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THE HISTORICAL ARCHAEOLOGY OF NEVIS, WEST  
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EVOLUTION OF THE CARIBBEAN COLONIAL LANDSCAPE,  
1625-1833

presented by

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Ph.D. degree in Anthropology

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THE HISTORICAL ARCHAEOLOGY OF NEVIS, WEST INDIES:  
CAPITALISM, ENVIRONMENT, AND THE EVOLUTION OF THE CARIBBEAN  
COLONIAL LANDSCAPE, 1625-1833

By

Marco Guido Meniketti

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## **ABSTRACT**

### **THE HISTORICAL ARCHAEOLOGY OF NEVIS, WEST INDIES: CAPITALISM, ENVIRONMENT, AND THE EVOLUTION OF THE CARIBBEAN COLONIAL LANDSCAPE, 1625-1833**

By

Marco Guido Meniketti

Keeping human ecology and landscape archaeology as the focal points of analysis, this dissertation investigates the synergistic relationship between environment, settlement, and economic transformation on the British colony of Nevis, in the Eastern Caribbean. The time frame for this study is between first colonization by English planters in 1625, through the developmental periods of the plantation system into an agro-industrial sugar monopoly, and emancipation in 1833. Extensive archaeological surveys and artifact analysis, are combined with historical source material to reveal patterns of settlement over the landscape, environmental change, and their multi-tiered relationship with the emerging capitalist Atlantic economy that acted at several levels and scales to shape Caribbean colonial society. A world system perspective is used as an overarching theoretical construct to explicate the important role Nevis played in the emergence of capitalism and the affect of colonialism on the nascent globalization of the eighteenth century. Although Nevis was of peripheral status in the British colonial system, the ascendancy of capitalism embedded Nevis and other colonies in a network of relationships that impacted the core state deeply, with influence on social and economic transformations globally.

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## PREFACE

Nievis, sometimes Mevis or Meves. It consists of one mountain of about four miles height to the top, whence it is an easy decent to all parts of the island, but steepest toward the town where there is a road. They have neither springs nor rivers, but have what water they make use of in cisterns receiving the rain. The ground is cleared almost to the top of the hill, where yet remains some woods and where runaway Negroes harbor themselves in it... The town or road is well fortified with batteries and fort... They have little money but buy and pay with sugars which are blackish.

-- Hans Sloane,  
A Voyage to the islands of Madera,  
Barbados, Nieves, S. Christophers and  
Jamaica, with the Natural History of the  
Herbs and Trees, Four-footed Beasts, Fishes,  
Birds, Insects, and Reptiles of the last of  
those Islands. (London) 1707.

During his voyage in 1685 to the West Indies to collect botanical specimens, Hans Sloane wrote the passage quoted above in his journal, which he later published in book form about his memorable journey to the Caribbean.

A member of the British parliament, one hundred years later, felt so strongly about the economic entanglement between England and the West Indies, that he quipped: "No ships no sugar, no sugar no colonies." He just as easily might have inserted the word slaves at any point in this sardonic assertion. and been no less correct.

Captured in these two quotes are critical elements that help define the environmental and socio-political landscapes of the Caribbean in the seventeenth and eighteenth centuries: the degree to which the environment was reconfigured by human activity, and the dependency relationships that crystallized between core colonial states and their far-flung outposts during the expansion of plantation colonization. Out of these two quotes comes the basis for the present study of landscape configuration during the ascendancy of capitalism in the early colonial period of the Caribbean.

The island of Nevis, in the Eastern Caribbean, became a colony of first importance to Britain in the seventeenth century and its historical trajectory provides a useful window into the patterning of settlement and the evolution of colonial landscape across the Caribbean during the mercurial rise of capitalism. Nevis is of minor significance on the world stage today, but the processes which brought it both prosperity and decline, are active in the modern world, and with ever increased complexity, are shaping modern landscapes. By studying a case where variables can be limited and defined, I hope to enhance fundamental understanding of key processes of settlement affected by a capitalist world system.

Sloane's observations of the landscape of Nevis describe an environment transformed, standing in stark contrast to the wooded, wild place, encountered by Columbus during his second voyage in 1493. Sixty years of aggressive land clearing and planting since first settlement in 1627 by English colonizers radically changed the tropical climax rainforest into an agro-industrial outpost of the emergent global marketplace. At its zenith in the middle of the eighteenth century, Nevis was a vital node in the British agro-colonial complex situated in the Lesser Antilles, uniting several seemingly unrelated industries into a growing interdependent network. Among these were the sugar industry, shipping, metropolitan manufacturing, and slavery. But neither the island colony of Nevis nor the British were alone in the Caribbean transformation. French, Dutch, Danish, and even the Swedish, were competing among the islands that once were the sole domain of the Spanish Empire.

In this study I propose that at the time of first entry into the Caribbean, European nations practiced a system of economics founded on feudal relations rooted in medieval

hierarchical social traditions. Within two centuries the dominant economic system changed, first to a proto-capitalist model (so-called merchant capitalism) as social relations that governed life in European core states and on island colonies began to shift significantly toward new relations of production and conceptualizations of property. By the middle of the eighteenth century modern capitalism was in its ascendancy.

The same processes of plantation economy and environmental modification advanced on islands under French, Dutch and Spanish administrations, although the Spanish model was significantly different in scope. International rivalries and nascent global economic competition fueled expansion of overseas enterprises and set the stage for unforeseen changes in political and economic systems. Nevis, as one of the mother colonies of the British Caribbean sphere served as a model for experimentation in the plantation system and capitalism. Technological improvements in shipping facilitated exploration and exploitation while concurrent improvements in sugar manufacturing techniques boosted production in response to increasing product demand.

As the environment was modified to accommodate the expansion of colonial settlement, the plantation system itself evolved into an agro-industrial macrosystem unimagined by the early settlers of Nevis or elsewhere in the Caribbean. Eventually, agricultural improvements proved necessary simply to keep supplies at standard levels because of diminishing returns in degraded soils and marginal lands. Adjustments at varying levels by colonists had profound as well as subtle affects on the landscape, ranging from altered land use patterns to modification of physical space, architecture, and technological interaction with the natural environment. Subtle changes in the use of space and its organization reflect ideological transformations as well. As I explain in Chapter

Three, these many aspects of landscape and ideological reformulation are accessible archaeologically and can be interpreted from the perspective of socio-economic development through a world system lens.

My selection of the island of Nevis as a case study is strategic, in part because of its historical importance, and because Nevis once served as a model for development that had ramifications throughout the Caribbean and beyond. But also because the built landscape of the seventeenth and eighteenth centuries remains largely intact and continues to influence modern society, mobility, and self-conception of Nevisians.

There are clearly many facets of the panorama of Caribbean history that a narrow work of this nature will be forced to ignore. The great prehistory of the Caribbean basin that has received the attention of important scholars can be barely touched upon. Furthermore, the various ways in which these processes took shape under different core-states can not be adequately compared.

The archaeology that I have conducted over the past few years has been trained simultaneously on specifics of the sugar industry and broadly on the landscape. On Nevis, as elsewhere in the region, these two features are inescapably intertwined. In this study I first attempt to disentangle the agro-industrial plantation-complex from the landscape to investigate its social, economic, and technological components, but then reengage the landscape with the plantation system to reveal aspects of environmental change wrought by colonial enterprises.

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## Chapter One

### Issues of Settlement, Development and Capitalism

...thus the land and labour[sic] of the country being devoted to cultivation of the sugar cane, the corn and provisions they raise are merely accidental... to the sugar cane everything is sacrificed as a trifle to the major object.

---Richard Glover, 1775  
A West India planter speaking before  
Parliament on the need for continued  
imports from continental colonies.

Caribbean frontiers were a crucible for processes in the evolution of European expansion and political/economic domination in the New World. The islands were the sites of capitalist experimentation and one arena in which the social relations of the modern world were forged. By exploring the dimensions of agency and causality of capitalism's global ascendancy from its inception in the microcosm of the Caribbean we can significantly add to our understanding of the colonization process.

The Caribbean between 1600 and 1800 constituted a microcosm of the emerging global market, of competition between European powers. The island colony of Nevis, in the eastern Caribbean, was at the center of this historical development and can shed light on the rise of capitalism regionally. The evolution of the landscape and the processes of socio-economic development that played out on Nevis did so, not against the backdrop of the rise of capitalism, but *integrated* with and in resonance with its rise to dominance, perhaps contributing to its rise.

The present study examining the processes that shaped Nevis and its historical trajectory was necessary to fill serious gaps in the historical archaeological record of the region, to provide data relevant to settlement patterns as they relate to economic

development in the Caribbean generally, and to inform on how human ecology was affected by capitalism's emergence. The nexus of these processes is found in the colonial landscape. The objective of this study has been to combine archaeological evidence of settlement patterns derived through landscape survey with economic data, drawn from historical sources, to improve understanding of developmental episodes, processes, and attendant consequences within the panorama of Caribbean history.

Current understanding of the earliest phases of colonial settlement in the Caribbean, its spatial organizational, and how capitalism came to dominate the social and economic spheres are vague and based on unsystematic study. This has in part been due to a lack of analysis of colonial landscapes in the Caribbean structured by any strong theoretical frameworks or guiding principles (Leonard 1993) despite the fact that it is there and then that inchoate capitalism and nascent globalization as we recognize it gained momentum and can be studied from its inception.

The origins of capitalism's root causes, and especially its florescence in the period straddling mercantilism and industrial capitalism, is hotly contested in the literature (Abu-Lughod 1989; Braudel 1972; Wallerstein 1974; Wolf 1982). Disagreement exists even on whether we can refer to *merchant capitalism* as a distinct phase. Arguments about the nature of capitalism continue to flutter like moths to a candle around the works of Karl Marx and Adam Smith. The highly charged political nature of the arguments and the elusive character of capitalism explain to some degree why consensus among scholars should not be anticipated any time soon. Nevertheless, myriad authors suggest that even *without* an overarching political organization, capitalism developed beyond the point of *economics* to become a complex *social system* touching all aspects of cultural life. If we

accept the premise that capitalism arose through internal systemic developments, undirected by any governing body, as suggested, we must still wonder how it came to be the dominant organizing system and how, as *a system*, it influenced the historical ecology of the Caribbean regionally. What advantages were conferred and on whom? In part, to study capitalism in any of its forms is to study ourselves; the making of our own world and condition.

#### A Model for Capitalist Development in Caribbean Colonial Context

In *The Rise and Fall of the Plantation Complex*, Curtin (1998) asserts that early Brazilian economics contained institutional elements from feudal Mediterranean systems, but went on to postulate that "early capitalism" was transplanted to Brazil by the Portuguese. However, his definition of early capitalism is vague and hardly distinguishable from mercantilism. And this definition is at odds with scholars who view the *encomienda* system as inhibiting systemic development of capitalism (Ferry 1997). Curtin presupposes a *proto-capitalism* in Portugal. While there is evidence that experimentation in novel systems of exchange were underway in Europe in the early sixteenth century, such as sophisticated mechanisms for contracts and exchange of promissory notes, and a decline of major fairs in favor of regulated money markets, the real developments that separated economic systems from the middle ages came about in the early 1600s with the rise in importance of stock exchange controlled in Antwerp. Coinciding with this shift was the rise in popularity of payment through transfer and the practice of using agents, both important elements in the trade overseas (Schieider 1986:17). In contrast, trade systems of India, China, and Islam at large existed without bills of exchange or any stock exchange superstructure. Therefore we cannot be assured

that capitalism arrived in the Caribbean prior to the seventeenth century institution of non-Iberian plantation systems.

With publication of his landmark series embracing the complete development of his world-system theory, Wallerstein articulated a broad approach for analyzing the structure of the modern world, its hegemonic powers, social hierarchies, and historical trajectories.

The current study does not have the burden of examining the issue of world system impact on indigenous peoples per se, nor of addressing underdevelopment theory. However, understanding the creation of a peripheral frontier and focusing on capitalism in terms of modes and relations of production are fundamental. In particular, we need to illuminate how production in the periphery came to embrace ideological restructuring forcing feudal social hierarchies into a capitalist paradigm, and further, how the Caribbean fits into the economic zonation Wallerstein proposed.

Expansion of trade alone is insufficient to cause socioeconomic metamorphoses. The ancient world engaged in trade over vast distances for benefit of the state without arriving at capitalism as an economic base. I believe an impetus for change can be derived from the dynamics of colonialism in the frontier in the creation of an *extractive periphery*, a slight modification of the cosmopolitan frontier concept advanced by Steffan (1980). Caribbean colonies were not isolated nor self-sufficient--somewhat straddling the definitions of insular and cosmopolitan frontiers--falling to a degree in line with Hardesty's (1985) ecological conception of an industrial frontier.

Indeed, whether driven by mercantile or capitalist mentality, a significant percentage of Europeans considered Caribbean ventures temporary, even among those who did not become wealthy and by circumstance lived out their lives on colonial islands. By

postulating that European expansion into the Caribbean basin was initially extractive in nature, I am grounding the study in economic terms similar to Hardesty's (1980) approach toward mining districts, mining communities, and the resulting landscapes. Significant parallels are evident between the sugar industry on a colonial outpost, and remote mining operations, as each imports a labor force, and exports profits while investing little on social infrastructure. My approach has been to scaffold perspectives such as Wallerstien's foundational world-systems approach and Hardesty's localized studies foregrounding relations of production within a landscape perspective. Herein lies the basis of my schema; that the transition from feudal to capitalist socioeconomics systems was ignited by the relations arising from the tensions of managing production in peripheral colonies.

Critics of Wallerstein stress that he fails to establish a mechanism for the transition from feudalism to capitalism in his world system model, especially failing to offer an adequate explication of the dynamics of capitalism, focusing mainly on market processes, commercial growth, and increased trade worldwide. Others complain that Wallerstein sidesteps the Marxian insight of "paying attention to institutionalized relationships of producing and surplus-appropriating classes..." (Scocpol 1977:1079).

Both Immanuel Wallerstein and Eric Wolf examined capitalism in terms of stages or prerequisite conditions for its ascendancy, although their respective focal points and conclusions concerning its maturation differ markedly. Wallerstein finds the roots of capitalism in a "crisis of feudalism" transpiring in the fourteenth century. The need for markets was met, according to Wallerstein, by expansion and passage through stages of merchant capitalism, currency markets, and the evolution of peripheral regions exploited



for the benefit of the core states. Superior military technology, Wallerstein suggests, gave Europe an edge over competitors and enabled European powers to maintain control over distant outposts. In Wallerstein's model, capitalism begins in the banking houses and currency exchange markets of the fifteenth century, and emerges in the sixteenth century as dominant. In essence, capitalism is defined in terms of a system of production with surpluses reaped by the core state. The metamorphoses of labor came about in response to systemic needs of capitalism.

For Wolf, such an interpretation ignores fundamental transformations required of states to institute mechanisms wherein wealth can become capital, such as movement away from tributary states, and shies away from the issue of labor as central to capitalism's rise. In Wolf's view, Wallerstein has collapsed capitalist world markets with capitalist modes of production. Capitalism, in Wolf's analysis, was not simply a new kind of feudalism, but a "qualitatively new phenomenon" (Wolf 1982:85). Wolf is critical of the "crisis of feudalism" concept, and rejects the notion of merchant capitalism, relegating such activities to simple profit driven mercantilism having a long history, preferring to cast capitalism fully in terms of modes of production, with labor transformation central to the concept. Prior to this time, according to Wolf, European expansion produced a vast network of "mercantile relations anchored in non-capitalist modes of production." From this standpoint capitalism does not emerge until the late eighteenth century (Wolf 1982:298).

The model of capitalist development at the foundation of this study borrows elements from both scholars in the context of managing long distance trade networks. I frame the rise of capitalism in the late seventeenth and early eighteenth century as economies of

European nations became ensnared in interdependencies that were mutually reinforcing. This study does not examine the causes behind European expansion, nor determines such expansion as "necessary" for capitalism's development. However, evolution of a world network of trade operated to sustain and conjoin various industries and merchant enterprises into a system wherein capitalism arose and flourished. Archaeology carried out for this study targeted the shadowy period of early colonization and nascent capitalist development at the dawn of the seventeenth century, where the economic machinery and labor relations that became hallmarks of mature capitalism were in their infancy.

The working model employed in this study aligns capitalism with the emergence of new relations between producers and consumers, between producers and production managers, and finally, between the network of interests of primary producers and secondary producers. In this schema a primary producer supplies commodities while a secondary producer facilitates production, such as through shipping, or equipment manufacture, and emerges as a significant player in a world-system either in the core or as a peripheral outpost. Each set of relationships can be viewed as creating dependent and self-sustaining interest groups. Appropriation of labor in this model is an outcome, not a precondition, of capitalism's ascendancy. This concept of labor in the schema of capitalism is fundamentally different from Wolf's model. Yet my model nevertheless recognizes and preserves the critical importance of production relations as perceived by Wolf and others.

The fundamental premise for this study is that capitalism was not functioning at the time European presence in the Caribbean increased, but that the establishment and subsequent evolution of the plantation system created an environment in which the new

relations of production and capitalist development were nurtured. While I concur with Wallerstein that basic economic structures enabling capitalism were in place in select regions of Europe in the sixteenth and seventeenth century, a shift toward capitalist relations was not. Nor was it inevitable. I reject the concept of a "proto-capitalism" as an effort to get around explicating the mechanism by which change came about.

The Caribbean, is for the purpose of this study, conceived as not only the leading edge of European cultural expansion, but as the capitalist frontier, when and where both the economic machinery and symbols of the new order by which people understand their society, were in flux. An important dynamic maintaining the impetus was the competition between political and economic interests engaged in proxy conflict throughout the Caribbean region.

Because Nevis is a bounded space, variables relevant to development and decision-making become amplified, and can be more readily recognized and isolated. Variables external to the island, but also necessary for colonial functions, such as transportation, importation of raw materials, or political decisions in the metropole can be brought to light and quantified for analysis in historical context.

### Essential Questions

In order to develop hypotheses embracing capitalism and settlement it was necessary to characterize settlement on Nevis through survey and description first. Four essential questions guided the study, focused on comprehensive understanding of the settlement trajectory of Nevis.

1. How did the colonial landscape [on Nevis] evolve between the period of initial settlement in 1627, until emancipation in 1833? Based on the historic record we assume

that first settlement transpired within a recognizably feudal socio-economic system. But by emancipation the system was unquestionably capitalist. The transformation took place between these temporal markers. What variables, and in what combinations, influenced development trajectory? How did *variable load* affect development over time? Variable load is defined here as the degree to which a given variable carried priority or importance within the context of development, for example, water availability versus soil quality, local versus global economics, and so forth. The importance of distinguishing and assessing these variables is related to comparing the landscape of Nevis under different socioeconomic systems, feudal and capitalist. While it was possible to project a number of variables onto the systems that logically had influence, I anticipated unexpected variables to emerge from the study that did not have an immediately obvious logical basis.

2. Does development identifiable in the landscape indicate accelerated or countervailing resistance to changes in spatial organization, in social norms or the relations of production in correspondence with identifiable historic phases? (Do they precede or lag behind historic/economic indicators for change?) By examining architecture, land clearing, roads, public works and other features of built landscape, we can assign a chronology to the pace of development that can be contrasted to historic chronologies. This may reveal underlying motivational forces of change, helping to distinguish the degree to which change was based on economics or not, local or not, or owing to factors unrelated to capitalism.

3. Which aspects of settlement or segments of society most reflect the integration of capitalism and adaptation to social change? What evidence exists at the micro-level

supporting the contention that individual lives were influenced by capitalism? Because a central theme of this study is cognitive change and the role of agency in economic change, it is vital that the archaeological record be examined for evidence of material culture that can be related to capitalism and the ideologies of capitalism. Here, artifacts can be assessed in terms of embedded ideology, and architectural iconography can be examined to elicit clues to concepts that reinforce capitalism's ideological underpinnings.

4. How does the case of Nevis inform us about regional trends (non-Iberian) in the development of capitalism and inclusion of the Caribbean in a world-system? The combined archaeological and historical records of Nevis can be used to create a framework for comparing settlement and colonial trajectories on other competing colonies. Archaeological research that questions official histories of colonies is lacking for the region and the conclusions derived from this study will provide comparable data in a testable framework for future studies.

I formulated these questions to facilitate combining archaeologically derived data from the landscape, with independent lines of evidence from historical sources. Each data set informs on the processes influencing colonial development and its effect on societies in a Caribbean context. One result of this synthesis has been a set of definable phases in the history of Nevis (detailed in Chapter Two). Although substantially incomplete, the historical record nevertheless suggests three broad phases of development on Nevis bearing rough correspondence to seminal events having broad influence across the Caribbean, and influences on other colonies. Therefore, these phases have significance beyond Nevis and help situate the study in the wider Caribbean context.

### Landscape Theory and Social Complexity

One means of bridging the various levels of social complexity found in colonial contexts is by interpreting the phenomena of alteration of the natural environment by humans resulting from colonial enterprise. According to Rubertone (1989), "landscapes are active" and space "in context is an artifact." These processes can be accessed and interpreted methodologically through procedures grounded in a landscape approach, incorporating elements of ecology, geography, anthropology, and social history (Aston, and Rowely 1974; Fox 1981; Magerauer 1995; Kealhofer 1999; Butzer and Butzer 2000, Zedeño 2000). Settlement and space are tightly woven together in human culture and highly revealing of social relations.

Steward's pioneering work in settlement studies, refined by Willey in a landmark study of the Viru Valley, Peru, provided structure to settlement pattern studies in the repertoire of modern archaeology. Settlement pattern analysis coupled with an environmental orientation has since become a sophisticated analytical tool (Parsons 1972). Approaches to environmental and landscape studies in historical archaeology have been strengthened in recent years by many researchers (Lukezic 1990; Adams 1990; Joseph 1992; Delle1998; Crowell 1999) who demonstrate how space and social relations intersect in addition to exploring this nexus in terms of environment. Significant theoretical advances linking vernacular architecture and ideology have been contributed by Glassie (1975), who sought a "grammar" of building in historic contexts, and Leone (1984, 1985), whose work in Annapolis and at Paca's garden fuse ideology with space.

Ortner (1990:90) and others have exposed the manner in which landscapes are manipulated to reinforce received ideology, particularly in a conscious manner. Ortner's

**attempt** to describe a mechanism by which social restructuring proceeds, wherein the **schema** has naturalness for actors and hence "coersiveness" over time, has implications **for** the penetration of capitalist ideology into societies in the midst of economic **transformation**, applicable to study of processes at work in Nevis. In terms of how space **can** be used to resist imposed dictums, Zedeño (2000) persuasively illustrated how **interaction-spheres** encapsulated within landscapes pattern life or how different **worldviews** structure how landscapes are perceived. This conceptualization is necessary **to** interpret evidence that the landscape is not the product of stochastic processes. The **strategy** of landscape analysis applied by Armstrong (1990), Delle (1998), Paynter (1986), Lukezic (1994), and Lewis (1984, 1999), offer adaptable, foundational **methodologies** for assessing settlement and economic adjustment in Caribbean context.

