts of ceramic types is obvious but can the difference in the number of types (93 vs. 64 types in 2007 study). The difference cannot be explained like the BR analysis which saw an improvement by removal of types of ceramics since both analyses (2007 and current) contained both table and utilitarian wares and unidentified materials. Some improvement may occur in the removal of materials like the BR analysis but it may not be enough. In addition, some improvement was seen with the removal of the combined sample and the variance increase from 27 to 31 percent but this would indicate that sheer numbers of sherds within the sample does not really affect the overall results as the difference between 61174 sherds vs the doubling of the number only accounts for a 4 percent difference in the sensitivity. So what can explain the difference between the 2007 study and the current one? One of the factors may in fact be the number of sites and the sensitivity of scale that CA can account for. The 2007 study only took into account sites that were located within the same geographical region or a sub region within the circum-Caribbean. Also the 2007 study only accounted for five sites instead of the 11 sites that were utilized within this study. The five sites selected were also Spanish whereas the larger study incorporates English sites. There may be factors within the cultural selections of materials that could reduce the sensitivity of the results that are yet to be
discovered. Additional work would be needed to see in what ways the data and analysis could be refined to improve the results. For example the improvement of the data within the analysis as discussed above within the BR analysis may help increase the sensitivity. Within all of the analyses conducted ceramics types that are either utilitarian or indeterminant can be seen to be centralized within the center of the plotting of the two dimensional relationship. Other types of influence can also be discussed in the methodology. In particular, the time scale in the 2007 study was more concise and did not have the full breadth of times that the current study has. It also does not have the full variation within the analysis, although the 2007 study did take into account the difference between sample size of households verses a large combined sample but again that study accounted for 70 percent at best and while this is good it may be better if the sample was not comprised of such large sample sites where the assemblage is comprised of multiple site types. An analysis of households alone may improve the results and sensitivity of the CA analysis.

In addition to refining various ceramics types into clearer categories, I would also posit that the results associated with this running of the MISC suffered because of the sampling size. As stated above, it was very difficult to obtain archaeological data for sites throughout the Caribbean. This difficulty started within the archaeological community that either did not publish such data or did not make it publicly available upon request. I feel that if the sample had been larger it could have taken into account more of the variation that existed within archaeological sites. One attempt was the creation of the combined sample which would have the most variation and serve as the ideal view of all the potential types that were available to people within the region. Unfortunately, only eleven sites were used for this running of the model. Data from the
French and Dutch sites were not available for use. Some additional lines of research that should also be explored are the relationships between the French and Dutch sites within the Caribbean. Throughout the testing of the model, the great quantity of unknown ceramics proved troubling. The thought that even today we have not been able to identify all the wares that were manufactured and used on various sites, creates a problem. It is felt that a refinement of the model’s results would be evident if more data and clearer identification existed. This is especially true of Dutch ceramics, which were only identified as plain delft. Particularly since delftware was made in both, the Netherlands and England.

Finally, the model does relate the linkages between the macro-scale and individual archaeological sites through the selection of materials that transcend these scales. But it should be pointed out that it is still very difficult to link the macro-level to the micro-level. The various analysis that are conducted within the model do enable an overall view and suggest possible connections but the statistical analyses themselves do not actually link results to concrete connections. Ideas surrounding the agency that created the site in the first place are influenced by events at the meso-(regional) and macro-levels (global) but the level of influence most likely varies according to the event and its locus in relation to the archaeological site in question. Thus, we cannot directly link these to the results. It would great if the model were to demonstrate that over a given period of time there were some levels of connection that could be observed linking individual sites to greater levels or larger historical events and, that these linkages were reflected in the archaeological record, but it does not. The various tests only show us that there is some connection but do not elaborate on what it is. To assist with this problem, I added the historic analysis to the model so that we would be sure of using the historic
events to help shape and guide us with our exploration of mean. Some of these events originated at the macro-level (global) and would be present within the various sites we were attempting to study, regardless of whether it was the ability of England to deliver goods and influence foreign colonies or the fact that England could protect its own colonies and prevent foreign influences that would have resulted in increased foreign goods into its colonies. These facts exist but are not necessarily observable by the MISC and it will only be through interpretation of the results that we can begin to understand the effects of the globalization and the various scales linked together.

Finding Meaning within the Data

In conjunction with the development of the model has been idea on how I view the shaping of events that occurred in the Caribbean during the eighteenth century. I offer this possible explanation as an example to show the potential for interpretation of the archaeological data and its use with the MISC. As discussed within the Methods sections, the results of the various types of analyses do not point to a single causality. They simply state that if there is a similarity or diversity, it is up to the archaeologists to interpret what the results mean to them.

Within the analysis of the historical data, there are repeated trends in the results of the historic events shaping the Caribbean. Some of the generalities that were observed were that England as a core power was trending up during this period. Her colonies were well-developed and England herself had developed an intricate means to support and supply those colonies. She instituted strict regulations to guarantee the success of her mercantilist polices and had the might to enforce those policies with her strong navy. If there were an inverse to England’s rise during this period, it would be Spain. Spain’s
inability to supply its colonies and declining shipping power meant that its colonies would increasingly need more and more supplies from foreign sources. France on the other hand, had started the period as a fierce competitor only to lose more and more of its power and possessions within the Caribbean. Although still strong in Europe, France’s influence in the Caribbean was decreasing during the eighteenth century.

Within the Caribbean as a whole, islands got progressively more strained. In the beginning, there were limited subsistence crops even while the majority of the goods were imported. By the end of the eighteenth-century, however, the Caribbean’s resources were vastly depleted. Islands had been stripped of their wood and arable lands were mostly converted into sugar plantations. As a result local trade routes became even more important and more heavily utilized to ship the goods, which were needed to operate the large plantations.

In examining the base line statistical results of the data what can we then conclude and how does it relate to both the macro- and meso-levels of analysis that we are attempting to create? We must look to merge the results and analyses of both, the statistical approach and the historical approach. This is because the answer does not lie within one type of analysis or another. Only through their combination can we expect to shed some light on how these sites interacted with larger scales as called forth by various archaeologists working in the region (Hauser 2009; Hauser and Curet 2011; Kelly and Hauser 2009; Kelley and Hardy 2011). As discussed in the methodology, the statistical data is considered data that can transcend vertical scales of the micro-, meso-, and macro-levels of analyses while the historical data relates to this vertical scale , it exists on various horizons that occur on the micro-, meso-, and macro-levels. Thus, for this
complex discussion, two scales of analysis will be used here to show a single vertical scale of data that can be discussed at the horizontal scales of historical events.

