

RAISING CANE: SUGAR, PEOPLE AND THE ENVIRONMENT IN  
NINETEENTH-CENTURY ANTIGUA, WEST INDIES

by

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A dissertation submitted to the Graduate faculty in Anthropology in partial  
fulfillment of the requirements for the degree of Doctor of Philosophy,  
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**Abstract****RAISING CANE: SUGAR, PEOPLE AND THE ENVIRONMENT IN  
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by

Edith Gonzalez Scollard

Adviser: Dr. H. Arthur Bankoff

The introduction of sugar cane to the fragile seasonal tropical ecosystem in Antigua had a devastating effect on the environment. This project uses an historical ecology perspective to investigate these environmental changes, which occurred as a result of sugar production, and their effects on the culture of Antigua. Betty's Hope Estate was one of many large-scale sugar producers on Antigua. The remains of this plantation provide the data for the study of the people who worked and lived in Antigua during the rise and decline of the sugar empires. The changing lifeways of the people at Betty's Hope will be examined through analysis of historical records and archaeological materials.

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## Introduction

Historical ecology, or landscape history, looks at the dynamic cultural relationship between people and the environment and the creation of landscape. According to Kofi Agorsah, spatial behavior cannot be understood apart from its social context in that geographical space constitutes a reflection of social meaning about how the space is used (Perry, Agorsah, 1999).

Throughout human habitation in the Caribbean, waves of new inhabitants brought mental landscapes through which they experienced and shaped life and space on the islands (Wilson, 2000). The overall objective of this study is to examine the end of slavery in Antigua and Barbuda. However, in order to understand a post-emancipation Antigua, one must first understand the ecological change brought about by the replication of prehistoric and pre-emancipation landscapes, and the economic history of Caribbean sugar production because the historical settlement of Antigua and Barbuda occurred for primarily economic gain and was dictated by its ecology and climate. Because of the nature of the settlement of the Caribbean, an exploration of cultural change cannot separate ecology, landscape, or global economic systems from the equation.

By the nineteenth century, Antiguan society had created a landscape resulting from environmental degradation and slave labor where all arable land was under the control of the plantations, churches and cities (Pulsipher

and Goodwin, 1990). In essence the geographical space, the land, and control of its use, was out of the hands of the majority of people using the land. One might ask, if behavior and geographical space reflect social meaning (Delle, 1998), how can an extreme societal shift, such as the end of slavery, be reflected in geographical space, especially one so constrained in its use that a transformation seems impossible? Perhaps the best approach to understanding the relationships between space, landscape and power would be to begin "on the ground" so to speak, looking at space and local behavior and then expand the focus to look at changes in Antigua society in the context of larger outside, even global, forces. This study will use archaeological evidence, primary source documents and oral histories to better understand the relationships among ecological, economic and social forces at work in the Caribbean during the nineteenth century - which ultimately led to the collapse of slavery in Antigua and Barbuda.

Early anthropological theory tended to couch human pre-history in environmental terms – exploring the role of diet, problem solving and migration in evolution and leaning towards determinism.<sup>1</sup> Chapter One will present the ecology of Antigua, setting the stage for a discussion human intervention. Chapter Two will present the prehistoric cultures of Antigua's earliest inhabitants demonstrating the persistence of landscape replication while exploring Clarke's model of lag and lead phenomena. For a complete

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<sup>1</sup> Crumley's *Historical Ecology: Culture Knowledge and Changing Landscapes* (1994) presents an excellent and complete discussion of the tensions inherent in incorporating ecology and anthropological theory.

discussion of lag and lead landscape replication in new environments see Clarke's *Analytical Archaeology* (1978).

Chapter Three establishes the origins and rise of the sugar plantation model, its adaptation to the English-speaking Caribbean and discusses its effects on the environment in the context of historical ecology theory (Crumley, 1994). It explores the relationships between people and the landscape using an alternative view of space, or landscape, which unites the physical space with the human actions enacted with and within it. If one accepts that there is nothing essential about space itself and only relational significance created by the dynamic between people and the landscape, then an understanding of culture and history of Antigua and Barbuda cannot be divorced from the ecology.<sup>2</sup>

Chapter Four gives evidence on the landscape of plantation society – the effects of the plantation model on people - specific to Antigua. A discussion of slavery in terms of commodification of resources is presented along with a special focus on the extreme constraints of movement put upon slave populations and environmental changes, which occurred as a result of sugar production, using primary source materials. The introduction of sugar cane and other non-indigenous species, to the fragile seasonal tropical ecosystem

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<sup>2</sup> For a more in-depth history of spatial archaeological theory see Christopher Tilley's *A Phenomenology of Landscape* (1994), in addition, Tina Thurston presents a broad view of the potential applications for historical ecology models in *Landscapes of Power: Landscapes of Conflict* (2001).

in Antigua was a pivotal point in Antiguan history and culture. The replication of English plantation models, so economically successful elsewhere in the Caribbean, had a devastating effect on the environment of Antigua.

Chapter Five investigates post-emancipation persistence of combined ecological, economic and social models even when such landscapes were no longer sustainable taking into account new work in adaptive change theory (Gunderson & Holling, 2002). In their efforts to create a predictive model of adaptive change the following pattern is posited by Holling, Gunderson and Ludwig in *Panarchy: Understanding Transformations in Human and Natural Systems* (2002):

- Dramatic changes in the ecosystem and landscape ecosystem
- Subsequent changes in society and economic conditions
- Spasm of biodiversity loss as a consequence of climate extremes, poor land use, & global economic pressures
- Exacerbated political instability – erosion of the natural world and trust in institutions of governance.

While the "panarchy model" has been applied to understand the modern collapse of cultural systems, regional change and failures of sustainability, can it be applied to explain similar patterns of change in the past?

While it may seem unrealistic to try and "recover" the "existential experience" of peoples in the past through historical archaeological methods, incorporating studies of landscape into more traditional methods of understanding the past have great potential to deepen that understanding. Once you begin to unravel the interpenetrating natural and built features created and imagined by humans, you may find the "embedded human purposes, ideals, plots and schemes (Thurston, 2001:x)." Appendix A presents the methodology used in this investigation.

This work does not seek to prove, rather to bring together many varied sources of evidence in order to understand the patterns of interaction between people in the past and reconnect their actions to the environment. The people living in Antigua and Barbuda today are still dealing with the environmental consequences of those interactions.

## Chapter One

An understanding of the history and culture of Antigua and Barbuda cannot be divorced from island ecology. The term "ecology" entered into the lexicon in 1866, however the study of ecology had been emerging for some time previous. In the eighteenth century, ecology, also known as the "economy of nature," was seeking to "describe all of the living organisms of the earth as an interacting whole" (Worster, 1994:x). Such long-term interaction between people (living organisms) and the environment can be traced through the study of changing landscapes and the unique geography of Antigua & Barbuda, focusing on Antigua, and its place within the larger Caribbean.

Generally speaking, the islands of the Caribbean lie within the tropics along a broad arc from the western tip of Cuba to the southeastern tip of Trinidad. The islands of Antigua & Barbuda are located in the Lesser Antilles; a group of predominantly volcanic islands that stretches about 700km along the eastern part of the Caribbean Sea, from the Virgin Islands to Trinidad. These islands form an arcuate chain that separates the Caribbean Sea from the Atlantic Ocean. Antigua & Barbuda lie east of the Virgin Islands and north of Montserrat in the outer discontinuous arc of the Leeward Islands. Because of their location along the eastern most arc, these islands experience consistent northeasterly trade winds making them readily accessible to those under sail power from the Atlantic and delivering high humidity.

Most of the islands of the Lesser Antilles are tectonically unstable and subject to earthquakes, geothermal and volcanic activity due to the subduction of the Atlantic Plate under the Caribbean Plate (Watts, 1998). However, Antigua & Barbuda are Plio-Pleistocene age coral limestone islands developed on an older volcanic base therefore they are relatively stable, low-lying and waterless at the surface. Antigua & Barbuda sit on a porous foundation and lacking a nonporous shelf, have no place for fresh water to pool and ultimately resurface in the form of fresh water springs or lakes. This lack of surface water has had a direct affect on the economic practices of Antigua's inhabitants.

Prehistoric inhabitants practiced seasonal migration and in times of drought or storm could move to other islands (see figure 1). In this way, prehistoric subsistence strategies were more flexible than later more sedentary agricultural strategies. Once the shift to commercial agriculture occurred in the colonial era, Antigua's inhabitants were at the mercy of the clouds. Rainfall was their only source of fresh water. The inflexibility of commercial agriculture and its affect on culture will be more fully discussed in upcoming chapters.

Antigua has three geological regions, the ***Basal Volcanic Suite*** which occupies the southwestern 40% of Antigua and has a “rugged topography,” the ***Central Plain Group*** which occupies the central 20% of the island and is an area of low relief, and the ***Antigua Formation***, which occupies the northeastern 40% of the island and is “moderately rugged, and the highly indented coast is characterized by bays fringed with mangroves and sand beaches. “Many living coral reef communities thrive within offshore bays and islands” (Murphy, et al 2000: 237; Weiss, 1994).

Modern Antigua is characterized by dry valleys, flat terraces, elevations just above sea level and little to no signs of recent surface water. While it does experience earthquakes, Antigua’s latest volcanic activity has been limited to fallout from eruptions on neighboring Montserrat. While these geological zones have been selected at one point or another by different groups of settlers based on their mental landscapes of resource exploitation, the geology of Antigua & Barbuda has affected peoples’ ability to maintain settlements throughout its occupation.

Northeasterly trade winds control Antigua’s climate. The annual mean temperature variation between the warmest and coldest months is less than 2.5° C, while the diurnal temperature variation is usually in the range of 8° C. Because Antigua’s highest point is less than 450m above sea level, its meager rainfall is produced by the convection created when its land mass heats up during the day and rapidly cools at night, as opposed to more

mountainous islands whose peaks cause instability in the trade winds thus producing predictable rain. While July through November is the typical rainy and hurricane season for the Caribbean, Antigua has an unpredictable and unreliable rainfall.

At the time of first European settlement, the land was wooded down to the water line. Antigua's primary type of pre-contact vegetation was *seasonal rainforest*, which occurs in areas below 200m in elevation, with 1250mm and 2000mm of rainfall and a relatively consistent dry season of up to five months in duration. Seasonal rainforest is typically partly deciduous with up to two-thirds of the canopy shedding its leaves during the dry season. The canopy of the seasonal rainforest commonly includes several species of tree legumes and timber woods, in the case of Antigua, West Indian cedar (*Cedrela* spp.) was most prevalent (Watts 1998, Murphy 2002). A second tree stratum below the canopy comprises a larger number of evergreens. Epiphytes such as bromeliads and orchids can survive within the trunk space of the seasonal rainforest trees, but ferns, a typical feature of true rainforests, do not have sufficient humidity during the dry season to grow in any profusion (Biodiversity Enabling Project, 2001). Ferns are an important component of rainforests as their roots trap soil and prevent erosion. Lianas are an essential feature of the seasonal rainforest. Although true rainforests and seasonal rainforests share the trait of self contained nutrient cycling, seasonal rainforests have a slower rate of nutrient circulation, due to slower rates of decomposition. As a result,

the nutrients are more likely to be stored in the leaf litter on the forest floor or in the topmost layer of soil (BEP, 2001). If the land is cleared, the nutrients can be easily stripped away by wind and water erosion, a factor not taken into account by early planters until the damage had been done.

Most island ecosystems were believed to be fairly stable prior to occupation by humans, however this stability made them extremely vulnerable to change. On older islands in the Caribbean, organisms had slowly reached an effective equilibrium with their environments: they were closed biotic communities (Watts, 1998). Once humans arrived, bringing with them species of every order, they began to manipulate the soil, water, land mass and biotic community (Westermann 1952, Carlson 1999). The introduction of many new species and the manipulation of the island ecosystem might have resulted in a highly adaptive environment, except the changes occurred over too short a period of time. The degradation of the entire ecosystem happened very quickly after colonial settlement.

The degradation was aided by the European perception of the Caribbean in the age of exploration as a place of incredible fertility, populated by mythical creatures, and a prime opportunity to exploit seemingly inexhaustible resources (Fuson, 1987). (see figure 3) It was only after European colonization for economic exploitation in the early days of the seventeenth century that the wholesale manipulation of Caribbean island environments

began. The central flood plains of Antigua were rapidly deforested by European settlers. Large tracts of land were cleared for cultivation of cash crops. The first crops destined for European markets from the four leading Leeward Islands (Antigua, Montserrat, Nevis, and St. Christopher [St. Kitts]) included tobacco, indigo, cotton, ginger, and cocoa. Manioc, sweet potatoes, maize and other provisions were grown for local consumption, including introduced grazing domesticates like milk cattle, sheep, goats and oxen for mills. This required the clearing of indigenous forest and flora from farm lands destined to produce cash and provisioning crops (Codrington Papers, 1667-1944). In Antigua, most of the seasonal rainforest was removed during the colonial period and flora of the *cactus-thorn forest-scrub* variety, most notably *Acacia*, were introduced as fodder for non-indigenous domesticated cattle. Unfortunately, the cattle would not eat the *Acacia*, except in extreme circumstances, and even the goats preferred other fodder. This left *Acacia*, which is aggressively invasive, to choke out most other indigenous species. The effects of this removal and introduction are still being felt today as drought still plagues the island and (Watts 1998). As in other areas of the Caribbean, deforestation had devastating effects on soil degradation, but in Antigua it also affected rainfall.

Early conservationists documented the adverse relationship of deforestation on rainfall although the exact scientific causal relationship between removing forests and reduced rainfall was not specific. Sir Hans Sloane observed soil

erosion on Jamaica in the 1670's and postulated deforestation as the cause. In 1766 when a botanical garden was established in St Vincent, scientific observation of the relationship between plants and climate began on a larger scale (Colonial Records Office). Based on twenty-five years of research at the St Vincent botanical garden, the Kings Hill Forest Act was passed in 1791, to protect the forests of St Vincent from timber exploitation because it was recognized that forest clearance might reduce rainfall (Richardson 1997). Although the evidence linking deforestation to reduced rainfall were made public and put into action with the Kings Hill Forest Act, the theory was continually refuted by planters who witnessed devastating rainstorms on newly cleared land. Throughout most of the nineteenth century the theory was debated and retested. However, one link between climate and forest was widely accepted. If deforestation occurred, there was no longer a buffer between the island and climatic extremes, this resulted in "...the diminution of rivers, the drying up of streams and springs, the occurrence of destructive floods, unseasonable and prolonged droughts, the raising of the temperature of both air and soil, excessive drainage, aridity of the soil, and uncertainty of the growth of crops" (Colonial Office 1899:361, Richardson 1997).

Historical ecology not only examines planned ecological interventions but also interaction between human acts and acts of nature. This study examines acts of nature, such as hurricanes and drought, coupled with human interaction, such as deforestation and sugar cultivation, and the resulting soil erosion, soil

depletion, and increased levels of heat and drought. These ecological phenomena and interventions contributed to the viability of the Caribbean sugar production empire, which fueled the African-Atlantic slave trade, and its ultimate collapse. A case study of the aftermath of these devastating processes is presented in the archaeological work done at Betty's Hope<sup>3</sup>, the oldest sugar estate on Antigua located in the Central Plain Group, which shows how even once slavery ended, the environment created by sugar production limited the social freedom awarded in emancipation.

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<sup>3</sup> See figure 2: Betty's Hope is in the center of the map - noted as "Sir Wm. Codrington 6 W. Mills"

## Chapter Two

“Humans are mobile, observant and communicative; humans have adapted to – and have been the periodic instigators of – ecosystemic change for at least a million years” (Crowley 1994:6). Since its earliest times of human habitation the Caribbean has been a place of great movement. There are competing theories for not only how people came to populate the islands of the region but also how they interacted once habitation was established. This chapter explores early settlement patterns, the forces at the root of migration and cultural continuity based on exploitation of resources in the Caribbean. This section also looks more specifically at the origins of Antigua’s prehistoric settlers, their use of terrestrial and marine resources, and Antigua’s pre-contact environment. This investigation begins with the idea of landscape.

"A landscape is a series of named locales, a set of relational places linked by paths, movements and narratives. It is a 'natural' topography perspectively linked to the existential Being of the body in societal space. It is a cultural code for living... a mode of dwelling and a mode of experiencing. Landscape is a signifying system through which the social is reproduced, transformed, explored and structured. Landscape above all, represents a means of conceptual ordering that stresses relations."

-Christopher Tilley, 1994:34

It follows that as people settle in new places, they look for aspects of the environment which resemble their places of origin and replicate models of interaction with and within the newly created landscape. Here is presented previous work on the prehistoric cultures of Antigua’s earliest inhabitants demonstrating the persistence of landscape replication. One way of looking at this early archaeological data is to follow Clarke’s lag and lead theory.

According to Clarke, "Time lag arises when information bringing about a [cultural] transformation takes a definable time after its appearance and before the consequent system change. Time lead occurs when a system's past trajectory is such that certain future transformations can be anticipated and give rise to other prescient changes" (1978: 92). Clarke's model states:

1. Single attributes or factors, successively introduced into a system may cumulatively approach a threshold beyond which the system cannot survive unchanged
2. Neither more, nor more complex, attributes or factors are to be assumed than are necessary to account for the phenomena
3. Neither too few, nor simply single-component, attributes or factors are to be assumed than are necessary to account for the phenomena.

(Clarke, 1978:80)

A culture system demonstrates lag when for example, centuries of increasing deforestation finally brings about a reluctant change in hunting techniques. A culture demonstrates lead when it shifts fields in order to not exhaust the fertility of the land. Lag and lead factors are present in Caribbean settlement patterns and the persistence of unsustainable practices which may account for cultural transformation. In both cases however, it must begin with human action.

There are several theories as to how people first came to populate the Caribbean Islands. Julian Steward completed pioneering research for the

Handbook of South American Indians in the 1940's and 1950's. He theorized that populations and cultural traits spread from the Peruvian Andes to the coast with a parallel diffusion from the Colombian Andes to the coast which then radiated westward into Central America, eastward into the Guyanas, Venezuela, Amazonia and then northward to Trinidad and Tobago. (see figure 4)

From Steward's perspective, it was only a matter of time before the peoples surrounding the Caribbean found their way onto the islands, but he insisted they all originated in the Andes. Steward did not theorize on *why* people were resettling in new areas, rather, he focused on *how* people were migrating by categorizing cultural traits indicated by ceramics. He also did not see the initial migration as cultural change or transformation – only as the replication of culture. The biggest criticism of Steward's theory is that he did not include any of the evidence provided by linguists and physical anthropologists in his analysis, and as a result his work has fallen out of use (Rouse 1992, Steward 1946-59).

According to linguistic evidence, the first inhabitants of the Caribbean islands originated in Amazonia and moved to the Orinoco Valley before pushing north along the chain of the Lesser Antilles (Rouse 1992). However there is a distinct lack of evidence for early settlement sites south of Antigua, which would have been the route for Amazonian peoples (Murphy 2002).