Settlements are tangible expression of material culture. Because empirical properties **of** artifacts or features and their arrangement in the archaeological record "will exhibit **attributes** which can inform on different phases of the artifact's life" (Binford 1968) it **follows** that settlements will contain traces of their developmental phases accessible at **different** scales. Core beliefs of colonists are fundamental in settlement systems—and **represent** functional relationships between sites and cultures (Parsons 1972, Wandsnider 1988). Settlement and built landscape are not only relics but "...the physical **manifestations** of systemic beliefs inextricably linked to received ideology--the dialectic **between** humanity and nature, and between sectors of society--serving in subtle ways to **reinforce** core beliefs" (Deagan 1996:24). In Wallerstein's analysis various aspects of **capitalism** are mutually reinforcing. Here we see that landscape features can be **interpreted** as contributing to the reinforcement of ideological constructs of capitalism.

*Landscape* is a powerful heuristic tool. As defined here, landscapes are the built or **modified** natural environments constituting the footprint of settlement. Examples include **such** features as the organization of space, and symbolic attributes of the environment **reflecting** processes of cultural and social interaction—and how these footprints may **differ**. These attributes are assumed to be sensitive to change in processes of interaction.

A landscape approach was applied to gain insights into the forces acting on cultural **groups** that shape their decision-making. We can not separate human motivations from **landscape** evolution. In addition there are several variables acting independently on **settlement**. Bearing in mind that Nevis was agro-industrial in scope, variables affecting **the** colony most would be different from a colony of farmers or one based on the spread **of** culture.

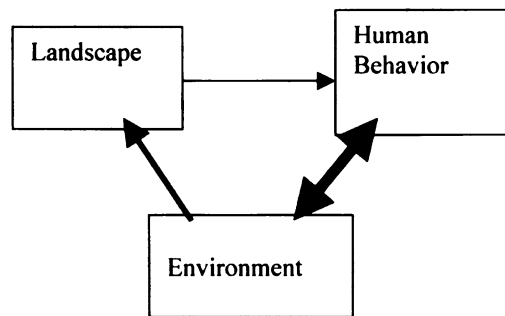


Figure 1-1. Model 1. The landscape as a feature of the environment in which settlement occurs is changed by human interaction with the environment. Human behavior is then affected by feedback from built landscape, such as spatial ordering, land use, or artificial boundaries, and by consequences of environmental modification, such as erosion. (Arrows illustrate direction and magnitude of influence between components).

**The** variables may be similar but their prioritization is expected to differ. These can be **enumerated** as, 1) natural resources: water, soil, weather, land availability, wind, **topo**graphy, 2) political and economic systems[including forms of investment or sources



of **credit**], 3) transportation: roads, distance to shipping, distance to markets, 4) conflict: **external**, internal, 5) technology and expertise, 6) labor and management, 7) prior **development** and land division.

The schematic model presented above (Figure 1-1) highlights the synergism **between** constituent parts of observable spatial ordering. Human behavior has significant **impact** on environment directly and landscape indirectly. Humans are affected in turn by **each** element. In the second model shown below, hypothesized areas of influence on a **culturally** bound environment/landscape dynamic are diagrammed. Capitalism is shown to **indirectly**

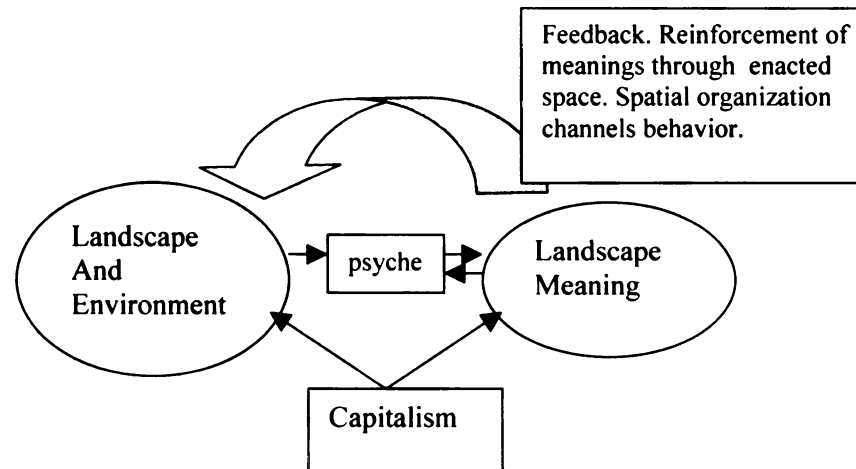


Figure 1-2. Model 2. This second schematic models the dynamics hypothesized as systemic to capitalism as it exerts influence on settlement via the cognitive domain of colonists. Economic changes are viewed as leading to landscape modifications. Changes that support capitalist development, particularly those affecting spatial organization, acquire new meanings among colonists. New meanings of landscape reify changes as natural in the context of economic change and are reinforced by new behaviors brought about by the modified spatial ordering.

**infl**uence human cognition though human impact on the environment. Absent the human **elem**ent, the landscape is affected purely by forces of nature. In fact, in the absence of **cult**ural perception of it, there is no "landscape." Human behavior can have an effect at **sever**al stations in this model, some accessible for analysis archaeologically, others not.

Far from being a post-modern, mentalist archaeology, these features of agency are practical realizations that landscapes do not order themselves, but are relics of human ecology and human decisions—decisions made within social boundaries and against a backdrop of environmental variables. Of equal significance are the exchange and transport networks that operate over space and time between groups at different levels of society.

Modern (present and visible) landscapes are not an accident, and even if inadvertent, are not random. They are products of planning, design, competing interests and attitudes toward development, as well as the result of unintended consequences, forming a series of nested relationships. Settlement analysis is essentially a study of landscape. From this perspective, “landscape” combines quantitative data derived from spatial analysis, archaeology, and environmental studies with qualitative data drawn from ethnohistorical sources, semiotics, and historical documentation.

Landscape as a concept is potent metaphor, and instinctively felt by humans within each cultural tradition. Hood (1996:122) described this phenomena with a litany of human categories for landscape that have strong psychological pull, writing:

“ . . . landscapes are categorized into culturally relevant entities, even if these are the "edge of the earth," "the unknown," "unexplored," "enemy territory" or "virgin land." Such categorizations can have tangible consequences for how that space is utilized, which in turn affects the behavior of those perceiving the landscape in that particular way." These cognitive constructs influence interactions with nature. Thus, a strong link exists between the ideological underpinnings of capitalism and the physical world expressed in settlement patterning. In passive response, nature is nonetheless active in scope,

constraining or delimiting modification. These are issues that are especially acute when we attempt to demonstrate a tangible link between the emergence of such a powerful socio-economic force as capitalism with changes in settlement, landscape, and environmental modification, as these phenomena might be related to forces unrelated to capitalism.

### Research Hypotheses

Capitalism was not simply a product of European political/economic development transplanted to the Caribbean as a result of expansionism in the sixteenth century, but rather, as hypothesized here, coalesced out of the Caribbean colonial experience. The Caribbean experience is understood in this context as the phenomena of colonization based on ascendancy of agro-industrialism, supported by slavery and politics in the metropole, mercantile transformation, shipping, and the *interlocking relationships* of these phenomena acting to stimulate socio/economic change.

Hypothesis 1. Capitalism was not operative at the time of first colonization on Nevis. Initial colonists reproduced systems they knew (late feudalism). If this was the case, we expect settlement patterns would be characterized by practices embedded in feudal relations. As capitalism came to dominate the economic and social arenas, changes in settlement in response to new social demands systemic to capitalism would manifest in settlement, including distribution, and be visible in the archaeological landscape. We could expect the earliest phases of commodity production on the island colonies to exhibit landscape structure based on models of land use familiar to colonists and for spatial dimensions of later periods to differ. These patterns should be expressed in spatial

arrangements of plantations, dwellings, and non-plantation features, artifact classes associated with status, construction details, and in the scale of production.

Social relations within capitalism are inherently unequal (Orser 1996; Wylie 1999).

Indeed this too has become axiomatic in historical archaeology for describing capitalism.

But social relations predating capitalism were also unequal. How then to distinguish inequalities? If Nevis is linked to a capitalist world-system, one should expect evidence of participation in the market exchange of goods and ideas, with evidence of class distinctions and power relations uniquely defined by capitalist context and relations.

Penetration of capitalism into the social sphere should influence individual and group decision-making, behavior, and material culture, in forms categorically different from feudalism, perhaps first shifting social hierarchies away from traditional patterns. We might expect this to materially be expressed in altered spatial dynamics. It should be expressed at several levels in the archaeological landscape.

Hypothesis 2. Changes in settlement practices came over time as a result of a shift toward capitalism. These changes should be distinguishable during historically definable settlement phases. I suggest that the apparent differences and patterns should resonate with new patterns of land-use stemming from emerging capitalist production systems. One should see a shift in production from small scale to large, with associated changes in production facilities. Such an approach is dependent on new labor arrangements but is not predicated on wage labor systems. We should also find realignment of plantations toward greater differentiation of space into discreet activity areas divided between production and non-production, and socially between managers and workers—a widely recognized outcome of capitalist hierarchical relations. Of course, stratified social relations existed

before capitalism, therefore it will necessary to make explicit how hierarchical relations of capitalism can be archaeologically distinguished from feudal. This will be discussed fully in the chapter addressing methodology. It is sufficient here to simply state that in a peripheral colony these relations will be expected to appear in status associated artifacts, mobility behavior, and degrees of access to imported commodities. Delle (1998:8) cogently argued the relationship between social phenomena and its expression in the built environment stating, "While many forms of material culture were certainly involved in the negotiation of class, ethnic, race, and gender hierarchies, few have played as ubiquitous a role as space." The use of space, too, is an "artifact" of social constructs and negotiated relations. The question of generalizability will be addressed by comparing Nevis with other Caribbean colonies and entrepôts within the framework of globalization in light of findings through analysis of derived settlement patterns.

Hypothesis 3. Finally, we should be able to discern increasing exploitation of the environment to satisfy the systemic needs of production, either to make space for Production or through commodification of space. As the colony expanded to increase Production, land itself (and land quality) became an important variable in success. Historic records imply that less capital was required during early phases of settlement than was the case during subsequent periods. But the technology of extraction and Production was little changed. This suggests that increased costs were related to land acquisition, and possibly the requirement of larger tracts in the case of marginal lands, if Profits were to be realized. We should expect then that larger estates will be an indicator on the landscape of secondary settlement phases. Artifacts and construction details should support the landscape data by also dating to this later period of settlement. Human

interaction with the environment at both macro and micro scales has been shown to exhibit distinct patterns observable in the archaeological record (Binford 1968, Butzer 1982). This is axiomatic to the discipline. These patterns can be shown to derive from specific activities, modes of production, and cultural exchange. The primary database of archaeological studies has been characterized by Charlton (1981:129) as the remnants of past cultures “within their *spatial and environmental contexts*” [emphasis mine]. As capitalism is a distinct mode of production we can expect a distinct “changeable spatial character” (Orser 1991, 1996:136). The “spatial character” of capitalism has not yet been adequately examined, and not at all addressed in the Caribbean where it would likely yield substantive data of the process. This spatial character should be definable and testable archaeologically.

#### Assumptions and Considerations Relating Capitalism and Landscape

Capitalism has been labeled a “total system” embracing lifeways, conceptions of self, and the individual (Johnson 1999). Colonial landscapes since the sixteenth century can be construed as *landscapes of capitalism* because their genesis and evolution were “embedded in the socio-economics of the capitalist process” (Wallerstein 1995). As capitalism emerged from its mercantilist foundation during the seventeenth century, fundamental restructuring of Euro-social relations proceeded as an unanticipated consequence.

Landscapes are shaped physically in the open environment and experienced psychologically. Cultural praxis provides meaning to landscapes (Yate 1989; Zedeño 1997; 2000; Butzer and Butzer 2000). How space is utilized varies among different societies and socio-economic systems. Levefbre (1978) distilled this concept

further through his analysis of space in the modern capitalist social order, stating that:  
". . . even though the use of space has limits imposed by the environment, every mode of production in history has produced a particular kind of space." Accordingly "cognitive and historical features must be added to familiar environmental analysis if we are to successfully model the dynamics of culture/social change" (Crumley and Marquardt 1990:79). Tuan (1971:49) explored the cognitive mapping of space, arguing that culture and experience influence interpretation of environment.

Humans have always modified their environment, either through resource extraction and exploitation, or through aggregation of population in familial units, villages, towns, and particularly through processes of urbanization and agricultural development. For this reason, humans have always been agents of change within the natural environment. This is the essence of human ecology: that there exists a "dynamic interplay between cultural and natural processes over time" and "environmental interactions necessarily influence interactions that follow" (Winthrop 2001:206). However, humans also *perceive* the resulting landscape through the lens of culture, in terms mediated by social constraints and potentials. Territorial and property boundaries, sacred places, and distinct spaces reserved by meaning and function are hallmarks of human landscape interaction. These may be apparent on a map but bare no visible distinction on the landscape the way a road or walls make evident. A given resource might not be used, for example, despite its availability or applicability, purely for cultural reasons. Another resource may come to be exhausted against the best economic interests of a society. Just as likely, environmental exploitation of one resource may be detrimental to another. Space may be left untouched for no apparent reason at all owing perhaps to notions of sanctity. As a result, a built

landscape or modified environment can have economic, cultural, and social repercussions, which may resonate for generations. Cultural interaction with the environment is not a closed system, external forces can penetrate that may give impetus to change in the physical landscape. However, the "external forces" are of cultural and social origin (Ortner 1990:77) and not so completely external as the term may imply. At times land use decisions have unintended consequences that influence settlement long after implementation.

Marx believed colonialism was a necessary prelude to capitalism (Bender 1986). But a particular form of colonialism was called for. It was not simply a drive for profits; this can be found in basic mercantilism. As capitalism was institutionalized it became more than a way of economics, it became a way of thinking, structuring life as effectively and potently as feudalism ordered society before it. Space itself developed as a commodity as cognitive space evolved as a manifestation of economic ideology. There also occurred a fundamental shift in thinking about property and how wealth could be derived from Property. We are brought to the question: What is it about capitalism that limits or Promotes reordering of space? As this dissertation will investigate plantation Organization, it might do well to rephrase the question: What is it about the plantation system that limited or promoted the reach of capitalism? This question will be taken up again in the synthesis of data in Chapter Seven.

The first consideration is that the "capitalist system" influenced cultural interaction with the environment in ways measurably different from that of feudalism, and grew to dominate the socio-political "culturescape." Secondly, that the plantation system as



practiced on Nevis, and elsewhere throughout the Caribbean, was the focal point of environmental interaction.

Subsequently, settlement patterns will be affected as various communities adjust to accommodate new "rules" of operation. By investigating the landscape resulting from interaction between the plantation system and the environment this study will gain insights into the system under which the plantation operated. The link between social systems and landscape formation is assumed. Its form however needs clarification. What we anticipated from archaeological survey was to isolate places first settled while the colony principally operated under a feudal mode, then comparing identified spatial organization with places on the island operating at later periods when capitalism was the dominant socio-economic system.

#### Toward A World System Model for Caribbean Agro-Industrial Settlement

A further foundational assumption of this study is that capitalism could not have prevailed without the emergence of an Atlantic economy associated with a world-system. World-system theorizing was at the center of scholarly research and controversy long before Wallerstein's writing. Wallerstein's "system" is not without its flaws and critics are numbered even among his staunchest supporters. Skocpol (1977) argued that Wallerstein built on a "preconceived model of capitalist world economy" that contrasts with the economies of empires in its functional division of labor, among other determining characteristics. Viewing this division as occupationally based in the context of empire, Wallerstein frames the world system labor division geographically. This basic premise structures economic zones around particular activities with surplus flowing to the core. Just as each zone is differentially rewarded by the system, they also support given sorts of

dominant classes oriented toward world markets. Finally, the maintenance of the system as a whole is dependent on differential strength of multiple states, with strong states providing economic assistance to their capitalist classes to manipulate favorable terms of trade in the world market. This clearly took different forms among the European colonizers of the Caribbean. Skocpol argued that Wallerstein failed to reveal a mechanism for change from feudalism to capitalism—why it should emerge at all—and that his theory is more a description of history than an explanation of processes. On the *other* hand, Wallerstein demonstrates the strength of capitalism as self-reinforcing, once *the* system is established, "everything reinforces everything" (Skocpol 1977:1078). Once *capitalism* becomes the dominant system its structure allows it to remain dominant. But *what* is the impetus? This issue was taken up by DuPlessis (1977) in an examination of *the literature* on the transition from feudalism to capitalism. It must be remembered that *capitalism* is not just a new system of commerce, but a completely new way of *structuring* society around labor and the meaning of labor. Furthermore, within the *definition* adopted for this study, there is a restructuring of ideology of one's place in the *economic* hierarchy.

*Perhaps* one of the more fundamental aspects is the contractual nature of labor that *marks* capitalism, wherein exchange-value rather than use-value is the goal of production. *Labor* is not based on obligation or customary relations. Even labor becomes a *commodity*. Slavery is not inconsistent with this arrangement. Capitalists not only own *the means* of production, but the labor as well. More than forcing producers to render *economic* service at wages less than market value of commodities, owners make no *payments* at all, appropriating all labor along with surplus. What Skocpol and DuPlessis

both recognize but do not articulate explicitly, is that system reinforcement is a networked interdependency.

Unequal relations emerge from Wallerstein's division of core, periphery, semi-periphery, measurable not simply from production relationships, but from what Champion (1989:14) described as "unequal," not so much from the cost of participating in the relationship, but "from the cost incurred at trying to extricate oneself from the relationship." This hints at some as yet undefined threshold, which once crossed, *inexorably* leads to greater involvement in the "system."

### Operationalized Definitions

*Capitalism*. Defined here as a unique constellation of economic dependency **relations**, the ideological structuring of consumption and hierarchical social ordering, and **a suite** of specialized institutions reifying the social framework. Capitalism did not arise **simply** as a means of supporting society but as a means of maintaining the elite in their **lofty** positions. Dependencies were an unforeseen by-product. Economic stability, **however**, can only be temporary in a system where one trades independence for short **term** gain. From this reasoning we arrive at a critical question. Did the observable **settlement** patterns that resulted stem from the systemic requirements of capitalist **dynamics** or were colonialists active change-agents; consciously restructuring **settlement**—willing architects of an emergent capitalist cultural schema and reifying **ideology**? The processes that may answer this question are observable in the historical **trajectories** of colonial settlements and is especially evident in island colonies where **bounded** space served to magnify the results.

*Periphery.* Broad historical patterns are often most visible, and frequently most active, in peripheries of social systems (Green and Perlman 1985:9) suggesting that investigating cases of peripheral development can lead to broader understanding of the forces shaping social systems. In peripheral outposts the transition from feudal to capitalist relations may be exposed to define how colonists both “manipulate and are manipulated by their culture [through landscape]” especially as the capitalist paradigm restructured a new social repertoire (Ortner 1990).

A peripheral region as applied in this study is one that is involved in commodity **production** for the benefit of the metropole and participates in economic relations in **colonial** context, and dependent on the core for social and economic maintenance. I **restrict** my definition to avoid the ambiguity of assessing types of periphery, such as **outposts** carved out of sovereign states compared to those under home control, or **exploitation** of indigenous people as opposed to exploitation of social sectors of a core **state's** own population. However, I do not suggest peripheries were powerless to assert **varying** degrees of self governance or develop internally, only that they functioned at the **largeness** of the core state. But autochthonous social development can be discerned in the **conflicts** that arose between core state and peripheral colony as capitalism was **differentially** assimilated.

#### Why an Island Colony as Unit of Analysis?

Caribbean islands on which the colonial system converged and where energy was **focused** are relatively bounded, environmentally discrete units. These units are suitable **for the** study of decisions that, good or ill, directed the course of settlement. Colonial **societies** are “not autonomous social realities; they are subject to the demands and

interests of the metropolis" (Bolland 1981:593). Even those within colonial societies appearing to have complete power, namely the plantocracy, were dependent in a number of ways—economically, militarily, and above all psychologically on the mother country. Such dependency relations are amplified in an island context. Dependency in the psycho-social realm had far reaching influence on the decisions made by planters and colonists.

Another attribute of landscape with relevance to the discussion of space is distance.

Distance is not a built feature but one that is felt at every level of development. The distance between plantations, between villages, between plantations and commercial centers, between core state and colony, or between houses all have ramifications touching on everything from social life to defense. These elements become psychologically internalized, influencing choices, feeding fears, or shaping attitudes. In Rogozinski's (1992:73) history of the Caribbean, he argues that distance prevented the Crown appointed Governor on Barbados from exercising any real control over Nevis. However, trade winds made Nevis accessible by sea in under a week. I must suggest that other factors were at play, namely economic and social rivalry as well as petty politics. It is easier to sail from Europe to Barbados than Cuba to Barbados. This simple fact underscores one of the fundamental realities of the Caribbean basin—that environmental constraints have played a significant role in settlement history. In fact, trade winds were the most important factor in transportation, communication, trade, plantation technology, and aspects of seaborne conflict until the invention of the steam engine and steam powered ships.



**Figure 1-3.** The location of Nevis in the northern Lesser Antilles. Nevis was among the smallest of all the sugar colonies, yet was among the most prosperous for its first 100 years. The map of the island shows the few major roads encircling Nevis. The principle road used today is the same one completed by 1700. The probable location of Jamestown, the first settlement in 1627, is indicated in the map. Charlestown is the capital. Underwater surveys were conducted at Cades Bay.

The transformed natural landscape of most island colonies reflects political history as well as the social and industrial past. The needs of plantations and pressure applied by the plantocracy ultimately reconfigured other industries in the core through feedback mechanisms and induced innovation in commerce that served as a mainspring for industrial capitalism (Mintz 1971; Williams 1994). Concurrently maritime needs and constraints acted to shape patterns of far-flung settlement as well as *industrial-codependence*, while at the same time embedding colonies in the wider global economy developed during the sixteenth and later centuries. Spanish colonies in Hispañola and Cuba suffered as Iberian shipping concentrated more on mainland settlements at the expense of insular Caribbean colonies, whereas the Lesser Antilles gained importance through shipping. Additionally, the growth of maritime power among various non-Iberian European nations can be traced to the needs of colonial industry and for defense of colonial holdings—no less true in the eighteenth as the sixteenth century.

At this scale of analysis the “spin-off” industries which supported exchange in the periphery, such as shipbuilding, insurance brokering, refining, manufacturing, trade in slaves and many others, can be analyzed to expose attributes of consumption and market forces vital in the rise of capitalism. An insight to the extent and nature of annual import trade from the West Indies can be gained from Customs House documents. For example, Inspector General Thomas Irving (1790) compiled data for shipping clearing London docks. In 1788 alone the West Indies accounts for 153 ships or 14,009 tons in commodities! Goods included ginger, pimento cocoa, brown sugar. Coffee accounted for 794,00 pounds. Molasses for 53,000 gallons. Hard woods (lignum vitae and mahogany), hides, limes spirits and rum, salt, tar and pitch, and cotton rounded out the shipments.

**Fish** from Newfoundland shipped to the West Indies amounted to 22,196 quintals dry and **803** barrels wet. Fish sent to the Caribbean?

Clearly the complex nature of Caribbean settlement and the rise of capitalism cannot **be** explicated by any single avenue of inquiry. Therefore, in this study I have attempted to **marshal** evidence relating to the processes of settlement development from myriad **sources** and theoretical platforms to contrast historical content with the archaeological. In **the** next chapter I examine the literature that has informed my thinking and exposed the **need** for the integrated approach that I have followed on Nevis.