At the macro-level, there is some interconnectedness amongst various archaeological sites. This interconnectedness can be seen within the simple combination of all the data sets into a single dataset where it becomes apparent that there are no Spanish ceramics on English sites while the reverse is not true. This mirrors the historical data since England was very aggressive in protecting her colonies and her mercantile establishment. This data fits the spread of the English influence as a core power on the rise. This is also true of the presence of French ceramics in the Presidios in Pensacola that were receiving supplies from French colonies in nearby Mobile. However, the dominance of England is still clear in the relationship within the CA analysis (Figure 10) whereby France as an origin of manufacture was at the edge of the grouping while England sat in close proximity to sites from England and Spain. This dominance of England and her ability to supply materials is seen in the diversity analysis where most of the Spanish sites had a higher level of diversity than those of English affiliation. In looking back at the analysis of the 2007 study one of the trends that was identified in the BR analyses was that it was not really reflective of what was present on each site but instead what was not present (Hughes 2007:75). This does in fact hold true where the large variety of types creates situations where the data has a lot of zeros within the table. The similarity of the so many zeros may be thus reflective of the absence of trade instead of similarity because of trade. For example sites that do not in fact have access to materials may have closer similarity than those that have access to a full assortment of materials that were available. This explanation could be the results of the restrictions associated with mercantilism whereas under capitalism we would expect a
free market to be able to deliver any available goods which the market wishes to use. In looking at Table 5 we can see that the English colonial sites in fact had the lowest similarity to the combined and some of the sites within the combined data such as the Casa Rosa. So is this dissimilarity the result of restrictions upon English trade whereby goods were sufficiently supplied to keep the sites or the fact that we are seeing the results of trade restrictions whereby the English sites had limited access to other sources of goods. In this case a simple examination of the base tables indicates that there is no presence of Spanish made ceramics on the sites so the similarity that is observed must be based upon the absence of materials whereas sites that have a high similarity to the combined sample have a larger variety of materials. Thus if we look again at Figure 12 and the diversity analysis we can see a trend where most of the sites of Spanish origin have higher levels of diversity. It is also worth noting the when we examine the data tables we see that in fact the Casa Rosa has fewer types of English and French types than places within La Florida. Therefore we can see how control may lead to less diversity in that of all the Spanish sites the Casa Rosa maintained greater control over access to foreign goods since it was one of the major garrisons of Caribbean whereas places like Pensacola and St. Augustine could conduct more foreign trade.

Finally, it has been a premise in this study that most of the colonies that existed within the Caribbean were desperate for material goods. This was most likely the case since the time legal trade was not possible and illicit trade had to take over. But it would appear that English colonies were able to avoid turning to their competitors, at least until the North American colonies broke free. However, a limitation in this study exists in that we cannot currently separate English-made from the American-made ceramics after 1776.
Both, the similarity and diversity analyses also warrant a discussion. Looking over the table with 93 types of identified ceramics indicates the strength of the available products coming into the region from outside the Caribbean. The fact that there were so many available ceramic types indicates that Europe was producing a high level of diversified products to be shipped overseas. This, combined with the fact that only England could protect its colonies from illicit trade of such goods, indicates that similarity of goods at the macro-level might be difficult to achieve as borne out by the results of the Brainerd-Robinson analysis. It also indicates the difficulty of any one place in receiving a constant flow of materials. Even on English sites, the lack of a constant flow of goods could produce instances of dissimilarity amongst English sites as indicated between some of the sites located in Jamaica and Nevis.

In considering the meso-level of scale, there are some interesting conclusions. The first is that at the regional level, there was considerable trade between the Spanish sites. As mentioned above, they had a higher level of diversity than the corresponding English sites. Specific to this, was the fact that many of the Spanish sites were split between England and Spain as was demonstrated in the CA (Figure 9). However, there was also evidence of regional trade as indicated by the close relationship between the de la Cruz site in St. Augustine and Tonala, Mexico where a large portion of de la Cruz ceramics were made. Likewise, it appears that Casa Rosa, from Puerto Rico had a similar relationship with ceramics being produced in Mexico City, Mexico. The fact that both sites were garrisons and most likely received goods from this region as part of their soldiers’ pay is very informative in confirming the existence of regional relationships. In addition, there seems to be some split relationship between the sites located in Pensacola which are split between, Tonala, Mexico, and England on the one hand, and Spain and
France, on the other. The fact that the Pensacola sites also received supplies from Mexico and had access to French goods from Mobile, Alabama, and English goods from St. Augustine via overland trade routes could explain this positioning within the corresponding CA analysis. Finally, in looking at the diversity analysis (See Figure 15), you can see that many of the Spanish sites, with the exception of Casa Rosa were actually in remote areas of the Spanish New World. They had more diversity than Casa Rosa, which was better able to procure goods than the backwater colonies such as, Pensacola and St. Augustine. The results of the diversity analysis indicate that Casa Rosa was supplied in similar fashion to that of some of the English colonies which had similar levels of diversity (i.e. Casa Rosa and Jessup I, Jessup II and Seville House). The intermittent nature of supply to remote areas would create even more diversity than more central areas, which had more ships docking at the port. Finally, it should also be noted that even among the English sites there was some level of regional similarity. The two Jessup sites showed a small level of similarity with Seville House and indicated that, at some level, there was a relationship between sites on the island of Nevis and the Seville House in Jamaica. They also showed some similarity in their levels of diversity in relation to Casa Rosa. This showed that there was some relationship between the levels of diversity for sites in Puerto Rico, Nevis, and Jamaica.

One additional goal was to see if we could view the results of trade routes that were developed at the macro-level and appear in the local. The evidence of foreign goods within Spanish sites is a clear indication that there were trade routes that had not yet been fully understood. A prime example would be the city of St. Augustine. Data from the analysis indicate material goods from England appeared with the archaeological assemblages for sites that occurred within the city during the period of study.
In the introduction of this work, there was a hypothesis concerning what individuals would do if materials that were needed, were not available. The idea was that individuals would seek the materials goods they need to create such an existence but the sheer lack of it prevented the creation of exact replicas of the cores from which most of the individuals had come. In thinking over this hypothesis it has led to my giving differential power to trade allowing it to influence the meaning of the results. This is not say that trade is not a heavy influencer here. Trade or the lack of trade does heavily influence the results here given the importance of status type symbols people utilized to convey social meeting. But trade alone cannot place materials on archaeological sites. Items available in the market but not purchased will never find their ways into the archeological record of any particular site. So one must recognize that to some extent the manifestation within taste and consumption for goods must also exert some control as to the selection of materials goods and influence the results that we see in some way. Because if people in the periods all had equal access to the full variety of materials goods that we would be discussing the social qualities of goods that create and regulate supply and demand instead of trade alone where access or lack thereof has influenced which goods were available for purchase.