A first wave of migrants is believed to have come from Belize or Central America circa 4000 BC and settled in Hispaniola and Cuba bringing in the Lithic Age, also known as the Paleo-Indian Age characterized by flaked stone tool technology (Rouse 1992, Callaghan 1990). This theory of Central American origins has not been proven and is still open for debate (Murphy 2002). During the early settlement period there were lower sea levels which could have facilitated a southward migration from Belize to Nicaragua and along the Mid-Caribbean Channel Islands. However, if current climatic conditions prevailed even with the lower sea levels, this route goes against the Northern Equatorial currents and trade winds. Furthermore, in studies which simulated past climatic conditions of currents and winds it was determined that the Mid -Caribbean Channel route was the most difficult and therefore the least likely. According to Clarke's second principle such a route would be considered as assuming a more complex factor (a more difficult route) than necessary to account for the phenomena (migration). The most commonly accepted theory is that the people of Belize migrated northward along the east coast of the Yucatan Peninsula and across the channel to Cuba. The route from the Yucatan across to Cuba would have been more easily completed and is therefore more likely (Rouse 1992, Callaghan 1990). If it is accepted that landscape/place influences culture or at least behavior, this literal shift of place must have precipitated some cultural change or transformation as the island ecological (physical) landscapes were not exact replicas of those found in Belize.

It is believed that the residents of Belize originally lived in savannah uplands where they hunted big game. Over time, and due to population growth and approaching carrying capacity, they then migrated to river valleys where they relied heavily on fresh water fishing for subsistence. Because this shift in subsistence strategy occurred gradually over thousands of years and was not made as a conscious choice in order to conserve game or preserve cultural traditions it would be considered by Clarke to be evidence of “lag phenomena.” These migrants would certainly have been aware of the islands and had access to them for generations prior to migration but this awareness did not precipitate cultural transformation until scarcity of resources dictated a move (thus lag time between awareness and action). From the river valleys they migrated seasonally along the coast and coastal islands to exploit marine resources, including fish and molluscs. At the time of their migration to the Greater Antilles, the Lithic Age residents of Belize were migrating seasonally, exploiting inland terrestrial large game, the coastal riverine resources and island marine resources. They would have had an extensive knowledge of maritime navigation along the coasts (Rouse 1992).

The discovery of terrestrial sites in Cuba and maritime sites in Hispaniola, both with related artifacts, support the idea that these Caribbean settlers originated in Belize and continued their practice of seasonal exploitation of marine and riverine resources for several reasons (Allaire 1996). Cuba and

Hispañola were the only islands in the Caribbean with large game, ground sloth, which quickly became extinct from over hunting (figure 3). These islands also contained the largest river valleys and 90% of the fresh water fish in the Caribbean, making it possible for the Belizian migrants to continue practicing their familiar patterns of subsistence (Rouse 1992, Callaghan 1990, Cruxent 1969). These early Caribbean people were known as **Casimiroid** and named for the sites Casimira and Barrera-Mordan in southwestern Dominican Republic (Cruxent 1969). These sites, along with several “rock shelter” sites in Cuba, were studied during the 1960’s and 1970’s and initially analyzed using an African classification system, but were later re-evaluated in their own terms ( Pantel 1988, Kozlowski 1974, Cruxent 1969). They show that the Greater Antilles were occupied by peoples with similar technology and cultural artifacts from circa 4000BC – 400BC and that the lithic technology of the Casimiroid indicates a probable Yucatan origin, and a replication of resource exploitation in a familiar landscape (Wilson, et al 1998, Rouse 1992).

In about 2000BC, a second wave of migration occurred (figure 4) with people moving northwards from South America and populating the Lesser Antilles and Puerto Rico in what is known as the Archaic or Meso-Indian Age and characterized by ground stone, bone or shell tool technology (Rouse 1992). The Archaic artifacts differ from the late Casimiroid in that they have no decoration or purely artistic features. Rouse postulates that the Meso-Indians

had little interest in the overall shape of a tool, they were more concerned with the edge being used. This group was called the ***Ortoiroid*** after the Ortoire site in Trinidad, where they were believed to occupy coastal areas and exploit marine environments, but not river valleys or upland savannahs as the Yucatan/Belizian migrants on Cuba and Hispaniola did. Related sites have been found on the adjacent mainland extending along either side of the Orinoco Delta and as far north as the Virgin Islands and Puerto Rico. Islands in the archipelago northward from Trinidad towards Puerto Rico do not support the larger game or the same terrestrial or riverine resources found in the Greater Antilles. However, in Ortoiroid sites on Puerto Rico, where migrants had access to both marine and terrestrial environments, they ultimately chose marine. What is most interesting is that there are no conclusively confirmed Ortoiroid sites north of Trinidad and south of Antigua to link the chain of migration from Trinidad to Puerto Rico (Murphy 2002). The Ortoiroid sites on Puerto Rico lead archaeologists to conclude that these migrants were replicating landscapes that were solely oriented towards the sea even though diversifying resource exploitation would have been a hardier subsistence strategy in light of a potentially devastating climatic condition in the Caribbean – hurricanes.

The islands north of Trinidad have short coastlines resulting in settlements with small populations and seemingly in danger from hurricanes and of overexploitation of resources. It is hypothesized that settlements north of

Trinidad would have been intermittent and more transient, thus more susceptible to damage during storms - and more ephemeral in the archaeological record (Rouse 1992). The assumption that a larger settlement is somehow better able to withstand hurricanes is implicit in Rouse's argument and proven false in the historical accounts of hurricanes discussed below. The key factor in comparing hurricane pre-historic and historic susceptibility to hurricane damage is not only in the settlement's ability to withstand the actual storm, but also the aftermath. For example, the Ortoiroid were extremely flexible in their diet and exploitation of a variety of marine resources as well as being *highly mobile* making them able to weather hurricanes without serious damage and return to normalcy fairly quickly after a storm. In historic times, hurricanes were not only devastating for their duration, but also in the plague and famine, brought about by subsequent crop failures due to mosquito blooms, erosion and soil leaching caused by floods (Farquhar, 1999). By maintaining an extremely mobile lifestyle the Ortoiroid were able to adapt to rapidly changing conditions (evidencing lead phenomena), and allowing for a continuation of a successful cultural practice. However, this predictably brought the Ortoiroid into contact with other groups precipitating cultural change. In this way the lead phenomena of maintaining a mobile population in a diversely populated area (Murphy, 2002) allows for the prediction of cultural transformation.

Radiometric dates place the Ortoiroid as the first people to occupy Antigua circa 1775BC. It is also believed that they established a frontier with Casimiroid in Hispaniola and western Puerto Rico, and remained in contact with their northern and southern neighbors for the duration of their settlement on Antigua. According to Rouse, stylistic variations in the artifacts found at most Ortoiroid sites are due to environmentally determined resource availability or access to raw materials, except at one site: Jolly Beach, Antigua. The variations seen at Jolly Beach are conclusively explained by cultural contact and influence (Rouse 1992). The artifacts from Jolly Beach, a group of 24 beach sites on the northern coast of Antigua, date from the Ortoiroid period. While the flint-working closely resembles Casimiroid technology from the Cerillo site in Puerto Rico, it has traits from both traditions. The Jolly Beach sites are considered prime evidence of culture contact and influence between the Casimiroid and the Ortoiroid (Rouse 1992).

These theories of early population dispersal in the Caribbean follow a certain pattern of analysis. First sites were compared and similar artifact modes were grouped into classes or series. Then each series was tested for radiometric dates. Finally, the distribution of prehistoric peoples was charted in space and time. Once the settlement of an island was charted, it was assumed that the population would grow at a constant rate until the food supply was constrained and then the population would decline because of migration or

starvation. According to William Keegan, interpretations of these distributions demonstrated that settlement patterns in the Caribbean were influenced by physical and social environments, but did not question why this was so. Keegan recommended that future studies incorporate a biological model to calculate carrying capacity, and to expect population migration, group fissioning, or cultural change when carrying capacity reached 50% (1995). In this model only lag time internal phenomena account for migration or cultural change.

The approach of maximum carrying capacity is one explanation for the movement of Cedrosan Saladoid people through the Orinoco Valley and northward into the Lesser Antilles (Rouse 1992, Watters 1980). In Antigua, the Ortoiroid people were pushed out or assimilated by the Cedrosan Saladoid circa 450BC (Murphy 2002). The Cedrosan Saladoid practiced swidden agriculture and had a ceramic tradition of white on red painted ware (common-name: painted ware) and zoned-incised crosshatched ware (common-name: zic ware). A chronology of pottery types has been developed for this region which is used to determine settlement patterns and time frames (Gmelch & Bohn Gmelch, 1996). Archaeologists are still debating whether “similarities and differences in pottery types reflect the diffusion of ideas, the mixing of populations, and/or the replacement of one group by another” (Gmelch & Bohn Gmelch, 1996).

It is believed that the Cedrosan Saladoid chose to settle on heavily forested islands in order to exploit forest resources and practice agriculture, growing mainly cassava (Rouse 1992, Roe 1989, Allaire 1989, Alegria 1983). They understood the seasonal distribution of available food sources which occurred naturally. Green sea turtles, shellfish and palm hearts were available for most of the year, making them an excellent choice as staple foods. Salt-water fish and manatee were available mid- February through May. Like the Ortoiroid, the Saladoid settlers seemed able to weather hurricanes and drought easily through exploitation of a well rounded variety of resources and careful cultivation of a small surplus of cassava. This surplus would protect them against starvation in their own or adjacent districts in times of emergency or natural disaster. These prehistoric settlers chose the windward coasts of Antigua and cleared small areas of timber for cassava production.

Although fires started for swidden agriculture have been known to get out of control in a dry season forest environment, there is no evidence at present that the swidden agriculture of the Cedrosan Saladoid degraded the seasonal rainforest environment prior to the arrival of Europeans on Antigua. The Saladoid lived and prospered in Antigua for centuries, from about 450BC to 500AD. There was local development of the Mill Reef style which was subsequently called Late Ceramic Age or Post-Saladoid. Coupled with the new style developments, was a radical increase in population which removed the need to maintain alliances with distant cultures in South America. When

populations were smaller the ties to South America were a defacto insurance policy against drought, famine or the scarcity of resources following storms as those social networks could be called upon for survival in the aftermath of disaster. However, as local alliances and kinship groups expanded over time they were able to make provisions for such emergencies without relying on distant social connections<sup>4</sup> (Murphy 2002).

While there are accounts of Post Saladoid peoples living in the Lesser Antilles and raiding the Tainos on Puerto Rico at the time of Spanish arrival, it is under debate as to whether or not they were still living in Antigua (Keegan, 1996).

If they had not abandoned Antigua prior to the arrival of Europeans, it is hypothesized that they would have been present in only small numbers (Murphy 2002). One theory for the reduction or abandonment of Post-Saladoid sites on Antigua is overexploitation of resources. The practice of sustainable lifeways is often associated with Native American groups, however evidence from Turks and Caicos in the Post-Saladoid age of

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<sup>4</sup> Research on prehistory in the Caribbean has suffered in the past decades from political division and national boundaries. Rouse's work represents the most cohesive, if somewhat facile, interpretation of Caribbean pre-history to date. It is heavily relied upon by scholars because it spans the entire Caribbean. Very recently scientists are crossing not only political boundaries, but also overcoming inter-disciplinary divides. The work of Reg Murphy, Mary Jane Berman, Paul Siegel, David Watters and Samuel Wilson are fine examples of how Rouse's work is beginning to be positively challenged by using inter-disciplinary teams and borrowing methodologies outside of archaeology to expand theories of migration and culture. However, to date little of this cutting-edge work has been made public and so Rouse still stands as the final word in pre-history. This will not be the case within the next five or so years.

migration, extinction of local fauna due to overexploitation was occurring (Carlson, 1999). It is possible that similar overexploitation of resources occurred on Antigua thereby necessitating a reduction in pre-contact population sizes.

In early times of human occupation, circa 4000 BC, the coastal, seasonal, non-agricultural settlements did not appear to have a significant impact on the entire ecosystem (Westermann, 1952). According to Francis, Rivera and Figueroa (1994) the Arawak speaking peoples who inhabited Antigua and Barbuda prior to Columbus's arrival also never had a large enough population nor did they clear enough land to have an impact on the climate. They do however, credit these early inhabitants with the introduction of two plant species *Annona muricata* (common name: soursop) and *Melicoccus bijugatus* (common name: genip) which affected the biotic community. While both of these species flourished, there is no evidence to suggest that they were invasive to the extent of rendering native species extinct. More intensive occupation of the Greater Antilles by Arawak speaking peoples eventually caused the extinction of certain species, such as ground sloth, which certainly affected the biotic community but did not radically alter the climate, geology, or soil composition of the islands, thus rendering the European perception of infinite fertility and abundance of the Antigua intact at the time of colonization (Lanaghan, 1844).

The humidity, temperature and long periods of sunshine made Antigua an attractive place to try large scale production of cash crops during European colonization in the seventeenth century. Antigua's location in the path of the northeasterly trade winds, made it a prime landing spot for people arriving by sail, with the indented coastline of the Antigua Formation providing safe harbor for ships. In 1632 the English chose to settle Antigua on the leeward coast because of these harbors and good anchorages (Nicholson, 1990). These initial choices dictated the placement of the two major colonial towns in Antigua, St. John's in the north and Falmouth to the south, which have expanded into the capital city and largest harbor in Antigua today respectively. (see figures 6 and 7)

It was only after European settlement, with the replication of English cultural landscapes, that Antigua experienced climatic disturbance as a result of human intervention. Archaeological evidence indicates prehistoric seasonal watercourses existed on Antigua (Murphy 2000). These water courses ceased to exist after colonial deforestation, leaving inhabitants at the mercy of season rainfall. This shows the persistence of landscape replication (of a temperate raining climate) in a new environment, as the deforestation of newly acquired territory was a standard practice by the English in the seventeenth and eighteenth centuries (Seed, 1995). This practice continued even when such replication resulted in an inefficient subsistence strategy and jeopardized the profitability of the sugar enterprise.

## Chapter Three

This chapter discusses the rise of the English plantation model and its effects on the environment in the context of historical ecology theory (Crumley, 1994). Just as the pre-historic populations brought their mental landscapes from Central and South America to the Caribbean, the European settlers brought their landscapes from the Old World to the New. The questions are, Where did the model for the English sugar plantation originate? How did the model change in the new environment of the West Indies? As learned in centuries of Old World sugar production, a profitable sugar industry has three requirements: favorable climate, cheap labor and fuel for the boileries.

The work of Franz Georg Maier and Marie-Louise von Wartburg in Cyprus provides valuable evidence of early models for large scale sugar production. Twelfth-century models of sugar production in the Jordan Valley in the Kingdom of Jerusalem, were described by the German monk Burchard of Mount Zion. He noted that sugar cane was cultivated by the Palestinian peasantry;

“These are like common canes only bigger. Within they are hollow, but full of a porous substance like that which one finds in rods of elder woods. The canes are gathered, cut in lengths of half a palm and so are crushed in the press. The juice is squeezed out of them and boiled in copper boileries and when thickened it is collected in baskets made of slender twigs.<sup>5</sup> Soon after this it becomes dry and hard and this is how sugar is made. Before it dries, a liquor oozes from it, called honey of sugar, which is very delicious and good for flavoring cake.”

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<sup>5</sup> I have seen this process of refining sugar using basketry still in use at a rum distillery in Grenada, West Indies although the basketry was of similar design to traditional West African utilitarian basketry according to personal communication with Kofi Agorsah 1999.

His descriptions of the refining process show that production methods in Jerusalem were well established but only for small scale production of sugar destined for an elite market. In the rest of the Islamic world sugar production was more advanced. Rather than using “twig baskets,” specially manufactured “sugar cones” were used to mold the boiled cane juice into conical loaves. Matching clay jars collected what Burchard called “honey of sugar” - a by-product of the production process known today as molasses<sup>6</sup>. Sugar had been brought to the Middle East with Indian and Persian Muslim conquests. By the thirteenth century sugar was a standard feature of the lavish feasts and celebrations of the Mamluk Sultans of Egypt, the court of Cairo consumed more than 300 tons of sugar a month, but highly refined sugar was not widely available.

Throughout the thirteenth century a mass market for sugar developed in the Middle East and with the growth of that market base, Cypriot sugar production also rose (Maier and von Wartburg, 1970). Excavations at Kouklia have uncovered a vast sugar cane plantation and refinery evidenced by “cone” molds, a kiln for making sugar cone molds, a mile long aqueduct, two water powered mill structures, pillars to support copper cauldrons for boiling, a main refinery and manor house. The rise of mass market sugar is evidenced in the “graded sugar” molds – representing the different “boilings” of the cane syrup, single (*qand*- crushed sugar crystal), double (*muwassat* – medium grade) and

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<sup>6</sup> Molasses collection became more important in the New World economy than in the Old World. Molasses distillation added rum as a primary export product in the triangle trade routes.

triple (*mukarrar*- refined) – single being the lowest quality and triple the most refined. By the fourteenth century single boiled sugar was the largest product coming out of Cyprus.

For centuries, the processes for sugar refinement remained relatively unchanged with small innovations in the straining procedure and in methods of transfer of cane syrup from one boiling copper to another. (see figure 8) It was only in the late fifteenth century that a larger technological advancement in sugar refining took place with the introduction of the vertical three-roller mill (Mintz 1985). (see figure 9)

Throughout the sixteenth century sugar production in Crete and Cyprus began to slow, eventually coming to a halt - mainly due to warfare, Black Death and an increase in competition from “sugar islands” of Madiera, Canary Islands, and the Cape Verde Islands who had sugar production introduced during the crusades. In the fifteenth century the Portuguese established sugar plantations in the Canary Islands and the Azores using cheaper local labor rather than the hard-pressed Cypriot peasantry and a new profit margin was born (Maier and von Wartburg, 1970).

The requirement of a cheap labor force for profitable mass market production made the jump to the Americas in the form of African slavery introduced by

Spanish and Portuguese merchants and traders. Due to their seafaring power, the Spanish and Portuguese were able to establish and hold huge plantations in South America and the Greater Antilles and facilitate importation of the “cheap labor source” necessary for a profitable sugar industry. The technology and methods of milling and boiling, the sugar cones and jars associated with sugar production found in Brazil are evidence of a direct transfer of the process of manufacture in the sugar industry from Old World to New World. In fact, the plan of a Brazilian sugar refinery described by Friar Jean-Baptiste Labat in 1690 was so similar in layout to the sugar refinery ruins at Kouklia Cyprus, that his description helped archaeologists in Cyprus interpret features and buildings on the site (Maier and von Wartburg, 1970).