#### Organization of this Dissertation

This dissertation is divided into three sections. Section I chapters One and Two **introduce** the issues and the literature that has stimulated this research. The methodology **employed** in the field and theoretical links are discussed in Chapter Three. In Section II **archaeology** is the focus. These chapters have been organized around development phases **for** Nevis. Chapters Four, Five, and Six specifically describe the archaeology carried out **to access** environment, settlement history, and capitalism's penetration into sociocultural **spheres** as expressed in material culture. Chapter Seven in Section III serves as synthesis **and** conclusions, presenting the value of this research in terms of new knowledge gained **while** highlighting the potential of future research.



## Chapter Two

### Informing the Study:

#### Defining the Caribbean and the Literature of Archaeological Research

A West-India estate consists of two parts; the lands, with their adjuncts, buildings, etc., and the living stock, viz. cattle and negroes, all which are as much property of the planter as it is possible for the most authentic statutes of the British Senate and Colonial assemblies to make them.

----A West India Planter (1788)

The insular Caribbean is comprised of three island groups. First of these are the **Greater Antilles**, which includes Cuba, Hispaniola, Puerto Rico, and Jamaica. Of these, **only** Jamaica passed from Spanish control. Hispaniola came to be split between French **control** in the west as Saint Domingue (Haiti), and the Spanish in Santo Domingo (**Dominican Republic**). The Bahamas, where Columbus made his first landfall in 1492, **comprises** a second major group (Morrison 1974). The Lesser Antilles forms a third **group** constituted by the small islands that extend south from Puerto Rico, like a string of **pearls**, toward Venezuela. The largest of the Lesser Antilles are Trinidad and **Guadeloupe**. Trinidad, originally a Spanish dominion, fell under British control in 1799, **after** brief periods of Swedish and French control. Nevis lies at the northern end of these **small** land masses.

Shaped like a "candy kiss," Nevis is a mere 35 square miles (56.3km<sup>2</sup>) much of it **sloped**, rising from sea level to over 3232 feet (985 meters). The division of the Lesser **Antilles** into Leeward and Windward Island groups is somewhat confusing, largely **arbitrary** and based on cartographic convention of notorious inapplicability—part

geographic and part possession based.<sup>1</sup> The terms will be applied in only the narrowest definition in this study to the Leeward Group of Nevis, St Kitts, Antigua and Montserrat.

The total land mass of the Lesser Antilles is less than that of Puerto Rico. Indeed, the importance of the Lesser Antilles in economic and political history is completely out of proportion to its scale geographically. The Lesser Antilles rides on two separate tectonic plates dividing Nevis and islands to the north, from neighboring Montserrat and the islands south. The southern islands continue to be volcanically active, the most recent eruptions occurring on Montserrat with devastating affect in 1997, and as late as the field season of 2003. The wind and current patterns having the greatest influence are the trades which steadily blow from the SE and bring moisture laden clouds to the mountains. These winds are among the critical environmental variables influencing settlement patterns, placement of windmills, watch towers, and harbors.

Although exceptions can be cited in the Spanish Caribbean, where, for example, Deegan's (1995) work at Puerto Real shed light on early settlement strategy as true extension of culture, it has generally been assumed that Europeans came to the Caribbean, "not to live, but to make a living," to use Lowenthal's (1972:33) evocative phrase. That settlements came to be permanent belies the fact that most colonies were designed to generate profits and wealth for the initial colonizers, the metropole, and serve as outposts not homesteads.<sup>2</sup>

This much is certain, the Caribbean frontier was dominated by agro-industrial development founded on the plantation system, international economic rivalries, and

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<sup>1</sup> The cartographic error, with which we are now stuck, placed islands trending westerly as leeward and islands trending southerly as windward, but by convention came to be associated with nationalities. Thus, for example, once Saba, one of the Leeward islands, was captured by the Dutch, it became one of the Windwards, even though north and west of the other Leewards.

local adaptations of European models of colonization. Sugar estates rose to primacy within the colonial context regardless of the market system at the core.<sup>3</sup> While attached to plantations, Estates should be understood as qualitatively different from plantations. While plantations were functional economic and industrial enterprises, the Estate embodied social and cultural components.

Over time, commodities such as tobacco, indigo, cotton, and ginger continued to have an important, but lesser, place in the agro-industrial product stream from the Caribbean. A sugar planter held generally higher status than other planters, a social fact noted by contemporaries. Networks of trade, regulated and otherwise, developed between peripheral region, as important as between colonies and their core states. In some cases networks grew through family or by planters owning plantations on several islands. Thus, Nevis was connected to, and affected by, developments in North America or Barbados as much as in England. Indeed, Nevis was adversely affected directly by the interruption of trade with British North American Colonies during the revolution more than was England leading to the comment that "England lost the war and 19 colonies" (Carrington 2001).

The Caribbean has been an important facet of a world-system from earliest contact.<sup>4</sup>

The Caribbean can be viewed, in this light, as a regional site of capitalist experimentation where models for plantation systems were instituted and refined. No longer a central region of wealth accumulation, it remains a part of global networks of exchange and

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<sup>2</sup> Even religious colonies, like that of ill-fated New Providence, nevertheless were commercial in nature and produced marketable commodities to sustain operations.

<sup>3</sup> An obvious exception is Holland, which had such small holdings in the Caribbean that sugar manufacture became less significant to the economy than shipping the sugar of other colonies.

<sup>4</sup> Importance is a relative term. The Caribbean has been as much a scene for power struggles in the twentieth century as throughout the eighteenth. The United States has been involved militarily in Cuba, Haiti, Granada, Panama, and politically in St Kitts, Dominican Republic, and other locations. The former Soviet Union also played out the "cold war" in the Caribbean American tourism constitutes a significant

consumption today, evidenced by international politics, ever increasing tourism, off-shore banking and tax sheltering schemes, illicit drug trafficking, and population migration. In these activities they are simply adapting to survive in a capitalist global economy.

A review of the literature suggests that much of the historical archaeology in the Caribbean has been conducted without regard to the greater context of global economy, too focused on the individual estate or plantation, or simply lacking theoretical foundations fusing local development to the influences of distant, yet connected, cultural continuity. Outside the Caribbean, researchers are departing from this pattern to construct a successful fusion of theory with a recognition of globalization. Crowell's (1997) investigation of Russian enterprises in the extremes of Alaska, during the latter part of the eighteenth and early nineteenth century is an example of how a focus on capitalism can improve understanding of critical processes internal to globalization. Early nineteenth century Russian fur trapping was a blend of market capitalism and territorial imperialism that brought Russian and indigenous cultures into conflict and ultimately a relationship of exploitation. Crowell firmly seated his analysis in a Wallersteinian framework of core-periphery relations to illustrate that surplus extraction by Russians was not a classic Marxian conception of capitalism based on wage labor, but nonetheless was founded on uneven relations. The plantation system operating on seventeenth and eighteenth century Caribbean islands has parallel dimensions of exploitation, utilizing an imported underclass in the absence of an indigenous population.

Although Crowell's study is couched in a period of mature capitalism, two features of his study are noteworthy, 1) incorporation of indigenous populations into the equation of

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percentage of economic stability in the region. European tourism in Cuba boosts the otherwise failing economy of Castro's regime. The United States continues to maintain a doctrine of regional influence.

capitalism and settlement dynamics, and 2) movement away from a strictly imperialist viewpoint that examines capitalism as only affecting European communities. In this latter aspect, Crowell follows the lead established by a number of social historians to broaden our understanding of the penetration of capitalism.

Lightfoot and Martinez (1995) took colonial settlement studies further into what might be called *intracultural frontiers*, in an investigation of boundaries and landscapes at Fort Ross, California, when it was part of the Russian American frontier. West (1966) for instance, situated colonial history in a world-system, but critically underscores the Euro-orientation at the base of the greater portion of literature on colonialism to the 1960s. For broader application to the Caribbean system generally, Sheridan (1969) examined the "revolution" of the plantation system and its influence on capitalist industrialization within the Atlantic economy. Hoy (1971) compared indigenous practices with French colonial sequences and frames his study of social conflict and dependency on the core by periphery as a complex interaction between environment and policy. In this context, focus has been on avoidance of a purely Eurocentric explication of social dynamics.

Delpuech (2001) attempted to situate archaeology of the French West Indies into the broader perspective of Caribbean development through historical studies on Guadeloupe, but decries the lack of historical archaeological research in the French sectors. His study of the seventeenth and eighteenth century processes of urbanization and landscape formation constitute the only viable comparative study available.

An analysis of slavery and trade arrangements between the islands and North American colonies was undertaken by Goveia (1965) in a preview of what came to be the

study of an Atlantic economy. King (1990) framed cultural and spatial dimensions of colonialism and imperialism in the creation/incorporation of peripheries using India as a case study. Interestingly, by 1800, sugar production in India was adversely impacting production in the British Caribbean and driving economic depression, heavily felt on Nevis. Serious modern economic studies of the Caribbean cannot avoid linking external markets to historical developments, as shown by Carrington (2002) in his study of the sugar industry and abolition of the slave trade. Each of these works have sought to connect the Caribbean dynamic to global developments. Unlike social historians, archaeologists have been slow to examine the Caribbean setting of capitalism, its industries, or the way in which embedded landscape features were articulated with capitalism's material ideology. As Williams (1994)[1944] cogently pointed out, slavery played an active role in development of capitalism. There is no contradiction in joining slavery with capitalism.

Armstrong's (1982, 1990) seminal examination of Drax Hall in St Ann's Bay, Jamaica, shed light on communities of slaves, and was a significant departure from works that exclusively focused on Great Houses and white planter society alone. This important work tied plantations to global economics. However, I disagree with his unsupported stance that "cultural systems that evolved in the New World were created in isolation from Africa." (Armstrong 1990:6). As will be argued here, Caribbean societies were not so isolated as imagined. All levels of society within the Caribbean retained tethers to external social and economic systems through networks of communication (Scott 1986, 1996) and through infusion from abroad. Communication networks are easy enough to comprehend for the plantocracy, where mobility was unrestrained and officially

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**sanctioned**, but there is no reason to assume that all communication systems were **explicit**, official in nature, nor that parallel systems were necessarily clandestine. **Com**munication during premodern colonial periods was by sea and traveled no faster than **the fastest** ship. Information and ideas sailed the same seas but often reached different **segment**s of colonial society in starkly different form. The continual influx of new **bonded** Africans meant a steady, if erratic, absorption of African cultural elements, if not **the full** culture. Just as European colonists were aware of the latest trends in Europe, **slave**s societies were cognizant of their cultural roots, other slave communities, as well **as the** values and motives of their oppressors.

#### The Significance of Nevis in Caribbean Research: A Case Study Approach

This study describes the evolution of the built environment—one might say the **colonization gradient**<sup>5</sup> in island context--as colonies became increasingly networked to a **global** economic system, modified here with emphasis on the synergism arising between **core** states and peripheral settlements during the pivotal eras of capitalism's ascendance. **This** is an appropriate model as it enables comparison between colonies in a confined **area** with those on a "limitless" frontier. Colonies in bounded areas may fall under more **direct** control from the core and may come to look more like the core as a result.

Macro-regionally, Nevis serves as a sample from the British Caribbean that can be **compared** to island colonies under different metropolitan control sharing the same fate **during** regional decline. At one time the most developed and best defended of the **colonies** under British dominion, Nevis was nonetheless a peripheral region in the sense

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<sup>5</sup> Kenneth Lewis *The American Frontier: An Archaeological Study of Settlement Pattern and Process* (Academic Press, New York) 1984



**that** the colony was founded for purposes of resource extraction benefiting the core state.

**This** was the situation throughout the Lesser Antilles.

Cases can be highly informative and useful in theory building (Vaughn 1992; Eisenhardt 1995, Rossignol 1992). "Cases embody causal processes operating in **microcosm**" (Walton 1992). Nevis, with its rapid ascendancy from founding as a satellite **colony** of St Kitts in 1625, its commanding position of wealth in 1700, to its near **abandonment** after 1833, during collapse of world sugar markets, uniquely qualifies the **location** for the study of capitalism and social transformation. Nevis stood briefly at **center** stage in the nascent world-system resulting from European expansion—one of **Britains** "mother colonies"—a principal player of economic importance in a European **global** economy based on slaves, shipping, and sugar. Nevis and the colony on St Kitts **were** the model followed by other colonies from Barbados to the Carolinas. Although the **latter** settlements eventually eclipsed Nevis in importance, Nevis nonetheless continued **to** function as a hub in the British Caribbean.

Following a qualitative case study approach, this dissertation is founded on the **premise** that the social and environmental dynamic in the Caribbean did not occur in **isolation**, that the sea acted more as highway than barrier for development--forming the **backbone** for feedback between core states and peripheral colonies--as well as serving as **a conduit** for nurturing contact between peripheral areas. Nevis represents an important **node** in the European world system, part of an interconnected social system having **macroscale** systemic relations, with core and periphery divisions (Wallerstein 1974, 1995; Champion 1989; Leone 1999). Nevis was a periphery of the British colonial **complex** embracing several islands and with arms that reached to Africa and Asia. Its

population was a producer of commodities valued by the core state and a consumer of goods manufactured by the core. Trading companies that were born as suppliers to colonies evolved into important cogs of the economic machinery stimulating growth in the metropole. At the same time, relations were established between colonial sectors that helped maintain the network. I suggest that Nevis was so embedded in the processes of capitalism's development that explicating how these processes ran their course on Nevis can inform us about the process generally. An important attribute of Nevis for this study is that demographic change and drastic population decline after emancipation largely left the early colonial landscape intact. Modern development on Nevis has only begun since independence in 1984, with little of the vast transformation of landscape so prevalent on islands that have catered to the burgeoning tourist trade.

#### Nevis as Periphery and Relations with the Core

In the classic sense, Wallerstein's "periphery" is a geographic area exploited for the benefit of the core (or center) through economic specialization, taking advantage of variations in costs of labor and raw materials (Champion 1989:14). The core is the net consumer. Here I slightly modify the concept to mean an economic zone apart from the core state, regulated by the state, but networked through socio-economic relations binding the state to the relationship. While the core remains a net consumer, there is greater emphasis on dependency at the core in my conceptualization. Champion (1989) argues that as investment increases, the political structures involved "ensnare the periphery ever more firmly." I suggest the opposite is true, it is the core that becomes ever more ensnared. Heuristically, this model allows us to readily comprehend why European powers clung so long to failing colonies and expended so much for so long.

A long held assumption has been that capitalism was a transplant, stowing away with **settlers**, perhaps in the minds of Puritans (if not the Conquistadors) as they entered the **New** World. At the very least this posits capitalist relations as already systemic, but to **date** this is unsupported by archaeological evidence (Johnson 1999). Indeed, recent **evidence** suggests the contrary, that economic exchanges between core-metropole and **colonial**-periphery were feudal in character for the benefit of the crown (Hoffman 1980). **Individuals** found new avenues for economic gain and achievement, and capitalist **development** was not simply a linear continuation or expansion from processes already at **hand**. European ventures into regions of other states met long-standing trade networks. **With** advent of the Caribbean trade in luxury commodities, however, a peripheral **economic** zone was born where rival states were engaged in parallel development rather **than** systemic confrontation.

In a Wallersteinian sense, the Caribbean was a peripheral region of European **hegemony**. But there is a crucial distinction to be made. As far as Nevis and many of the **sugar** colonies are concerned, indigenous populations were not being exploited to serve **the** hegemonic state. Rather, a colonial society was crafted from annexation of **environments** suited to particular requirements of production in much the way mining **districts** are developed. Labor was imported using known models. First settlements **imported** familiar social relations around which initial colonial society was molded. One **would** expect then that the first settlements to great degree mirrored the core society. In **the** frontier context these relations gradually changed in character. Diaries of early **travelers** do not describe settlements in manners fundamentally different from European **villages**, but do remark on the leveling of rank apparent in dwellings and labor (leaders

*engaged* in manual labor alongside commoners, for example). Within thirty years, rank *distinctions* were significant in property and display.

*In* the context of *periphery* Wallerstein's views of world-systems have not gone *unchallenged*. Stein (1999) for example asserts that a world-system perspective distorts *our* understanding of developmental change by overemphasizing external dynamics--a *focus* on the core at the expense of the periphery. We must further deconstruct the *periphery* concept. A distinction between primary peripheries which played leading roles *in the* development of colonialism and capitalist development, and secondary peripheries *which* were marginal in both political and economic dynamics seems warranted. By *examining* a case within a primary peripheral region this study "scales-down" to reveal *internal* dynamics of a periphery. Even so, the expectation is that the core state will *dominate* in specific exchanges.

Historical records persuasively suggest that in the case of Nevis, as soon as they *could* afford to, planters returned to England and left agents in their place to run *plantation* affairs, lending support to the concept that many were there to "earn a living" *in* an extractive frontier. A rare few elected to remain, and these gradually formed the *core* of a wealthy elite (Pares 1950), with aspirations to English aristocracy, educating *their* children in England. Most planters who lived out their lives on Nevis did so out of *necessity*, being either too in debt to depart, or having holdings too small to turn *reasonable* profits to support their desired lifestyles. That being the case, archaeological *features* on plantations should conform to the expectation that dwellings will be modest, *while* planters' status will be exhibited in dress, diet, and household artifacts.

**Small** holders often were in tenuous financial situations that could not easily recover from the **un**predictable calamities brought by the weather or politics. It is obvious that **plantations** were beset by several environmentally related problems, in addition to **economic** and political issues. A sense of the urgency and despair experienced by even **successful** planters can be detected from a series of letters between an absentee **landowner** and his agent on Nevis, excerpted below from Gay (1929) (original spelling and punctuation retained):

**Dec**, 20 1728

From Joseph Herbert, Nevis

... **the** plantation goods are not arriv'd. The negroes are bare of cloaths and pinch'd in their belly **hav**ing lost a abundance of potatos by the great rains in August and September..

**Aug**. 3, 1730

From David Stalker, Nevis

... **The** well is emptied but no water to be found. The charge is att least 60. They design to have a **well** digger from St Christopher. They are forc'd to go to the bath for water wich is four miles...

**Dec**. 3, 1731

From Charles Pym, St Kitts

... **I** am very sorry for the miscarriages on your estate from dry weathers and accidents and I will **make** the strickest enquiry that's possible...

**May** 5, 1732

From Joseph Herbert, Nevis

... **The** weather favorable and your estate extremely well in all its circumstances but bent one **which** is the want of slaves a general complaint in all these islands, for want of that free trade from **Boston** which the French and Dutch have almost engrossed to themselves and must in short time **inevitably** ruin the British sugar colonies...

### **H**istorical Phases Defined

To **understand** development history on Nevis, archaeological surveys were **undertaken** to document environmental modification, settlement development, and **features** of built landscape. Chronological assessment of these features were set into a

framework of settlement phases. Within the designated period of study, three phases are proposed based on my analysis of economic, demographic, and social data.

**Phase I** signals the entry of non-Iberian settlement throughout the region with agronomic colonization—a mainly feudal social system is assumed (but in need of testing)—merging with the second phase as new technologies and a shift in agricultural focus led to intensification of settlement and production. This phase was brief, spanning in essence from 1625-1655. There was a marked upsurge in population toward the end of the phase which witnessed an increase in the scale of agricultural production, intensification of the slave trade, expansion of the plantation system to the level of industry, and extensive competition between European powers, especially in the Lesser Antilles, as sugar colonies became important peripheries of economic development. In 1655, British interests in the Caribbean expanded and Jamaica was captured from Spain, which triggered an exodus of planters with their slaves from Nevis to Jamaica.

**Phase II** on Nevis begins in 1655, demographics, politics, and agro-industrial practices all undergo fundamental reconfiguration on Nevis and last several years, reflected both in settlement patterns and socio-economic restructuring. The process continued well into the next century until 1785, ending when French expeditionary forces occupied many of the British islands, leading to subsequent failure of many estates. A major crisis in the sugar economy globally occurring at this time contributed to decline. The archaeological record is the most informative for this phase. Across the island there was expansion into nearly every accessible plain or slope for ever larger estates. This appears to be the pattern on other islands, French or British according to historical sources.

**Phase III** Sharp declines in production and demographic change again are used to demarcate this phase. Also marking this period are changes in sugar production technology. The phase carries into the nineteenth century but terminates for purposes of this study with emancipation in 1833, as labor structures, migration, and land use patterns drastically change the face of Nevis and many islands of the region. The industrial revolution reaches Nevis through adoption of steam engines by a few planters who also engage in speculative estate consolidation as others quit the island.

Chapters describing the archaeological component of this study have been organized around these identified phases. The central focus is landscape and the historical narrative offers a background against which the archaeological data casts its shadow. Material culture studies with such artifacts as ceramics, smoking paraphernalia, industrial debitage, architecture, and changing spatial organization are used throughout to inform on aspects of social and economic discourse among colonists, and between the Nevis colony, its parent nation, and competitors.

### Defining the Region of Study

Spanning nearly 2600 miles in an arc from western Cuba to Trinidad, the Caribbean is socially and politically one of the most complex and problematic regions of the western world to define. Exhibiting surprising geographic diversity, this polymorphous landscape is as diverse as the people who inhabit the region. Myriad languages, religions, and political systems operate throughout the region. The blending of cultures, creolization, and historic marginalization of specific ethnic groups, both during the period of slavery and after, has produced a uniquely variegated quilt of socio/cultural relations and loyalties. Caribbean history is paradoxical and problematic. Aside from the very real

difficulty of defining the elusive boundaries of the region, briefly alluded to in Chapter One, there is also the task of characterizing its cultural composition, due in part to the ever-changing affiliation and alternating sovereignty of some islands. Each of the islands and mainland components harbor different traditions, differing languages, and play host to ethnic and national heritages so varied that the socio-cultural aspect of the Caribbean is better understood as a mosaic than as a tightly woven fabric. This is despite being one of the most "western" of societies (Lowenthal 1973; Mintz 1971). Thus one can speak of a Spanish Caribbean, British Caribbean, French, Dutch, and so forth, but also of the legacy of maroonage and Afro-Caribbean cultural elements. How then to refer to *The Caribbean* with any meaning? While each island constitutes a separate experience, they nevertheless share a suite of historical attributes. Among these are systematic eradication of indigenous populations, Western European dominance, a unique plantation system based on slavery--the likes of which the world had never before witnessed—and economic dependence on external states and markets. Just as significantly, history of the region is linked to the power struggles of Europe through proxy interaction. The purpose for this discussion is to make the case that the cosmopolitan nature of the Caribbean was adventitious and a product of the processes that supported the rise of capitalism and deserves incorporation into regional context.