Thus if equal access was present then taste would be a heavier influencer for what new types of materials are created for the market. Goods which are not of use are not supplied in the quantities that we are talking about. For example, when we consider the development of delft ware, it is found on most of the sites within the sample. Delft’s style and properties are both similar to faience and majolica. All three are tin-enamel wares and thus the similarity of styles can transcend the taste of individuals on those sites with the exception that if they were not available they could not be consumed.
Finally, as these sites were utilized to assist in the development of the model, I would again stress that these results were only preliminary to demonstrate avenues for future research but yet as discussed above there are results and as such there are new lines of research that archaeologist should consider going forward. I have take an approach primarily from the macro-level of analysis and ideally, it would be more advantageous to the researcher at the micro-level to be able to interpret meaning of some of this data at the micro-level of analysis in conjunction with other types of questions that researchers try to answer. However, the call for new method and techniques was to finds was of examining the macro-level and to be able to compare sites across the region as this model does. Thus the results should be taken to show the ability of the MISC to create new lines of research at the macro-level of scale.
Chapter 6

Conclusion: The Role of the Model in the Community of Practice within the Caribbean

Applied Anthropology

Applied anthropology seeks to combine the methods and theories of anthropology and apply its problem-solving solutions to the modern world. Based on the four-field approach of applied anthropology, the attempt is to understand the modern problems through its ability to understand the past. It “calls for expanded training and policy analysis, techniques of collaboration and mediation, and ethnographic methods such as oral history” (Downum and Price 1999:227). While this differs from the pure academic aspect of today’s archaeology, the basic principles are still the same, however, the ultimate goals vary in that the applied archaeologists’ work can be used to address modern problems. This is not to say that non-applied archaeology is not problem-oriented, but that applied archaeology seeks to answer questions proposed by others while non-applied archaeology is purely for the knowledge of the past and may have additional uses to solve modern problems.

Applied archaeologist also look for ways to improve our knowledge of the past and assist in answering modern questions or solving modern problems posed by applied anthropology as a whole. Recent literature has focused on the role of the applied archaeologist as a public archaeologist or an action archaeologists (Little 2001; Sabloff 2008) whereby archaeologists work within communities to help them understand their
own past and resolve questions of their own identity. In addition, applied archaeology has taken the role of resolving issues of cultural identities, creating opportunities for public education about the past, developing cultural tourism based on the archaeological history of an area, and solving environmental and ecosystem applications to assist modern populations (Downum and Price 1999). However, not all applied archaeologists either work as academic or applied archaeologists developing our understanding of the past or helping others understand their own past. Some applied archaeologists continue to work in more traditional academic settings and seek ways to improve the methods and theories as well as to resolve issues within the field itself. These archaeologists, for a lack of a better term, will be called foundational archaeologists within the modern community of practice that is applied anthropology. These are not necessarily theoreticians but practitioners who focus in on the operationalization of the aspects of applied archaeology. They explore the problems identified by the public and the practitioners and attempt to shift the practice of archaeology by demonstrating sound methods.

Value to People

In any applied study, there must be applied value to the community. Such value should be one of the goals of applied research and results of the study should foster a positive outcome for the community on which the applied study is based. In this case, the modern community is twofold; archaeology and cultural anthropology. It is a community of practice whereby, anthropologists in the Caribbean have identified various issues that could have profound effects on the practice of cultural anthropology.
The anthropological study of the Caribbean is very important in defining the region. Caribbean anthropology has involved itself in such studies as colonialism, history, diaspora processes, plantations, gender, ethnicity, and world-systems. The study of colonialism, for example, is one of the key defining features of the Caribbean. Even today, portions of the Caribbean are still subject to some form of colonial rule or influence and it remains unclear whether or not a post-colonial condition exists (Pagan-Jimenez 2004:205). While some places have broken free of direct colonialism, portions of the Caribbean are still controlled, directly and indirectly, by the United States, Great Britain, the Netherlands, and France. Thus, the study of colonialism continues to be important to defining the Caribbean.

In addition to colonialism, issues from the developmental history of the region in the form of plantations and slavery continue to shape the modern Caribbean (Mintz 1978; Trouillot 2002). Mintz’s (1966:915) definition of the region as a cultural area details the importance of the interplay of plantations and the “successive introduction of massive ‘foreign’ populations into the lower sectors of insular social structure” in the shaping of the Caribbean. These historic connections have further led to defining the Caribbean within African diaspora studies as the linkage between large portions of the Caribbean that have followed their African origins (Mintz 1985; Trouillot 1992:30; Yelvington 2001:237).

The study of the Caribbean has also led to the study of the world-system and globalization. Each of the major colonial powers such as Spain, England, France, and Netherlands can be shown to have their connections with the development of colonialism in the region. Even today, the past of such colonial activities shapes and helps define the modern Caribbean. But very little is currently understood as to the development of the
global economy in the Caribbean in the eighteenth century. The Caribbean provides the opportunity to study over 500 years of globalization as the region has been situated at the crossroads of trade between the New and Old Worlds (Mintz 1985; Appadurai 2001:36; Armstrong and Hauser 2009:591). The contesting of the Caribbean by various core powers started in the seventeenth century with the intrusion of England, France, and Netherlands into the Spanish-controlled region. But its incorporation into the world-system started in the sixteenth century with Spain’s expansion into the region. Even today, its incorporation and contestation persists as the need for imported goods continues to create opportunity for various semi-peripheries and core powers to interact with the Caribbean. These economic ties thus, form the interconnectedness for globalization of the region and the creation of additional factors that need to be considered if we are to fully define the Caribbean.

Globalization, colonialism, and historical plantations are just three aspects that continue to shape the Caribbean today. But as noted above with the identification of a need from with the community of practices by such archaeologists as Kathleen Deagan and Mark Hauser, there is an incomplete foundation in the knowledge of what the scalar effects were in the development of each. So how then, is applied anthropology to solve modern issues if the basis for our understanding of how these modern societies were created, is skewed by an incomplete past?

The ability of applied anthropology to solve problems starts with a better understanding of the past and how the past shaped events that led to the current situation that applied anthropologists are seeking to understand. The MISC is thus, a foundational study and one such attempt for applied archaeology to assist the understanding of problems identified by the community of practice within the Caribbean. This is because
the Caribbean is, and always has been, an area marked by a complex pattern of movement of goods and people and such anthropologists are continually seeking new ways to better understand the complexity of the Caribbean. Thus, if anthropologists are to solve modern problems in the Caribbean then, it will start with a thorough understanding of how the Caribbean came to be and who the people that comprised it, were. How they came together and what was some of the commonality of the identity that all people of the Caribbean shared? An effort that assists in this understanding thus adds value to the community of practice that is applied anthropology.

Thus if we were to apply a loose uniformitarian view of the present Caribbean, one must assume that idea of power, economics, and societal struggle that has occurred in the past is still continuing to this day. Processes associated with modern globalization that have precedents are testable through the use of the MISC. With the model were can begin to formulate questions and answers to better understand the beginnings so that researchers can be better understand the current existences of continued colonialism. Trouillot (1992:21) notes that

“Caribbean societies are inescapably historical in the sense that some of their distant past is not only known, but known to be different form their present, and yet relevant to both the observers’ and the natives’ understanding of the past.”