During this transfer of production methods, European demand was also cultivated with royal and papal display meant to encourage emulation. Through such “marketing techniques” sugar became an essential element of social life in Europe and demand soared. After the technological transfer, the scale of production was altered, made large in the Americas. At its peak Cyprus had an annual output of a few hundred tons. By the 1550’s Brazilian plantations were producing over 2000 tons of sugar per year in order to meet the demands of the rapidly growing European market. The Cypriot sugar industry was doomed to fail as cheap sugar coming from Brazil flooded Europe. The economy of Cyprus collapsed as a result, which contributed to

the success of the Turkish conquest of Cyprus in 1571. Under Turkish rule the sugar industry was abandoned and Cyprus shifted to producing cotton. However, the legacy of Spanish colonies' "labor innovations," inspired by Cypriotic "lessons learned" from using peasant labor, remains even today, as the Spanish plantations, ranches and mines became totally dependent upon labor imported from West Africa. It was in the early sixteenth century when all Portuguese sugar plantations and refineries in Brazil had further reduced labor costs with the introduction of slave labor, first by capturing and exhausting the local population and ultimately introducing West African slave labor (Thornton, 1998), but "it was Spain who pioneered sugar cane, sugar making, African slave labor and the plantation form in the Americas" (Mintz, 1985:32). Sugar made the jump to the Caribbean through Spanish and Portuguese intervention, but with huge profits came great conflict. The 1493 *Treaty of Tordesillas* divided the non-European world between the Spanish and the Portuguese along a north-south line 270 leagues west of the Cape Verde. This gave Spain control of the Americas, a position the Spaniards later tried to reinforce with a papal bull. By the sixteenth century, the Spanish were mining silver bullion in New Spain (Mexico) and Potosí in what is now modern Bolivia. The huge Spanish silver shipments from the New World to the Old attracted the attention of pirates and privateers, all along the trade route from the Caribbean to Seville. The classic route for the treasure fleet in the Caribbean was through the Lesser Antilles to the ports along the Spanish Main on the coast of Central America and Mexico, then northwards into the

Yucatán Channel to catch the westerly winds back to Europe (Milanich and Milbrath 1989).

By the 1560's, the French government, seeing the profitability of the New World, was seeking to expand its colonial holdings. English, French and Dutch traders and colonists utterly ignored the unenforceable line drawn by the *Treaty of Tordesillas* to invade Spanish colonial territory even in times of peace between their nations in Europe. Spain was at a decided disadvantage when faced with the increasing sail power of England and could not continue an exclusive hold on the Caribbean. In addition, Spanish merchants were only legally able to trade with the colonists of the Spanish Empire in the Americas, which led to an active smuggling trade allowing England, France and the Netherlands to gain small footholds in the growing sugar market. During active periods of war between European powers, the Caribbean became a hotbed of piracy with each nation declaring the right to harass the shipping of their enemies in the hope of crippling the monetary support of the war. During this same period the Anglo-Spanish War in 1585 - 1604 raged in the Atlantic and was partly due to trade disputes in the Caribbean. This signaled the beginning of the end for Spain's seemingly endless period of empire building. (see figure 10)

The eruption of the Thirty Years' War in Europe (1618-1648) represented both the culmination of the Protestant-Catholic conflict of the Reformation and

the final showdown between Habsburg Spain and Bourbon France. Because of this war, the Spanish presence in the Caribbean began to decline. The Spanish military presence in the New World shifted more of its resources to support the multi-front war in Europe. The settlements of the Spanish West Indies became financially weaker and were garrisoned with fewer troops as the war consumed the human and financial resources of Europe. With Spain no longer able to maintain its military control effectively over the Caribbean, the other Western European states finally began to move in and set up permanent settlements of their own, ending the Spanish monopoly over the control of the New World (Marx 1967).

While the English established agricultural colonies in the Americas in the early 1600's, they arrived about 100 years after the Spanish had already been exploiting the climate and environmental resources in the Americas, and sugar's profitability had also been well established. The first successful English colony was set on the island of Barbados in 1627. Barbados needed regular imports of food from England or the rest of the Caribbean to survive in its first few years, much like the English colonies on the North American mainland (Paquette and Engerman, 1996). As the seventeenth century wore on, English ships began to choose Barbados as their home port in the Caribbean. Like Trinidad for the Spanish, merchants in the trans-Atlantic trade who based themselves on Barbados always paid good money for tropical products. Tobacco and sugar were the key cash crops of this period

and fueled the growth of the American Southern colonies as well as their counterparts in the Caribbean as, over time, two major trade routes were established: the first had finished goods sold to Africa, African slaves to the Americas, and American tropical commodities (especially sugar) to Europe—the second had New England shipping rum to Africa, African slaves to the West Indies, and West Indian molasses back to New England (Wallerstein 1989).

The political environment of the seventeenth century Caribbean led colonial governors to seek out islands with harbors that could be reasonably protected against a continuing onslaught of competing national interests. Threats came from every direction. For example, by the mid-seventeenth century the Dutch sugar island of Saint Eustatius changed ownership ten times between 1664 and 1674 as the English and Dutch dueled for supremacy (Marx, 1967).

Consumed with the various wars in Europe, the mother countries provided few further military reinforcements to their colonies, so the colonial governors of the Caribbean increasingly made use of buccaneers as mercenaries and privateers to guard their colonies. By the late seventeenth century, the great Spanish towns of the Caribbean remained poorly defended and so were sometimes easy prey for pirates and privateers. The English presence continued to expand in the Caribbean as England's naval might increased. England took Jamaica from Spain in 1655, the town of Port Royal became a

haven for English pirates and privateers in the midst of the Spanish Empire (Marx, 1967).

While sugar is well known as the most profitable crop of the Caribbean, it was not always so. Surprisingly, tobacco was the dominant cash crop throughout the early seventeenth century (Watts, 1987). However, a dramatic drop in tobacco prices on the European market in the 1630's effectively destroyed the economy of the Leeward Islands. The Governor of the Leeward Islands, Thomas Warner, made an attempt to drive up tobacco prices on the European market by imposing a two and a half year ban on commercial tobacco production in May 1639, but this just further impoverished the planters. During the ban, planters began to explore other options for commercial crops, while still growing tobacco on a small scale. Even once the tobacco ban was lifted, planters were trying to recover from the economic blow and prevent future susceptibility to politics by switching to sugar production (Dunn, 1972).

Sugar had been introduced to the Caribbean islands via the Dutch in the 1630's at Barbados. From the 1630's through the 1650's sugar was the dominant crop in Barbados. Sugar was slower to catch on in the Leewards because land was harder to clear for sugar and the traders and European suppliers tended to bypass the Leewards in favor of Barbados where a steady supply of sugar was available to trade (Paquette and Engerman, 1996). The

French colonies of Guadeloupe and Martinique, which remained the main centers of French power in the Caribbean, quickly became among the richest French possessions because of their increasingly profitable sugar plantations as the demand for sugar on the European market increased (Seed 1995).

(see figure 11)

At the start of the eighteenth century, France had become the European dominant power in the Caribbean but could only hold that power for a short time. By 1700 the European states had enough troops and ships at their disposal to begin better protecting the important sugar colonies in the West Indies ensuring a steady supply to markets back home. After 1707, England emerged as a great sea power during the War of Spanish Succession.

Sugar became increasingly available to the lower classes in England and incorporated into the working class diet as a caloric supplement to complex carbohydrates in the form molasses – the least refined type of cane sugar and as an additive to tea in a lesser refined solid form. It was also used to preserve fruits for winter consumption. As sugar became part of the diet in England, evidenced in the rapidly increasing market for less refined sugar, a final shift from tobacco cultivation occurred and commercial sugar production was established in the English colonies of Barbados, St Christopher, Nevis, Antigua, Montserrat and Jamaica (Dunn 1972). With this demand for sugar came increased dependence on importation of African labor.

Economically, the late seventeenth century and the early eighteenth century was a time of growing wealth and trade for all the nations of the Caribbean. The path to wealth in the Caribbean shifted away from mining and treasure hunting – it lay through the growing of tobacco and sugar and the importation of African labor (Bush, 1990). It was the emergence of large scale production of sugar using an Old World model with a Spanish model of African labor that “transformed the individualistic, predominantly white settler society of the tobacco period, into a racially stratified society of whites and blacks, the entire institutionalized structure and value complex of which quickly centered on black slavery” (Gaspar 1985:65).

At the start of the eighteenth century, France's Hispaniola settlements were becoming major importers of African slaves as French sugar plantations spread across the western coast of that island, forming the nucleus of the modern nation of Haiti. However, one of the terms of the Treaty of Utrecht that ended the War of Spanish Succession in 1713, gave Great Britain's Royal African Company and other British slavers a thirty-year *asiento*, or contract, to furnish African slaves to the Spanish colonies (Buckley 1998). Providing British merchants and smugglers potential inroads into the traditionally closed Spanish markets in America and leading to an economic revival for the whole region based on an English investment in a Spanish model of slavery and a Portuguese-Cypriot model of refining sugar.

Even though wide-scale slavery in the Americas provided the necessary labor force of the proto-industrial sugar complex, to define it in purely economic terms—the right of one group of people to own another group for the purpose of profit through the labor of the enslaved—does not explain the everyday effects on culture of treating humans as commodities. Archaeologists' specific mode of access to insights about past culture is through material culture, and so this section addresses the issue of “slave as commodities” in the archaeological record.

Throughout human history slavery has existed, however, the enslavement of human beings had not reached the scale or scope of commoditization until the eighteenth century in the Americas (Goveia, 1965). Plantation slavery in the Americas was the most influential factor in shaping social identity in terms of race, ethnicity and class. Yet, social scientists have trouble defining slavery and understanding what was essential about being a slave. An exploration of the definition of slavery is crucial to the study of enslaved people because it gives the archaeologist a starting point, or, if you will, the basis for forming a testable model and a theoretical framework for analyzing archaeological collections.

Several scholars have explored this question in depth and to much acclaim. Orlando Patterson set the standard by defining slavery as a "social death": an

invalidation of all social relationships except that of master/slave (1982). However, slavery cannot be defined as "social death" because we see the continuation of pre-enslavement categories of social relationships after the "ritual of enslavement." Additionally, the "truth" of slavery goes beyond a master having the power of life and death over the slave. The power for the master traditionally (and cross-culturally) derived from the act of removing honor or degrading the slave (Patterson 1982:79). If we take Edward Braithwaite's view that co-resident cultures are "contagious," it follows that the colonial cultures had to accept, or at least minimally understand, aspects of African culture (1977). While historians have theorized a "studying up" influence of African culture on colonial culture it has not been adequately proven for most scholars (Sobel 1990). Slaves and masters did not "creolize" until they formed a unified culture. Rather, each group developed separate cultures, operating on different systems of evaluation with different referents, which were components of the same society. These societies were formed, for all intents and purposes, as capitalist ventures. Therefore, in order to fulfill their economic functions—for the society to survive—there had to be an exchange of information, labor, provisions, and anything necessary for the continuation of production. This exchange affected colonial peoples' perceptions of themselves; for the colonists as they looked back towards Europe for their evaluative referents and for captives as they looked inward towards, perhaps isolated, personal evaluative referents of an African homeland yet somehow had to meet and reflect in the process of production.

One reality of slavery is that the owner controlled the slave's external body while demanding, although not necessarily receiving, her internal honor. Can slavery mean total ownership of another person? Or, is one's self an inalienable possession (Weiner 1992)? For the slave, ownership of self is shared. The sum of the slave's life experiences are inalienable to herself, yet her labor, the profits of her labor, access to her body, and her children are subject to the claim of ownership by another which, in New World slavery, lasted a lifetime, regardless of who was the master. For the master, slaves were alienable possessions. While in possession of slaves, the master owned the labor, profits, access, and reproduction of another person, yet once sold, any claims or prestige derived from ownership were lost. W.E.B. Du Bois claims this led to a "double consciousness" for slaves, "a sense of always looking at one's self through the eyes of others" (Du Bois 1969:45). The slave is the only agent in this dynamic relationship of New World slavery who can see both sides: the alienable external body that is acted upon by the institution of slavery, and the inalienable internal individual who reacts to it.

The system of slavery in the post contact Americas was distinctive, prior to the rise in demand for tropical products, for the following reasons: the previously mentioned lifelong duration of enslavement, the primarily economic function of slavery—there was no ideological base for it (Curtin 1977) - and mandatory assimilation by enslaved people to the dominant culture.

In the seventeenth century, across the Americas we see a much smaller scale of production than in the eighteenth. Hence, there was a smaller population of enslaved people held captive, as well as a more temporary work force. The temporary workforce was, in part, gathered in England where there was ongoing repression of a landless labor force as seen in the legislation of the period. For example, the Riot Act of 1715 provided that if 12 or more persons assembled, and if the people failed to disperse after a court order, then they were guilty of a felony. The Transportation Act of 1719 sanctioned the use of felons being sent to the colonies of the West Indies or to North American plantations as a moderate punishment. The Act provided a transportation of either 7 or 14 years of hard plantation labor (Fischer, 1989). The combination of these acts effectively stemmed rioting in England while providing additional labor to the English enterprises in the Americas.

While vastly increasing production was the primary force behind the evolution of this form of slavery, note the difference in New World slavery goes beyond scale. Archaeologically, and architecturally, we can see a shift in the relationship between master and slave (Heath 1999). In the seventeenth century, plantations used a combination of indentured servants and slaves. These groups were racially and ethnically diverse and show a much closer living proximity to their master in the material record (Vlatch 1993).

However, as time passed and indentured servants completed their terms, the masters found themselves again living next door to former servants but on a much more equal footing (Miller and Gleason 1994, Berlin and Morgan 1993). Not only did the planters lose their labor force, they began to question the validity of their social standing as elite land owners. They could not really know if their neighbor, with whom they socialized, received, and perhaps married, had in fact once been an indentured servant. Architecturally, this idea manifests itself as a greater separation or division between master and slave housing, and is especially apparent in the Southern colonies of North America (Wells, 1997).<sup>7</sup> Also, these former servants were quickly buying up smaller land tracts surrounding the larger estates and preventing further expansion. When exploring social relationships between master and slave it is imperative to remember that while the function of slavery began as economic, not ideology, it was economy driving prestige and social status to some degree. A slave has an exchange value. As described by Vlach, slave quarters were frequently placed on the formal drive up to the "big house" as a conspicuous display of "inventory" (1993).

As demand for labor-intensive tropical products (sugar, tobacco, coffee) rose, planters became more dependent on their labor force and the ability to expand production. Yet, larger output could no longer be achieved through technological advances—only through increased crop yield hence, an

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<sup>7</sup> Personal communication with Dr. Camille Wells, professor of architectural history, University of Virginia.

expansion of property was required. Life long enslavement of Africans became the answer to the problems of available land being purchased by former servants, and the ambiguity of one's former status (Vlatch 1993; Isaac 1982; Kulikoff 1986). If a slave was enslaved for life, he could not eventually be found sitting next to one at the dinner table or buying the land next door. Even if the African slave escaped or found freedom another way, he or she would always be marked by race. As market value of tropical products increased, this ideology was quickly created, which was designed to protect the economic position of the slaveholders (Isaac 1982).

Notions of racial differentiation emerged among the planter class as rationalizations for slavery in the North American colonies during the eighteenth century (Sobel 1987). These ideas played out in social and political arenas as a method of preventing alliances between "poor whites" and African Americans. These early building blocks in the racialization (rationalization) of slavery occur in response to the increasing necessity of slavery within a system without an ideological basis for slavery. These ideas grew to an ideology, which typified relationships and became institutionalized as a defining element of an American identity for all involved. This ideology of slavery lasted long after slavery was abolished. It continued into the 1890's as institutional segregation and the Jim Crow laws of the Southern United States (Kulikoff 1986). This rationalization for the control of one group by another was so strong that it still persists today.

Slavery in ancient Greece, the Roman Empire, and pre-contact Africa had an ideological base, incorporating ideas of ethnic difference, and slavery as a result of warfare, into their respective systems of enslavement. Slaves in these societies frequently retained their original ethnicities, effectively separating the enslaved from their captors (Equiano 1969, Patterson 1982). Yet, in the Americas, the context of ownership of persons changed from a small-scale agricultural context to a large-scale industrial context. If we hold that meaning is shaped by context, then an examination of this period for shifts in the meaning of slavery should prove fruitful (Saunders 1999:245). Just as the slave was made dependent so was the master dependent upon the slaves' labor. It was the cornerstone of the economy and, therefore, the means for slave owners to remain in the elite economic class.

Elite colonial positions were in many ways dictated by the ups and downs of the European and American markets. The two triangle trades linked them. According to Sidney Mintz, "The important feature of these triangles is that human cargoes figured vitally in their operation. It was not just that sugar, rum, and molasses were not being traded directly for European finished goods; in both transatlantic triangles the only "false commodity"—yet absolutely essential to the system—was human beings." Sidney Mintz considers slaves a false commodity because "a human being is not an object, even when treated as one" (1985:43). I disagree.

I believe that a human being can be a commodity precisely because they can be treated like one. If a person is legally and functionally your possession, and if this relationship is understood by both parties (even if it is contested), then a person can clearly be a commodity. How else can you explain the importation of millions of African people to the Americas and the continued enslavement of their children if they were not in practice, if not fact, goods, at least to one segment of the population?

This is not to say that captive people viewed themselves in this way. From the limited firsthand accounts by former slaves, we know that they did not view themselves as commodities, but at the same time they understood that others did to the point of knowing their own market value, again a "double consciousness." As archaeologists we search for this internal dilemma as it becomes expressed in the material record (Beaudry et al 1991, Ferguson 1992, Singleton 1999).

This "double-consciousness" is evidenced in the historical record by slaves "buying" their own freedom or rejecting the necessity to "purchase" what they already "owned." Whether this purchase takes place or is rejected, the recognition of it as the reality of commoditization is there. This point is beautifully illustrated by Frederick Douglass who speaks of turning a man into a slave and in order to "free" him, he needs to be remade a man, which

cannot happen if he continues to acknowledge his "commercial value" to others. For years after Mr. Douglass escaped the bonds of captivity he was pursued by bounty hunters. His friends offered to "reimburse" his previous owner and Douglass refused. He stated that as a man he did not need to claim himself from anyone because no one else could hold such a claim on a man. Eventually, his friends, fearing for his recapture, paid his former owner against his wishes (Douglass 1845). These friends were abolitionists but they were also white, upper class Englishmen and so responded to the established system of slavery within the context of English society. If archaeologists wish to investigate this internal process of "man-to-slave-to-man" we need to understand the dialectic between resistance/accommodation and its material expressions.