In defining the region, one is also faced with determining what component of the mainland is Caribbean in character. Indeed, what constitutes Caribbean *character* at all? By what criteria is inclusion to the Caribbean to be measured? Geographic proximity alone is insufficient and may even be misleading. For example, is Florida to be considered Caribbean, or Colombia, or Guyana? Certainly these regions have Caribbean



attributes, but are generally counted to be part of non-Caribbean spheres of interest, socially, politically and historically.<sup>6</sup> Still, a case might be made to include them. If the Bahamas, why not Florida? What difference a few miles? The Garifuna of Belize have a distinctly Caribbean history but what of the rest of the population? If Belize is viewed as Caribbean, why not Honduras? Even without immediate answers to these perplexing issues, in defining the Caribbean as a region it is less important to know *where* its boundaries are as to ask *when* the definition is being applied. This is critical because the variable load relevant to decision making of one period may be found to be profoundly altered in another, or by decisions made in earlier periods. A few examples illustrate this point. Some islands remained under control of a single European state throughout the study period while others changed hands frequently. A few had shared sovereignty such as St Kitts, St Martin, and Hispaniola. Nevis managed successful defense against invasion by rival European powers for its first century while other, potentially more productive colonies, were victims of constant conflict during the same period.

A popular comparative phrase in the seventeenth century was "as rich as a West India Planter." Barely a century later the phrase was mockingly restated, "as poor as a West India planter." What tides in history brought about so sweeping a shift in perceptions? And what else was swept along by those tides impacting settlement? I have previously discussed the possible impetus behind economic zonation that signifies the periphery. Could planters have had greater control over their economic fate by fiercely resisting a capitalist model or by embracing it more completely?

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<sup>6</sup> Interestingly, Guyanese immigrants to Nevis are not thought of as Caribbean or even West Indian by most Nevisians. Although part of the Commonwealth, they nevertheless are subject to much prejudice.

Environmental factors on some islands favored the use of differing technologies. Innovations in lending practices and investments also affected planters in disparate ways. These are all details of history that directly influenced specific aspects of the variable load suggested in Chapter One. One result of these circumstances is that planters on Nevis prospered early and out of proportion to the scale of their production. Furthermore, soils on Nevis were superior to that found on other islands, at least until over cultivation and erosion depleted the resource (Merrill 1958, Watts 1999).

Some states of the Caribbean can boast of long histories of independence from Europe--if not necessarily from European and American political/economic hegemony--gained through armed conflict. Jamaicans, for instance, are prideful of a heritage of resistance (Armstrong 1990) that includes armed struggles and slave revolts. Haitians must be acknowledged for the first successful revolution among Caribbean colonies, and first emancipation. Others, however, have achieved independence only in recent years.<sup>7</sup> There remain several colonial holdings, special departments, and protectorates of European and North American nations. Recent trends in anthropological and historical studies to examine the "post-colonial world" must account for the fact that the status termed *post-colonial* is not yet a reality throughout much of the Caribbean (Trouillot 1992). It should also be noted that landscapes built during periods of colonialism continue to shape life-patterns and behavior of citizens in the modern Caribbean.

To this almost bewildering complexity can be added issues of self-identity. The term *Afro-Caribbean* is of almost no value within the Caribbean in the same sense *Afro-*

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<sup>7</sup> Nevis, currently independent in Federation with St Kitts, is striving to attain a separate independence from the Federation, as if by mitosis, within the next year or two. At the time of fieldwork for this dissertation, Nevis was preparing for a referendum on secession from the federation with St. Kitts. A previous referendum in 1997 fell a bare 3% shy of the required 67% plebiscite.

*American* has meaning in the United States (Rogozinski 1992). Indeed, the very term has only an **e**xternal application. Its counterpart, Euro-Caribbean, is at best an awkward and ill-ap**pl**ied nomenclature. More colorful perhaps, but equally misleading, is the term *West Indian*, a **p**hrase that seems to deny heritage in favor of a hopeful unity of identity. While **c**learly **d**esignating a regional affiliation, a West Indian might as easily be of European, **A**frican, **E**ast Asian or even indigenous Carib ancestry, and quite possibly a blend of **s**everal. **C**reole, mulatto and other terms, on the other hand, have specific meanings in **d**ifferent **c**ontexts within the Caribbean not replicated in North America, and **c**ategorizations of color are refined in many societies, each burdened with historical **b**aggage. **E**thnographers illustrate unique social configurations at the base of Caribbean **r**egional **i**dentify. Gonzalez's (1969) look at the Garifuna or Black Carib, a unique tri-**p**artite **n**arrative by Price (1983) of Surinamese Maroon history in "their voice," and **S**teward, et al (1956) examining the many facets of latter-day Puerto Rico, demonstrate **t**he **s**cope of Caribbean cultures and the futility of attempting to imagine a single **C**aribbean identity. It is necessary to be cognizant of these distinctions as they bear direct **r**elevance over interpretations of the past.

For **t**he purposes of this study, the Caribbean is defined as an amalgam of social and **p**olitical **h**istory, overlying the traditional geographic boundaries of the insular Caribbean. **T**he **r**egion is unified by shared history of plantation economies based on slavery, **c**olonialism and, following Olwig (1987, 1995, 1997) and Mintz (1971), a Caribbean **"**forward" perspective of the populations. In other words, a tendency of general **p**opulation to "think" Caribbean rather than to be focused on mainland interests, and to **s**ee**k** **e**xternally for support rather than internally. Thus, Cuba and Hispaniola are here

under **the** umbrella of Caribbean as opposed to Latin America (of which they are also a part). **B**ecause of dense jungle on its western side, Belize in effect is a mainland island that **fronts** the Caribbean sea. Its population a transplant from the British Caribbean and under **the** umbrella of British Caribbean colonial influence, its recent history more aligned **w**ith insular islands than with other Central American states. The Bahamas have **traditionally** been incorporated by geographers into the Caribbean, and their histories are **tied to plantation** systems throughout the insular Caribbean. All of the Lesser Antilles are **Caribbean** in scope, and despite proximity to Venezuela, Trinidad and Tobago, as well as the **Dutch** islands of Aruba, Curacao and Bonaire fall within the Caribbean "boundaries."

The **w**hen of the Caribbean for this study begins in 1627, when Nevis was first colonized, straddling the period of transition between capitalism from feudalism, until **emancipation** in the British sphere. The earliest period coincides with the loosening of **Spain's tight** grip on the Caribbean as its policies led to retraction and consolidation of **mainland** possessions, and first settlement in the region by non-Iberian Europeans. These **d**istinctions have historical as well as logical precedents. A review of historical maps **r**eveals a pattern of redefinition of the Caribbean by geographers and cartographers **b**etween 1500 and the mid-1600s, and again during the "age of revolutions."

**E**manicipation in the British sphere in 1833 brought about significant demographic and **e**conomic reconfigurations (Frucht 1966). Such a distinct shift offers a logical **t**erminal point for the current study. The plantation period, lasting from first European **s**ettlement until the early twentieth century, can logically be divided between epochs of **s**lavery and emancipation, and by details of competing systems, the epochs defined by **u**nique socio-cultural circumstances and socio-economic structuring. We might logically

divide **it** as well between Iberian and non-Iberian spheres. Cultural and social variation has allowed historians and social scientists to refer, for example, to a "Spanish Caribbean," a French Caribbean or a "British Caribbean." Discrete differences in social order have been used to justify these divisions. Archaeological research has broadly focused on constructing pre and post European contact "Caribbeans." But the situation is not so simple as categories with a bent toward European societies implies (Watts 1999). Although in many respects sharing a common history, the Caribbean is neither homogeneous culturally nor socially. Nor is there any strict political boundary. Still, the threads of common history are strong and sufficiently binding to allow the Caribbean to be viewed both externally, and internally, as a definable region with identifiable characteristics distinguishing it from European and African roots, or from its Latin American neighbors.<sup>8</sup> This definition will again have bearing on regional discussions in the concluding Chapter Seven when history, economics, and archaeology are brought to a synthesis.

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<sup>8</sup> How the Caribbean can be defined is taken up in a subsequent chapter. Here I make explicit that Latin nations such as Dominican Republic and Cuba are Caribbean in nature even though aligned with Latin America. Latin America has traditionally included MesoAmerica, Central America, and South America, along with Caribbean components.

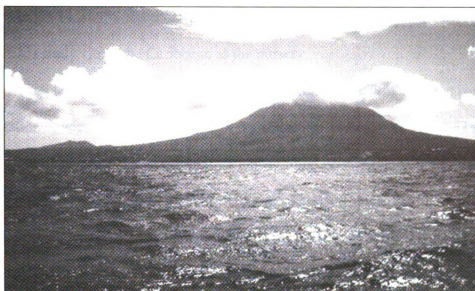


Figure 2-1. The island of Nevis viewed from the west. Note the precipitous rise of Mt. Nevis and the ever present rain clouds hovering above.

Various scholars have sought to define where the Caribbean begins and ends. Among the hypotheses are shared social links (Lowenthal); shared experience of the plantation system (Mintz); shared colonialism (Trouillot); a history of slavery (Williams); and colonial capitalism (Wolf). Strictly geophysical parameters have also been ventured (Blume 1974). Lowenthal (1972) excludes Spanish countries, but includes continental exceptions of Guyana and Suriname adding the concept of "insularity" to the equation, while others elect to retain Spanish islands in the definition for geographic reasons. And Naipaul (1973) has invested considerable energy to question of whether Trinidad is Caribbean in texture or under greater influence from Venezuela.

One inescapable attribute is the fact that its "history" coincides with a period of dramatic expansion of European nations and the economic proto-globalization, into which it was rapidly absorbed. This fact in itself justifies the Caribbean as a critical locus for study and an important data source for analyzing the rise of capitalism. While

Wallerstein (1974, 1995) perceives this period as the infancy of the first true world system. This study views the Caribbean as the nursery.

This complexity is not simply a by-product of colonization, however, but part of the globalization of social interaction rooted in the sixteenth century. As Crowell (1997:17) cogently observed, New World colonial societies should be viewed as *dynamic systems* in which "efforts to uphold the distinctions of class, race, and ethnicity were continually countered by the tendency of such distinctions to erode through material, genetic, and cultural interchange..." The Caribbean may have "fuzzy boundaries" as Trouillot (1992) phrases the problem, but operational outlines can be ascribed. The Caribbean for purposes of this study includes the insular islands and those regions of mainland that shared the colonial plantation system. Furthermore, regions sharing historical-economic trajectories, regardless of language of the dominant group, can be included. Finally, the somewhat ephemeral but nonetheless discernable "external attitude of the population" as defined by Olwig, allows segregation of areas that share some Caribbean features (Florida, or Honduras for instance) from the Caribbean zone.<sup>9</sup> The map shown in Figure 2-2 below illustrates the Caribbean as operationalized for this study. Such a conceptualization allows the internal Caribbean to be examined as a discrete unit of study detached from mainland colonization.

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<sup>9</sup> Both Florida and Honduras, along with Yucatan and all of the northern coast of South America were considered the Spanish West Indies by many cartographers before 1700. By the last quarter of the eighteenth century these regions had largely been re-categorized outside the West Indies as non-Iberians infiltrated the basin.

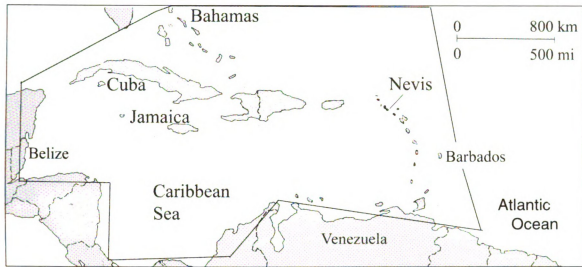


Figure 2-2. The Caribbean region as defined for this study. The areas outside the lines are considered external arenas to the developments discussed in this text. The insular region is viewed as having extended periphery-periphery exchange relations.

In the preceding discussion I have provided the basic historical and archaeological underpinnings for the present study and emphasize the complexity of examining any part of the Caribbean dynamic in isolation. The developments being studied on one island can never truly be divorced from others in the region. Yet, through the use of a case study, I expect to derive a generalizable model of the relationship between settlement and human ecology.

### Context for Historical Archaeology in Caribbean Research

There were several problems to be overcome in this study. Slavery is embedded in recent historical colonialism, the unequal relations of plantation society, and the emergence of institutional class distinctions defined by capitalism. As Trouillot (1992) has interpreted Caribbean slavery, it was not merely part of the system, it was the system. Just as Historical Archaeology has been the "archaeology of capitalism" (Paynter 1988) it is also almost axiomatic for capitalism to be identified with inequity. Paynter (1989) attempted to set an agenda for historical archaeology with his forceful book titled *The*



*Archaeology of Equality and Inequality*, tracing the literature from Service's typology of social organization through to modern capitalist states. Inequalities existed before capitalism and the earliest settlements of Europeans were hardly egalitarian enterprises. First colonies were led primarily by "gentlemen adventurers" aided by indentured servants who, while under contract, were little more than chattel slaves.<sup>10</sup> How does one archaeologically distinguish or detect the inequities of capitalism from inequalities based on any other system of relations? One suggestion is that elements of material culture, organization of space, and display of identity offer avenues for analysis (Wobst 1977,1997; Lightfoot and Martinez 1995. Mangan (2000) in particular has been innovative in unexplored dimensions of spatial transformations during the transition from feudalism, finding transitions in conceptualizations of space in households as capitalism evolved.

The institution of slavery poses unique challenges in archaeology. Slave societies did not exist in a vacuum and the societies that evolved were as bound up with the mores and practices of the plantocracy as they were an amalgm of African cultural elements. Slaves were integral to the economic system. There are literally thousands of works on the subject with a variety of perspectives on slaves; their lives, their economic importance, their resistance, and their ultimate role in shaping the modern Caribbean. Classic works of this genre relevant to the present study include Curtin (1969), Mintz (1985), Dunn (1972) and Goveia's(1965) examination of English slavery in the Eastern Caribbean. Goveia in particular ties Caribbean economic development to dependency on North American colonies. Williams (1994) [1944] asserts an economic functionalism. These

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<sup>10</sup> A key difference between actual slaves and indentured persons was the indentured could anticipate freedom (if they survived) and their status was not inheritable. However, their contract was considered

authors have influenced the treatment of slavery as it is incorporated into this study—as an economic constituent and form of technology. Planters not only owned the means of production but also the labor. This distorts the traditional meaning for relations of production within capitalism.

It would be a trivial study of colonial capitalism to ignore the role of slavery in colonial society, and meaningless to talk of landscape without recognizing the role slaves and slavery played in its transformation. From the way villages were organized to the development of markets, cultivation of domestic staples, slaves were in every way participating in a nuanced evolution of landscape.

The historical archaeology of the Caribbean is not extensive, yet is desperately necessary to fill in the gaps in knowledge of the region while challenging long held views of settlement supported less by data than by Eurocentric sensibilities. A review of the 1996 publication *Archaeology of 16th and 17th Century British Colonization* (Society for Historical Archaeology) lists barely a dozen regional and site specific studies. The greater portion are reports or papers on material culture or have a North American focus. One can learn more about pewter spoons than about the societies that used them. Few are explicitly theoretical, that is to say, making sense of the phenomena under study in the context of social development. Despite the lacunae it is evident, however, there have been three fundamental concerns: reconstructing the prehistoric ecology (receiving the most attention); the African diaspora viewed through the plantation system; and particularistic studies of colonial material culture. Therefore this study charts new territory.

Comparable surveys of archaeological research for the colonial Caribbean are rare. A recent collection of historical archaeology in the Caribbean demonstrates the breadth and

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estate property and could be sold or bequeathed just as slaves.

scope of research acknowledging landscapes as significant indicators of social change (Farnsworth 2001). Yet the various summaries do not address capitalist progression.

Hamilton's (1991) report on a decade of excavations at the entrepôt Port Royal, Jamaica, summarizing the rich material culture and cosmopolitan nature of early seventeenth century colonies is in contrast to the less revealing documentary evidence. Hamilton builds on the work of Mayes (1971) and Link (1960) before him. Port Royal offers a unique glimpse at a densely populated urban center of the seventeenth century that mirrored European towns but was uniquely Caribbean in complexion. Artifact assemblages from Port Royal form a comparative collection for material from other Caribbean, and even North American sites. Material culture represented by artifact assemblages in the Caribbean frontier have parallels at Ft Michelimacinac, Michigan, Mobile, Alabama, and Jamestown, in tidewater Virginia, among other locations, including Nevis. Unfortunately, much Caribbean research prior to 1960 reads more like a travelogue than science.

Analysis of colonial settlement strategies has been enhanced for the Caribbean by only a few, strong analytical works. Deagan (1995) and Castellero-Calvo (1999) each present comprehensive investigations of model town settlement in the Spanish Caribbean frontier in what later would be Haiti. Deagan's analysis ranges from community to household scales and examines environmental factors affecting colonists. Castellero-Calvo produced, what is perhaps the best analysis of Caribbean settlement interpretation, by framing town construction within a coherent Imperial schema. His comparisons of French, English and Spanish traditions of urban planning (or lack thereof) bridges

archaeology and landscape by establishing analytical techniques applicable to non-Iberian colonies.

Delle (1994, 1999) has closely evaluated social systems in the context of coffee plantations and aspects of landscape manipulation by the plantocracy. Contributions from the Dutch arena has produced limited but useful studies from Keur and Keur (1960) and Delle (1994). Each surveyed at St Eustatuis (Statia). A broader descriptive landscape study of the island has received ongoing attention by Barka (2001). As this island is near enough to Nevis to be visible on a clear day, the contrast in land use patterns may be of considerable interest. Statia once figured prominently in Nevisian economic history, as "neutral" trader, entrepôt, and site of smuggling until its total destruction by British naval forces in 1781. One colony was tightly controlled in a closed economic system, the other a free port. Each of these researchers has highlighted environment and colonial landscape evolution in the analysis, although not as a central thesis. Nevertheless, they provide comparative settlement models under distinct economic parameters. Clearly, several factors and scores of players were involved in colonial dynamics and a regional approach is paramount.

#### Regional Considerations

Reconstruction of the landscape and ecology on Nevis prior to colonization is possible through several channels (Merrill 1958; Williams 1963; Hall 1971; CCA1991, as well as from historic sources: Hilton 1685; Moll 1708). The nature of the historic record permits a demarcated entry point for systemic change to be proscribed and the tracking of environmental change. Furthermore, it has been possible to compare environmental change with the transformations described by researchers on other islands and coastal

areas (Keur and Keur 1960; Pulsipher 1977, 2001; Clement 1997; Barka 2001, for examples) providing a base for generating statements of regional value, revealing broader patterns systemic to capitalist development.

Although islands throughout the Caribbean share a common experience of colonialism and mercantile exploitation, and in general, absentee governance (Horowitz 1971:3), the *Caribbean* has nonetheless not meant the same thing to all nations at all times. At least two distinct geo/temporal Caribbeans can be identified as well as two socio/political spheres overlapping the study period (Hoffman 1980). A comparative analysis of the differing natures of Spanish and non-Spanish experiences in the Caribbean raises the following questions: why, within the same environment, were settlement trajectories so markedly different? As will be shown through discussion, a probable answer to this question is to be found in the nature of the economic relationships that linked colonies to their core state. The present study examines the economic development of a non-Iberian colonial relationship, which can only inform on half of the question. But it will provide a basis for testable hypotheses. We also can conjecture that the Caribbean has not been static as a region. Understanding how the region itself has undergone redefining can help clarify why Iberian and non-Iberian settlement objectives were so varied.

#### Historic Sources Framing the Study

There is very little historical archaeology in the region that can be cited or that provides insights for settlement. Historical development in the period between European contact and the immediate post-contact era, 1492-1600, has been contested in the literature by historians and archaeologists alike. In particular, whether the Caribbean

basin was densely or thinly populated, to what degree Spain exerted control, and matters concerning establishment of towns and development of urban centers. In part this is due to the incomplete nature of the historic record for this period, which allows for considerable leeway in arguments. The period of 1600-1700 is hardly better. This leeway persuaded Higman (1985) to characterized Caribbean research as consisting of "slabs of history" devoid of social context and too dependent on documents that are few in number and too official in character. With a lack of historical archaeology to provide insights Higman's appraisal remains largely valid. Goveia's (1956) focused analysis of British historiography for the region was compelling in this regard, illustrating that national agenda often gave historical accounts a positive spin. Compounding historical and archaeological interpretive difficulties, is the fact that the vast prehistory, beginning with the first peopling of the Caribbean, is poorly understood, due principally to the astonishing rate at which indigenous cultures were exterminated before even basic ethnohistories could be recorded by scholars. Archaeologists and historians alike must rely on questionable accounts from Conquistadors, missionaries (whose mission often included eradicating the very subjects of their writings), self-promoting mariners, and travel diaries. Each source provides minimal material for representative history, and must constantly be weighed, one against the other, although many have merit (Terrell 1997).

Historic documents and contemporary secondary sources bearing directly on Nevis were consulted in the construction of history relevant to the current study. Hilton's (1685) account of the first fifty years of Nevis, published by the Hakluyt society; Moll's (1708) history of the British colonies; Letters from Planters, published by Gay (1929) as well as documents from the capitulation to the French in 1785 (Watts 1929), were especially

helpful in establishing a chronology of significant events and for subtle clues relating to economic decline on Nevis. Moll provides a wealth of environmental information, citing the numerous plants and animal species that were eradicated, simultaneously incorporating accounts of known events during Nevis' first century. In Dunn's words, "there is a paralyzing paucity of information of English settlement in Nevis...and almost no seventeenth century records survive on any of the islands" (Dunn 1972:118). Not until 1670 did authorities in England even keep any correspondence with planters of the Leeward islands<sup>11</sup>. All who work on Nevis feel obligated to cite Iles (1871). Having been a Governor of Nevis, his narrative is of general value. Iles' detailed account of plantations in operation and the technologies employed is quite valuable from an industrial standpoint. The Iles map of Nevis is an important document despite its geophysical distortions and spatial compression, for it at least depicts relative positions for estates, villages, and road networks—lacking on other maps. In all cases it was necessary to extract details from these documents through strong inference.

The Calendar of States Papers (CSP) Colonial Series and assorted Proceedings for the Nevis Council and Assembly also served to establish island chronology. Several document compilations, especially copies of estate maps located by him in the British Museum, London, in the Nevis Archive. The several volumes of *Caribbeana*, compiled in 1919, consisting of assorted documents, wills, memorials, and parish records from the various colonies has been a rich source of data, as well as arcane information. It is important to note, that primary documentary sources for Nevis prior to 1800 are rare, placing a greater burden on archaeological research. Invading French armies in 1706 and

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<sup>11</sup> E.C.Baker compiled the very useful *A Guide to records in The Leeward Islands* for the British Caribbean. Little of Nevis is to be found outside the Nevis Archive or the standard sources.

again in 1785, both succeeded in destroying documents of colonial administration in conflagrations intended to disrupt functions of government and society.<sup>12</sup>

It is not my intent within these pages to write yet another Caribbean history. Regional histories are plentiful, voicing a variety of interpretations, (Davis 1962; Newton 1933; Rogozinski 1992; Parry and Sherlock 1956; Solnick 1970; Dunn 1972; Williams 1970, to mention but a few). Some histories are narrowly focused on specific eras (Ragatz 1963; Pares 1936). This does not diminish their value.

Without doubt, key events, such as the outbreak of war between European states leading to hostilities directly impacting island colonies, or legislation and tariffs bearing on colonial development hold conspicuous positions in Caribbean historical trajectories. One example are the Navigation Acts which forbid colonies from trading with the revolutionary United States, undercutting prosperity on Nevis by eliminating a key trading partner. These events have been addressed by several historians through particularistic studies (Crouse 1948; Hall 1971; Goslinga 1971; Emmer 1998; Fick 1990; Klooster 1998; among others) and serve as background in the present analysis for comparing Dutch, French, and English settlement. However, scholarship has brought minimal consensus regarding fundamental issues of settlement strategies, or the role capitalism played in Caribbean colonial history (Wolf; Williams; Mening 1986; Engermann 1996; Orser 1996).