This idea of the relevance of the past within the present is also contained with Bourdieu’s concept of *habitus*.

“The habitus, a product of history, produces individual and collective practices-more history- in accordance with schemes generated by history. It ensures the active presence of past experience…” (Bourdieu 1984:54).
Thus modern studies need to reference the historical roots of networks that developed in eighteenth century Caribbean that led to its incorporation into the world system. We need to examine the colonial history of the Caribbean to explore the modern day.

By the end of the nineteenth century, if Caribbean peoples were indeed “free” everywhere, they were in chains. Caribbean peoples remained in colonial chains, which continued to bind them through the combination of a hegemony worked by encompassing oppositional elements into its structure and, more often than is supposed to, by naked force (Brereton and Yelvington 1999:10).

Such ties to the colonial past are evident in the modern day Caribbean system, so much so, that Pagan-Jimenez (2004:205-206) believes that we are yet in a post-colonial condition when it comes to the Caribbean and that the forms of colonialism are just shifting in the results of economic and transnational consumption that are themselves the results of globalization.

But while the MISC can create value for those studying such complex notions, the MISC real value lies in its ability to create a tool for those practicing archaeology in the Caribbean. It creates a tool that can be utilized to answer Deagan’s (2007:114) call for comparative analysis through the exploration of similarities and differences. It also provides a methodology towards examining scalar approaches as required by Hauser’s (2009:4) requests for improved examination of larger scale research problems. With its development, researchers will not necessarily be able to answer all questions concerning scales of analysis but they will be able to see possibilities that can be further explored.

Its value does not have to lend itself to correcting large scale issues of the historical development of the Caribbean because in all likelihood it won’t. It will, however, help archaeologists either working in academic studies or within the cultural resource management field, create better studies. This is because MISC creates value to
people [here understood as the archaeological community] in that it can become another tool in creating a better understanding of the past to help those archaeologists better understand the sites that they are studying. The deficiency in tools for scalar analysis was identified by Hauser (2009:4) as well to tighten the focus on individual sites and agency. The MISC allows archaeologists to explore new avenues of research through a scalar approach of inter-site comparison. Archaeologists can compare sites all over the region and those with national origins thus improving their base line work that is conducted throughout the Caribbean. As the base improves, so will the overall understanding of the historic roots of the Caribbean

Preliminary Thoughts for the MISC

This study demonstrates that the use of the MISC is effective as does the smaller scale study of the preliminary model that was conducted in 2007 (Hughes 2007). However, the model as a foundational study should be tested in another setting to confirm its value. It is hoped that the data table contained in the appendices could be expanded upon or that authors who originally created the data could explore some of the relationships that were evident throughout this testing. Alternatively, another useful study would be to use the model in an area outside of the Caribbean and test it using data from another setting or time period.

The development of the MISC allows archaeologists to understand the inter-relatedness of archaeological sites and create a better understanding of the past. But it is through the establishment of ties across the Caribbean that archaeologists can, for the first time, understand the scale and connectedness of the Caribbean. Chase-Dunn and Hall (1997:39) note that archaeological data is “quite problematic” and that we should attempt to use archaeological data where there is no historical data available. However, as Pagan-
Jimenze (2004:202) stated “each archaeology must establish channels of communication with other archaeologies” in that any model developed should also have the foresight to be useful in other areas such that other archaeologies being practiced around the world or even archaeologies of the past can use the model, or as in the case of past archaeologies, allow re-interpretation of the data. Thus, as the MISC continues to be developed in the future, it will need to be able to be tested in other regions where both, the historical contexts may be available or unavailable. It needs to be tested where there is a need to utilize archaeological data that is consistent with both, past archaeologies of a region and its applicability to the resources outside the region for comparative purposes.

Finally, we can use archaeology to complete a better picture for history and anthropology and study the development of the modern world system through the use of the MISC. Through the development of the MISC, archaeologists working in the region can assist in the development of a better regional context, which in turn can be used by applied anthropologists working in the Caribbean. Thus historical archaeologists focusing on the archaeology can contribute more to the study of the Caribbean and social processes still in effect today (Delle 1998:5; Brumfiel 2003:206-207). The MISC will provide archaeologists with a tool that will allow them to take data acquired at the micro-scale and apply it to the macro-scale.

Next Steps for the MISC

The model needs to be used by archaeologists working in the Caribbean. The goal is to continue to build the base database and refine the analysis. The ceramic data sets have been placed within the Appendix A and are now available to for archaeologists to utilize within their own studies to answer some of the larger questions about the
involvement of the developing global economy on individual sites that they are working on. As stated above, the model does not give direct answers but at the same time it opens up new lines of questions that archaeologists need to explore as they work in the Caribbean. An archeologist can re-enter the data and then enter the data from their own sites and re-run the statistical analysis. The archaeologist can also utilize the historical background provided here to assist with the refinement of the analysis and perform the analysis along of the chain of vertical and horizontal sequences of materials consumed so that the interplay of global events and agency can be better understood on the individual site that is being examined. This will allow them to create better interpretations and with proper use, the typical background section provided within standard excavation reports can become a much more valuable tool as the background data becomes part of the analysis and results of the archaeological investigation. Finally, the use of the MISC will allow archaeologists to look beyond the water’s edge of the typical Caribbean investigation. Caribbean Archaeologists have been calling for an expansion of scalar analysis of investigations within the Caribbean and the MISC is such a tool that will allow future archaeologist to accomplish this and see the inter-connectedness of world politics that was played out within various parts of the Caribbean.

In addition, I suggest that it would be worth taking the MISC completely outside of the Caribbean itself to test its effectiveness in looking at other types of systems or conglomeration of archaeological sites would prove beneficial to see how the model relates outside of the Caribbean as to see if it has merit for consideration in other areas of the world.

One such area that may be worth investigating through the MISC would be the mid-Atlantic. As already noted some of the data comes from the DAACS database, but
what is not discussed is that there are twelve site located from the Chesapeake region located within this database. In addition, Chesapeakarchaeology.org has data from an additional 18 archeological sites (www.chesapeakarchaeology.org/Index.cfm). Both digital archives contain data for archaeological assemblages that date primarily to the seventeenth century with some overlap into the eighteenth. Combined they represent an opportunity to test the MISC within a different region and different time periods.

But why would this specifically be recommended? It is more than just the collection of archaeological data that is attractive; it is archeological data that is from a confined geographic region. If we wanted to place the region in the framework of world-systems it could be understood as mini system but also it contained some of the wealthiest plantations along the Atlantic coast during the seventeenth century. The Chesapeake could be understood to periphery pushing towards a semi-periphery with its concentration of wealth and power. But more importantly, the sites from the seventeenth century represent a contested periphery in that the Navigation Acts were passed during the span of most of these archaeological collections to break this contesting.