The final distinction of slavery in the Americas is mandatory assimilation to the dominant culture. This is a question of interdependence and power. We can clearly see that economy affected the interdependence of planters and their labor force, because the plantation economy was based on mono-crop production for export not consumption. How does economy affect the power relationships between master and slave and the dialogue of resistance/accommodation? If there had been no market for the crop, there would be no need for slaves to produce it. Conversely in a booming market, the need for "cooperative" slave labor and the dependence of the masters on this labor to maintain or increase their status rose. By cooperative, I mean,

slaves who spoke the colonial language and, at least outwardly, accepted their position within the society, that is to say assimilated. Assimilation is the matrix of resistance/accommodation. This is the contested ground.

It is in this arena of assimilation that commodity fetishism occurs (Marx 1967). In Leone's analysis of Marx's concept of "commodity fetishism" he explains how an object becomes commodified through a "double forgetting." "On the first level, the [owner] comes to see exchange value as an innate attribute of the object, forgetting that it is he who projected the life and value into the commodity through exchange. In the second phase the commodity becomes veiled in triviality and familiarity—the natural self understood form of social life" (Leone 1999:16). This "double forgetting" operates as a "double consciousness" for the owner of the commodity. A slave owner must acknowledge both the humanity and the commodification of the slave. A slave owner projects a value onto a person, be it economic or symbolic, through ritual enslavement and dishonor. In doing so the owner recognizes the humanity of the slave. It is precisely the slave's humanity that makes him valuable as a status marker. The exchange value projected onto the commodity [the slave] is directly proportional to his degree of assimilation. An assimilated slave is more valuable, according to the projected system of evaluation by the dominant culture. In trivializing the commodity of slave, the owner reduces him to something "subhuman." An enslaved person with a high degree of assimilation reinforces the idea that slavery is a "natural and

self understood form of social life" through their acceptance [real or outward] of the dominant culture. In this phase of New World slavery, racial rationalizations for slavery become natural and institutionalized.

When archaeologists study the forced assimilation of Africans and their descendants in the New World, again, we must reject Orlando Patterson's notion of "social death." Archaeology has tried to determine levels of assimilation by enslaved populations to the dominant culture by searching for remnants of African material culture (Schuyler 1984; Eluyemi 1994; Singleton 1999). This method falls into the trap of viewing African ethnicity as synonymous with "slave" and does not account for free African populations or cultural exchange among people of similar social status. If ethnicity is a "self-conscious identification with a particular group" then we can begin to see it through material culture once some aspect of style has an ethnic reference (Shennan 1994:18). Rather than continuing to try and simply recover "ethnic markers," archaeologists are now beginning to "examine why these ethnic markers emerge, persist and change" (Singleton 1999:8). The serious challenge to the archaeologist is to discover or at least attempt to uncover the ideas or concepts to which the markers are referring.

Studies that examine economic differentiation in slave assemblages in order to understand relationships between slaves and defined by slaves independent of the master have proven illuminating in this respect. Larry

McKee has found that slaves at Andrew Jackson's plantation, "The Hermitage," had a different system for judging a person's status than the masters held. Field slaves had once been considered the poorest and most heavily controlled group on a plantation. However, both the symbolic and economic richness of the artifacts recovered from the "root cellars" under the quarters indicate lives quite different from the ones imagined by the masters (McKee 1998). In the study by Douglas Armstrong at Drax Hall in Jamaica, we can see different systems of food procurement and production for the enslaved play out contrary to the elite system and we can further see this "slave system" shift in the early post-emancipation era (Armstrong 1990). (see figure 12)

In the material things of everyday life we see evidence of more than economic power for the enslaved. According to Leland Ferguson, material symbols like bowls and tobacco pipes with mysterious symbols etched into them and everything from art work to houses, "operates in the same way that oral tradition does—creating identity and molding values" (Ferguson 1992: 119). It was this "power to create identity and mold values" that allowed slaves to reject total assimilation to the dominant culture. In doing so slaves could resist the "ideology which rationalized their enslavement" thus creating the space for a "double consciousness" that did not need to be resolved.

Yet, questions of covert forms of resistance and negotiations of power may appear ephemeral to the archaeologist (Vlach 1983). This may come out of a lack of understanding of African ethnography and pre-industrial technology by practitioners of African-American archaeology (Posnarsky 1999). Merrick Posnarsky recommends that students pursuing this field of study be required to participate in field activities in a West African village. The purpose would be to examine "food procurement techniques, building technologies, culinary practices, household equipment in an African village setting technologically closer to the era of the slave trade than to twentieth-century cities in West Africa" (Posnarsky, 1999:37). This might provide insights into West African proxemics and "the interdependence of economic, social, and religious traditions within a village community" (Posnarsky 1999:37).

This mode of thinking falls in line with Warren Perry and Robert Paynter's theory of multi-valence, in seeing objects as having multiple uses and therefore, multiple meanings (Perry and Paynter, 1999). This general "call to arms" of archaeologists involved in African-American research is advancing the field in two ways. It lifts us out of the "top-down" approach, which accepts or at least uses the elite standards for analyzing culture or power in society and asks us to look at our work "through African eyes."

This might seem particularly unscientific in a field that is so strongly based in the scientific method and empiricism. So, we are faced with the choice to be

unscientific to some degree and attempt to express one possible meaning of the lives of our ancestors based on previous scholarship combined with new evidence, or to limit our discussions to the "reality" of their possessions. Archaeologists need to explore all available sources in order to understand the referents of culture. These sources should include previous works not only in archaeology and history, but carefully conducted ethnographic analogy, ethno-historical research, and environmental studies. The more interdisciplinary our research becomes, the more comprehensive our conclusions may be. It is also important to remember that, "commodities and commodified relations are not artifacts or material culture. But our task as archaeologists is to tie the two together" so that we may reach a better understanding of the "forces that gave them birth" (Leone 1999:16).

The political forces at work in the Caribbean during the rise of sugar production and the African slave trade in the Caribbean framed later events – it was a great period of war in Brazil, the Caribbean, New England, West Africa, India, Scotland, and Ireland. England fought against Spain (1656-9), the Netherlands (1652-4 1665-7, 1672-4), and France (1689-1714) and on the high seas for control of world markets and trade. Once Old World sugar models were adapted to promote large scale production of sugar and brought to the Caribbean, along with African slavery, the culture of the New World could not escape change. In Antigua, the right to expand the empire incorporated ideas of slavery as a natural part of the plantation economy

(Lowe, 1951). In following chapters, there is further discussion of the alteration of climate and ecology in Antigua due to sugar cultivation, of slavery on a specific English plantation – Betty’s Hope Estate, Antigua, West Indies – and the effect of environment on culture in post emancipation times.

## Chapter Four

It has been fairly well established that humans live their culture and in doing so modify the world around them – in other words- the landscape retains evidence of their practice (Crumley and Marquardt 1990). As discussed in previous chapters, the lack of reliable surface water in Antigua had a direct affect on the pre-historic settlement of Antigua & Barbuda. We have seen evidence of this as reflected in seasonal habitation/migration patterns. In the historical period, colonists intent on profitable sugar production in the Caribbean had centuries of production in other areas of the world to inform their choices of method. They knew that a profitable sugar production industry had three major requirements: favorable climate, cheap labor and fuel for the boileries, *plus* one which was assumed in the Old World and in the true rainforest ecosystems of Brazil - water for irrigation. These choices proved inefficient, at best, and ecologically devastating, at worst, to the island of Antigua. In order to understand why people would choose to settle on Antigua and replicate inefficient patterns of production one must first understand the cultural landscape which dictated the necessary and desirable traits in a settlement site.

In this chapter we explore the introduction of sugar cane and other non-indigenous species, to the fragile seasonal tropical ecosystem in Antigua. This was a pivotal point in Antiguan history and culture. The replication of English plantation models, so economically successful elsewhere in the

Caribbean, had a devastating effect on the environment of Antigua. Evidence on the landscape of plantation society including the extreme constraints of movement put upon slave populations and environmental changes, which occurred as a result of sugar production, are presented using primary source materials.

The climate of Antigua was a prime motivation for European expansion and colonization in the seventeenth century for the express purpose of large scale production of cash crops. The two major colonial towns in Antigua, St. John's - the capital city and Falmouth Harbour, were chosen for settlement because of their location in the path of northeasterly trade winds, deep water harbors and good anchorages. In addition, a highly fortified naval base was constructed in neighboring English Harbour in 1725 (Nicholson, 1990). This served as the British Navy's headquarters in the Caribbean through the mid-nineteenth century<sup>8</sup>. As discussed elsewhere, this was necessitated by the near constant warfare and piracy throughout the Caribbean in the seventeenth and early eighteenth centuries.

In Antigua, two sources introduced sugar. Colonel Christopher Codrington, son of Barbados sugar planter Christopher Codrington Sr., immigrated to Antigua in 1674 bringing with him slaves and sugar. The Willoughby, Martin and Byam families were refugees from Surinam to Antigua in the 1660's -

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<sup>8</sup> It was abandoned in 1889. Today, "Nelson's Dockyard" has been restored and is part of the National Parks of Antigua.

escaping war and pestilence – and to avoid any property loss when the colony at Surinam reverted to Dutch control, also bringing in slaves and sugar. By the time these families immigrated to Antigua, Barbados had no land left for provisioning, it was entirely under cane (Gaspar, 1985).

The islands of Antigua and Barbuda became an English colony in 1632. As elsewhere in the Caribbean, captive Africans were brought in as a labor force for sugar production. In order to capitalize on the increasing demand for sugar in England, Governor Keynell founded Betty's Hope Estate in the 1650's (Oliver, 1894). Betty's Hope Estate is located in the geological zone called the *central plain group*. It has limestone soil, known as *rendzinas*, which is a grey fertile soil, rich in potash, and well suited for growing sugar cane. Many other planters following Codrington cleared the central plain of Antigua for sugar. By the late eighteenth century almost all of Antigua's arable land was under sugar cultivation. Once sugar estates on Antigua were well established many estate owners returned to England leaving a manager to the daily operation of the estate. Popular belief held that economic gain from a well managed sugar estate was almost guaranteed.

Betty's Hope was confiscated by the Crown in 1668 when the Governor's widow abandoned the plantation and its 60 Afro-Antiguan captives during the French occupation of Antigua in 1666-67 (Lowe 1951, Nicholson 1990). This

legal battle for the Estate and its contents is our earliest record of captives at the site. The land was then granted to Christopher Codrington who continued sugar production with a captive labor force. By 1720, eighty-four percent of the population of Antigua was African or Afro-Antiguan captives (numbering 23,000). Records show that in 1727, 139 captives were brought from Africa aboard the Codringtons' own vessel destined for one of their five Antiguan plantations (Codrington Papers 1667 -1944). Plantation labor was arranged into three broad categories: field workers, skilled workers, and domestics.

Over the next century there averaged between 275-300 captives at Betty's Hope in any given year (Codrington Papers 1667 -1944). A detailed inventory from Betty's Hope dating to 1751 shows a total of 277 which shows the range of occupations on a large plantation. More than 52% of captives were engaged in field labor as part of the field gangs. There were 39 able-bodied men and 59 able-bodied women set to the heaviest and hardest field work as part of the "first gang." There were an additional 13 boys and 18 girls, a driver, 3 men and 13 women, set to "lighter" work which would include weeding, tying cane bundles, hoeing and planting (Gaspar 1985, Codrington Papers 1667 -1944). At Betty's Hope, this small gang took on a greater workload during planting season to dig cane holes. The records show that Betty's Hope would have been severely undermanned if not for this small gang. Inventories at Betty's Hope listed occupations, in addition to field gangs as; coopers for rum and sugar hogsheads, general carpenters and

wheelwrights, carpenters for the windmills and houses, masons, smiths, doctors assistants (male), nurses (female), stable grooms, still house tenders, housemaids, seamstresses to make clothes for white servants, washer women for the household and servants, cooks, scullion, and cattle and stock keepers. They also listed the number of infants, and those unable to work due to age, or infirmity (Codrington Papers, 1667-1944).

This section looks at the replication of English practices throughout the colonies and the effects of these practices on Antiguan culture and history. According to Richard Dunn, early English settlers in the Caribbean struggled to maintain the strict hierarchy of English modes of diet, dress and housing as a rejection of Spanish, African and Native cultures. A common phenomenon among new immigrants is the replication of cultural landscapes in a new place, in this case even when replicating established patterns was inefficient at best and unhealthy at worst, within the confines of the new environment. In simple terms, English planters conceived of food, dress and housing as explicit indicators of social rank and sought to enforce these codes within the plantation societies of the Caribbean (1972:263).

The Barbados census of 1680 and the Jamaica probate inventories 1674-1701 show that English Caribbean society consisted mainly of farmers and small planters rather than large scale estate planters.

Number of slaves owned	% of planters in Barbados	% of planters in Jamaica
60+	7%	5%
20-59	7%	9%
1-19	62%	57%
0	24%	29%

Income level was not the only indicator of whether or not someone owned slaves. Residence patterns, living in towns versus living in the countryside, and professions could indicate slave ownership in the absence of probates. Teachers, booksellers, physicians and clergy were among the non-slave owning groups and tended to poverty and low social ranking. Craftsmen tended to live in modest comfort perhaps owning one or two slaves. Shopkeepers and merchants tended to live in a comfortable fashion with some luxuries but employing Africans or other servants rather than owning slaves. (Dunn, 1972:267)

According to the probate inventories, the appearance of wealth (rather than the actual monetary holdings) helped establish one's rank within the social hierarchy. Planters in the Caribbean were practicing conspicuous

consumption - their probates show imported luxuries and large debts. The Anglo- Caribbean dream of a fast rise to riches was born in the hope of a booming sugar market.

Most food in the English Caribbean colonies was imported from England, Ireland and North America. During the seventeenth century, planters in Jamaica had land to grow provisions, however, instead they favored imported foods, such as English salted beef or New England mackerel, rather than local produce (Dunn, 1972:272). A regular English diet of bread, beer and beef was preferred but hard to come by in the Caribbean climate which could not easily support the growth of wheat or barley (Dunn 1972:273). While fresh fish was a mainstay of the English coastal diet, colonists did not “relish the local varieties” and instead bought salted mackerel or salmon from New England or Ireland as “planter” food and salt cod or herring for “slave food” (Dunn 1972).

According to an eighteenth-century botanist visiting Antigua at the request of the Codringtons<sup>9</sup>: “Sugar is the staple commodity of the island and consequently the cultivation of the sugar cane is the chief business of the agriculturalist.” He also noted that provisions such as maize, guinea-corn, yams, sweet potatoes, eddoes, arrow-root, cassava, and a great variety of

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<sup>9</sup> This is an unsigned letter included among the Codrington Papers – Although the author is referred to by Codrington, the writing is illegible and so the botanist remains unidentified.

leguminous plants were raised together with pumpkins, squashes, okra and other vegetables. He went on to say,

“fruits of a great variety may be enumerated but little care is taken for their culture, such as guavas, sour sop, sweet sop, custard apples, pawpaws, plantain, banana, coconuts, breadfruits, jack apples, cashews, granadillas, watermelon, melons, prickly pear, mountain pear, avocado pear, mangos, hog plums, Java plums, Barbados cherries, Surinam cherries, rose apples, grapes, tamarinds, pomegranates, sapadillas. Of the indigenous botany of the Antilles, there is much to be discovered and it is rather discreditable to the parent State that for the little is known we are indebted to the zeal of private individuals, chiefly industrious foreigners. The volcanic islands possessing a more humid soil and more temperate climate than the low islands of marine origins present a flora more numerous in species and luxurious growth. There the Orchideae Ferus and lycopodiaceae are more abundant. Each island in the group however affords a locality to some particular species, which is unknown in the others though the same general botanical features pervade the whole. Of the truly indigenous plants found in Antigua 401 species have been accurately determined.”

The reports of the botanist support the English perception of the Caribbean as an inexhaustibly fertile place yet to be fully explored and exploited. When the Codrington family established their sugar estates in Antigua in 1674, they received exclusive rights to the entire island of Barbuda from the crown. It was to be cleared and used to provision the Antigua estates.

A collection of letters from Sir Codrington to his attorneys and estate managers in Antigua reveal the plans for Barbuda: In April of 1779, Codrington refers to aloe cuttings sent to Antigua and Barbuda “to see what can be made of them in the East India Treatment.” He also mentions bringing in turkeys for cultivation on Barbuda and his displeasure at his managers

getting rich “from small stock and ground provisions [like yams].” He instructs the managers to commission reservoirs be dug on Barbuda to stock with turtles and have all stocks and provisions bound to accounts to prevent theft. All stores were to be lodged at Betty’s Hope and distributed to overseers, with proper orders, and accounts made for each Estate, clearly illustrating the importance of Betty’s Hope as the central management body and place of dissemination of goods (and services) for the rest of the Codrington plantations.

From his letters we know that they were breeding stallions and other horses, cows, sheep and chickens on Barbuda. From the record it is clear that Codrington knows a great deal about managing herds and breeding stock. In 1780 he instructed the managers to get rid of the deer on Barbuda because “they eat what other cattle want.” He denied the managers request for stallions to be sent based on the fact that sheep and other cattle sent before were hunted by dogs. They were also cultivating Irish potatoes, cassava, Indian and Guinea corn. The yams did not succeed on Barbuda, but on an interesting note, salt was being collected there. A 1780 request from the manager at Barbuda for a cattle mill to use during the “calms” confirms two things, there were draught animals on Barbuda, and there was sugar being cultivated there as well as provisions. (see figure 13)

By 1780 Codrington had accepted that corn and cassava were being produced in abundance at Barbuda but wondered why there should be 300 slaves kept there to grow provisions. He suggested sending the Barbuda slaves to Antigua and having a large quantity of spare land or bad cane land converted to pasture or provision cultivation as provisioning required less skilled labor than cane. There are references in correspondence from the Barbuda manager to the Betty's Hope manager to a shift of slaves from Barbuda to Betty's Hope at this time. In 1779 he stated that "there is a great demand for Barbuda stock" but is not specific as to which stock is preferred. In a letter dated March 8, 1780 he said, "I had formed hopes that it [Barbuda] might have produced a stock of Negroes to have assisted my Estates at Antigua. I once flattered myself that the Negroes there [on Barbuda] having little work and good living would increase, that is would be a kind of store from whence to help supply my other estates but I have been deceived hitherto in such expectation<sup>10</sup>." His deception was one wrought by his overseer who committed many abuses of power, thus his "stock" did not increase – in his eyes - only because of mismanagement.

Christopher Codrington began planting sugar cane at the 725 acre Betty's Hope Estate. Within a few years sugar became the overwhelmingly dominant crop on Antigua. According to Jamaican planter and historian Bryan Edwards, "Codrington applied his knowledge in sugar planting with such good

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<sup>10</sup> In this collection of letters there are many references to breeding of slaves on Barbuda and the abuses suffered by slaves at the hands of the manager there. The lack of "natural increase" should be viewed as resistance.

effect and success that others, animated by his example and assisted by his advice and encouragement, adventured the same line of cultivation” (Edwards, 1793-1801). By 1740 the Codrington family owned six sugar estates on Antigua (including Betty’s Hope, the Garden, the Folly, Roome’s, the Cotton, and the Cotton New Work).