Environmental influences are often ignored altogether in histories of the region. This is ironic in my view in that environment is the chief reason there were any colonies at all. However, environmental studies have recently been expanded by the work of Watts (1987, 1999). Years of drought, hurricanes, and blight were powerful factors in individual

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<sup>12</sup> This disruption continues to this day with numerous unsettled land ownership disputes.



island histories as important to inhabitants as invading armies (Grove 1997). These climatic elements, along with economic upheavals must be examined together to fully grasp some of the contradictions apparent in the history of settlement. My primary objective here is to place the history of Nevis in Caribbean context, not as unique but as exemplary.

#### Literature of Related Archaeological Research

In comparison to ethnohistories and historical treatise, archaeological investigations, are, in a numerical sense, quite rare. Spanish Caribbean sites have received considerably more attention than other areas of the insular Caribbean. Studies of Caribbean development have generally sought greater understanding of prehistoric societies (Wilson 1986,1989; Watters 1997; Rouse 1948; Watts 1999; Goodwin 1979; Keegan1994,1996, 2000), and another body of literature has concentrated on slave communities (Curtin 1969, 1990 ; Beckles 1998; Dunn 1972; Blackburn 1988,1997; Johnson 1996, to cite only a fraction). The institution of slavery evolved in unique ways to be as important economically to core states and colonies of the periphery as the agricultural product they produced. Scholars have produced a multitude of works on the economy and sugar industry within the context of slavery (Mintz 1985; Williams 1970,1994; Sheridan 1969, 1974; Ragatz 1963; and many others).

As for Spanish control over the Caribbean, Hoffman (1999) presented fresh analysis that counters prevailing attitudes, mostly based on British historiography, that Spain did little to protect its insular Caribbean domain in favor of mainland development or that it was unable to resist because of naval inferiority. Hoffman argues persuasively that Spain effectively prevented "foreign" colonization of the Caribbean for more than a century and

maintained constant vigilance against encroachment. Indeed, Spain's desire to control the Caribbean was a critical factor in the first two years of colonization on Nevis.

Economic history in the Caribbean is inextricably tied to sugar and tobacco production, and these to slavery. Essential for testing Wallerstein's economic models is analyses of these industries as they relate to world-system evolution, particularly commodities labeled as luxuries and the process wherein luxuries became staples. The principal products of the Caribbean all began as high profit luxuries, but consumer markets helped transform these into necessities. Several notable historians and economists have explored this issue and analyzed the impact of agricultural production in terms of world economy (Edel 1969; Batie 1976; Mintz 1985; Engerman 1996; Ferry 1997; Carrington 2002). Davis (1962) has been unsurpassed in the analysis of merchant shipping and its economic role, both at the core and in the periphery. In addition to this fine work, knowledge of the socioeconomic relations of shipping and slavery have been significantly enhanced by Duffy (1987), whose data on the development of port cities such as Liverpool, Bristol, in England, or Bordeaux, Nantes, and others in France. during the rise of the slave trade provides a strong basis for linking these regions to the Caribbean economies. Bristol was the second leading port after London in the first half of the eighteenth century, with twenty sugar refineries in operation. In the latter half of the century Liverpool gained prominence. Between 1700 and 1800 the population of Liverpool increased from 5000 to 78,000 as the city became the second largest in England and its second major port with more than half of its ships engaged in the Africa-West Indies trade. In France the story is similar as sugar from Saint Domingue (Haiti) caused a boom in trade. Forty-seven percent of all trade in Bordeaux, for instance, was

West India produce. Associated industries, such as refining, distilling, and shipbuilding, among others, grew up in the surrounding region as part of the expanding support structure (Duffy 1987).

In the next chapter I operationalized the research design detailed in the introductory chapter, detail the characteristics of the model of development for Nevis, and describe the methodology deployed in field work addressing my specific hypotheses.

## Chapter Three

### Methodology, Archaeology and the Analytical Lens

"Cognitive and historical features must be added to familiar environmental analysis if we are to successfully model the dynamics of culture and social change."

Crumley and Marquardt (1990)

A project of this scope demanded several phases: background research, piloting survey methodologies, and intensive full coverage survey in a systematic controlled sample. Locating colonial structures and distinguishing site types within the landscape was a primary objective. At the broadest scale, various sites were mapped relative to island topography. Individual sites were documented at more fine-grained scales of analysis. This strategy permitted successful determination of temporal/spatial dimensions for several features critical to the study, such as the initial location of population centers; plantation development episodes; periods of expansion and decline; construction of roads, harbors, or defensive works. These data have been compared to designated developmental phases for Nevis (see Appendix 2 for detailed chronology).

#### Space and Land Use: Methodological Considerations

It bears repeating that on most islands, nearly all resources are scarce and land suitable for development is at a premium. Its use and division into socially constructed specialized activity zones can be analyzed relative to changing terms of social relations, labor, requirements of status, and symbolic display, all within the extant power structure that mediates environmental usage. Archaeological landscape studies examine both the concepts of space and place, and the resonance between the two (Rossignol 1992). Therefore, for example, qualitative distinctions between *house* and *home* can be posited.

At the micro level, the structure of a “house” is a space lived in but is on public display, containing messages for outsiders; while a “home” is the place lived in “privately.” The concept of privacy (inhabited space) itself taking shape from the culture at large. In a micro-archaeological analysis of settlement space and function that cuts to the heart of the matter, Portnoy (1981) refined Yellen’s (1977) model of living space showing how the home environment may be divided further into public and private activity zones, and how material culture captures these divisions. By the same token, we can apply this interpretive model to examine colonial industrial sites, such as sugar works, great houses, or the general character of lived-in space. By extension, qualitative distinctions can be posited for industrial and social space in the same context.

Each space within a place may exhibit its own suite of attributes and associated material culture. One can also anticipate overlapping assemblages. For example, social adjustments and adaptation to capitalist relations appear as changes within material culture as individuals or groups become greater consumers and agents of the capitalist system itself, perhaps forming sub-cultures within the whole as suggested by Wolf (1971). At an expanded scale of analysis, changes reflected in public space, private space, and the focus of community wealth will also be indicators of capitalist adaptations, all the while providing insights to “developing cultural schema” as articulated by Ortner (1990).

#### The Model of Nevis Development

The hypotheses described in Chapter One are founded on my model for the processes acting on Nevis. The model can be expressed as having two layers, one social and one environmental. First colonization was intended for commodity production leading to a modified environment as land was cleared. The social landscape can be characterized as

feudal—relations governed by rank and position as in England. However, as successes in production measured in profits encouraged new settlement, both the environmental and social landscapes were transformed. Ever increasing expansion for plantations resulted in vast environmental change. Arrival of new planters and increased investment from abroad led to changes in social structure, labor relations, and land ownership patterns. The exchanges between Nevis in the periphery, and the core state, both helped shape and were fueled by, changes in finance and economic practices. Government encouragement of entrepreneurs facilitated new economic arrangements which lead incrementally toward market capitalism. On Nevis, environmental change increasingly was tied to plantation expansion. In this model, settlement spread was strategic, moving outward along the coastal flat lands from nodes determined by shipping, before moving into higher, sloping ground. Road networks served plantations, not homesteads. Thus, it can be stated that from this perspective, the landscape was shaped by capitalism rather than traditional aspects of colonial settlement. Evidence for social and economic transformation is expected to be found in landscape features and among various classes of artifacts.

Historical archaeologists, according to Orser (1996:234) "must approach the study of artifacts in a way that stresses relations over attributes." Within the context of capitalism, artifacts can be viewed as commodities and thus the potential for relational analysis is strong. For example, dyadic relationships such as buyer-seller, producer-consumer, or colonist-merchant may be explored from the perspective of relational networks. Because commodities played a major role in the development of the world-system this analytical posture is reasonable (Orser 1996). In terms of ceramics, the status of individuals within pre-capitalist and capitalist contexts was anticipated to be expressed in different manners,

including variety and quality as well as quantity. During the earliest stages of colonization, it is possible little variation of material goods would be evident to distinguish rank. This is suggested from a number of studies related to frontier societies. It is entirely likely that rank was understood by voluntary contractual accord, such as greater percentages of profits to higher ranking individuals, privileged access to foods or less demanding workloads, land ownership, or in personal apparel. Few of these markers would be accessible in the archaeological record and unknowable without documents. However, analogs may well be evident.

For the industrial and architectural landscape, analysis proceeded from the scale of infrastructure and the systemic requirements of operation in a frontier—what was necessary to achieve the goals of agro-industrial production and how this developed. At a medial scale, analysis was aimed at positing spheres in which different sectors of the colony interacted. This was achieved by integrating site-types with spatial mapping to assess landscape structure in testing Hypothesis 1. This assumed that site-types could be identified categorically through a general typology and is based on the assumption that different site types held different and generally discreet functions within the colony. This moves us away from the concept of plantations as autonomous entities and places them in a socio-industrial network. Space is being interpreted from the perspective that it is as much an element of architecture as the selection of materials. If space is as Lefebvre (1993:26) asserted, "a tool of thought and action...and hence a means of control, of domination and power..." then it must be applied in such a manner that the intended recipient of such control understands the message. "Relationships" exist in the theoretical, not physical world, their meanings displayed for those with the key for

decoding the messages in contemporary time (Wobst 1977:321; Hodder 1984:53). The landscape preserves elements of the display. This “deep structure” of meaning is carried in non-verbal communication (Hodder 1989). While it is assumed that meanings in space are in part actualizations of cultural constructs from the cognitive domain, and indeed this thinking structures several aspects of the present study, not all meanings are hidden to us or accidental products of the subconscious, many are blatant and intentional attributes of colonial behavior finding expression at various points of nexus with society (Hodder 1984; Weissner 1989; Leone 1994, Mugerauer 1995; Murphy and Johnson 2000).

Was such manipulation of space an active part of the agro-industrial landscape on Nevis? Certainly in the context of slavery, control was a vital feature for the plantocracy, but what does it look like in landscape terms? What alternative explanations for spatial configurations are there? Here my analysis must be more qualitative and subjective than elsewhere due to the elusive nature of the concept. One approach was by examining where within the landscape people live, what access they had to resources, and how industrial spaces were designed with labor in mind. But not all relationships of power are between slaves and slaveholders. Elite planters had reason to control lesser planters and to maintain roles or status positions in the transatlantic community.

Architectural spaces also derive their suggestive powers through place, iconography, and other forms of built-in display (Tuan 1977). Each of these enumerated attributes were evaluated for its expression in each site-type recorded for the study. Therefore, to link spatial orientation of plantations, settlement, and social structure it must be demonstrated that specific patterns of land-use coincided with relevant patterns of material culture, which independently support models of social hierarchy and status behaviors. One should



also be able to predict particular artifact assemblages based on site-type and specific space-land logistical arrangements as a feature of industrial/plantation evolution. This required sampling the landscape based on tenets of locational analysis, and mapping industrial and plantation structures against chronologies established from independent historical sources.

In Hypothesis 2, I suggest colonists reproduced what they knew and changes came over time due to new economic requirements. I suggested that apparent differences and patterns should conform with land-use stemming from emerging capitalist production systems. That being the case, one should see a shift in production from small scale to large, with associated changes in production facilities toward greater differentiation of space into discreet activity areas divided between production and non-production, and socially between managers and workers. Workers can either be indentured servants or slaves, it does not matter in this instance. These relations will be expected to appear especially in status-associated artifacts, mobility behavior reflected in residential patterns, and degrees of access to commodities, imported or native. Larger and more technologically sophisticated facilities should also appear in relation to production.

Field reconnaissance served strategically to assess settlement distribution over the landscape and to provide information on local ecology and the possibility of various site type signatures: urban, rural, residential and so forth. Thus, direct comparison between sites of similar type can be made for different periods. Local informants were queried where appropriate, and proved helpful in locating sites. Designating sites by type allowed me to assess the associated artifactual material. I began from the theoretical premise that material culture acts as a sensitive barometer of economic and social change, and if

wedded to the capitalist construction of social hierarchy, can act as an indicators of status and class, in addition to function. In essence, one does not anticipate tea sets at sugar mills or porcelain in a servant's house.

Material culture, in the form of personal, domestic, and commercial artifacts and surrounding space have been effectively used in historical archaeological studies to offer insights into peoples daily lives (Miller 1994). Materially, this may appear in the archaeological record in many forms: architectural styles, iconographic and symbolic facades, higher concentrations of specific consumer goods in certain sectors, alterations to public space, changes in the organization of space related to social and work behavior, increased focus on commercial loci, where people live, or other subtle markers.

Artifact cluster analysis in association with spatial clues is an efficacious technique for bringing these elements to light. Individually these may result from multiple causes, and one-to- one correspondence is not to be expected (Pailes and Whitecotton 1979). If present together, however, they point to systemic forces, as the work of several researchers have shown (Parsons 1972; Deetz 1998; Wiessner 1989; Fletcher 1989; King and Miller 1991; Beaudry 1991; Delle 1994; Crowell 1997; McGlade and Van der Leeuw 1997; Martin-Fragachan 1999; Majewski and Noble 1999; Butzer and Butzer 2000; Mangan 2000).

Artifacts represent a sub unit of analysis at the scale of site-use. Domestic and industrial artifact assemblages on Nevis are not unique to the Caribbean. There is little mystery to composition of assemblages as nearly all European ceramic types are well documented in the colonial New World and examples of vessels are known from several collections. Little is to be learned by listing the standard styles of mass-produced

ceramics. To gain meaningful insights into behavior from material culture remains it was necessary to establish an interpretive framework in which specific hypotheses related to class behavior could be tested. What the small finds offer is the potential for enlightening us on aspects of behavior not evident in the artifacts themselves or obtainable through simple measurement of nominal variables. For example, which styles are most in evidence, and what might the owner be saying through the use of one style as opposed to another. Do assemblages simply betray the range of choices colonists were provided by merchants and their continental trading partners or were context, social rank, or other socially meaningful factors at play in the dance of acceptance and rejection? By statistical evaluation of the material in meaningful categories I anticipated isolating patterns that would lead to assessing various possible interpretations. Of course "meaningful" is a loaded term. What is meaningful to an archaeologist may have been only background noise to the original possessor of an item.

Style can be used as a behavior marker, but so can incorporation of functional elements. Wobst (1977) articulated this avenue of analysis intimately when he described his work in the Balkans:

I have interpreted stylistic behavior as that of artifact form and structure which can be related to processes of information exchange. Specific stylistic form is seen to emit messages which can broadcast throughout the use life of artifacts. Depending on message content, messages visibility, and social contexts to which artifacts are exposed, as well as on cultural matrix in which this communication takes place, different artifacts carry different kinds of messages and stylistic form has different meanings (1977:335).

Aspects of style within colonial ceramic assemblages can be evaluated by looking at such nominal categories as decoration, or edge design, but also, and perhaps more informatively, by functional groupings, such as, kitchen ware, formal ware, and day ware

to understand how artifacts were in use. But style is also a dynamic, not static, element in production for a consumer society. From that posture it may then be possible to postulate the intended "information exchange" of the artifact. The message is not inherent to the artifact but in the context of the sender-receiver relationship. There is plenty of maneuvering room in such a context. For example, status may be conjured up with objects of not just great value, but novelty, or rarity. That which is significant in a north American colonies may not have the same truck in the Caribbean and vice versa. Therefore, the small collection of items recorded for this study were subjected to groupings intended to suggest patterns of use in addition to linking Nevis to distant manufacturing centers through purchasing practices.

Finally, Hypothesis 3 suggests we should be able to discern increasing exploitation of the environment to satisfy the systemic needs of production. As the colony expanded to increase production, land became an important variable in success. Survey recorded both the physical features of settlement infrastructure and modification of environment. From pilot research it was known this included terracing, wells, roads, deforestation, species introduction, discreet areas for agricultural activity, and use of field stones for a variety of purposes. One obvious purpose was designating property boundaries.

Environmental data was collected in three forms, documentary, field observation, and sub-surface testing. Documentary evidence traces back to first colonization and even before. Taken as a body, it constitutes a spotty, by nonetheless, holistic chronicle of environmental change on Nevis.

Field observations add the dimension of locating scenes of development and human interaction within the natural environment through physical manipulation expressed in

built or modified land. Features could not always be interpreted. These have been evaluated in tandem to provide an environmental/culture history as one plot in the complex story of Nevis' history.

### Synopsis of Pilot Study

*Phase One.* Documentary research.

Nevis is fortunate in having a dedicated and conscientious non-governmental organization focused on historic preservation and environmental conservation. The Nevis Historic and Conservation Society (NHCS) has built a reputation of standing with UNESCO, and carefully maintains an archive in Charlestown, at the Horatio Nelson Museum. The NHCS has also acquired a collection of maps, papers, and related documents of Nevisian and Caribbean history, environmental studies, and social development, and is widely used by scholars throughout the Caribbean.

Sources such as the Calendar of States Papers (CSP), copies of Council records obtained from England, private donations of family documents, and the occasional surprise find<sup>1</sup> have provided a wealth of data, all of which aided in constructing the Development Phases applied in this study. Additional documents of note were located in microfilm and facsimile collections of Caribbeana in the holdings of Michigan State University. Often these included items by pamphleteers, Acts of the Assembly for the Leeward Islands, travelers diaries, and contemporary historical treatises. Special note was taken where environmental issues were mentioned and the impact described. Single sources, such as the Pinney papers, which document a single family's estate affairs continuously from the late seventeenth century are the exception, and have been

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<sup>1</sup> A set of documents concerning the capitulation of Nevis to the French turn out to be in the Bancroft Library of the University of California, at Berkeley.

exhaustively examined by other researchers (Pares 1950). Problematically these papers do not shed light on settlement patterns outside the specific estate. Their value reside in their chronological completeness and detail of a single case.

The second part of *phase one* entailed reconnaissance, survey, and limited excavations at the site of the earliest European settlement on Nevis. The excavations were undertaken in order to produce data for comparing any similarities or differences between early phases of settlement or uses of space to later periods (such as the eighteenth century) from which information is more abundant. This was followed by a quasi-community level scale of assessment.

*Phase Two.* Random survey: the physical landscape.

Limited surface survey of a Parish on Nevis which records suggested was an area of early and intense development. Within this Parish are the locations of estates, slave villages, and sites of intensive fortification.<sup>2</sup> In addition to walking survey, available aerial photographs and extant historic maps were consulted to document settlement configuration. Identification of differential landscape use and modification (i.e. domestic, agro/industrial, military, religious) consistent with types identified elsewhere in the Caribbean was conducted so that valid island comparisons could be made.

Archaeological investigation of settlements of the first quarter of the seventeenth century is extremely limited (Hume 1982; Leech 2002). This phase of the project revealed much and will likely lead to modification of current understanding of settlement patterns of the period. In order to make statements of significance regarding diachronic transformation it was necessary to have early examples. The site of Jamestown, dating to

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<sup>2</sup> Charlestown Parish (geographically a narrow strip between the two mentioned above) is today, as in the past, the area of greatest development and will be examined primarily through documents and visible architectural survey.

the seventeenth century, afforded that opportunity. Systematic surface collection was used in phase three.

*Phase Three.* Material culture. Data sets from this category include portable goods and permanent architecture, as well as artifacts consumable, practical, industrial, symbolic, and spatial. During the pilot project artifact types and their associations with spatial and architectural features were recorded.

As no solitary data type can adequately address the issues at the core of this study multiple data sets were generated during fieldwork. Change in environment and land use, including town development/expansion, community growth, and location on the physical landscape of plantations, dwellings, and mercantile enterprises provide solid evidence of settlement patterning (Barka 2001). Alternatively, it can be conjectured that patterns may emerge suggesting different underlying causes than capitalism, or some combination of factors in which capitalism itself is embedded.

During the 2002 field season narrow transects were followed within the Parish of St John (see figure 3-1.) These transects ran north to south and covered several environmental zones from elevations up to 1500 feet (457 meters) above sea level. Transects were begun from randomly selected points on a map and a few were specifically targeted. The principle instruments were a 1984 Ordnance Survey Map (OSM), compass, and Garmin GPS. GPS units were accurate to three meters. This level of accuracy exceeded requirements as its principal purpose was to locate quadrat corners or to record site locations. The 1984 OSM is the most current available, although grossly outdated. The map is topographic and indicated historic ruins, terraces, and old roads. But much of the map left vast tracts of land without indication of any historic occupation.

Ruins were not identified on the OSM other than the occasional indication of a tower (referring to windmills) or the word "ruin." Several new roads and housing developments are not shown, nor is the expansive luxury hotel complex that now blankets much of the former Pinney plantation. One objective of the 2002 season was to learn what could be found through transect sampling and at what interval field crew should be spaced.

Transects were variously conducted at 10 meter to 50 meter intervals.

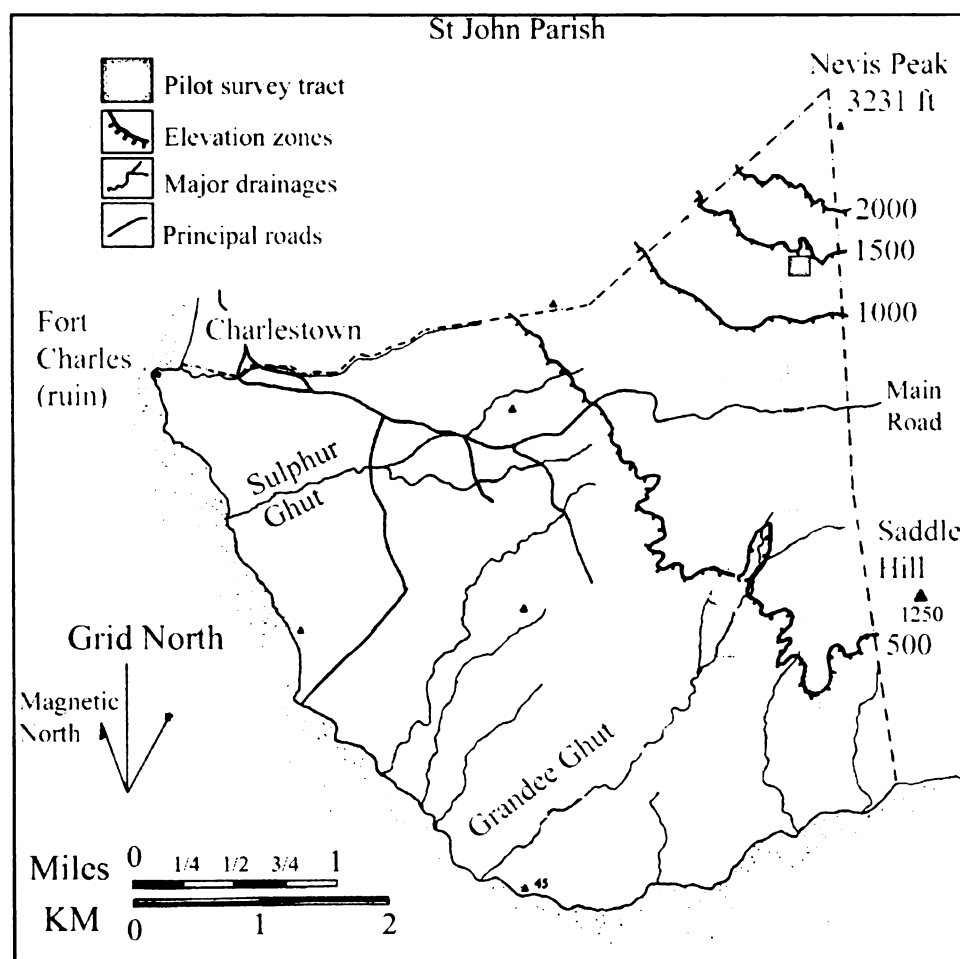


Figure 3-1. Schematic of St. John Parish showing areas covered during pilot assessment. Three environmental zones were tested. GPS coordinates in Interim Report (Meniketti 2003) on file with NCHS, Horatio Nelson Museum, Charlestown.