Furthermore as Levy et al. notes (2005) the planters in this region where well known to have had material extravagance and thus would have plenty of opportunity to purchase materials from around the globe. Included in these materials were goods from Dutch suppliers. While discussed at length in this document because of the time range associated with this study, the Dutch were the first hegemonic power as described by Wallerstein (1980). While it was not the Dutch military or governmental organization that created this, it was in fact the power of Dutch shipping. The Dutch in the century prior to this study were a shipping powerhouse and while they did not necessarily make all of the goods they shipped for international trade, they certainly had a role in its
shipping. It should also be pointed out that the in the seventeenth century, England still had not gained the strong foothold that became famous with it Atlantic colonies. For example, New York was still New Amsterdam until 1655 as the Dutch sought to control the fur trade along the Hudson River Valley. Also with the wealth that was coming into the Atlantic seaboard, the inhabitants participated in the eighteenth century consumerism such that David Hancock notes that they were more connected to the world than they had ever been (Hancock 1998:200; 1997). Furthermore, the Dutch never left. This is because as the English moved in to remove the Dutch government from the Atlantic colonies the English were instructed to leave the populace alone if they chose to swear allegiance to the English crown (Weslager 1961). This would in turn maintain all land grants and maintain all personnel property and basically left the local community organization intact except for the fact that they were now English colonist. The presence of the Dutch in the region meant the continued importation of Dutch goods until around start of the Navigation acts, although this still continued afterwards (Cavallo 2004:13).

In reviewing some of the preliminary work done within both datasets, I set the hint of a need for macro-scale analysis. As Levy et al. noted (2005) there was extravagance and connections that spans multiple nations but again here we see site focused research that is in need of better tools for inter site research. The only research on such a scale is by Jillian Galle in her analysis of 41 slave sites from the Chesapeake region whereby she utilized consumer choices models along with Signaling theory to explain individual actions (Galle 2010). While the work is substantial it still drives it answers down to actions of agency instead of seeing how marco-scale trade shaped the availability of goods which then were subject to consumer choices.
Finally, the goal here was an attempt to identify a model that would allow archaeologists working within the Caribbean a method or tool for examining the macro-scale. Caribbean archaeologists need to understand the role that global activities have on local sites and how such activities influence local consumption as evidenced within the archaeological record. MISC offers such a tool to archaeologists and should be brought into use to help us better understand conditions that the inhabitants of these sites were exposed to. Through use of the MISC a better archaeology can be achieved.
References Cited

Agbe-Davis, Anna S,

Albritton, Robert

Anderson, Benedict

Appadurai, Arjun

Appiah, Kwame Anthony

Armstrong, Douglas V, and Mark W. Hauser

Armstrong, Douglas and Jillian Galle

Armstrong, Douglas V., and Kenneth Kelly

Arrighi, Giovanni
Bair, Jennifer  

Baram, Uzi  

Bates, Lynsey  

Barka, Norman  


Baugher, Sherene and Robert W. Verables  

Bense, Judith  


Brainerd, George W.  

Bousquet, Nicole  
Branding, David

Braudel, Fernand

Brereton, Bridget and Kevin Yelvington

Brumfiel, Elizabeth M.

Bourdieu, Pierre

Burkholder, Mark and, Lyman Johnson

Bunker, Stephen G.

Bushnell, Amy

Carroll, Lynda

Cavallo, Katherine Carroll
Chase-Dunn, Christopher

Chase-Dunn, Christopher and, Thomas D. Hall

Chesapeake Archaeology

Clouse, Robert Allan

Cook, Lauren., Rebecca Yamin and John McCarthy

Cowgill, George L.

DAACS

Dawdy, Shannon Lee

De Barcia, Andres
Deagan, Kathleen

Deetz, James

Delle, James A.

Dellino-Musgrave, Virgina

Douglas, Mary and Baron Isherwood

Downum, Christian and Laurie J. Price

Dunn, Richard S.

Emmer, Pieter

Ewen, Charles R.

Farnsworth, Paul
Farry, Andrew

Finamore, Daniel

Fine, Ben


Foley, Duncan

Fortune, Stephen Alexander

Frank, Andre Gunder

Friedman, Jonathan

Galle, Jillian


Galle, Jillian and Roger Leech

Galle, Jillian and Fraser Neiman
Gibson, Heather

Giddens, Anthony
1979 *Central Problems in Social Theory*. University of California Press, Berkley.

Goldfrank, Walter L.

Hall, Douglas

Hall, Thomas

Hall, Thomas., P. Nick Kardulias, and Christopher Chase-Dunn

Hancock, David
2002 A World of Business to Do. *The William and Mary Quarterly* 57(1):3-34.

Harman, Joyce Elizabeth

Harviser, Jay

Hauser Mark W.

Hauser, Mark and L . Antonio Curet
Henry, Susan L.  

Herkenrath, Mark, Claudia König, Hanno Scholtz, and Thomas Volken  

Hester, Barbara Thedy  

Hirth, Kenneth G.  

Hoffman, Kathleen S.  

Homans, George C.  

Hughes, Daniel  
2009 Examination of Trade Networks through Consumption Paper presented at the 2009 Annual Conference on Historical Archaeology, Toronto.

Hussey, Roland Dennis  

Jacob, Margaret C.  

Johnson, Matthew  
Johnson, Sandra

Jorgenson, Andrew K., and James Rice

Kant, Immanuel

Kearney, M.

Klooster, Wim

Kopytoff, Igor
Knight, Franklin W.  

Kuhluing, Carmen and Kiernan Keohane  

Kuhn, Thomas S.  

Lang, James  

Lederman, R  

Lee-Decker, Charles H.  

Leone, Mark P.  

Levy, John Coombs, and David Muraca  

Lightfoot, Kent G., and Antoinette Martinez  

Little, Barbara.  

Lockhart, James and, Stuart Schwartz  

Magana, Carlos Solis  
Marcus, Linda C.

Marken, Mitchell W.

McCusker, John and, Russell Menard

Martinelli, Alberto

Majewski, Teresita and Michael Brian Schiffer

Mandelle, Ernest

Martinelli, Alberto

Marx, Karl

Matthews, Christopher

McLachlan, Jean O.

McMurray, Carl Dempsey

Meniketti, Marco
Merkling, Michelle

Meskell, Lynn (editor)

Mignolo, Walter D.

Miller, Daniel

Miller, George

Miller, George., Ann Smart Martin, and Nancy Dickinson

Mintz, Sidney
1985  *Sweetness and Power*. Elisabeth Sifton Books Viking, New York.
Mullins, Paul

Musgrave, Virginia Delleino

Newman, Susan

Noel Hume, Ivor

Nugent, Maria

Obregon, Mauricio

Orser, C.E., Jr.

Pagán-Jiménez, Jaime R.