A 1739 map of Antigua shows the towns, churches, forts and sugar estates, including the wind and cattle mills in operation on each estate. (see figure 6) In the first quarter of the eighteenth century cattle mills were widely used. In 1705 there were 136 cattle mills and 34 windmills in operation. As sugar cultivation increased and less land was available for pasture, the number of windmills rapidly increased. The new windmills took advantage of the steady trade winds, had a greater crushing capacity and did not expend livestock which could be used for consumption. By 1739 there were only 33 cattle mills still running versus 178 windmills. Water mills were never in use on Antigua because there were no rivers. The sugar estates were identified, on Herman Moll’s 1739 map, by the owners’ names and could encompass several neighboring plantations if they were all owned by the same person, even if they operated separately. On this map, only three sugar estates were large enough to run three windmills each. The Codrington estate ran six windmills on their extensive property which was accessible by roads leading to the major towns and other estates (Gaspar 1985, Moll 1739, Oliver 1894-99, Baker 1748).

Drought creation occurred in Antigua as a direct result of deforestation for commercial agriculture. This is seen in the comparison of archaeological evidence of prehistoric seasonal watercourses to historical accounts of post deforestation weather patterns. While there are references two creeks, one in Nonsuch Harbour, the other in Five Isle Harbour, as early as 1701, by mid-century they seem to have become salt water inlets.<sup>11</sup> In 1747, the surveyor Mr. Bowen notes on his map of Antigua, "Antigua is a fine island tho it has not one single spring of water in it. So that in times of drouth when all their ponds are Dry and their cisterns almost empty they are obliged to fetch their fresh water from Montserrat, in times of war, or in Times of peace, from that and Guadeloupe a neighboring French Island." Following the 7 Years War – 1763 – Great Britain sought to obtain territorial control over Guadeloupe from the French as part of the Treaty of Paris. Guadeloupe played a strategic role in the success of the colony at Antigua and Barbuda due to its more substantial supply of fresh water. In Antigua, the plantation system had a devastating effect on the environment. Deforestation lead to climatic changes – the island began to experience extended periods of drought (Lowe 1951). However, Great Britain chose to accept Canada as territorial gain through the treaty, leaving its drier West Indian colonies, like Antigua, at the mercy of the clouds.

The entire plantation operation was regulated by rainfall. For this study an examination of the writings of Samuel Martin shed light on the relationships

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<sup>11</sup> These inlets are still listed on the previously referenced 1739 Moll map (figure 6).

and daily rhythms of life centered around the production of sugar and its delicate balance with the elements. He describes the proscribed timing for sugar planting, harvesting and crushing. In order to have these tasks accomplished on a large scale, workers were organized into gangs of similarly-abled people (figures 8-9). Depending on what time of year it was and where in the sugar making process they were, the gangs were assigned their duties (Gaspar 1985). Henry Drax of Barbados (absentee) "...in the time of planting. All the men negroes into two gangs, the ablest and best by themselves for holeing and the stronger work, the more ordinary in a gang for dunging. (see figure 14) The women negroes also in two gangs as before. The lesser negroes into two Gangs, the least to be followed by some careful old women, who must use them with gentleness. Out of these six gangs must come the Carters, Stillers, Curing House negroes, Cooks, Lookers after Stock, Watchers of Provisions, be drawn. At crop time, after your Watches for your Mills, Boiling House and Canecutting Gangs, must be listed into a running gang for getting home and Houseing all sorts of fuel." (Gaspar 1985, Michael Craton 1974 *Sinews of Empire: Short history of British Slavery*).

The replication of the English social order in the 17<sup>th</sup> century Caribbean was apparent in the division of space and living quarters. In the Caribbean, as in the Southern United States, slaves lived in quarters away from the big house (Dunn, 1972:271). At Betty's Hope we see conjectural plans and models for slave housing (based on sketches and "roughed in" on maps). Photographs

showing nineteenth-century housing for slaves are consistent with historical accounts and descriptions from the eighteenth century. (see figure 15) From this we may conclude not much innovation in architecture for slave housing occurred.

Life on sugar estates was hard. Everyone on the estates was expected to work, regardless of age or infirmity. Heavy work included planting, cutting, delivering canes to the mills, and holing the ground in preparation for planting. The lighter work included weeding, supplying the boiling house with cane trash used for fuel, planting provisions and preparing manure. Holing was done by hand, with a hoe, rather than by plowing fields with cattle. (see figure 16) Holing and planting took place during the wet season and in stiff soils, like on Antigua it was recommended that “half the quantity of land intended for crop be planted in September. The planting season should end in January or February when the tops of the first canes cut may furnish the last pieces planted. By strict observance of this method the canes will be at full maturity in the proper season for yielding the most sugar which is from the first of January (if the weather permits) to the 29<sup>th</sup> of July. Scheduling a later crop time risked hurricane destruction of mills and fields and made “bad sugar at the infinite expense of time and labour, both of negroes and cattle, when the juice of the canes is weak and waterish. “ While Martin believed any estate could be made to run like a well-oiled machine with proper management, ” when severe droughts or unseasonable rains happen, contrary to the general

courses of nature, the wise planter must do the best he can, chasing always the least of two evils.”

Repeated periods of multi-year drought in the late seventeenth and early eighteenth centuries, which were characterized by not only increased aridity but also increased temperatures, had a devastating effect on cane production and food crops. This necessitated an increase in imported goods thus throwing off the profit margin and the entire economy of the Caribbean for all colonizing powers involved in the sugar trade. In the 1720's and 1730's, drought dramatically reduced sugar cultivation and harvest in Antigua, therefore planters were unable provide collateral for loans to replenish their labor force in order to increase production during times with more advantageous environmental conditions. A June 30, 1780 letter from Sir Codrington to his estate managers references a “scheme to bring water from Barbuda.” This tantalizing phrase never establishes, one way or another, the details of the scheme nor its success or failure.

Acts of nature – droughts, hurricanes and floods, affected the ability of planters to turn a profit. One reason for the scheduling of the growing and cutting season to end in July was for the avoidance of hurricane season. A Methodist minister stationed at English Harbour in Antigua was appointed Chairman of the District and so traveled to neighboring islands of St Kitts, Nevis, Montserrat, Dominica, French Matinique, St Eustatius, St Barts, St

Martin, Anguilla, Tortola, Jos Van Dyke, Virgin Gorda, Anegada, and St Thomas. He gives an account of traveling to Tortola during a hurricane in 1820.

"On one of these visits to Tortola, I experienced one of the most destructive hurricanes ever witnessed in these islands. It was the first of these cyclones I had witnessed. The wind was boisterous all morning, but our captain had no apprehension of danger as we were at the end of October when the hurricane season, which begins in August, is supposed to past. Indeed at the neighboring island of St Thomas the usual Thanksgiving services for the preservation from storms had been held during the previous week. I had just engaged a boat to carry me across to Tortola, and had requested the boatman to reef down his sail on account of the strong wind. This delay saved me for before I could embark the frail craft the storm swept down and we were drifting, we know not whither. The officers wound flags around their bodies as a protection. [I looked] at the barometer, seeing it nearly 28 degrees asked the officer what it meant. 'Oh, he said, it is the end of the world.'

At 4:00 the ship struck a sandy bottom. I clambered...to the deck and saw we were near a shore and harbour. Before us was a town...but nobody knew where we were. ...A flag was hoisted to half mast and we marvelled that no one came to our help. We little thought that they were worse off that we were. [the town] was Roadtown, capital of the Virgin Islands, and it had suffered severely. Some houses were completely blown away. The roof of the chapel was gone. A great trench was being dug in the graveyard and during the day twenty-two bodies in coffins roughly made from door shutters etc. were piled up [to be] interred together.

Arrived off St Thomas and sighted portions of the mail steamer in which I had often traveled. She had gone down with fifty men on board. The forts on either side of the harbour had been blown away with all soldiers. The harbour was full of wreckage and disabled ships. Boats were continually dragging bodies ashore, until it became impossible to bury them; and they were burned. "

September 11, 1821 a hurricane struck and some of the Windward Islands were "nearly ruined." We also see how human acts contributed to the severity and consequences of these acts in the context of soil erosion. If

winds and water are strong enough to carry away forts and soldiers, they will certainly carry away soil unprotected by bound root systems. In addition in the post hurricane flooding of Antigua nutrients are leached from the soil from the brackish or salt water brought ashore by waves. This occurs even in modern times.

On Antigua, people "suffered much" from this storm and the "negro huts have been generally unthatched, and some of them thrown down entirely, although they are built very strong on this Island, mostly of stone." This reference underlies the importance of maintaining a strict planting and harvesting schedule for sugar production. For example, if hurricanes occurred during a more labor intensive season, and stone foundations were in place, houses could be easily restored thus saving valuable time so that the plantation could get back to the profitable work of sugar. Such efficiency would minimize the "down time" and thus income loss due to repair work taking priority over production.

Another major factor influencing culture in both pre and post emancipation periods in Antigua was the access to water by slaves and former slaves. Architecturally speaking, there is no evidence (so far) of communal cisterns, nor any substantial water collection sites off the plantations, in post emancipation Antigua one wonders how people survived drought. During the pre-emancipation times, communal water was collected in the form of town

ponds. During extreme drought in August 1821 the "great pond" was cleaned by approximately 500 slaves (musicians on the banks playing tambourine, triangles and whistles). The slaves used hoes and baskets to dredge the ponds, filling the baskets and then carrying them on top of their heads, dancing their way up the side of the pond to the place where they deposited the earth. Many marketeers set up food stalls at noon anticipating a lunch break however, the slaves requested to work through lunch break and leave off at 4:00 rather than 6:00 to hold a more systematic dance. The next day the Parham pond was dredged in the same manner. Records show several such ponds in existence and that labor was conscripted for public use to maintain the ponds. Estates had cisterns for family or management usage, but in post-emancipation times people had no options but to look to the Estates for water in times of drought.

The clearing of forest and the overgrazing by non-indigenous cattle eroded and depleted the nutritional value of the thin seasonal rainforest soils, but this was further complicated by the nature of sugar cane itself. Sugar cane, when commercially produced, has an 18 month growing and harvesting season which requires water and sun not only in large quantities, but in the correct order. This production schedule does not allow for fields to lie fallow. Sugar cane also rapidly lowers soil fertility because it needs nutrient rich soil for each planting. Therefore, rather than intensifying the amount of cane on already overburdened soils, estate owners needed to expand the number of

acres dedicated to cane production to increase their yields. In order to do so, they cleared more forest, increased the number of laborers, and brought in more draught animals, which in turn further decreased the land being used for provisioning and created more dependence on North American provisions and African labor. Despite the restructuring of the Antiguan ecosystem, the sugar market revived in the mid-eighteenth century and remained king until the mid-nineteenth century.

The overarching theory is that not much changed as far as how people earned a living with the coming of emancipation. The environment had been degraded and there was little free land available for subsistence farming due to widespread mono-crop cultivation of sugar. This tied people to the estates even after emancipation. Betty's Hope had been a place for trade apprenticeship and so was selected as possible site to explore the economy of the captive class pre and post emancipation. In looking at the site, we had hoped to find evidence of trades or "cottage industry" existing in post-emancipation times that would have supported families in their ability to be free of the direct control of the plantations. In order to truly have a free society the economic system would have had to change from one of absentee owned estates which controlled all labor and access to water to a free market economy where individuals had access to means of production and control over their own labor. Such control would allow people to build their own

cisterns and either money from earned wages to buy water or labor to trade for water, in times of drought.

## Chapter Five

This chapter investigates post-emancipation persistence of combined ecological, economic and social models even when such landscapes were no longer sustainable taking into account new work in adaptive change theory (Gunderson & Holling, 2002). In their work, C.S. Holling and L.H. Gunderson postulate that when you see “dramatic changes in the ecosystems and landscapes of ecosystems” you will also see “subsequent changes for society and economic conditions.” If there are consequences, such as biodiversity loss, due to the “intersection of climatic extremes, poor land use and global economic pressures” political instability will result. In Antigua this political instability resulted in the abolition of slavery. Continuing drought, abolition and the unsustainable English plantation model for sugar production were all connected within Antigua. Each were complex issues and could not be separated or solved as solely an ecological problem, social problem or an economic problem. While Hollings and Gunderson have examined these complex connections in modern societies - seeing political process as a way of beginning to address the issues holistically - they have determined that any approach (conservationist, social movement, or economist) are “built on a particular world-view or theoretical abstraction,” thus making it almost impossible for the necessary parties to arrive at a balanced solution. They argue that the “world has not collapsed” because natural ecological systems are resilient, and people do learn, however spasmodically (Gunderson, et al, 2006:3).

The eighteenth century heralded widespread revolution throughout the British Empire. In Antigua a slave rebellion was discovered and thwarted as early as 1725 (Lazarus-Black, 1990). Other examples include; The Battle of Plassey (1757) and Mir Kasin (1763) in India; Tacky's Rebellion in Jamaica (1760); the Whiteboy Movement in Ireland in 1761; Pontiac's rebellion in Michigan (1763-6); wars in the Hudson Valley (1765-6); the Regulators in North Carolina (1765-9); the Silver Miners Strike in Mexico (1766) and the Maroon Wars in Surinam (1768-72). The largest invasion force to sail from England set sail in 1796 to Jamaica where a Maroon War had broken out and six other islands where in revolt (Fog Olwig, 1993). Thousands of people left England to suppress the slave insurrection and sugar production came to a standstill. England desperately fought to repress liberty for the captive populations throughout their Caribbean holdings and in doing so save not only their empire but also the productive relations and class structure that had developed between 1650 and 1800.<sup>12</sup>

By the time the Treaty of Paris was passed in 1763 at the end of the Seven Years' War, England had become the greatest commercial and colonial

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<sup>12</sup> It is interesting to note that at the same time as widespread rebellion erupted in the far flung corners of the empire, back at home in the British Isles there were developments that transformed the countryside. A vast number of enclosure acts were passed by Parliament that affected nearly 30% of all land. With the introduction of commercial sheep and cattle farming and the eviction of small farmers from collectivized land there were many insurrections, mutinies and urban riots throughout the 1760's.

power in the world (Wallerstein 1989). When Spain entered the Seven Years' War, Cuba became a key military objective for the British, and was invaded. Once occupied, the Port of Havana opened to free trade with Great Britain (Williams 1984). The slave trade expanded under British occupation: over the 10-month period of British occupation from 1762-63, 10,000 slaves are carried into Havana. Commercial links also developed between Cuba and North America. By the 1770's unrest in the North American colonies was increasing as a result of the higher taxes which had been imposed to pay for the war. By the late 1780's commercial ties between the newly independent United States and Cuba were opened for a continuation of the slave trade (Williams 1984).

Other colonial powers were locked in the same struggles for control of their Caribbean holdings. In 1791 a slave uprising erupted near Le Cap in St. Domingue (Santo Domingo), and spread like wildfire and by 1794 the French National Convention emancipated French colonial slaves. In 1802, revolutionary leader Touissant Louverture was arrested and died in prison, but eventually the French withdrew and the independent Republic of Haiti was proclaimed on January 1, 1804.

At the Congress of Vienna in 1815, Britain compelled Spain, Portugal, France and the Netherlands to abolish the slave trade (though Spain and Portugal were permitted a few years of continued slaving to replenish labor supplies).

By 1817 Great Britain and Spain signed a treaty prohibiting the slave trade. Spain agreed, under intense British pressure, to end the slave trade north of the equator at the signing, and south of the equator in 1820 (Klein 1986).

In 1831 a slave revolt broke out in the British colony of Jamaica, which was brutally repressed by colonial authorities (Higman 1974, 1984). On Friday, 18 March 1831 in Antigua another demonstration of slave unrest occurred. Thousands of slaves assembled “at the great Market in St John’s and in other places” (*Colonial Office Records*). According to Governor Ross they were “frequently violent and menacing and accompanied by furious gesticulations and cudgels.” He feared an overthrow and full scale revolution and so called in the 86th Regiment from Fort Shirley. While the revolution was put down, Market day was reinstated.

Great Britain passed the Abolition of Slavery Act on August 7, 1833, providing for emancipation in the British West Indies which made enslaved Africans in the English-speaking Caribbean, no longer chattel slaves, but apprentices until 1838 (Higman 1984). In the British West Indies, colonial assemblies dismantled the system of apprenticeship that had replaced slavery. Laws against vagrancy and squatting attempted to keep the social and labor system of the plantation economy intact, with varying results (Johnson 1996). Antigua alone went directly to abolition.

In an address in support of abolition with no apprenticeship period, made to fellow planters and Governor Ross in the Assembly on September 11, 1833,

S. Otto Baijer declared:

“Gentlemen my previous sentiments on this subject [Emancipation of the slaves] are well known to you all: be not surprised to learn that they have undergone an entire change. I have not altered my views without mature deliberation. For several days past, I have been making calculations with regard to the probable results of emancipation and I have ascertained, beyond a doubt, that I can cultivate my estate at least *one third cheaper by free labour, than by slave labour.*”

In August 1834, 29,131 slaves in Antigua, were emancipated from chattel slavery. Due to the long-term environmental impacts of sugar production and the world economy demanding sugar, emancipation was not freedom. As clearly demonstrated in earlier chapters sugar not only occupied almost all arable land on Antigua, but the deforestation required for commercial production lead to increased drought, soil depletion and erosion from hurricanes. This left the newly freed population with few options beyond staying on the sugar estates.

The year was 1835 in Antigua West Indies, one year past emancipation. Mother Rachel, Fanny, and little sister Babra were making a hard journey away from Old Road plantation to search for their kinswoman, Minty who had been sold away a few years earlier. 140 years later Samuel Smith, the great-great grandson of Fanny recounts their journey through the family's oral tradition.

“As day clear, they drink some hot water and start the journey to Betty’s Hope... They reach there in quick time, but nobody know anybody by the name of Minty. Frustration was just about to creep in when they see her. Well, them let loose, for God help them find Minty. That was the freedom; only when they find Minty they really believe that slavery was all over for sure. Minty had a brand on [her] hand. My mother said it was number 104, and that’s the number massa know [her] as. Governor Patrick Ross end the branding of slaves in Antigua in 1828. Rachel and her daughters, in love and joy, settle at Betty’s Hope. They hate Old Road plantation where they used to live. They hate the people that sold [their] loved one. Old Road with its plenty food could not behold them again. Even if they not find Minty, they would not go back to Old Road. They lived at Betty’s Hope until Rachel die, [and] the living conditions at Betty’s Hope was horrible” (Smith, 1986).

The journey of Rachel, Fanny, and Barba to Betty’s Hope Estate raises an important question for the study of post emancipation period Antigua and for students of the African Diaspora: In what ways did former captives reconfigure life on the plantations after emancipation in the context of the translated British homeland landscapes?