Lessons learned during the pilot study were incorporated as refinements in techniques and data acquisition in the research design for the 2003 season.

A second overarching objective of the pilot project was to assess the scale and types of built environment sampling would capture, and whether it would be possible to interpret spheres of interaction, as well as refining methods for recording data in the field. Walking at five to ten meter intervals, the crew located 22 sites fitting within several classifications, ranging from stone cisterns to mills. One unidentified mill-complex and associated house foundations were found during one transect. The impressive two-story structure and mill platform were completely obscured from view, both from a higher vantage point and from only 30 meters away. Other finds included undocumented house platforms, cisterns, abandoned villages, three sugar works lacking obvious residences in association (although likely), isolated domestic artifact scatters, a "great house," old roads, and stone walls. The term great house is functionally overused in plantation contexts. Few can truly be classified as "great." Most feature a stone foundation and perhaps a stone first floor. But scale must be incorporated into the definition.

Results from the 2002 season provided every reason to believe the Nevisian landscape retained critical elements of the pre-emancipation character of Nevis, but also that random quadrat survey would be a feasible and productive strategy, although difficult in the overgrowth.

### Results Relevant to the Model

To answer the questions of which variables, and in what combinations, influenced development trajectory or how *variable load* affected development over time, I determined to survey areas of the island that came under colonization first. Based on

documentary searches and literature reviews I concluded that the Parishes of St. John and St. Thomas represented the two areas of earliest and most intensive settlement (see Figure 3-2). St. Thomas faces neighboring St. Kitts on the lee side of Nevis. St. John comprises the southern quarter of the island and experiences the full force of the trade winds that blow in from the southeast.

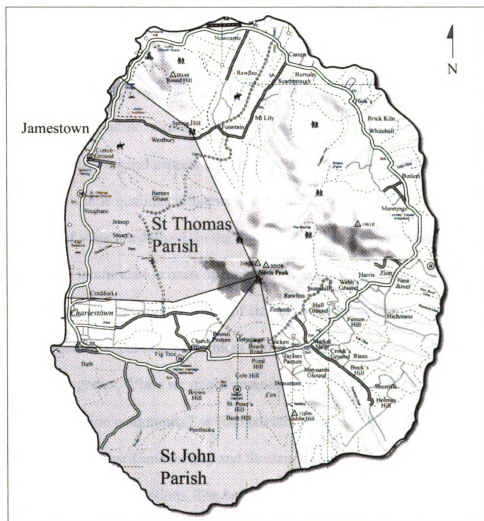


Figure 3-2. Map of Nevis. The shaded regions represent the sample universe within which a stratified random sample was drawn for the 2003 season. The boundaries of St Thomas and St. John parishes confine the sample. The approximate site of Jamestown is indicated as it is significant as possibly the oldest colonial site on the island.

First settlement traditionally is at the Jamestown site, but it may not have been given that name at founding.<sup>3</sup> The site's importance for this study stems chiefly from its early date and its potential for revealing significant details of early colonial settlement practices, construction techniques and artifact assemblage. Survey and test excavations were conducted at Jamestown and are discussed in Chapter Four and Appendix 1.

The essential question of unit size, type and what scale is appropriate for measuring degrees of organization has perplexed archaeologists on several fronts (Hodder 1977; Kolwalewski, Blanton, Feinman and Finsten 1983; Carr 1987; Alcock 1993; Wandsnider 1998). In a cogent outline of measurement in archaeology, Ramenoffsky and Steffan (1998) point to two critical aspects of unit structuring: *scale* and *content*. Both aspects are shown to have subtle qualities influencing data acquisition, and ultimately, interpretation. Two notions of scale are defined. In the first meaning scale encompasses inclusiveness and resolution. Interpretation must operate on a sliding scale, that is, some meanings are found in artifacts, others several orders of size larger in spatial patterns. The second meaning for scale, is that of measurement content. Within this meaning are empirical and conceptual categories. While we might measure a physical structure by standardized methods, "plantation community" or "capitalism" are not measurable in the same sense. These are classified by Ramenoffsky and Steffan, following Dunnell, as *extensional definitions* based on abstractions. The lack of empirical referents for abstractions "places great weight on the selection criteria and means of measurement" (Ramenoffsky and Steffan 1998:5). A multi-scaler and multi-temporal strategy was adopted principally to compensate for what Crumley and Marquardt (1990:75) refer to as the shortcomings of a

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<sup>3</sup> Vince Hubbard, personal communication, and based in part on research by Roger Leech, from Southampton University. It is likely the site was named Morton's Bay. The town was first founded in 1627

regional approach, to "better recognize the dynamics of a region, such as changing boundaries and connectivity." In other words, regions are systems not confined to political or administrative control. This adds a degree of measure for cognitive elements, of which, indeed, the ideology of capitalism is foremost. There exists a dynamic tension between infrastructure (material production) and superstructure (ideology). Accordingly, "landscape is a manifestation of this totality" (Crumley and Marquardt 1990:73).

The broad landscape sample was effectively applied to the countryside of Greece in a macro regional survey by Alcock (1993). With the organizing principles that landscape is a social product and historically sensitive, Alcock drew on broad survey data to reveal relationships of power and influence during the period in which Greece was integrated into the Roman Empire. Following a Wallersteinian core-periphery framework, her work is especially applicable here in the context of Hypothesis 3. Of note were the techniques deployed to access human activity across the landscape in a diachronic perspective and the development of a schema for classifying landscapes such as civil; provincial; rural and urban; as well as scared.

Critical questions were raised concerning diagnostic sensitivity of various material categories, and the abstract character of these "landscapes." Site dating was through ceramics, which also raises issues relevant to the current project, ranging from distribution time-lags, visibility, ceramic identification and trade networks. All of these facets of measurement bring us back to the empirical/extensional definitions discussed by Ramenoffsky and Steffan. Sites in Alcock's study were identified through ceramic collections and classifications, themselves subject to a combination of empirical and

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and does not honor King James.

conceptual variables. These pitfalls were borne in mind when determining which attributes of material culture would be sensitive to ideological aspects of capitalism.

Material culture provides access to the minds of those possessing objects but meaning is not embedded in the object (Deetz 1998:220). Artifacts from this project fit into the general colonial assemblages found throughout the Euro-colonial world and are not suitable for tight chronological control. They do, however, offer avenues of interpretation into social structure, consumption patterns, and cultural values. Nevis does not remotely approach the total area covered by the Alcock study, but compresses and constricts various landscape types into a bounded space at a scale where survey was both practicable and likely to be quantifiable.

Plantation communities are large spaces having numerous specialized activity areas as well as places of more subtle interaction. Survey units needed to be sufficiently large to allow detection of various site types, and minimally at the scale of units of spatial patterning being sought (Kintigh 1990), yet not so large that households or important small scale settlement features would be missed in an effort to meet time and coverage constraints. The construction of these units for the 2003 season was purposeful. First, the scale was inclusive. Second, they embraced a representative sample of environment. And third, they were practical. Because the objective was to capture information about land use and probable interaction between specialized areas, units were defined based on definitions of data types being sought.

The definition of plantation used here follows closely that derived by Orser (1990:115) as: having a landholding deemed large within its region, social relations of power between labor and management, specialized agricultural production geared toward

off-plantation sale [or export], a settlement pattern that reflects centralized control, and a relatively large input of cultivating power. This operational definition was devised to assist in the study of slavery, but has useful features in a landscape definition of plantations. This is a normative definition that can, however, cause serious difficulties in application. Ruins of sugar estates on Nevis do not always exhibit every attribute, but were functionally plantations. The term estate is used here as specifically a sugar plantation and its unique economic position linked to individuals. This distinction is important. In the seventeenth century a plantation referred to any settlement construction. Plantations operate as an industrial system within a specific economic system, while estates may be more idiosyncratic in operational details. Furthermore, "a settlement pattern reflecting centralized control" may need greater clarity. How shall we categorize estates where landholdings are scattered, owners absent abroad, and off-plantation sale strictly controlled for restricted markets by distant core states? Does the presence of a great house signify a central authority while its absence means a sugar complex fails to fulfill the meaning of plantation, despite meeting other criteria? And what is a "relatively large" input of cultivating power? Twenty slaves? One hundred?

General categories for artifact classification and analysis here follow a modified version of South's Carolina Artifact Pattern, classifying by use rather than material. The reasoning here is that if artifacts can be grouped in accordance to use-location and function, so too can loci of activity. Usage can be linked with activities having socialized context. Specialized activities are assumed to take place in specified locations. Thus artifacts may help sites be classified as military, religious, secular, domestic or industrial, rural or urban on the basis of assemblages. These closely parallel Alcock's (1993)

classifications but with facets of capitalism in mind. Particular artifact assemblages can be expected to aggregate within these categories of site types, even if artifact types overlap. But we may also hypothesize that environmental features and specialized landscape modifications also constitute signatures of site type. Built environmental features exhibited evidence of transportation, production loci, and interaction between rural and urban centers, between estates, and between villages and estates.

Each find was documented and GPS coordinates were recorded. Artifacts in association with sites gave an indication of probable assemblages but were not collected in the field during survey. Ground cover often obscured all but the largest industrial artifacts. This did allow in-field identification of a few structures that were at first thought to be domestic structures, but in fact were agro-industrial.

### 2003 Field Season

Returning in summer of 2003, we discovered the drought of the previous year had persisted and worsened. There was, nevertheless, a benefit—survey conditions were excellent. Ground cover was reduced in many places and withered vines and leaves offered much better visibility in otherwise normally dense jungle regions. The large unidentified sugar works encountered the previous season were fully visible from 300 meters away and from a vantage point above on nearby Saddle Hill (1250 feet/ 455 meters) where it had been invisible the year before.

Drought was a frequent problem for planters on Nevis throughout its history thoroughly documented in letters and official commentaries. Every estate built cisterns and water catchment systems designed to hold intermittent runoff water from the frequent rains. Villages had small cisterns for community use, and isolated cisterns are found

throughout the landscape, with houses associated. Even today cisterns are a must on Nevis and many poorer homes make use of sugar boiling cauldrons wrested from sugar estates for this purpose. Historically, wells were principally constructed close to the shoreline and are not found in association with estates or on plantations anywhere inland. Rainfall percolates through the volcanic terrain from Nevis Peak, reaches the sea, and surfaces in the wells floating above a layer of denser seawater, which also enters the wells. Many are in active use. Most wells are adjacent to the old round island road, now largely eroded away into the sea.

#### Transects: Procedure and Results

Both the Parish of St John and St Thomas were surveyed with the unit of observation being one kilometer long swaths across the landscape. Using the 1984 Ordnance Survey Map (OSM) at a scale of 1:25,000, the Parishes were divided into quadrats as described above. The Parishes were also stratified along elevation lines to generate segregated environmental zones for separate sampling. Environmental stratification was set at intervals of 500 foot elevation: Zone D from sea level to 500 feet, Zone C from 500 to 1000 feet, Zone B from 1000 to 1500 feet, and Zone A at 1500 to 2000 feet. Two considerations suggested not continuing above 2000 feet. The first was that sugar does not grow well above 2000 feet in the islands and the sharp increase in slope above 2000 feet on Nevis Peak would have made survey both excessively dangerous and difficult. Planters would have experienced this fact of topography themselves. Historic documentation does not indicate plantations above 2000 feet due to climatic conditions. The 1871 map does not illustrate any estates above what can be surmised to be the 2000 foot elevation, nor do earlier maps.



The environment of Nevis exhibits significant variation. Ranging from scrub desert conditions to dense jungle, there are seven distinct biomes and elevation has marked effects on air temperature, moisture content in the air, rainfall, and wind. These variables were evidently factors in estate planning and technology implementation as use of a windmill or animal mill was possibly often dictated more by location of estates than by economics.

The square quadrats were numbered within each stratified environmental zone and designated A through D. Numbering restarted for each zone. Total area within each zone was calculated and the number of quadrats required for a 20% sample of total area within each determined. Quadrat numbers for the sample were produced from a table of random numbers. Each number drawn was then used to anchor a consecutive series of four quadrat, running north to south in St John Parish, and east to west in St Thomas, thereby essentially running with slope rather than across it. The only caveats here were that when a selected quadrat could not be connected to three additional quadrats in the designated direction, quads would be added in the opposite direction, appended to the anchor quad, and that quadrats transecting heavily populated towns or villages would not be accepted for survey. Adjacent transects would be substituted. In this manner rectangular quadrats measuring 250 meters by 1000 meters in length were generated across the two parishes representing the sample universe (see Figures 3-3 and 3-4). Caveats influencing the sampling were added during fieldwork to accommodate actual conditions. Property lines and developments not shown on the 1984 OSM often forced rerouting of transects, as did deep ghuts. One objective of the surveys was to produce maps that correlate to time frames-- synchronic slices of landscape that can be compared chronologically and

assessed diachronically. These maps have been an essential tool for interpreting the spread of settlement by Phases in testing the proposed model. To succeed at this a large number of transects were required containing datable archaeological remains. Forty quads were designated: 19 in St. John and 21 in St. Thomas. We achieved thirty-one in all. In addition, area specific surveys were carried out at three locations of interest. Every quadrat produced evidence of built or modified environment.

Natural drainage ravines cut into the volcanic rock on the mountainside, some 200 feet deep and frightfully sheer. It is difficult to appreciate this fact from a line on a map until confronted with the deep gulf. Planters who purchased land sight-unseen, on arrival to Nevis would have likely experienced the same emotions we did. We accepted the expedient of using adjacent transects, or on occasion, checkerboard quadrats to accommodate field conditions. Total sample area was thereby maintained. Frequently, fences were encountered, but permission to cross was easily obtained from residents or caretakers. Few ever objected to our work. More serious obstacles to full coverage survey was the nature of the vegetation, comprised mainly of thick vines, and dense forest. Nearly every plant sported some form of spine, thorn, or barb, which seriously distracted ones attention from the task at hand and slowed forward progress. We were fortunate Nevis has no snakes. Each quadrat was located on the map by latitude and longitude coordinates. In St John Parish the latitude coordinates for NW corners of quads were calculated along with terminal coordinates in the SW. For St. Thomas, longitude coordinates of the NE corner were calculated along with terminal points to the west. GPS accuracy was tested often by locating known points or by using the GPS to return to given find-sites for further recording. Nearly all had to be reached by foot. Few modern

roads penetrate lower St John Parish, and many of the quadrats in St. Thomas were more easily accessed from foot trails than by road. Recent completion of the Upper Round Road trail, as a nature walk, by the NHCS facilitated this effort. The trail closely follows the historic road built in the seventeenth century to serve estates at higher elevations. The trail offered quick access to latitude lines from which the survey teams could then enter the forested slopes, and guided by GPS, obtain designated quadrat corners. One unexpected result was the discovery of a network of roads that ran toward the sea linked to the Upper Round Road. Transportation would have been facilitated for plantations at higher elevations by first circling the mountain on the high road and then descending toward Charlestown. To follow the main road to Charlestown from St. John would have taken much longer. Such a transportation network would have influenced markedly the flow of goods and people, and helps account for the location of some now abandoned villages. In addition, several large unidentified estate houses were found to border the road.

Procedurally, each quadrat was identified by parish initials with quad number, and each find labeled by the surveyors initials, the date, and the find number for that day by that individual. Thus, my second find made on May 22 , in St John quad 4 would appear in notes as SJ4MM5/22-2. Better than 80% of survey transects were conducted at 25 meter intervals established by running out tapes. Crew members followed compass bearings for the length of the quadrat then returned on new lines. Survey was generally conducted by a team of seven persons, flagging periodically as they went. At higher elevations, 10 meter intervals were the rule due to dense brush, low light, and steep slope. Parish quadrat maps are shown below in Figures 3-3 and 3-4.

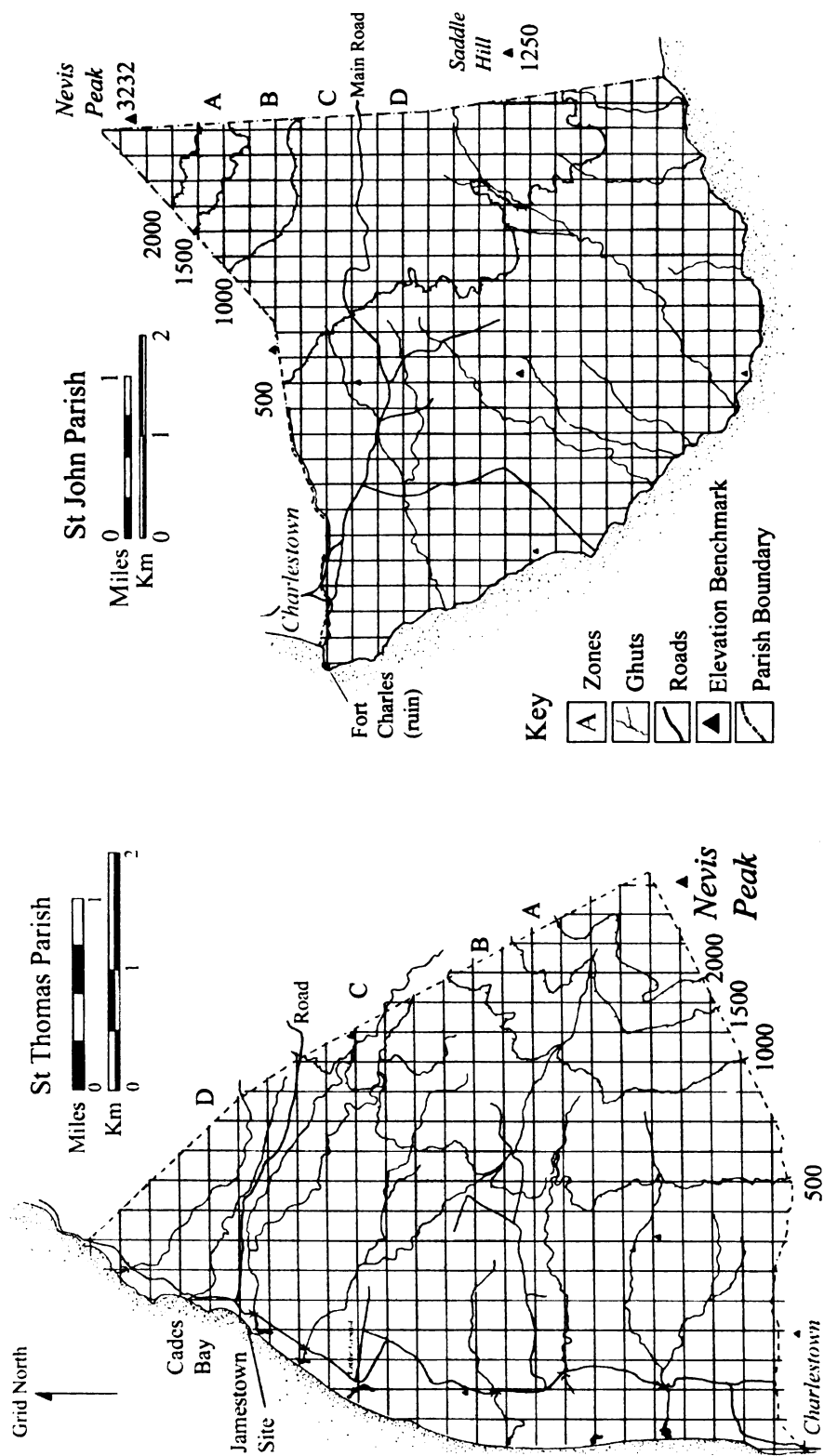


Figure 3-3. St Thomas Parish and Figure 3-4, St. John Parish. Randomly selected survey quadrats are shown as shaded grid squares. Each grid square measures 250 meters to a side. The two parishes are slightly different areas so two scales are provided. The parishes were stratified by 500 foot elevation zones, indicated in this graphic by capital letters A, B, C, D and marked with contour lines. Major drainage ghuts are depicted. Numerous structures were found bordering these ghuts.

These quads offered cool conditions by contrast to lower elevations. In open terrain, particularly on the lower plains of St John, 50 meter intervals were easily managed, with surveyors visible to one another. Temperatures in these regions approached 100 degrees. Standardized survey forms were used for documenting landscape features, both man made and natural. Particular attention was paid to environmental modifications, such as terracing, roads, or presence of domestic fruit trees and other useful plants.

It was not uncommon to locate domestic artifact scatters adjacent to aloe plants (*Aloe barbadensis*) or beneath tamarind trees (*Tamarindus indica*), both valued imports. Aloe has medicinal value, while Tamarind is popular for flavoring food. The aloe is perfectly at home in the drier soil conditions found in lower St. John. Mango trees (*Mangifera indica*) were found to frequently border old roads, particularly in St. Thomas parish, perhaps planted to provide shade.

Survey teams transferred individually collected data to "quadrat compilation sheets" at a greater scale so that information from each transect line appeared aggregated for analysis as a single map. Individual sheets were collected in a binder for cross reference and page numbers in field books corresponding to details collected during transects were indexed. Crew discussed findings and made refinements to the compilation sheets every three days. A complete 20% sample for St John Parish was obtained. This represents a 20 % sample within each stratified zone. However, for St. Thomas, only a 10% sample was achieved owing to recent housing developments, fencing, and other obstacles.

Not every quad could be followed as planned. Furthermore, the 10% sample is weighted toward the southern portion and higher elevations of St. Thomas, reflecting the areas not yet receiving the brunt of new construction. St. Thomas Parish faces St. Kitts

and commands spectacular views. Land owners are developing former plantations through sub-division into luxury lots. This is the opposite of practice in St. John, where conditions are much harsher, windier, and dry. In fact, findings suggest contraction and population shifts in St. John with people becoming concentrated closer to villages along the main road. Luxury homes are beginning to infiltrate the highlands, oriented toward cooling winds and fine views.

In addition to the stratified random sample, surveys were carried out in select areas to provide data on specific site types. During the 2002 season, a brief survey was conducted at the request of the NCHS in the suspected location of a post-emancipation village endangered by road construction. The Harpies Village site lay in the direct path of a new Charlestown bypass road serving the island's new deep water port. Results are reported in the context of Phase III of Nevis development.