Pares, Richard
Patterson, Orlando

Paynter, Robert

Pickman, Susan Lois

Pietrykowski, Bruce

Pietz, William

Pikirayi, Innocent
2007 Ceramics and group identities. Journal of Social Archaeology. 7(3):286–301

Pollock, Sheldon, Homi K. Bhabha, Carol A Breckenridge, and Dispesh Chakrabarty

Postma, Johannes

Pulsipher, Linda M. and Conrad Goodwin

Reitz, Elizabeth

Roberts, Amanda Dawn

Robinson, W.S.
Roseberry, William  

Rutz, Henry and Benjamin Orlove eds.  

Sabloff, Jeremy A.  
2008  *Archaeology Matters*. Left Coast Press, Walnut Creek.

Scarlett, Timothy James  

Schwartzman, Kathleen C.  

Shepard, Steven Judd  

Sheridan, Richard B,  

Sklair, Leslie  

Skocpol, Theda  

Skowronek, Russell K.  
Smith, Adam T.  

Smith, Michael E.  

Spencer-Wood, Susan  

South, Stanley  

Stahl, Ann Brower  

Stein, Gil  

Stern, Steven  

Schwartzman, Kathleen  

Thomas, Nicholas  

Trouillot, Michel-Rolph  


Voss, Barbara L.  
Wallerstein, Immanuel

Wallerstein, Immanuel and Terrance Hopkins

Waselkov, Gregory

Watters, David

Weber, Max

Wells, E. Christian

Wells, E. Christian, Glen Rice and John Ravesloot

Weslager, C.A.

Williams, Eric

Williams, Jack S.
Wilson, Samuel

Wolf, Eric R.

Wurst, LouAnn and Randall McGuire

Yelvington, Kevin A.

Yentsch, Anne Elizabeth
Appendices
Appendix A

Table AA. Unmodified Table of Ceramics.
<table>
<thead>
<tr>
<th>Ceramic type</th>
<th>Presidio &amp; Maria</th>
<th>Avero</th>
<th>de Alita</th>
<th>de la Cruz</th>
<th>Fatso</th>
<th>Presidio &amp; Rosa</th>
<th>II</th>
<th>Jessup I</th>
<th>Seville Fonce</th>
<th>Stewart Castle</th>
<th>Casa Rosa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abo Polychrome</td>
<td>324</td>
<td>84</td>
<td>22</td>
<td>4</td>
<td>23</td>
<td>514</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
<td>2</td>
</tr>
<tr>
<td>Abo-Caribbean ware</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
<td>0</td>
</tr>
<tr>
<td>Agate ware</td>
<td>0</td>
<td>4</td>
<td>13</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
<td>0</td>
</tr>
<tr>
<td>Acoma Polychrome</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
<td>125</td>
</tr>
<tr>
<td>Aztec Polychrome</td>
<td>7</td>
<td>12</td>
<td>7</td>
<td>4</td>
<td>12</td>
<td>29</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
<td>0</td>
</tr>
<tr>
<td>Aztec Polychrome</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>28</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
<td>1</td>
</tr>
<tr>
<td>Batia Ware</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
<td>0</td>
</tr>
<tr>
<td>Fossil Ware</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
<td>0</td>
</tr>
<tr>
<td>Bellarmine</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
<td>0</td>
</tr>
<tr>
<td>Esque 3</td>
<td>1</td>
<td>11</td>
<td>2</td>
<td>12</td>
<td>4</td>
<td>24</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
<td>0</td>
</tr>
<tr>
<td>Black and glazed coarse earthenware</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
<td>0</td>
</tr>
<tr>
<td>Black salt glazed</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
<td>0</td>
</tr>
<tr>
<td>Blue and Green Ceramic</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
<td>113</td>
</tr>
<tr>
<td>Brittany Blue on White Faience</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>13</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Brown Salt-glazed Stoneware</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
<td>36</td>
</tr>
<tr>
<td>Faucet Ware</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
<td>0</td>
</tr>
<tr>
<td>Capata 3iae</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
<td>0</td>
</tr>
<tr>
<td>Castile Polychrome</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
<td>0</td>
</tr>
<tr>
<td>Catalina E/W</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
<td>165</td>
</tr>
<tr>
<td>Cobblestone</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
<td>0</td>
</tr>
<tr>
<td>Cobalt 2fia</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>42</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
<td>8</td>
</tr>
<tr>
<td>Cobalt Gunmetal</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C</td>
<td>0</td>
</tr>
</tbody>
</table>
229