When emancipation came to Antigua in 1834, there were over 29,000 captives living on the plantations throughout Antigua. Yet, there was no infrastructure to support this new development. The former captives were put in a position to legally expect wages for labor and land for homesteading yet were not given the means of enforcing the new laws. Therefore many were forced to stay on at the plantations rather than move to “free towns.” The planters tried to tightly control the movements of former captives and their families for generations to follow, even restricting people from leaving one

plantation to work on another. One method of controlling former captives was by dependence on plantations for water. (see figure 17)

From the archaeological evidence it seems that former captives had no access to large cisterns except on the plantations. There is no evidence that people living in free towns ever built family or communal cisterns. Most likely, they did not have access to building materials or land or time to create cisterns for their own use. Missionary accounts from the early days of emancipation suggest that converts to Christianity may have been as motivated by the church cisterns as the “word of God.” Former captives had smaller ways of collecting rainwater, in barrels and ceramic vessels, but no long term water storage systems to protect them from drought. We know from the historical record that Antigua has been plagued with drought since its deforestation early in the colonial era. Therefore in times of drought former captives working the land had little choice but to turn to plantation cisterns for relief. There are references in the historical record of workers being paid in water (Lanaghan 1844, Farquhar 1999).

Betty’s Hope Estate was just one such plantation. Now it is a national landmark which highlights English colonialism and sugar production. (see figures 18-19) The ruins of the windmills, sugar production facilities, and two ancient tamarind trees with shady benches at the gate to the old great house

are highlighted on the public tours. But what of the people who worked the land?

In order to better understand life on an Antiguan plantation, three archaeological field seasons were held in summer 1999, January 2000 and January 2002 respectively, run by the Brooklyn College Department of Anthropology and Archaeology in the area identified as SV1-00. (see figure 20) Two field seasons of documentary research were conducted in May 2001 and August 2002 in the National Archives in St. John's, Antigua. Additional documentary research was conducted at the Beineke Library at Yale University, New Haven CT in December of 2006.

Two important features found during the 2000 and 2002 excavations were two foundations of structures. (see figure 21) The structure number one differs from structure number two in the quality of its masonry. Number one has mismatched stones (meaning some were dressed and some were field stones) which were dry laid in a vernacular style. Number two has matched dressed stone which was laid in a more academic style. (see figures 22-23) Earlier research suggests that captive housing may have had stone foundations of the type pictured earlier, rather than the frame and pillar style of modern Antiguan houses. Reference was made in the estate records to a proposed shift in captive housing styles which would enable these structures to withstand hurricanes and flooding, mentioned in chapter four. It is believed

that the stone foundations represented this change to a more seemingly substantial method of construction to survive the tropical storms on Antigua.

If these structures framed the everyday activities of at least some of the population at Betty's Hope then the analysis must focus on the materials from the areas inside and immediately surrounding the structures if we are to gain deeper understanding of the lifeways of the residents at Betty's Hope. The foundations were excavated both inside and outside the structures (Codrington Papers 1667-1944).

Before excavations began several local sources alternatively identified the site as; a 20<sup>th</sup> century habitation site, a rum shack, a casino, or an 18<sup>th</sup> century captive village. Historical records also indicate that Betty's Hope was the place where captives were apprenticed as coopers, skilled sugar producers, wheelwrights, blacksmiths, tailors and other skilled trades. This area may also have been associated with one or more of these trades (Lanaghan 1844).

According to one informant, Afro-Antiguan people lived in exactly the spot of our excavation up through the 1940's, when the buildings were demolished; however, almost no artifacts dating to the 20<sup>th</sup> century were recovered.<sup>13</sup>

Those that were identified as 20th century were objects that could easily have

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<sup>13</sup> During our excavation seasons we were approached by several "informants" claiming to have lived on or near the site in the 20<sup>th</sup> century and asking if we had found rings or jewelry "buried by my mother" for safe keeping.

been deposited by people moving across the landscape, but there was little evidence of 20<sup>th</sup> century habitation. However, there was significant evidence of a “rum shack.” Bottles recovered from the site far outnumber the ceramics or any other class of artifact. While the bottles have a great range in age, the types were fairly consistent with what one would expect to find at a “still” or a bar (wine bottles, soda bottles, and liquor bottles but no medicine bottles). The location of the bottles, within sight of the boiling house, would make for a convenient distillation of molasses. Also, the majority of the bottles were found in association with the latest fill deposited around the center mound, and show evidence of heavy reuse. This directly confirms ethno-historical accounts of a rum shack on this site circa 1920-30. An alternative interpretation for the high concentration of larger bottles is water storage. As there were no communal cisterns and the collection and storage of water was an issue – large ceramic vessels, barrels or copper boiling kettles were more difficult to come by than bottles. In looking at how bottles get re-used for water storage in Antigua today, it is not hard to envision the bottles being employed similarly in the past.

The use of this site as a casino cannot be supported archaeologically. Ceramic sherds roughly cut into discs approximately 1 cm in diameter were found and were at first tentatively identified as mancala or warre game pieces by local informants working at the excavation site.<sup>14</sup> The discs were fashioned from early nineteenth-century ceramics. While this does not necessarily prove

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<sup>14</sup> The same people claiming to have buried jewelry.

that the artifacts were made or used in the early 19<sup>th</sup> century, the fact that there are none made from later ceramics, or local ceramics, and given the context of the discs - indicate early to mid nineteenth-century use. An alternative interpretation of the sherds is they were used as button blanks for making "covered buttons." The size and shape are appropriate to this use and in line with the other nineteenth century finds. This is in line with inhabitants of Betty's Hope exploring non-agricultural avenues of employment in a post emancipation economy.

The final hypothesis presented is that the area under investigation was an eighteenth-century captive village. However, there are few artifacts dating to the eighteenth century. Those that do are primarily pipe-stems which may date to 1730-1800. The majority of the stems come from the southeast corner of trench # 6, which includes structure #2, and may indicate that structure (#2) is indeed from the eighteenth century. Also included in this deposit is a single redware pipe stem which may have been made in Jamaica. The overall small sample of pipe stems prevents using them to draw larger conclusions about the dates in which the site was occupied. It does indicate that the area south of our site and west of the path running from the visitors' center bears further investigation and may in fact be evidence of the eighteenth-century captive village indicated on a 1710 map of Betty's Hope.

The ceramics, which came from the interior of structure#1, were a majority of open fired earthenware cooking vessels (coal pots, see figures 24-25) with some European imported ceramics which date to 1810-1860. The earthenware vessels were all globular storage or cooking vessels. The European ceramics were all flat tablewares with the exception of one spongeware teacup handle and teapot lid. The most surprising and interesting artifacts to come out of this structure were buttons and sewing paraphernalia. We recovered 114 buttons (bone shell, metal, glass and ceramic) none of which are military buttons, a safety pin, eight thimbles and a single shell cuff link from a 1x1m area. The buttons have been identified as 5 hole bone 1800-1830, four hole bone 1837-1865 and ceramic/ porcelain buttons 1800-1850 all of which were men's shirt or trouser buttons (South 1977, Hume 1991). (see figure 26) The thimbles cannot be reliably dated, but the safety pin dates to circa 1857 (Hume 1991).

Caches of artifacts recovered from floor pits in Annapolis Maryland have included pierced and intact coins, broken glass, pottery sherds, buttons, pins, rings, swatches of fabric, pieces of porcelain dolls, a bone toothbrush, quartz crystals polished stones, feathers, shells, bone and crab shells. These have been interpreted as ritual deposits "consistent with Central African usages of *minkisi* bundles, which play a role in ancestor veneration and sympathetic magic (Winter 2002, Neuwirth 2002, Patten 1992). However this cache of buttons is not consistent with other ritual finds of this sort. Neither is it in line

with Barbara Heath's discoveries of clothing adornment in the slave quarter excavations at Jefferson's Poplar Forest. She suggested that the large number of buttons and beads reflected culturally distinct patterns of adornment, which were also seen by Laurie Wilkie at Clifton Plantation in the Bahamas (Heath 1999, Wilkie 2001: 297). While the ultimate purpose of these buttons may have been ritualistic or culturally distinct patterns of adornment, these finds were recovered in the context prior to that use. In this case, given the economic conditions, limited options for employment, and the inclusion of thimbles in this collection, I believe these buttons to be evidence of sewing rather than ritual activity.

Therefore the most likely use of this structure during the period just before, and immediately following, emancipation was a laundry or tailoring facility. There is no mention of a laundry facility or a tailoring shop in the historical or ethno-historical record. Historical accounts of Betty's Hope during this period refer to craft apprenticeships for men in trades such as coopering and blacksmithing; however none of the craft shops have been located. Other crafts of the period include a woven straw hat industry in the "free town" of Liberta which was practiced by men and women. The concentration of the tools and size of the collection precludes this from being interpreted as a sewing kit for a single household. It is likely that this tailoring/laundry facility was the domain of free Afro-Antiguan women on the estate and a possible "craft shop." Historical "slave inventories" at Betty's Hope refer to captive

women as “Housemaids and employed making clothes for white servants, and washer women for the household and servants” (Codrington Papers 1667-1944). The extremely acidic soil (PH 3.5) discounts the idea of a laundry facility at this site as the use of lye in washing clothes tends to raise the PH of soils<sup>15</sup>. However, due the “land snails” recovered from the site indicate periods of flooding (perhaps post hurricane) which may have leached the soil. These artifacts tell us that after emancipation large scale clothing production for consumption outside the maker’s household was in full swing at Betty’s Hope and it ended at this location before the end of the nineteenth century. It is unlikely that a person with this kind of skilled labor would cease to utilize it in an emerging commercial economy.

A small faunal assemblage from structure #1 dates to the same post emancipation era as the sewing paraphernalia. The most interesting thing about these bones is that they show high levels of processing for maximum calorie extraction. Presence of domesticates (very few cow, pig, more goat/sheep, all long bones all shattered to extract marrow) presence of chicken, wild game birds all with ends of long bones chewed away (again for marrow extraction) stew fish and parrot fish are also present. The inclusion of game birds, stew fish and parrot fish crania indicate a certain freedom of movement and unstructured time as these would need to be hunted or caught. The presence of cod (post cranial only) indicates participation in

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<sup>15</sup> Personal communication, M. Drake Patten found soil PH indicative of laundry use of lye at Venable Lane - a nineteenth-century, free black household in central Virginia.

wider market economy through consumption of products from outside the local area.

In conclusion, the environment of Antigua, degraded by deforestation and large scale production of sugar became drier and more susceptible to drought and soil erosion. Therefore it was increasingly difficult to support the population necessary for sugar production. Other options such as provisioning from Barbuda were explored. In post-emancipation times, this lack of viable fresh water sources effectively kept a newly freed labor force tied to the land as plantations were the only source of large quantities of stored water. The plantation site at Betty's Hope Estate indicates the emergence of new industry – not tied to agriculture and possible in a free economy. Further research on the role of women in a post emancipation economy might prove women may have been less constrained in their movements and so more able to practice crafts not reliant on the land. Additional research on the central marketplace in St. John's harbor might also shed light on post emancipation economy culture.

## Appendix A

As has been established elsewhere in this work, the introduction of sugar cane to the fragile seasonal tropical ecosystem in Antigua was a pivotal point in Antiguan history and culture.

This project:

1. *Presented previous work on the prehistoric landscape as experienced by Antigua's earliest inhabitants.*
2. *Discussed the rise of the English plantation model and its effects on the environment (with special regard to land constraints due to drought and erosion).*
3. *Examined the landscape of plantation society and the extreme constraints of movement put upon slave populations.*
4. *Investigated the culture of Antigua in post-emancipation era.*

### ***Methodology***

The Betty's Hope Estate was one of many large-scale sugar producers on Antigua. It is a national monument with restored historic windmills and a visitors' interpretive center highlighting English colonialism and sugar production in Antigua. The visitors' center, located in the former stables and carriage house abutting the "great house," presents artifacts from the Codrington Family who owned the estate in its heyday and explains sugar production technology. While the center also depicts the hardships of slavery, the exhibits reveal little beyond the existence and mere survival of African captives and their descendants at Betty's Hope. The remains of this plantation provided the data for this study of people who worked and lived in Antigua during the rise and decline of the sugar empires. There were three

archaeological field seasons, held in summer 1999, January 2000 and January 2002 respectively. Two field seasons of documentary research were conducted in May 2001 and August 2002 in the National Archives in St. John's, Antigua. Additional documentary research was conducted at the Bieneke Library at Yale University, New Haven CT in December of 2006.

Working at Betty's Hope Estate presented several challenges. The site itself is somewhat controversial in Antigua. For example, a few teachers in the Antigua primary schools who were informally interviewed during the first field season on site questioned whether or not to continue school outings to the historical site because they felt there was more to be learned about Antiguan history than slavery and "it is a period of history best forgotten." Interpretive signage at the site has also been vandalized (to eradicate the word "slave").

In response to general concerns regarding foreign-born archaeologists interpreting Caribbean culture and history<sup>16</sup> community involvement in work at Betty's Hope was encouraged. Steps were taken to include and be informed by the descendent community, the historical society and museum professionals during the field seasons. In the Summer of 1999, this researcher worked with Hubert Mack, a gentleman who had been born at Betty's Hope and had worked there as a caretaker for many years. We set to clearing acacia thorn from the area generally identified on eighteenth century

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<sup>16</sup> Questions and concerns around this issue were raised in informal "round table" discussions at the Congress of the International Association of Caribbean Archaeologists, held in Grenada, WI - July 1999.

maps as a slave village and that Mr. Mack identified as habitation sites in the early twentieth century.

An archaeological field school was run through Brooklyn College, in January 2000, in cooperation with the Betty's Hope Trust and the National Museum of Antigua ad Barbuda. Dr. H. Arthur Bankoff and Dr. Thomas McGovern served as principal investigators, the crew included Gerald Sawyer and Clayton Tinsley of the CUNY Graduate Center, Janet Blit of the NY City Board of education and a culturally diverse group of 12 undergraduate students from throughout the CUNY system. More than 50% of the students self identified as being from the Caribbean or of Caribbean descent. In order to involve the descendent community, to be informed by them and to open a forum to express their ideas about Betty's Hope, we contacted the Betty's Hope Trust and began with informal interviews of school children (most of who had been to the site) and local residents. No identifying data was collected during these interviews. The discussions brought to light conflicting, but fairly evenly split, attitudes about Betty's Hope. Some felt the place should be burned to the ground because of the shameful way Antiguan history is presented there. Others felt that it should be memorialized not only as a testament to the survival and strength of their ancestors but also to educate both Antiguan and foreigners about the diverse elements that contributed to modern Antiguan culture. During our field seasons we extended formal invitations to regular tour guides and teachers, so that they

could see archaeology in action, ask questions or offer information or opinions on our work. It was important to keep the site open to any and all passers-by.

**Archaeology:**

In order to investigate the lives of Afro-Antiguans it was necessary to locate areas, on the 100 remaining acres of Betty's Hope, where the captives and former captives might have lived. Using ethno-historical accounts and primary source documents, an area was chosen for investigation. According to several sources this area was thought to be; an early 20<sup>th</sup> century domestic habitation site for cane workers, a rum shack, an outdoor casino known as "little Las Vegas," or, according to a 1710 map, captive housing.

This area was difficult to survey due to dense overgrowth of acacia thorns and tamarind saplings. A mound was identified approximately 40 meters northeast of the visitor's center. An area 15mx20m was cleared, mapped and a surface collection was conducted. A wide variety of artifacts including dressed stone, architectural fragments, pipe stems, bottles ranging from modern to the early colonial era (possibly from the rum shack), Antiguan and European ceramics, metal fragments and tools were recovered. Trenches of varying size were laid along the north axis set to incorporate the western half of the mound and areas of high artifact concentrations. Excavations were carried out with hand tools and all recovered material was sifted through 4mm mesh.

**Documentary Records Research:**

The Codrington papers are a collection of primary source documents relating to the administration of several sugar plantations and personal correspondence of the Codrington family in Antigua, West Indies. This collection dates from 1751-1893 and shows great potential for research. After a cursory examination in January 2000, references to the purchase and management of captive Africans, climatic conditions, political actions, and non-indigenous species introduction were evident in the correspondence from the late nineteenth century. This information would be of great value to scientific and historical researchers. Yet, to date, there has not been a comprehensive study of this collection, nor have parallel indices been created for it. In May 2002 documentary research was conducted at the library of the National Museum of Antigua and Barbuda and the museum library at the Nelson's Dockyard Museum.

However, the main focus of the records research aspect of this project was to complete a preliminary survey of the Codrington papers, newly returned to the National Archive in St. John's, Antigua. The collection mainly consists of correspondence written by employees of the Codringtons' twelve Antigua and Barbuda properties in reference to the maintenance of the estates. The scope of this project was to; stabilize the collection of original documents in an appropriate archival manner, to review the National Archive's microfilm

copies to ensure the documents were accurately represented, to review the documents for content, and begin the creation of an index.

Field work was conducted in August, 2002. One graduate student and two undergraduate students (one from CUNY, the other Antigua born - attending the University of the West Indies) began surveying the collection.

At the start of this survey researchers were expecting to find and index approximately 500 documents as indicated by the postage stamp and postal mark research completed in 1951 by Robson Lowe. However, the true number of records are 3,458 documents, 42 files, 33 bundles of papers and 130 volumes dating from 1681-1944.

The papers were found at the Codrington ancestral home near Gloucester England in 1948. In 1950 a smaller group of records were discovered and sold at auction. In 1959 a third collection was uncovered and given to the Gloucester County Records Office. In the early 1990's, the collection held at the Gloucester County Records Office was sold at auction to an anonymous collector who returned the collection to Antigua, however Antigua did not have the facilities to care for the collection so it was held in the Archive of the West Indies in Jamaica until such a facility could be constructed. The records were returned to Antigua in the late 1990's.

The records are in a very fragile state, although they are now being well conserved by the National Archive of Antigua and Barbuda, during the years spent in Jamaica they sustained some damage from insects and deterioration occurred. In order to keep the records in a stable state and prevent further deterioration, the archivists in Antigua restrict access to the actual collection; researchers only have access to microfilm copies. There are 36 reels of microfilm, with records photographed in the order the documents, files, bundles and volumes were accessioned into the Gloucester County Records Office, not according to content or chronology. Three copies of the microfilm were made by Diamco Microfilm Products, Alberta Canada, for the use of persons interested in the history of Antigua and the slave trade.

Given the collection was more than seven times larger than anticipated, and the time frame allotted for completion of fieldwork was unchanged, the scope of the project was modified. The results of this research will be a first step towards integrating three existing partial indices - which include the work of Robson Lowe, Gloucester County Records Office and Desmond Nicholson. In addition to providing data for this project, a secondary goal was to make the Codrington Papers more accessible to researchers. To that end, the indices were correlated to the microfilm reels that researchers must use rather than to the actual records.