Drought conditions facilitated modest survey of two additional villages. One shown without name on the 1871 map is situated adjacent to Morgan's estate at 1000 feet, and Vaughan's Village, also depicted on the 1871 map, is in the proximity of several large estates near Charlestown. Vaughan's is located in dense forest and its scale is impossible to assess visually. In each case, limited surveys of comparable scale were conducted and sampled to collect data on house platform density, space, and patterns of land use. The Harpies Village site (see Chapter Seven) has now been cut by a wide road linking Charlestown to the new deepwater pier at Long Point.

One problematic circumstance became apparent during the progress of surveys. The 1984 OSM is set, not at magnetic north, but 11 degrees canted from grid north. Therefore all survey transects actually run at an 11 degree angle. This complicated mapping but

does not reduce the sample. Quads needed to be tilted to match the discrepancy. GPS points enable accurate placement of finds on maps and realignment of ending points. A further problem was the initial inconsistencies in recording landscape features by various crew members, which required reconciling. These problems were addressed in the field and discussion among crew enabled errors to be corrected or minimized as maps were compiled. The forty-one survey quadrats plotted allowed close inspection of multiple environmental zones and the capture of abundant information on past land modification and environmental alteration.

Project headquarters, strategically located in the upper reaches of the St John Parish, at Cole Hill for the 2002 season, and Pond Hill, for the 2003 season, allowed us immediate access to several quadrats. The network of old cobble roads in this parish also constituted a unit of study as they were instrumental in the historic settlement strategy of the plantation system, and many of these roads terminate in, or intersect with, the villages of Cole Hill and Pond Hill while reaching out to old plantation grounds. Other roads link estates to the main road. Modern development in St John Parish has been steady but concentrated mainly in elevations above 1000 feet, for luxury homes owned by British, Canadian, and American citizens. Most are being built on former plantation grounds and a few incorporate plantation structures into the landscaping in a gesture of romanticism. Development of more modest scale homes is nonetheless occurring rapidly in the valley below Pond Hill and on Pond Hill itself. Terraced slopes are giving way to concrete and cinder block houses. Elsewhere, plantation works have been converted into guest-houses, refined hotels, and exclusive clubs for the well-heeled. Many current owners of these properties are direct descendants from original planter families, and still derive income

from the estates. Montpelier Estate lies within St John. Although none of the quadrats intersected Montpelier proper, old roads extending from the property did fall within quadrats selected for random sample, linking it to other plantation works in lower St John, and one quadrat was on Montpelier Estate property. Also on the property stand the remains of the Nesbit House, where Horatio Nelson was married. The property has been recently purchased and is undergoing renovations, yet the vicinity has never been archaeologically tested. The grounds keepers kindly allowed us the opportunity to examine the area. With the exception of the new house much of the property still contains late eighteenth century architecture and ruins and was a useful source of construction data. A brick and marble two seat privy stands on the site in excellent condition.

#### Documentation Protocols

Structures discovered in the field during survey were measured using inch/foot tapes as they were historically built in the inches/foot tradition, and in anticipation of producing measured drawings for publication. Slope was described and where feasible, elevations taken. Compass bearings were always taken to record axis of alignment. Crew was free to range from the sites to locate any access roads or structural ambiguities in the general vicinity. Recording teams were assigned to individual structures and site plans were roughly produced on a weekly basis. Measured drawings were then produced on return from the field. Qualitative data were also recorded consisting mainly of observations concerning views, terrain, and architectural aesthetics. Interior and exterior measures were recorded. For buildings being intensively studied, select wall elevations were made, stone by stone, as well as section elevations.



## Field Results

Better than 50% of quadrats contained industrial debitage. Archaeological remains were constituted by mill platforms, stone boiling and curing houses, iron sugar mill equipment, cobble service roads, stone out buildings, and terracing to level off the industrial zone, and miscellaneous foundation traces (see Appendix). Early eighteenth century sugar works were found in three quadrats and can be added to those found during the 2002 season. These were documented in addition to sugar complexes of later vintage to generate a set of comparable mill-complex footprints. All findings are detailed in the next section relative to Phases.

Several known mill-complexes fell within a few quadrats, many of known nineteenth century production. However, as several were originally built prior to emancipation these were documented as components of the pre-emancipation landscape. Plantation estates generally have industrial centers where mill towers, sugar works and associated structures constructed from stone receive most attention from scholars. Large house foundations can occasionally be identified. For a truly impressive great house one must look to the Montravers Estate.<sup>4</sup>

Merchant housing is not well documented but there is some documentary and archaeological evidence merchants resided in town or in mixed-use structures as shop/residence. Slave housing or dwellings belonging to the common laborer class, were often built of wood set on a few stones, were easily transportable—common even today among Nevisians—and are easily missed. Evidence of these humble dwellings most frequently was associated with trees primarily used for domestic purposes (tamarind,

ginnip, mango for example), by artifact scatters, and proximity to road sides. Stone patterns and a cistern are commonly all that remain of entire villages that once served plantations, and interpretation is problematic. In part because these structures were small, many activities occurred in the spaces around and between structures. One example in the modern landscape are traditional stone bread ovens built adjacent to wooden homes, most often constructed from dressed stone borrowed from former plantation structures. These ovens have a tradition predating emancipation. It is quite difficult to distinguish between those built fifty years ago and those of much greater age. One informant, now 70 years of age, gave us precise dating of a stone oven because he remembered it being constructed when he was a child. But we might have imagined it older based on the stonework. However, mortar finishes between stone courses distinctly set it apart from earlier masonry finishes. The stone oven and the gentleman's house were at the end of a transect (quad STQ4). Frequently the dressed stone in these ovens is borrowed from historic structures and, indeed, we located foundations nearby.

A second example is the frequency with which homes today are propped up in the same fashion as common in the past. These homes are small, one room affairs, with secondary structures appended, with small hipped West Indian style roofs spanning the join of the buildings. Such stone arrangements were found at historic village sites.

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<sup>4</sup> Montravers fell outside survey quadrats and is in a corridor being intensively studied by scholars from Southampton University, and so was not included in our survey. The estate belongs to the Pinney family about which Richard Pares has written a unique biographical history.

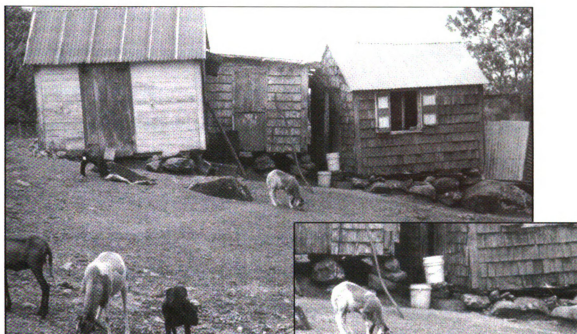


Figure 3-5. Home in Nevis propped up on stones following the contours of slope. Multiple buildings are joined to configure a multi-room dwelling. Note the use of outdoor space around the dwelling for storage and household activities. Inset is close-up view of structures to the left. Stones are held in place by their own weight and a prayer. Such spatial use may have been the standard practice in villages around the island in the past as similar stone piles and arrangements are found in village sites examined.

The scatter of domestic materials parallels practices common during the colonial plantation era. An informant commented that his father worked on plantations in the 1930s. Homes, he said, could be taken down and rebuilt elsewhere as needed, perhaps on other estate grounds. Materials were expensive and it is likely this simple expedient saved considerable money. There is little documentary evidence to support this, but since transportation on Nevis was until quite recently limited to foot, animal drawn wagon, or donkey, it is possible moving ones house to a location where one was working for an extended period was deemed an acceptable and practical solution.

Folk production of lime using eighteenth century kilns continues clandestinely to be a source of construction mortar for those who cannot afford concrete. Complicating efforts

to evaluate the landscape is the continual "reconstruction of past landscapes" and stone works by modern landscape gardeners and developers.<sup>5</sup>

### Archaeological Testing

Two industrial sites were archaeologically tested. Investigation involved shovel testing for environmental data and site depth, and limited, selective excavation of structures to acquire data of their construction for comparison to other industrial sites. Dating of sugar complexes is problematic and little has been written concerning construction techniques for mills of the seventeenth or eighteenth centuries. Much is descriptive and usually attributed to Cornish engineers. Changes in boiling cauldron style is poorly documented as well, although information may well be available in French treatises.<sup>6</sup> Even relative dating is unsatisfactory and idiosyncratic. The procedure generally followed on Nevis has been to compare structures of known date having well established histories, such as churches, to other structures. At other times, "common sense" approaches to dating masonry styles is utilized. On Nevis, this has produced some curious results. Site histories are often uncertain and estates frequently reused construction materials from failed or abandoned plantations. Even churches with known site histories offer misleading construction clues, many having been rebuilt a number of times. At best the approach is inconsistent and unreliable. At worse, it creates faulty chronologies that become the basis for misdating buildings. To avoid the pitfall and to generate a database of site footprints and construction methods, we carefully documented every mill-complex encountered. We also have initiated comparative construction

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<sup>5</sup> The landscape designers at Absolutely Bushed gave me a tour of the Nesbit property dating to the first quarter of the eighteenth century where they have carefully "recreated" the landscape using architectural elements scoured from around the island. Many items had been artificially "aged" to please the aesthetic sense of the new owner.

analyses. Construction methods have been documented at Indian Castle Estate (Meniketti 1998), at Jamestown (Meniketti 2003) and with two sites during the 2003 season for this study. We selected two sites for intensive study which offered markedly different configurations, differing spatial patterning, and were situated in disparate environmental zones. One dominated a ridge and commanded terraced slopes, the other was located in lowland territory of gentle, nearly flat terrain. By examining these two works, built for the same purpose, in such contrasting zones, it was possible to assess how variables may have influenced construction. Bearing in mind that the two sites may have been separated in time by as much as a century, they may also reveal changes in application of technology and land use. Systematic surface collection and shovel testing along grid lines were carried out before any test excavations were undertaken. These were extended into adjacent areas exhibiting evidence of domestic occupation. Only a 10 % random sample was executed.

#### Site Footprints

In addition to the landscape features discussed above, we investigated several other sites bearing on the historical development of the Nevisian landscape. These were classified according to principal function. Descriptions and plans are taken up in Chapters Four through Six with site specifics in Appendix 1.

#### Procedures for Analysis: Matching Evidence to the Model

Ultimately all theory must turn on the evidence. There must be a set of criteria by which data is applied and evaluated. The methods employed here for gathering data were driven by the questions I sought to answer and the analytical techniques must be no less

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<sup>6</sup> An excellent source on sugar technology is found in *Encyclopedie Recueil De Planchessur Les Sciences* 1751. Illustrations of technology and architecture are informative. See Appendix for relevant technologies.

carefully defined. Having described the interpretive framework for analysis above, I turn the discussion here to some specific techniques and issues.

Archaeological data consisted of survey information, collections of small artifacts, industrial refuse, architecture, and networks of roads, but also measured spatial relationships and symbolic attributes of built environment. Each was analyzed separately while being subsumed under the overarching conceptual framework of capitalist development in an emerging global economy. For elements of the industrial sector this is straightforward enough but less obvious for household artifact or the landscape. The analysis is predominately qualitative in scope but makes use of quantitative data where relevant.

The important question raised in Chapter One concerning which aspects of settlement or segments of society most reflect the integration of capitalism and adaptation to social change can in part be addressed through artifacts. The artifacts recovered in this project represent the breadth and scope of colonial material culture found throughout the British sphere. Types and vessel forms found in the surface collection at Jamestown can be compared easily to collections from North America, as well as elsewhere in the Caribbean. Using Hume as a guide (Hume 1974, 1985) and other sources (Mayes 1972; Hughes and Hughes 1968; Sempill 1944, and others) ceramics were categorically divided for both vessel type and form. Types in this case are archaeological conventions and not necessarily the names given by manufacturers. Most describe slip and paste, decoration, or quality. Many are distinctive to narrow manufacturing windows, or producers, others were produced for a considerable period of time. Pipes were also assessed using Hume and Harrington (1978). Dating of smoking materials was largely based on bowl forms

and stem bore diameters, however in a few cases characteristic monograms and decoration were also present, which aided dating as well.

Glass, in particular bottle forms, was evaluated in accordance to Hume (1985), but interpretations were modified based on the principal investigator's knowledge of bottles from other Caribbean and North American colonial sources, which differs slightly from Hume's classic chronology, mostly providing earlier manufacture dates on some types with corresponding changes in mean dates.

As will be shown in the chapters of Section II, organized around Phases, evidence exists at the micro-level supporting the contention that individual lives were influenced by capitalism, but in subtlety different ways in each phase. Ceramics served the table, but also acted as markers of identity beyond their display for status. Because they were used within the household, their display and usage was for a narrow sector of colonial society, yet helped the individual form an idea of self and place within the social system. A planter did not require fine tableware to distinguish himself from slaves or tradesmen. Property and laws accomplished that. Material culture frequently carried more subtle messages of distinction apparent to the beholder.

The abundance of shipping and networks of merchants linked Nevis to the Atlantic economy, and then served to maintain the linkage by providing elements of material culture popular in the core state. The link profited the merchants, but also permitted planters to imagine themselves a part of the core rather than as Creoles—a story they told themselves to secure their status within the hierarchical relations evolving on their frontier. The use of material goods in frontier contexts has been suggested as a means of indicating rank and status (especially among the military), as a signal of ethnicity, and as

a tool to psychologically soften the frontier (Lewis 1984; Adams and Boling 1991; Smart-Martin 1994; Majewski and Noble 1999). But this understanding of European ceramics and behavior cannot be immediately transferred to slave society, members of which likely had vastly different constellations of meanings and status associations. We cannot assume that interpretations of hierarchical relations among slaves in plantation society as presented by the plantocracy are accurate (Orser 1991). As no slave households or villages on Nevis have yet been systematically studied or excavated it would be inappropriate to speculate on this point. What the assemblage does reflect, however, is the desire among colonists to have what those in the core had, and from the steady stream of consumer goods arriving in Nevis, as revealed by shipping manifests and archaeological remains, we can infer there was a ready market among Nevisian colonists.

The above discussion provides the framework for analysis of artifacts from the various sites investigated during this study. In Chapter Seven, I consider ceramics in terms of capitalist penetration as indicators of change in material culture and show this transition to correspond with periods of change in the physical landscape.

In the next section survey transects are described with particular reference site-type and associated environment encountered. The chapters have been choreographed around historic phases. Maps of site-types are used to characterize the landscape and to evaluate temporal dynamics. Historic maps provide an additional information source which can be added to finds from the field surveys. The objective is to peel back the layers of the palimpsest landscape laid down by colonists during the periods in which they negotiated their economic position in the rising tide of global exchange.



## Chapter Four

### Settlement Character of Nevis, Phase I, 1625-1655

And in their voyage from ye Downes landed att ye Barbadoes which they did not like, nor of Antegoa nor Mount Serratt. They came downe to Nevis ye 22<sup>th</sup> of July 1628, which Island they thought fittest for their settlement being next to Christophers, from whence they might be better supplied.

---John Hilton, Storekeeper  
and First Gunner of Nevis, 1675

As the island colonies became significant sources for economically important resources, more capital was invested in the expansion of resource exploitation by ever more adventurers. Success attracted merchants, opportunists, and joint venture groups. This expansion is broadly visible in the archaeological landscape. Three phases of development, identified through historical interpretation, provides an analytical framework for this study. Archaeological landscapes do not strictly conform to the abstraction of these phases, and considerable overlap is apparent, but the structure articulates coherently with regional developments.

#### Historical Prelude to Phase I

Famously (or infamously, depending on one's political perspective) European awareness of the Caribbean begins with the first voyage of Christopher Columbus in 1492. Encounters with the Lucayan Taino of the Bahamas, and crude mapping of Hispaniola introduced both a New World and a New People to the Old. During his four voyages Columbus charted most of the islands, touched on Central and South America, and established the route to the West Indies that would be followed by privateers, colonists, slavers and nearly every vessel until invention of the steamship (Morrison 1942, 1974; Smith 2000).

Following currents and wind patterns picked up south of the Azores, the route enters the Caribbean by way of Dominica, where ships then enter the Caribbean to sail on the lee side of the islands. Constant northerly winds--"the trades"--steadily push vessels northward along the Lesser Antilles. Francis Drake followed this route on entering the region to harass Spanish shipping. A few sketchy documents suggest Drake visited Nevis. Drake certainly provides one of the earliest descriptions of the "fierce Carib" on Dominica, contributing to the notion of indigenous "warlike tribes" in European consciousness (Honeychurch 1997). We might instead view Caribs as resisting European invasion. Two documented attempts to colonize islands failed at St Lucia in 1605, and Grenada in 1609, directly due to Carib resistance.

Owing to a geographic peculiarity of prevailing winds and current patterns, the Caribbean has only three principle entries and exits passable by sailing ships. These environmentally dictated gateways played an important role in settlement and economic interactions. Settlement of the Caribbean was not haphazard, however, with Spain's initial base of operations on Hispaniola a sophisticated strategic choice near three of the principal maritime routes in and out of the region, the Mona Passage, the Windward passage, and Straits of Florida. The trade winds and current patterns were perhaps the most important factor in networks of transportation, communication, trade, strategies of seaborne conflict until invention of the steam engine and steam powered ships.

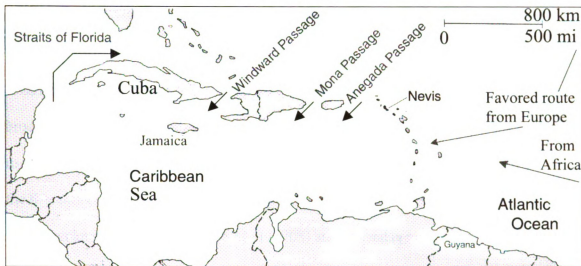


Figure 4-1. Principal sailing routes into and out of the Caribbean. These routes were widely known and used. Privateers worked these channels to the despair of merchant shipping, and Naval engagements were greatly influenced by the currents and winds through these passages and straits.

Provincial development by Spanish colonists was buoyed by creation of the *encomienda* system, a form of tribute labor, or grant of Indians by the Crown to individual colonists to work on plantations (Ferry 1997). In theory, Indians labored only part time, but in practice the system amounted to slavery. Encomiendas were common throughout Spanish America. One drastic result was the decline in native populations through forced resettlement, and overwork, but principally through disease (Kiple and Ornelas 1996; Diamond 1997; Desowitz 1997). Indeed, disease may have been the single greatest factor in Amerindian population decline, both during the early Spanish phase and the later northern European incursion. Also it has been conjectured with some support that an additional vector for pathogens was from Africa during the increased intensity of the slave trade in the late seventeenth century (Kiple and Ornelas 1996). Influenza, small pox, measles, and possibly yellow fever all contributed to the crippling decline in native populations, as well as European deaths. One consequence for Non-Iberian colonists was the islands of the Lesser Antilles were depopulated to such an extent that settlement was

possible without significant resistance from indigenous peoples except on Dominica and St. Vincent.

The traditional story behind the naming of the island—the version preferred by tourist brochures—finds Columbus observing the cloud cover shrouding the peak, and inspired to name the island after a miraculous summer snowstorm that occurred in Spain, during the fifteenth century, hence Nieves<sup>1</sup> (snows). This story is cited by Hilton (1675) as "common knowledge," repeated in Moll (1708) and offered again by Iles (1871). Results from my research, however, suggests the story is more apocryphal than true, with each of the above authors parroting some earlier source. There is in fact no evidence to support the story at all. On the contrary, there is much to refute it. Columbus's own physician, Dr. Chanca, accompanying the Admiral on his second voyage, writes that after leaving the island named Mont Serrat (Montserrat), they encountered a smallish rock island, then christened Nuestra de Retonda (today Redonda), and the next morning, St Martin's day, they arrived at an island with a high peak. The island was given the name San Martin (Hubbard 1931). Each of these islands are visible, one from the other. It was a common pattern for Columbus to name islands for the Virgin Mary, his patron Saints, or for the namesake of the Saint's day on which discovery was made (Morrison 1974). Adding to the mystery, no early Spanish map designates the island as Nieves including the La Cosa map. This appellation appears first on a French map and on a few early English maps. Wills from Nevis between 1630 and 1640 frequently refer to the island as Dulcina and Dulcinea, or Meavis. Nevertheless, Nevis was in use at the time of English settlement in 1628, and can be found on documents in concert with other names, such as a will dated 1630: "...this island Dulcina als Neves..." (Caribbeana 2 1919:5).

The brief encounter between Carib and the Spaniards is the first documentation of the indigenous people of Nevis. Chanca comments briefly about the native population being hostile and so they did not go ashore. They proceeded to the next larger island, which Columbus named for his patron Saint, San Cristobal (but possibly Antigua—another scholarly debate). Because the Lesser Antilles are poor in minerals, and perhaps because of local resistance, these islands did not garner the same attention from Spain as the more richly endowed islands of the Greater Antilles.

#### Phase I

The rather brief but volatile period between first English settlement on Nevis in 1625 and the year 1655, when Jamaica was captured from Spain by the English—an occasion that set off a significant migration by planters from Nevis—represents a time of rapid colonization, agricultural experimentation, and abrupt environmental modification. We can infer from various documentary sources that tobacco was the principal commodity with indigo, sugar, ginger, and cotton also under cultivation. The first two large town settlements of Jamestown and Charlestown were founded and served as centers of shipping and commerce (Hilton 1675). Yields of tobacco and other commodities returned handsome profits to investors and tobacco plantations were the principal estates for at least twenty years (Batie 1976). By 1655, however, sugar had become so important it virtually replaced all other agricultural production. Despite sugar monoculture and the seemingly endless profits to be reaped, Galloway (1989) and Batie (1976) have demonstrated that at no time were profits ever as significant as the early years of tobacco production. Whereas tobacco could be grown by small holders with a minimum of labor, and overhead, sugar estates were labor intensive and costly. Tobacco did not require the

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<sup>1</sup> Short for Santa Maria de las Nieves.

steep investment in years or capital outlay that sugar plantations needed to establish a viable crop, nor the specialized technology and expertise. It was possible for a small holder to accrue substantial profit. But sugar held the greater promise in Europe as tea and coffee were also being introduced, and the by-products were equally marketable. The expectation then for this Phase is that it will be distinguished from the next in terms of scale of investment, scale of settlement, and nature of the productive capacities and practices of the colony. Although one might also point to differences in population composition it has not been possible in this study to archaeologically make distinctions of craft specialization or occupation.

Despite Hilton's comments in the quotation opening this chapter, Nevis seems an unlikely location for a successful colony. The island has no well formed harbors or bays. It lacks year-round water; its few artesian springs are as unreliable as they are dependent on unpredictable rainfalls. Cyclical weather patterns mean that in many years the springs are dry. Captain John Smith described the island in 1608, as "...all woody, but by the seaside southward there are sands like downs, where a thousand men may quarter themselves conveniently. But in most cases the wood groweth close to the water side.." (Churchill 1653). It would be interesting to know what became of those sandy downs. There is very little flat land to be found, which our survey found necessitated extensive terracing as plantations were built. Deep ravines, called ghuts, have eroded into the volcanic surface matrix of the principal peak of Nevis. Our survey encountered several during transects. These ghuts serve to channel much of the rainfall into intermittent streams. Dry most years, these streams can on occasion form impressive torrents, carrying away vast amounts of soil. A few ghut stream beds are more than 60 feet deep.