<table>
<thead>
<tr>
<th>Ceramic type</th>
<th>Presidio S María</th>
<th>Aveno de Ruta</th>
<th>de la Cruz</th>
<th>Pat o</th>
<th>Presidio S Rose II</th>
<th>Jessup</th>
<th>Jessup I</th>
<th>Sánchez Home</th>
<th>Stewart Castle</th>
<th>Casa Rosa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normanby Blue on White</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Nottingham</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>North iron grey temper</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Olive Jar</td>
<td>232</td>
<td>79</td>
<td>77</td>
<td>8</td>
<td>855</td>
<td>121</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Olive Jar Early</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Olive Jar Middle</td>
<td>0</td>
<td>0</td>
<td>17c</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Olive Jar Late</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>128</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Olive Jar glazed</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Panama Plain</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Panama Polychrome</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pearlware angular</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pearlware</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pearlware shell edge</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pearlware hand painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pearlware slip</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pearlware transfer print</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pearlware machevrite</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pearlware incised</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pensacola Polychrome</td>
<td>199</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pheo Polychrome</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Porcelain Chinese</td>
<td>15</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>11</td>
<td>29</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>24</td>
</tr>
<tr>
<td>Porcelain English</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Porcelain Enamel</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Porcelain Enamelante</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Porcelain Brown Backed</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Category Type</td>
<td>Prado</td>
<td>St.</td>
<td>Ave.</td>
<td>Hita de la</td>
<td>Fiteo</td>
<td>Jerez</td>
<td>Jerez</td>
<td>Seville</td>
<td>Seville</td>
<td>Stour</td>
</tr>
<tr>
<td>---------------</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>------------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>---------</td>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>Hand Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Hand Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Painted</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ceramic type</td>
<td>Presidio S</td>
<td>Avero</td>
<td>de Eta de la Cruz</td>
<td>Festo</td>
<td>Presidio S Rosa</td>
<td>Jessup I</td>
<td>Jessup II</td>
<td>Seville House</td>
<td>Stewart Castle</td>
<td>Casa Rosa</td>
</tr>
<tr>
<td>------------------------------</td>
<td>------------</td>
<td>-------</td>
<td>-------------------</td>
<td>-------</td>
<td>----------------</td>
<td>-----------</td>
<td>-----------</td>
<td>---------------</td>
<td>---------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Saintonge Felinée</td>
<td>33</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>68</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Saintonge Slip</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>30</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>San Agnes ir Blue-on White</td>
<td>288</td>
<td>10</td>
<td>5</td>
<td>47</td>
<td>0</td>
<td>206</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Scratch Blue mixed</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Scratch Blue</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>Sevilla Blue-on Blue</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>San Louis Blue-on White</td>
<td>2</td>
<td>98</td>
<td>1</td>
<td>56</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>San Luis Polychrome</td>
<td>918</td>
<td>45</td>
<td>117</td>
<td>6</td>
<td>56</td>
<td>252</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Santa Maria Stamped</td>
<td>210</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Seville Polychrome</td>
<td>30</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Storage Jar</td>
<td>0</td>
<td>31</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>25</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Spanish coarse earthenware</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>28</td>
<td>0</td>
</tr>
<tr>
<td>Sanco Domingo Blue on white</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Staffordshire Matte Glazed</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Staffordshire brown stoneware</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>Indeterminate Coarse Earthenware</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2632</td>
<td>1</td>
<td>0</td>
<td>59</td>
<td>0</td>
<td>1476</td>
</tr>
<tr>
<td>Indeterminate Blue on white/mixed</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>53</td>
<td>826</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>705</td>
</tr>
<tr>
<td>Indeterminate Lead glazed Coarse</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>485</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1935</td>
</tr>
<tr>
<td>Ceramic type</td>
<td>Presidio S</td>
<td>Avero</td>
<td>de Hta</td>
<td>de L</td>
<td>Frite</td>
<td>Presidio</td>
<td>Jussup</td>
<td>Jussup</td>
<td>Seville</td>
<td>Castillo</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-----------</td>
<td>-------</td>
<td>--------</td>
<td>------</td>
<td>-------</td>
<td>----------</td>
<td>--------</td>
<td>--------</td>
<td>---------</td>
<td>----------</td>
</tr>
<tr>
<td>Indecorinate oxidized glazed</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Indecorinate polychrome majolica</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>28</td>
<td>75</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Indecorinate Pottery</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Indecorinate oxidized glazed</td>
<td>0</td>
<td>12</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Indecorinate slipware</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Indecorinate stoneware</td>
<td>0</td>
<td>23</td>
<td>147</td>
<td>15</td>
<td>77</td>
<td>2</td>
<td>7</td>
<td>5</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Indecorinate stoneware</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Indecorinate fire</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>27</td>
<td>1763</td>
<td>2</td>
<td>0</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Indecorinate white majolica</td>
<td>0</td>
<td>60</td>
<td>190</td>
<td>3</td>
<td>52</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Indecorinate Redware</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>Tie</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Unglazed luster</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Unglazed plain</td>
<td>1269</td>
<td>43</td>
<td>54</td>
<td>4</td>
<td>45</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Wanawael</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Wedgeware</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>White salt glazed stoneware</td>
<td>0</td>
<td>13</td>
<td>35</td>
<td>7</td>
<td>29</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>46</td>
<td>1</td>
</tr>
<tr>
<td>Washware transfer printed</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Washware indeterminate</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Coeval Blau on white</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Eunku</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SUM</td>
<td>13781</td>
<td>1076</td>
<td>2377</td>
<td>223</td>
<td>2344</td>
<td>20516</td>
<td>.62</td>
<td>.26</td>
<td>304</td>
<td>.63</td>
</tr>
</tbody>
</table>
Appendix B.

Table AB. Modified Table of Ceramics
<table>
<thead>
<tr>
<th>Ceramic type</th>
<th>Presidio S Maria</th>
<th>Avero</th>
<th>Co Elta</th>
<th>de la Cruz</th>
<th>Fatio</th>
<th>Presidio S Rosa</th>
<th>Jocassee I</th>
<th>Jessup</th>
<th>Neville House</th>
<th>Stewart</th>
<th>Casa Rosa</th>
<th>Sample Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aba Polychrome</td>
<td>524</td>
<td>84</td>
<td>22</td>
<td>4</td>
<td>23</td>
<td>514</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>973</td>
</tr>
<tr>
<td>Alac-Caribbean ware</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>89</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C 58</td>
</tr>
<tr>
<td>Agate ware</td>
<td>0</td>
<td>4</td>
<td>33</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C 38</td>
</tr>
<tr>
<td>Amazona Polychrome</td>
<td>7</td>
<td>12</td>
<td>7</td>
<td>4</td>
<td>12</td>
<td>35</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C 81</td>
</tr>
<tr>
<td>Aucilla Polychrome</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>28</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>24</td>
</tr>
<tr>
<td>Astbury ware</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C 6</td>
</tr>
<tr>
<td>Biscuit 3</td>
<td>11</td>
<td>2</td>
<td>12</td>
<td>4</td>
<td>24</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>53</td>
</tr>
<tr>
<td>Black salt glazed</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C 20</td>
</tr>
<tr>
<td>Blue and Green</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>110</td>
</tr>
<tr>
<td>Bricke glazed</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>36</td>
</tr>
<tr>
<td>Castillo Polychrome</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C 12</td>
</tr>
<tr>
<td>Codswall</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C 16</td>
</tr>
<tr>
<td>Codswall Plain</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C 54</td>
</tr>
<tr>
<td>Creamware</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>25</td>
<td>10</td>
<td>27</td>
<td>2</td>
<td>27</td>
<td>31</td>
<td>54</td>
<td>1232</td>
<td>1412</td>
</tr>
<tr>
<td>Delta Blue dora</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C 3</td>
</tr>
<tr>
<td>Delta Blue on-Ware</td>
<td>1</td>
<td>19</td>
<td>20</td>
<td>27</td>
<td>37</td>
<td>266</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>556</td>
<td>1423</td>
</tr>
<tr>
<td>Delta</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>C 9</td>
</tr>
</tbody>
</table>