Index A is a 63 page document created by the Gloucester Records Office in 1948. It divides the records into 9 subsections each with a series "letter" as follows:

Title deeds = T

Maps and Plans + P

Estate = E

Family = F

Accounts = A

Legal = L

Business = B

Correspondence = C

Misc. = Z

Pamphlets = Q

Index B is a 90 page document created by Robson Lowe in 1951. Only correspondence is referenced in this index and it is written only from the philatelist point of view.

The two researchers from CUNY stayed in Antigua for two weeks and surveyed the three existing indices, comparing them to the microfilmed collection. The 36 reels of microfilm were reviewed and correlated to the index prepared by Desmond Nicholson. This was left as a hard copy with the

archive as none of this collection has been digitized, it seemed the best course of action to facilitate its use on site.

A smaller second collection of letters (140 documents bound in one volume) contained three years worth of letters (1779-1782) from the Codrington family in England directing the estate managers in matters concerning the administration of the estates on Antigua and Barbuda. This collection was transcribed and provided additional data for this project.

## Appendix B – Figures and Images Chapter One



Figure 1: 1727 Map of the West Indies

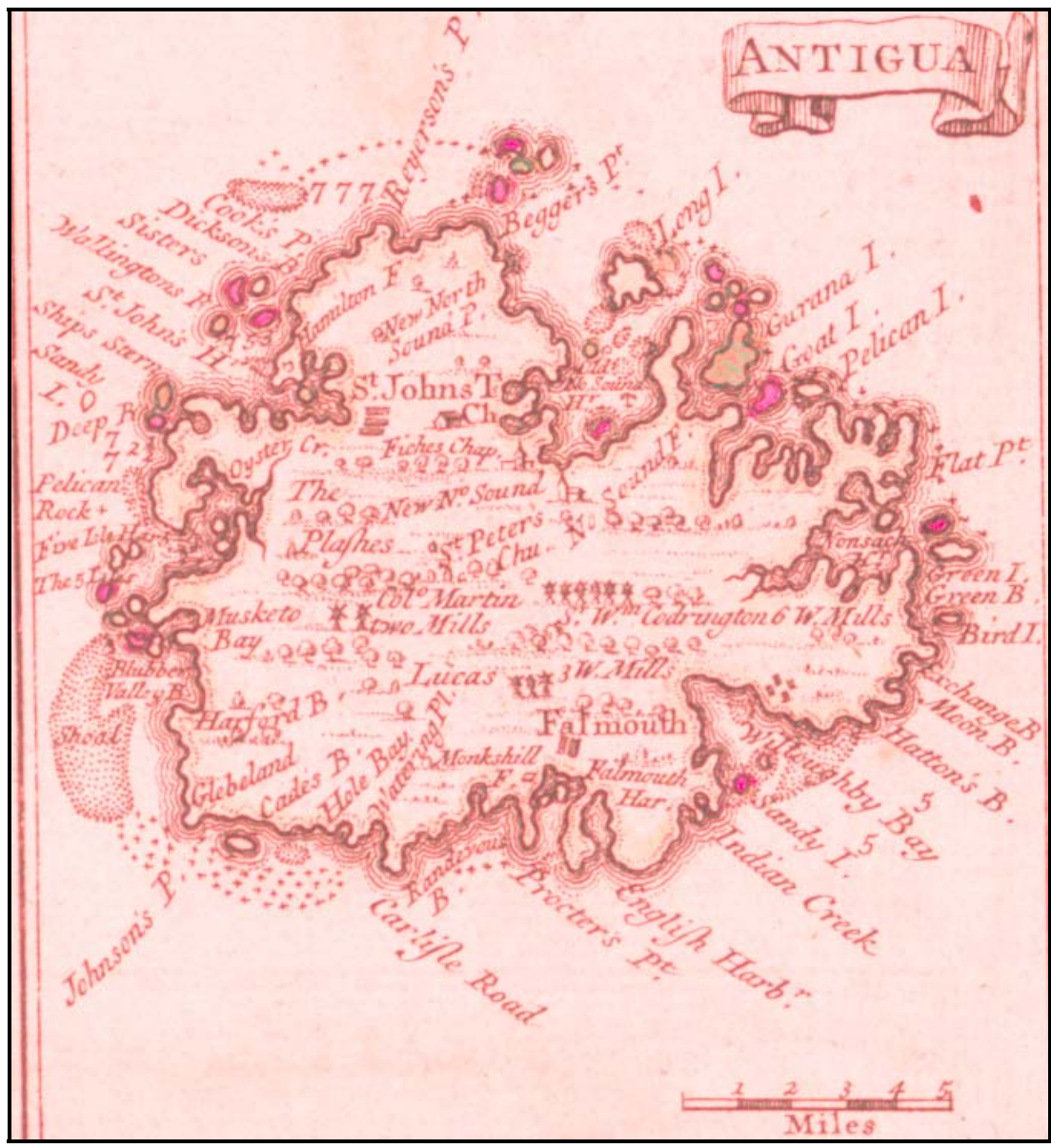


Figure 2: 1745 Map of Antigua, West Indies

Figure 3: 1671 Beasts Peculiar to Hispaniola



# Chapter Two

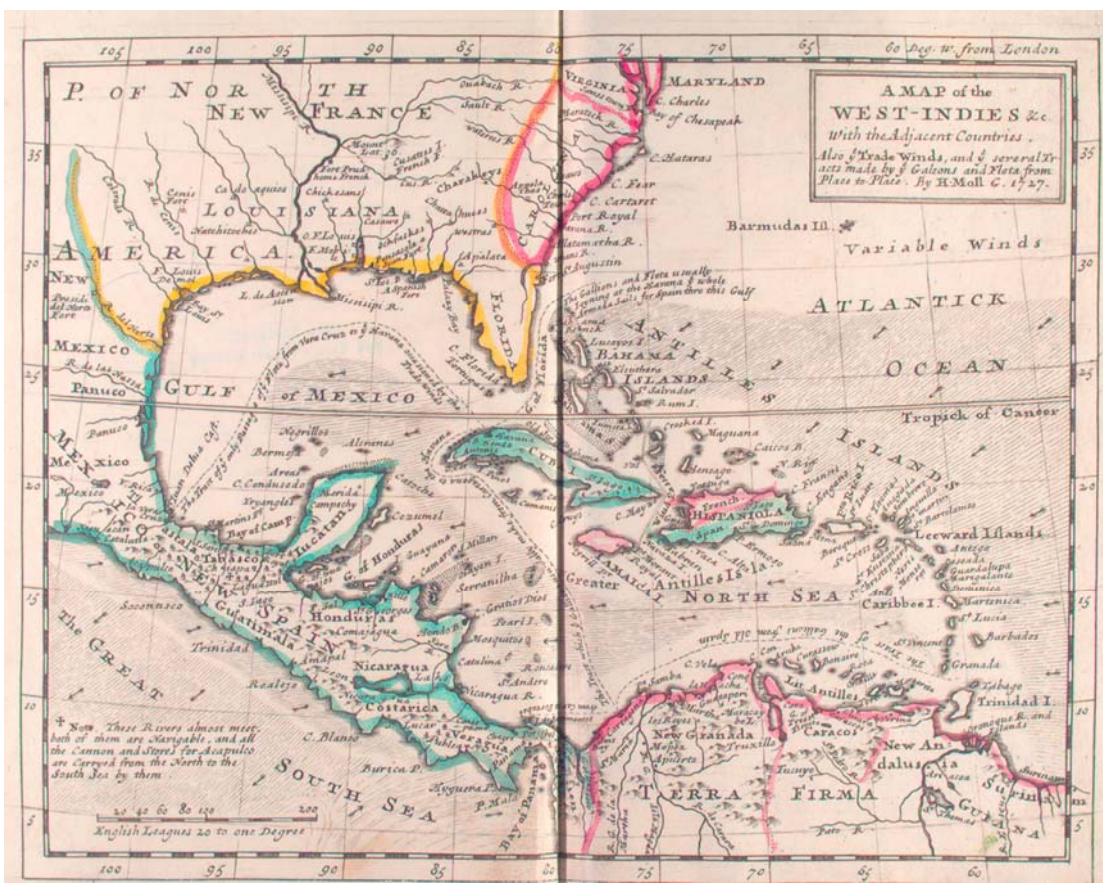


Figure 4: 1727 Map of West Indies and adjacent countries



Figure 5: Illustration of Taino on Puerto Rico circa 1671

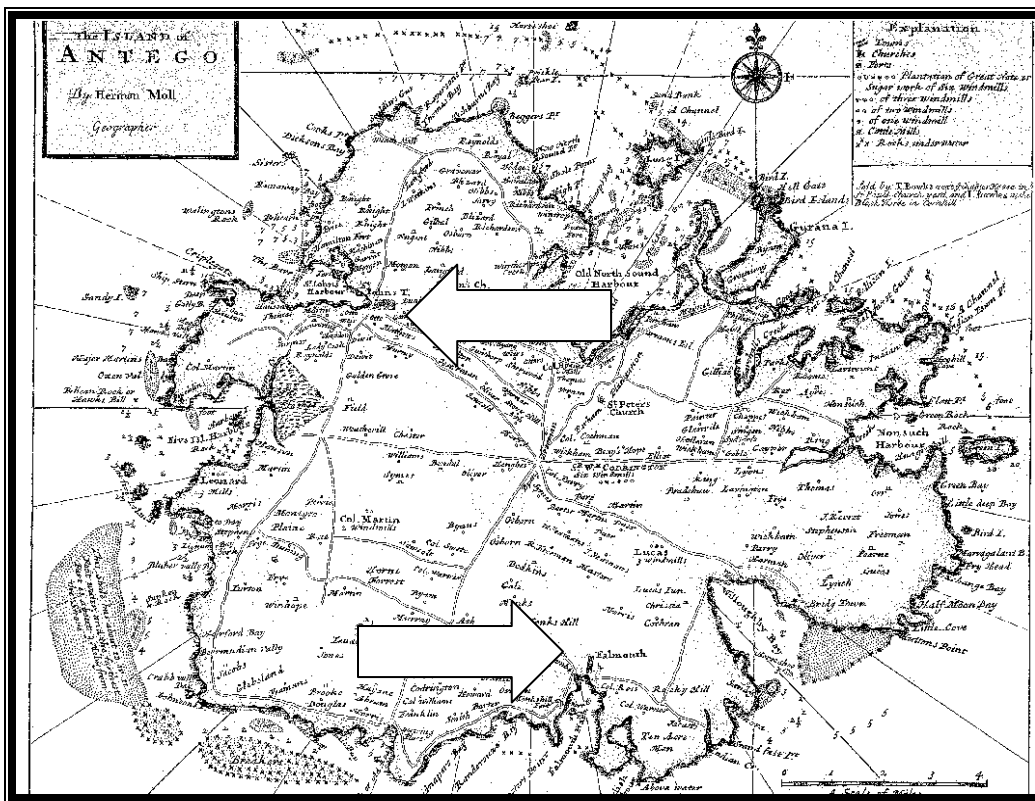


Figure 6: Map of Antego by Herman Moll circa 1739



Figure 7: St John's, Antigua circa 1900

## Chapter Three

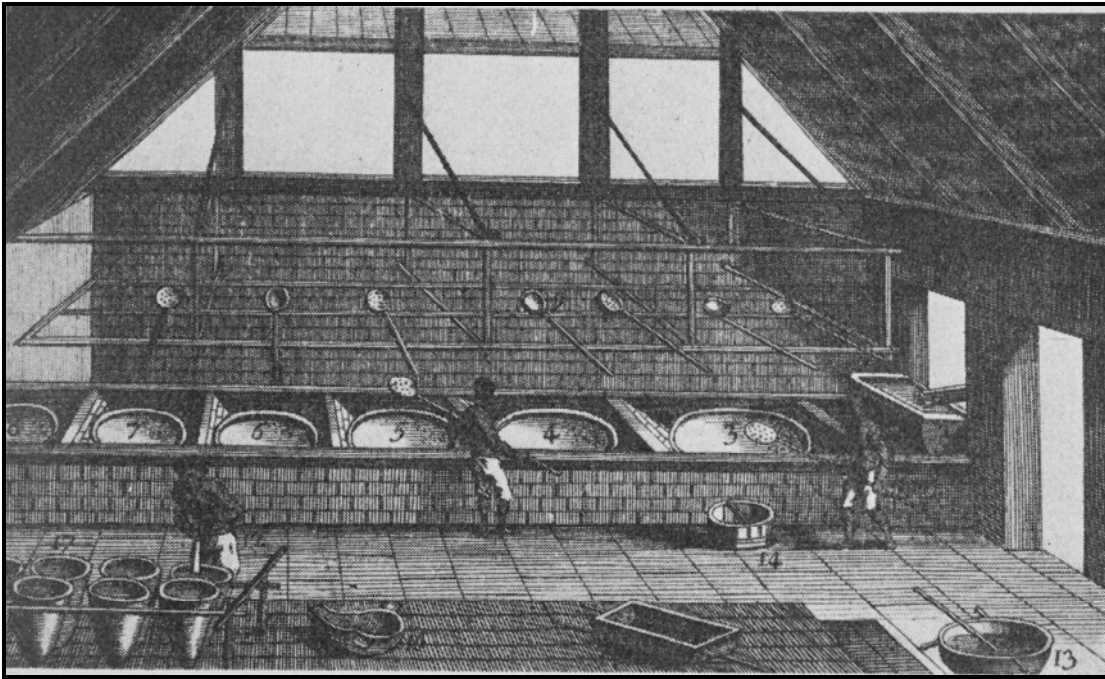
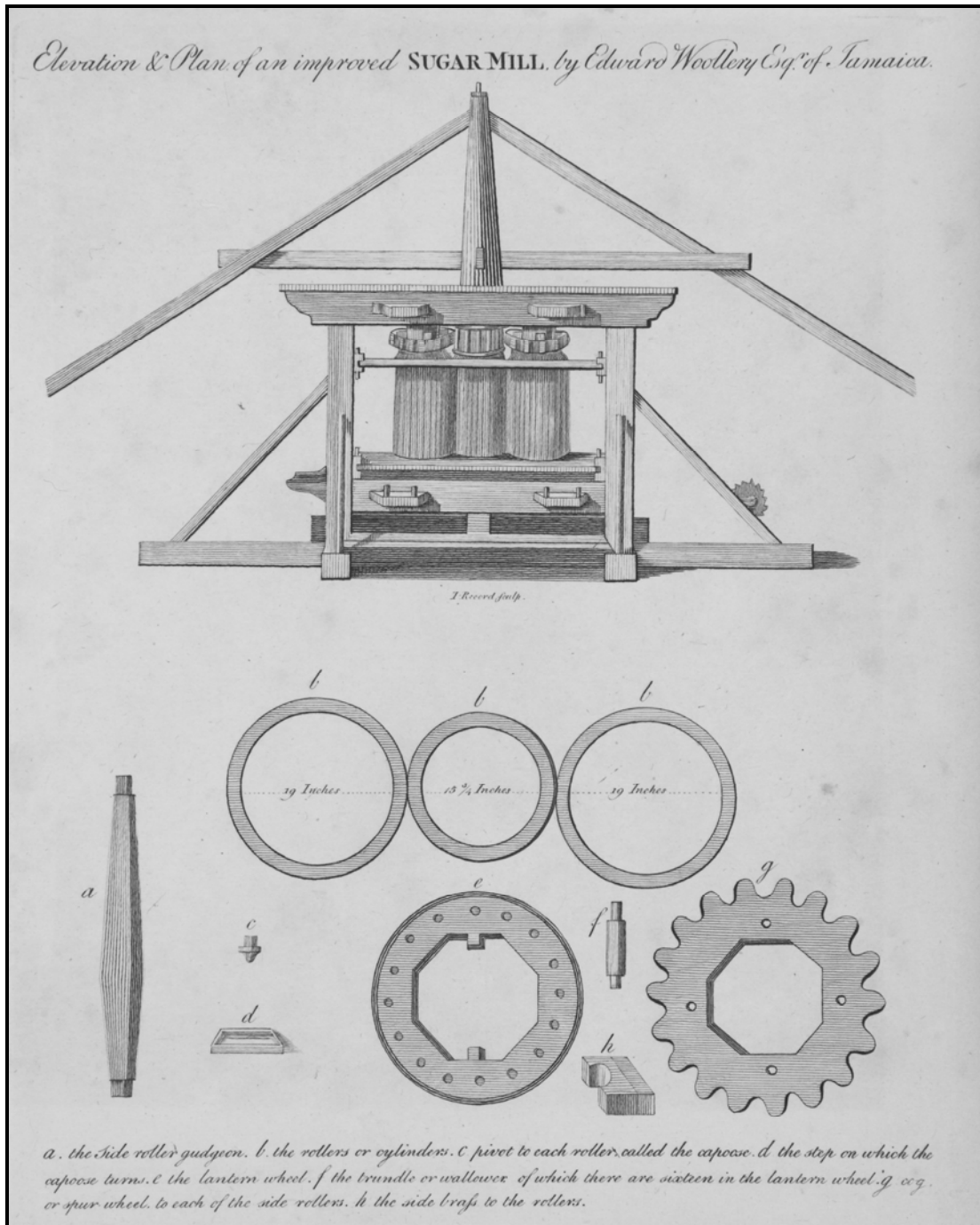


Figure 8: Boiling House - 1764



**Figure 9: Elevation and plan of Improved Sugar Mill Jamaica 1818**

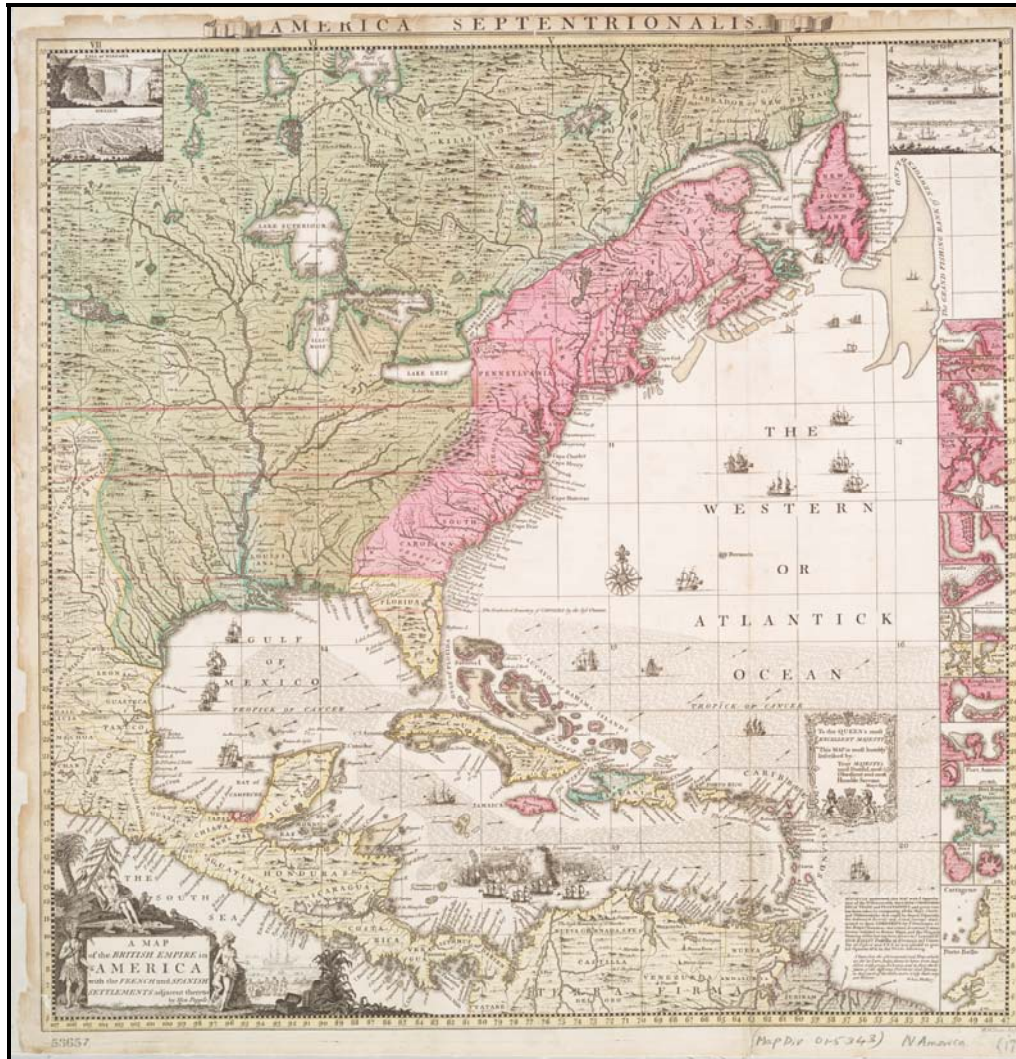


Figure 10: Map of the British Empire in America with French and Spanish settlements adjacent thereto - 1733



**Figure 11: West Indian Sugar Mill -1671**



Figure 12: Fruit Seller - Antigua West Indies

## Chapter Four



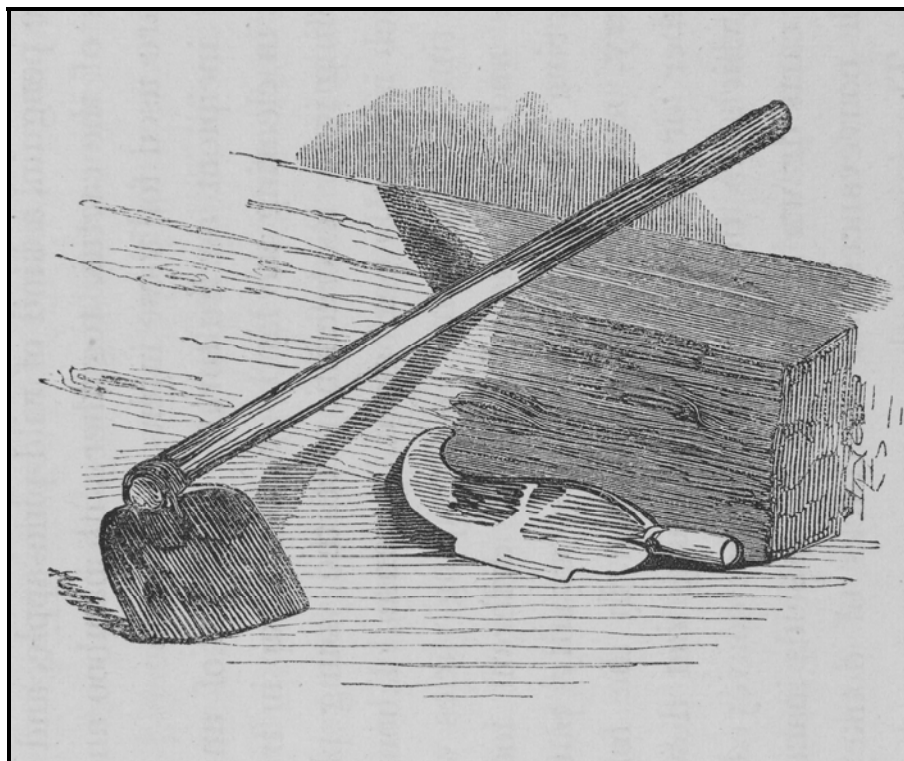
**Figure 13: Draft Animals on Llandovery Sugar Estate, Jamaica 1843**



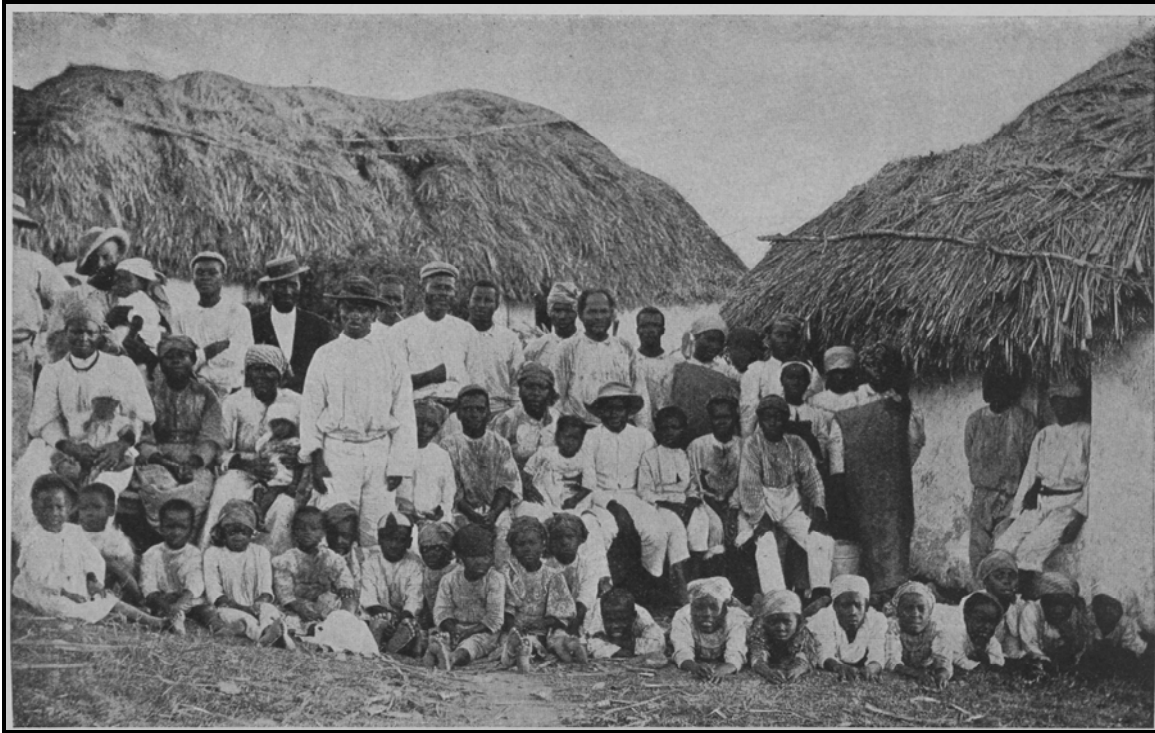
**Figure 14: Planting Sugar Cane, Jamaica**



**Figure15: Nineteenth-century Housing in Antigua**



**Figure 16: Hoe & Bill for Sugar Cultivation**



**Figure 17: Entire population of a Negro Hamlet, Antigua 1899**



**Figure 18: Restored Mill at Betty's Hope**



**Figure 19: View of Visitors' Center (former Stable) and Windmills at Betty's Hope**

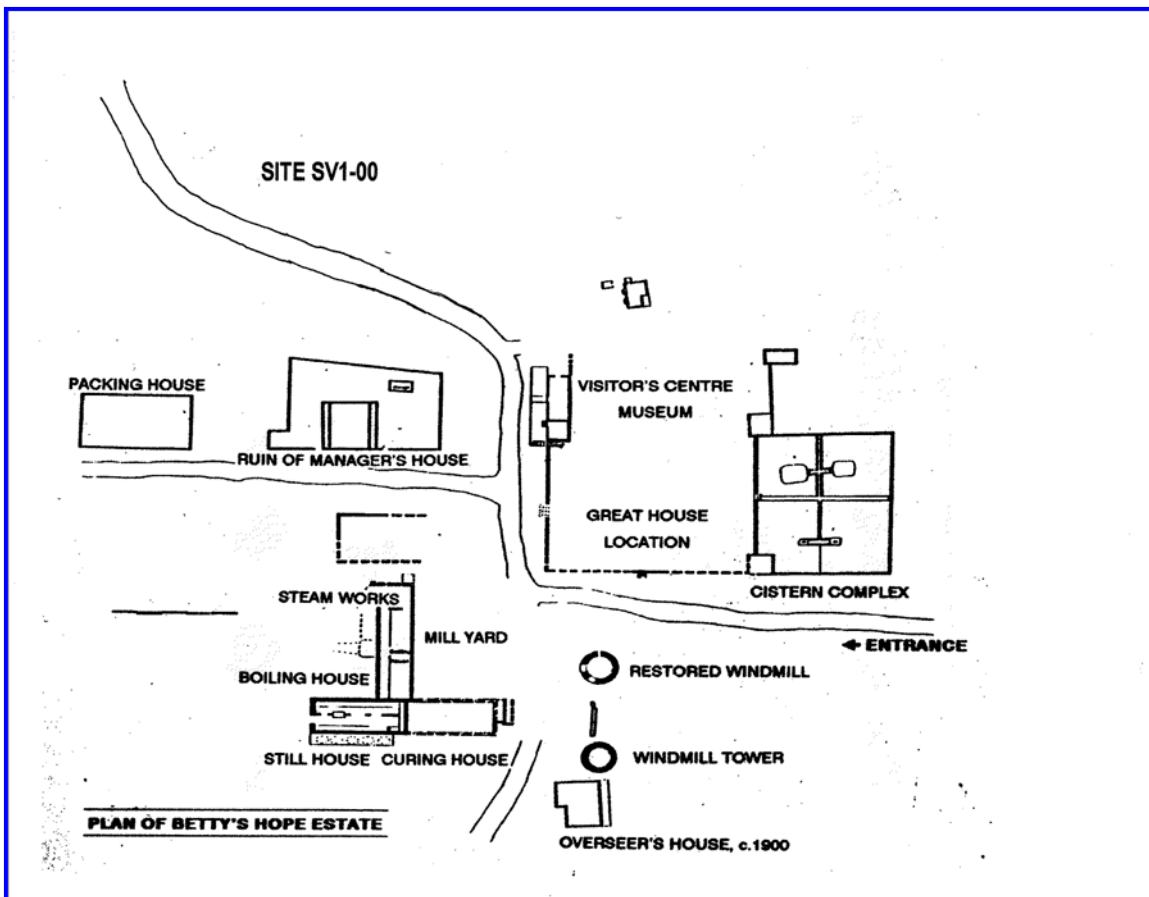


Figure 20: Plans of Betty's Hope Estate

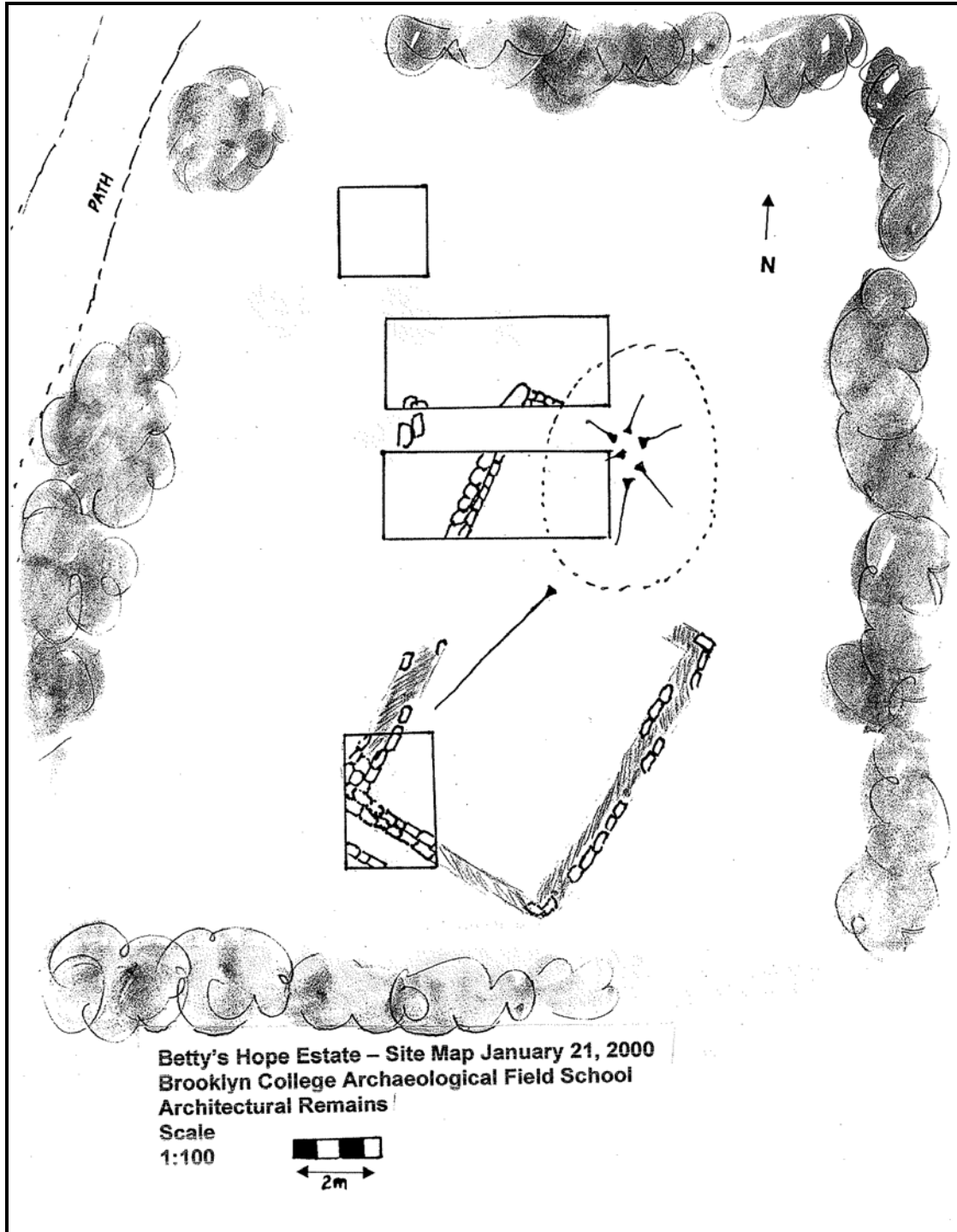


Figure 21: Plan of excavations at SV1-00



Figure 22: Foundations 1 and 2



Figure 23: Foundations 1 and 2



Figure 24: Coal pot



Figure 25: Water Storage Vessels

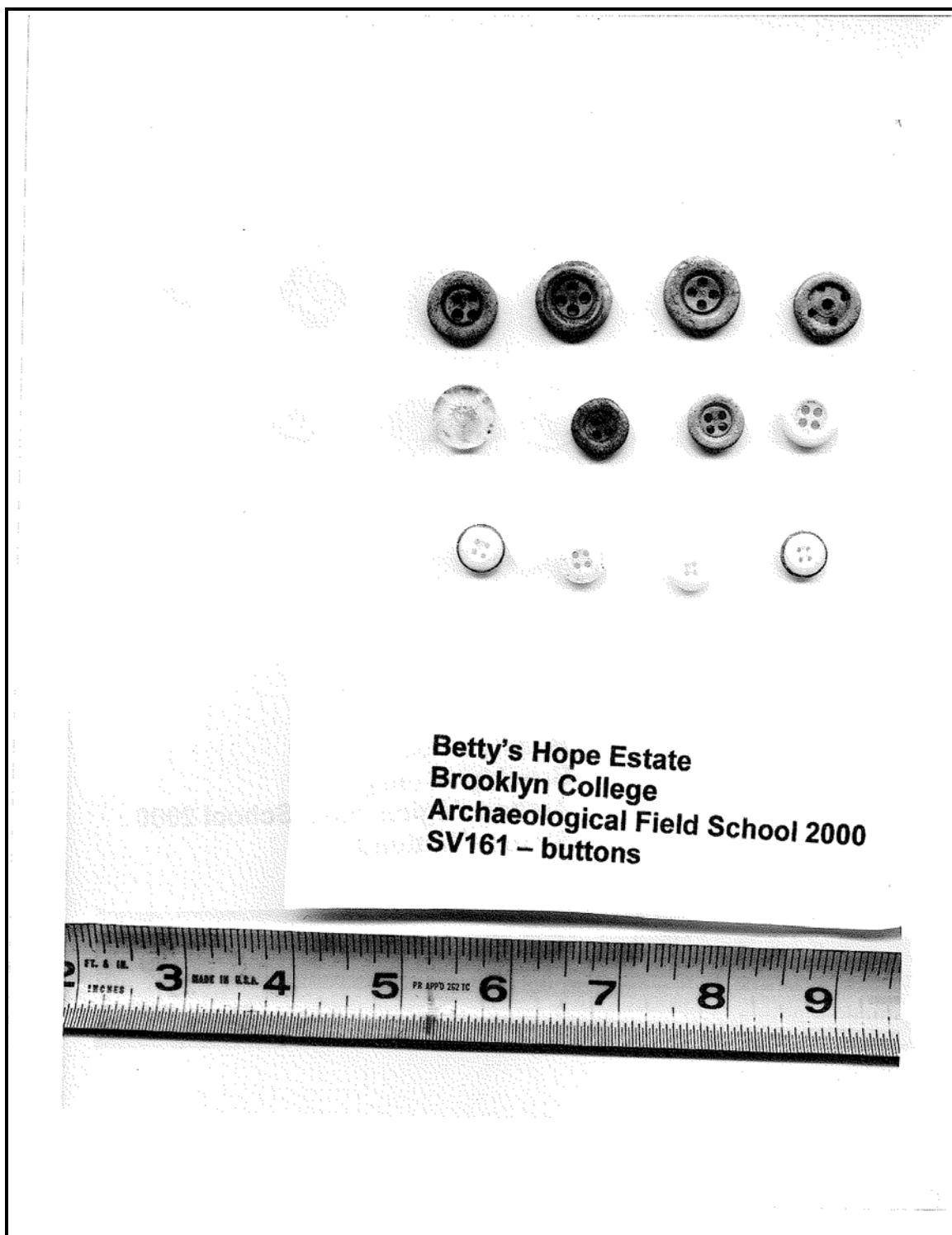


Figure 26: Buttons

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