237
<table>
<thead>
<tr>
<th>Ceramic type</th>
<th>Presidio S Maria</th>
<th>Avero</th>
<th>de Bla de la Cruz</th>
<th>El Alto</th>
<th>Presidio S Rosa</th>
<th>Jesup I</th>
<th>Jesup II</th>
<th>Seville House</th>
<th>Stewart Castle</th>
<th>Casa Rosa</th>
<th>Sample Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deljit Multicolored on white</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Deljit Plain</td>
<td>8</td>
<td>61</td>
<td>47</td>
<td>21</td>
<td>29</td>
<td>189</td>
<td>3</td>
<td>49</td>
<td>0</td>
<td>0</td>
<td>243</td>
</tr>
<tr>
<td>Deljit Polychrome</td>
<td>0</td>
<td>4</td>
<td>25</td>
<td>0</td>
<td>12</td>
<td>25</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>240</td>
</tr>
<tr>
<td>Deljit hand Painted</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>183</td>
</tr>
<tr>
<td>Ellicott ware</td>
<td>0</td>
<td>23</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td>El Moro</td>
<td>3562</td>
<td>8</td>
<td>252</td>
<td>1</td>
<td>69</td>
<td>6450</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3113</td>
</tr>
<tr>
<td>English Majolica</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Faience brown</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>Faience Blue on white</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>46</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>53</td>
</tr>
<tr>
<td>Faience Indeterminate</td>
<td>46</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>48</td>
</tr>
<tr>
<td>Faience Plain</td>
<td>6</td>
<td>10</td>
<td>11</td>
<td>0</td>
<td>5</td>
<td>201</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>238</td>
</tr>
<tr>
<td>Faience Polychrome</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Figurine Polychrome</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>58</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Grey ware</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>55</td>
</tr>
<tr>
<td>Gray salt glazed stone ware</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>103</td>
</tr>
<tr>
<td>Guadalupe Polychrome</td>
<td>186</td>
<td>5</td>
<td>13</td>
<td>4</td>
<td>21</td>
<td>201</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>425</td>
</tr>
<tr>
<td>Huehuecillo Blunt on white</td>
<td>0</td>
<td>3</td>
<td>13</td>
<td>4</td>
<td>3</td>
<td>26</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>115</td>
</tr>
<tr>
<td>Chateau Blue on Blue</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>25</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Ceramic Type</td>
<td>Presidio S Maria</td>
<td>Avo</td>
<td>de Hita</td>
<td>de la Cruz</td>
<td>Fatio</td>
<td>Presidio S Rosa</td>
<td>Jessup 1</td>
<td>Jessup I</td>
<td>Seville House</td>
<td>Stewart Castle</td>
<td>Casa Rosa</td>
</tr>
<tr>
<td>----------------------------</td>
<td>------------------</td>
<td>-----</td>
<td>---------</td>
<td>------------</td>
<td>-------</td>
<td>----------------</td>
<td>----------</td>
<td>----------</td>
<td>---------------</td>
<td>---------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Fearware hand painted</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Fearware slip</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fearware transfer print</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fearware indeterminate</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>9</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Porcelain Chinese</td>
<td>47</td>
<td>1</td>
<td>13</td>
<td>4</td>
<td>12</td>
<td>25</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>21</td>
</tr>
<tr>
<td>Porcelain English</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Porcelain Indeterminate</td>
<td>126</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Hand Painted Overglaze Porcelain</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>56</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>19</td>
</tr>
<tr>
<td>Fuebla Blue on white</td>
<td>20*</td>
<td>1</td>
<td>7</td>
<td>402</td>
<td>11</td>
<td>27</td>
<td>28*3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fuebla Polychrome</td>
<td>1734</td>
<td>65</td>
<td>65</td>
<td>11</td>
<td>57</td>
<td>142</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>19</td>
</tr>
<tr>
<td>Redware Glazed</td>
<td>1</td>
<td>1</td>
<td>8</td>
<td>0</td>
<td>4</td>
<td>181</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Redware Unglazed</td>
<td>33</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>27</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>41</td>
</tr>
<tr>
<td>Glazed earthenware</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1541</td>
</tr>
<tr>
<td>Earthenware</td>
<td>7</td>
<td>2</td>
<td>21</td>
<td>14</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>677</td>
</tr>
<tr>
<td>Earthenware</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>1</td>
<td>11</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Ceramic Type</td>
<td>Presidio S Mura</td>
<td>Aveco</td>
<td>ce Hito de la Cruz</td>
<td>Fatia</td>
<td>Presidio S Rosa</td>
<td>Jesup 1</td>
<td>Jesup 2</td>
<td>Seville House</td>
<td>Stewart Castle</td>
<td>Casa Rosa</td>
<td>Sample Combined</td>
</tr>
<tr>
<td>-------------------</td>
<td>----------------</td>
<td>-------</td>
<td>-------------------</td>
<td>-------</td>
<td>----------------</td>
<td>---------</td>
<td>---------</td>
<td>--------------</td>
<td>--------------</td>
<td>-----------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Sammang Faccade</td>
<td>32</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>68</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>101</td>
</tr>
<tr>
<td>Sammang Slip</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>30</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>37</td>
</tr>
<tr>
<td>San Agustin Blue-</td>
<td>91</td>
<td>101</td>
<td>90</td>
<td>3</td>
<td>47</td>
<td>205</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>540</td>
</tr>
<tr>
<td>San Agustin Blue-</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>San Agustin Blue-</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>San Louis Blue-or</td>
<td>2</td>
<td>98</td>
<td>0</td>
<td>1</td>
<td>50</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>San Luis</td>
<td>918</td>
<td>45</td>
<td>117</td>
<td>6</td>
<td>50</td>
<td>282</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>178</td>
</tr>
<tr>
<td>Polychrome</td>
<td>210</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>218</td>
</tr>
<tr>
<td>Polychrome</td>
<td>36</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>33</td>
</tr>
<tr>
<td>Storage Jar</td>
<td>0</td>
<td>31</td>
<td>0</td>
<td>1</td>
<td>25</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>38</td>
</tr>
<tr>
<td>Indeterminate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coarse Earthenware</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2632</td>
<td>1</td>
<td>0</td>
<td>59</td>
<td>0</td>
<td>1476</td>
<td>4168</td>
</tr>
<tr>
<td>White majolica</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>63</td>
<td>825</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>705</td>
<td>1594</td>
</tr>
<tr>
<td>Leaf glazed</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>485</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1938</td>
<td>2433</td>
</tr>
<tr>
<td>Earthenware</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Ceramic Type</td>
<td>Presidio S Maria</td>
<td>Aveco</td>
<td>De Hita</td>
<td>De H Cruz</td>
<td>Fatia</td>
<td>Presidio S Rosa</td>
<td>Jesup II</td>
<td>Jesup I</td>
<td>Seville House</td>
<td>Stewart Castle</td>
<td>Casa Rosa</td>
</tr>
<tr>
<td>------------------------------</td>
<td>------------------</td>
<td>-------</td>
<td>---------</td>
<td>-----------</td>
<td>-------</td>
<td>-----------------</td>
<td>----------</td>
<td>---------</td>
<td>---------------</td>
<td>---------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Indeterminate polychrome</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>majolica</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>28</td>
<td>73</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Indeterminate lead</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>glazed stoneware</td>
<td>0</td>
<td>12</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Indeterminate slipware</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stoneware</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Indeterminate tin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ename</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>27</td>
<td>1593</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5963</td>
<td>0</td>
</tr>
<tr>
<td>Indeterminate white majolica</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Redware</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Unglazed incised</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Unglazed plain</td>
<td>1269</td>
<td>43</td>
<td>54</td>
<td>4</td>
<td>45</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>White stoneware</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>White salt glazed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>stoneware</td>
<td>0</td>
<td>13</td>
<td>35</td>
<td>7</td>
<td>29</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>46</td>
<td>1</td>
<td>23</td>
</tr>
<tr>
<td>Yuz elas on white</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUN</td>
<td>13561</td>
<td>.070</td>
<td>2220</td>
<td>221</td>
<td>2516</td>
<td>18219</td>
<td>152</td>
<td>26</td>
<td>382</td>
<td>62</td>
<td>22865</td>
</tr>
</tbody>
</table>