In the high mountain, these ghuts create impassable ravines. Significant for early colonization, the English appear to have arrived during a wet period for the region. Rainfall was plentiful for several years and streams were steady enough to be given names. Many plantations were located adjacent to ravines in the next developmental phase but evidence for the practice during Phase I is lacking.

With a warrant from the King, Captain Thomas Warner (1575-1649) arrived on St Christopher (hereafter St Kitts) in 1624 to establish a colony for growing tobacco. Along with twenty "gentlemen adventurers" he founded the first permanent English settlement in the Caribbean. Within two years a splinter group arrived on the shores of the neighboring island of Nevis. Hilton (1675) informs us that disaffection between Warner and a few planters led to the division of colonists, just the first of many intra-colony rifts. The first settlement must have been small, indeed, as there were only twenty in the original group, followed two years later by 80.<sup>2</sup> From such population data we can conjecture that early settlement was focused more on production than on infrastructure and dwellings would have been constructed of readily available timber.

Thermal vents are located in several places around the island, the most notable being the hot, sulphery water outlet on Charlestown's south side, that runs to the sea in Gallows Bay. The site was noted by Sir Henry Holt in 1631, recording that "...nott far from ye foot of this hill there is a hott bath." This hot spring was developed into a spa during the mid to late eighteenth century, and was a popular tourist attraction, noted by diarists, during the nineteenth century<sup>3</sup> (Andrews 1921 [1774]; Merrill 1958).

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<sup>2</sup> Documents provide the names of these eighty persons as receiving land. We might assume that servants or slaves were not enumerated, thus the actual number of colonists was likely higher.

<sup>3</sup> In keeping with current trends in "archaeo-tourism" the famous Bath Hotel on the site of the hot spring is being refurbished by developers. The original structure has suffered numerous reconstructions and

Our landscape survey suggests that two factors enabled Nevis to rise above its shortcomings, 1) extensive fortifications in defense of settlement and 2) superior soils. Both advantages would eventually be eroded for primarily the same reason: neglect.

Shortly after English adventurers came ashore on Nevis they parceled the island into wedge shaped Parishes, radiating from Nevis Peak like bent spokes of a wheel, the first of many landscape schemas imposed by settlement. As a result of this sectioning each Parish came to encompass multiple environmental zones and rising elevation stretching from sea level to steep mountainside. But this did not mean that each Parish was equally endowed with terrain suited for agriculture or settlement, nor was each parish similarly suited for occupation. While some Parishes are disproportionately comprised of mountainous slopes and deep ravines, others were home to vast tracts of fertile, yet rocky flats. The eastern side is marked by shoreline cliffs while the western side is marshy.

Geography also played an intimate role in shaping local weather patterns. The general climate on Nevis is consistent with Caribbean norms, but localized weather varies broadly. The east and southern sides receive the full force of the trade winds and are first to be buffeted by the force of hurricanes, yet this is the dry side of Nevis. Moisture laden clouds continuously embrace Nevis Peak, where the air is cooled, condenses, and rains down to a greater degree on the western and northern slopes. Wind, however, is dramatically diminished in these regions. Many of these variables played subtle, yet important roles, certainly in agricultural productivity, but also in the dynamics of settlement, differentially affecting colonists over time. Survey results confirmed the

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additions since first being built in the 1770s or 80s. During the late 1990s it served as Police Headquarters for Charlestown. The hotel is on a promontory that overlooks the village of Bath to the south and Charlestown to the north. Numerous foundations are exposed on the grounds.



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variation in settlement as partly owing to subtle environmental differences. The first settlements were on the lee side of the island which also facilitated maritime priorities.

The weather patterns found by the early colonists also allowed year round growing and the capacity to produce crops of sugar in rotation two or three times annually.

However, these same weather patterns carried the seeds of vast destruction in the form of hurricanes, periodic droughts, and torrential rains. Additional environmental factors played a critical role in settlement history on Nevis; lack of a reliable year-round supply of fresh water, volcanic soil, rocky uneven terrain, and multiple biotic zones. Periodic drought which ruined crop yields caused planters to fall in to greater debt, colonists to suffer, and slaves to die of starvation. Provision grounds tended by slaves provided substantial portions of their sustenance. Losses of even a small degree of this important source of nutrition could be disastrous. Wells and cisterns were a vital component of plantations for drinking and cooking. It seems strange then that ordinances had to be passed prohibiting bathing in cisterns, ponds, slabbs and ghuts (CSP [1675] 1964:236).

This discussion is not intended to lay the groundwork for arguments supporting environmental determinism, but rather, to highlight the degree to which culture and environment are interdependent, and to illustrate how this is magnified in an island ecosystem, where even small perturbations due to settlement practices may have dramatic affects.

## Research Context for Phase I

When we ask how the colonial landscape evolved after initial settlement it is essential to understand what the landscape consisted of at initial colonization and what variable load pioneer colonists were confronted with.

It is difficult to precisely calculate plantation sizes during the first 50 years of settlement. Land is frequently described in "paces," "yardlands," and "manland." These measures were not consistently applied in the English speaking Caribbean and varied from island to island. On Antigua, for instance, a yardland was described as from 15-40 acres. A patent from 1658 describes an estate at 240 paces wide by 1 ½ miles equaling 400 acres (Caribbeana V., 1919:5). There is no mention of a standardized pace being practiced. Such an estate would have been a little more than twice the length of our survey units. Lack of precision, however, does not present a problem for analysis, as it is relative scale we are investigating. After 1700, estates, and indeed, most everything else in the Atlantic economy, begins to be accounted for in consistent measures as crown revenues were more systematically accounted. Thus, statistics for slave imports, rum exports, sugar prices, freight rates, and much more can be assembled from official records. However, as previously noted, records for Nevis are piecemeal and rare owing to loss during war or accidental conflagration. What we can determine is that the earliest plantations on Nevis were small enough to be operated by a planter with a few indentured servants, and were tremendously profitable. Early success set the stage for the rapid expansion and plantation development that followed.

While documents relevant to Phase I provide interesting information, they do not enlighten us with regards to settlement locations or directions of expansion to any

significant degree, hence the need for systematic archaeological surveys sensitive to landscape modification. Based on the model presented in the previous chapters, the expectation was that settlement in this phase would be characterized by small scale but numerous farms in close association to the principal (and only) shipping center. Additionally, material culture was expected to be little differentiated among social sectors.

### Survey Quadrats

St. John had far greater variation in environment across zones than did St Thomas, a product of wind and rain shadow. By contrast, St Thomas exhibited marked uniformity across elevations, at least within our survey tracts. Within St John one could sense elevation gain as much from vegetation change as from temperature and slope of terrain, a feature much less obvious in St Thomas.

Within each of the environmental zones surveyed, the landscape was inscribed with the signature of agricultural development and exploitation, marked primarily by terracing. Hardly any area escaped reconfiguration in service of plantation interests or convenience to estates. However, very little evidence of Phase I settlement remains on the surface, having largely been supplanted by subsequent settlement expansion. This observation has direct bearing on the questions of change and variable load raised in Chapter One. In St John Parish, in addition to the areas covered during the pilot, a total of 19 quadrats were surveyed with evidence of environmental modification in each one. However, definable Phase I modification can not be adequately assessed. Archaeological remains identified with certainty as Phase I were evident in only four quadrats total, all at lower elevations. In St. Thomas Parish, identifiable Phase I landscape features were present in only two of

eleven completed quadrats. Quadrats are described here by environmental zone. Site details appear in Appendix 1. Refer to maps (Figure 4-2 and 4-3) for quad locations, and table 4-1 and 4-2 for quantified quadrat data.

### **St. John Parish**

SJQ8 in the western lowlands of Zone D crossed a wide flat plain south of Charlestown. The area is referred to on modern maps as Bath Plain as the village of Bath borders the area. The area borders Charlestown at the Bath Hotel, where one could indeed partake of a mineral bath. Sloping slightly, the exposed former terracing is broadly spaced and the land virtually barren of any but the hardiest drought resistant foliage. Abundant artifact scatters and clusters of artifacts associated with soil mounds and depressions were noted. Artifacts included domestic wares along with clay pipe bowls and stems common to the middle of the seventeenth century. Artifact material from later periods was also abundant indicating likely continuous occupation. No systematic collection was undertaken. Bellarmine stoneware and slip-glazed earthenwares strongly suggest an early seventeenth century component. Pipe bowls with spurs, identified using Hume (1969) as dating to the early seventeenth century, were noted in three locations. The lack of variation in artifact types in this and other quadrats suggests little in the way of significant differentiation in material culture so far as ceramics are concerned. Concerning the question of which segments of society most reflect the integration of capitalism, it can only be said that our fragmentary data does not reflect sharp distinctions. Social sectors were most likely defined in other ways during Phase I, such as by dress, work load, and access to various food stuffs. This issue simply cannot be adequately addressed with the data at hand.

The transects were forced to cross a deep Ghut and we recorded terraces and artifacts out to its very edge, suggesting the ravine has grown with time due to erosion and cut through terracing. The closer we came to Charlestown on the north end of the quadrat the more the artifact scatters acquired an eighteenth century character.

SJQ9 also exhibited early as well as late seventeenth century artifact clusters along with architectural features associated with sugar production facilities. Also in Zone D, the elevation of this quadrat was slightly higher than the average of SJQ8, at 150 feet compared to 60 feet. Dry conditions and broadly spaced terracing were the general rule.

SJQ14 in the extreme south of St John, also in Zone D, ranged from 200 to over 300 feet in elevation. As parched and rocky as the other quadrats in this sector, it was nevertheless covered to a greater extent in vegetation. Acacia trees, agave, and dense thickets and patches of cactus hampered survey progress. Isolated artifacts of eighteenth century manufacture were recorded, and ruins of a small sugar refining complex of early type was encountered (SJ14MM5/16-2, see Appendix 1:276). The complex had been altered during its lifetime from a Spanish train to a Jamaica train suggesting use prior to the 1680s. No artifacts were in immediate association, however, artifact clusters and stone house platforms were found a little over 100 meters away to the east bordering a ghut. Seventeenth and eighteenth century domestic wares were present. Based on the architectural design and scale of the mill complex, I assigned it to the Phase 1 of island settlement. SJQ4 No other quadrats surveyed in St John produced unequivocal Phase I material, although early artifacts were found in SJQ4, Zone B at 1500 feet. None of these artifacts, however, were of types exclusive to Phase I, and a more conservative assessment of belonging in Phase II seems appropriate in the absence of any identifiable

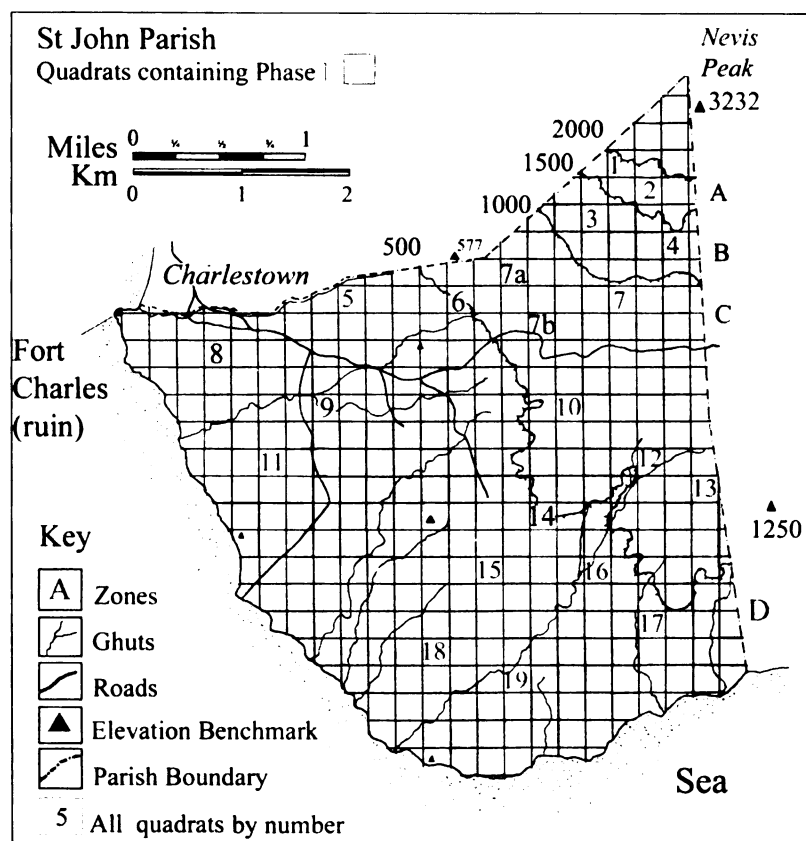


Figure 4-2. Map of St John Parish depicting quadrats relative to stratified environmental zones. Shaded quadrats correspond to those described in the text containing identifiable Phase I components. Numbers represent anchors of all quads from sample. Quadrats run north-south.

Table 4-1.  
St. John Parish. Survey quadrats containing Phase I components.

Quad	Zone	Site types	Site #	Artifacts	Landscape components
SJQ8	D	Domestic artifact clusters	SJ8KD5/22-1 SJ8MM5/22-1	Pipes, glass ceramics	broad terraces, earth mounds, depressions
SJQ14	D	Sugar works, animal mill	SJ14MM5/16-2	None associated	Flat, scrub, acacia thickets
SJQ14	D	Artifact scatter, stone clusters	SJ4BB6/30-1	Ceramics, pipes	100 meters from SJ14MM5/16-1 at edge of ghut

Phase I features. We can infer from documents that Phase I settlement extended at least into Zone C, where several quadrats were surveyed. The place referred to as Fig Tree in the following document is at 400 feet elevation and the base of Saddle Hill at 1000 feet:

Order of the Assembly of Nevis on Capt. Digby's claim touching the bounds of his plantation. Whereas in the time of the late Governor Capt. James lake (1643) the Assembly adjudged that there must be "an extent line" from Fig-tree to Saddle Hill, the present Governor has caused the surveyor to "draw a Platform" of all those plantations that must cross one another...it plainly appears the said Act was necessary...

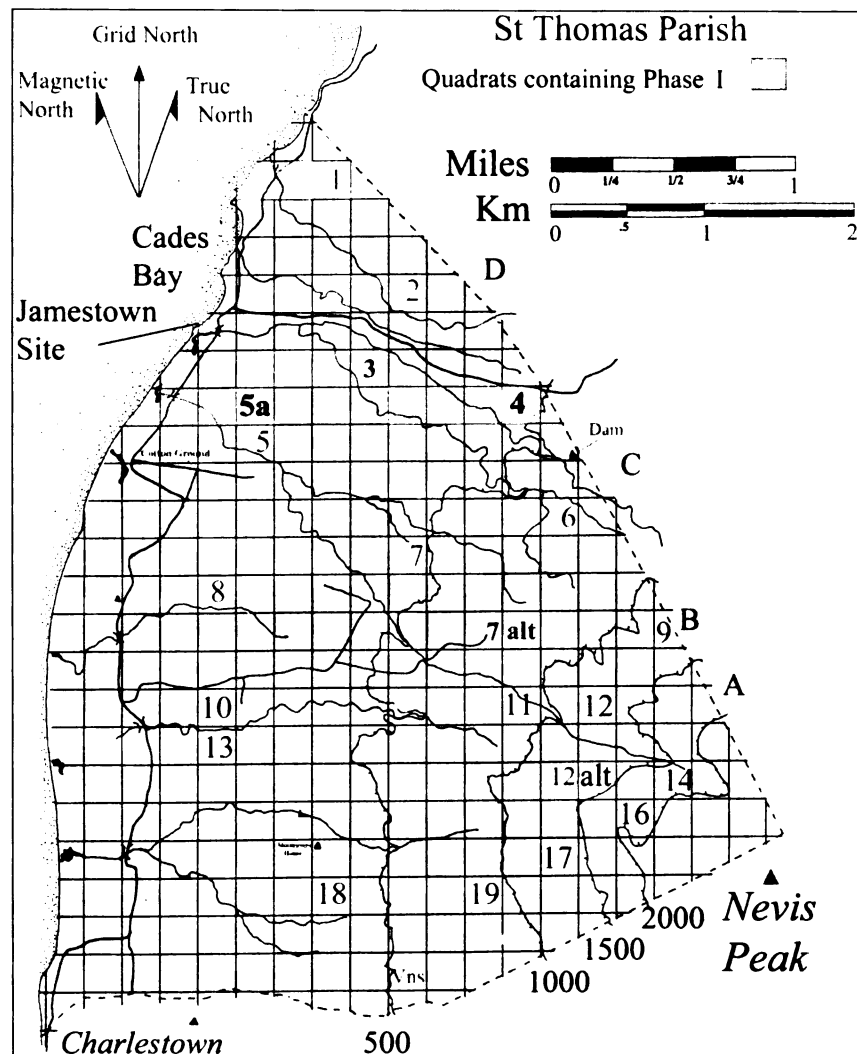
1653 Calendar of States Papers,  
Colonial Series, America and the West Indies  
[1964 reprint]

Previous pilot transects along with survey quads SJQ6, 10, 12, and 13 all fell within the areas described in the above account. Yet transects only recovered data that can reliably be assigned to Phase II. Because of the aggressive expansion that ensued after 1655 this is not surprising, terracing and new construction has erased surface traces of Phase I or more likely incorporated them into new development.

### **St. Thomas Parish**

Only two of the eleven completed quadrats in St Thomas contained unequivocal Phase I evidence. STQ4 ranged from 500 feet to 400 feet in Zone D. Stone clusters with associated early seventeenth century artifacts were noted by each member of the survey team in multiple locations indicating a once extensively populated area. Vegetation is extremely thick and tall trees form an overarching canopy in this plentifully watered side of the island with the exception of this quadrat. Terraced fields within the quadrat exhibited clear signs of continuous use into the modern era, including architectural features and domestic artifacts identifiable to the eighteenth and nineteenth century. The area covered by the quadrat was one of the few in northern St Thomas parish not fully subdivided for new construction. The soil is rocky and bare.





Figures 4-3. Map of St Thomas Parish depicting quadrats relative to stratified environmental zones. Shaded quadrats correspond to those described in the text containing identifiable Phase I components. Numbers correspond to anchors for all quadrat of sample. Quadrats run east-west.

Table 4-2.  
St. Thomas Parish. Survey quadrats containing Phase I components.

Quad	Zone	Site types	Site #	Artifacts	Landscape components
STQ4	D	house platforms, artifact scatters	ST4MM5/29-1	Ceramics, pipes, glass	Terracing, steep slope
STQ4	D	artifact scatters	ST4SS5/29-1	Ceramics, pipes, glass	Slope, broad terraces
STQ4	D	house platforms, artifact scatters	ST4KD5/29-1	Stone platforms	Open broad terraces
STQ5a	D	Artifact scatter	ST5aMM7/11-1	ceramics	Flat, thickets
Pilot Jt[02]	D	Foundations, stone pile clusters, cut stone, artifacts	JT[7-02] Jamestown site	Ceramics, glass, pipes, metal, misc.	Flat, swamp, coconut palm grove. Thick brush cover. Exposed structures.

STQ5(alt) and the Jamestown site are the other areas assigned to Phase I. Again, the basis of this designation comes from analysis of artifact assemblages in surface scatters and built features. Historic documents identify Jamestown as established in this phase, yet do not pinpoint the location. However, based on our limited archaeological testing, the traditional site may well be correct.

Until 1996 one of the earliest stone defensive redoubts of the British Caribbean stood in Newcastle<sup>4</sup> and assigned by researchers on the basis of construction to this early colonization phase (Morris 1999). The implication is that settlement in the first 30 years proceeded along the coast equally as far to the north as it did southward.

In addition to quadrats, roads were sought out as landscape features possibly associated with early settlement. Following the road system was rarely easy but often rewarding as structures were recorded adjacent to the roads which are not indicated on current maps.

From Montpelier in St. John, one could easily see three other estates, the most notable being the Bush Hill complex. From Bush Hill, Montpelier and other mill-complexes were within sight, suggestive of a interconnected visual web of plantation organization.

Keeping this in mind, survey teams always sought visual lines to other estates whenever we encountered any sugar works. This area being predominately flat, although sloped, it is more likely an accident of natural topography than intent that the visual web of mill complexes emerges.

Remnants of the old Lower Round Road, which, according to maps, once encircled the island, were discernible in a number of places. Much of the road has, however, been eroded into the sea. Wells and cisterns commonly were built near shore and close to the roads. Two were found to contain fresh water and were in use for watering sheep and

goats. One in the general vicinity of Whitehall Estate has been being carefully maintained and had modern cement repairs, while most are in ruins. Located at the lowest points of ghuts and sloping hills, wells were designed to capture fresh ground water, which floated on a lens of denser seawater. At least two of these wells appear to have been built during Phase I based on construction details, and maintained over the centuries.

#### Discussion: Environment and Settlement

On Nevis, to plow would have been a waste of labor and stock. The stony composition of soil made it impractical. The modern practice on small plots is to pile up rocks in the center of the property. Across the historic landscape, isolated stone piles among the terraced fields were common. The landscape that evolved on Nevis was patterned by the needs of agro-industrialism supported by laws of private property. Dogs and other animals displaced many of the native animal species. Among these introduced fauna were the rat, mongoose, game turkey, and monkey. All are part of the modern landscape and the monkey has become a critical vector for seed distribution of various non-native plants.

The rapid pace of environmental change and habitat loss on Nevis can be traced from the writings of early travelers and settlers. Captain John Smith wrote in 1608: “all woody, but by the seaside southward...but in most cases the wood groweth close to the water side, at high-water mark, and in some places so thick of a soft sponge wood like a wild fig tree, you cannot get through it, but by making your way with hatchets.” (Churchill 1653). Sir Henry Holt reported in 1631 that the islands (St Kitts and Nevis) were; “...covered over in palmettos, cottontrees, lignum vitae, and divers others sorts but none like any in Christendom.” Sloane voyaged to Nevis in 1685 and engaged in species

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<sup>4</sup> The masonry redoubt was removed for expansion of the Newcastle Airport.

collecting. He remarks that the mountain on Nevis had been cleared nearly to the top: "...where yet remains some wood and where runaway negroes harbor themselves..." (Sloane 1707:42). In essence, within sixty years of first settlement, the tropical climax rainforest had been nearly deforested both for plantation clearing and export.<sup>5</sup> Sloane does not specify if clearing was complete, only that it approached the highest elevations. We can only speculate how much clearing occurred in Phase 1.

Any remnant stands of timber were either too difficult to access or too small to be worth the trouble. As the colony grew, houses, shops, and warehouses were constructed. But much of the *lignum vitae* (known as ironwood) was exported for manufacturing of axles, ship tackle, and gears. By 1680, Nevis was importing timber from Virginia along with tar and other construction materials. Timber was used for two chief purposes, construction and fuel. Boiling sugar requires prodigious amounts of fuel. Distillation of rum, production of lime mortar in kilns, and fires for cooking all demanded fuel. Slag found in archaeological context suggests at least local smithing operations associated with estates (Meniketti 1998).

Moll (1708) reports the island had grown rather hotter since first settlement and this is likely due to deforestation. The problem of heat increase was widely recognized in the eighteenth century. It is also a possibility that the Caribbean was suffering from a localized El Niño effect. Interestingly, while Sloane reports the island as having no rivers or springs, Alexander Burke Iles, writing in 1871, states there are "several mountain springs yielding fresh and pure water" Such is the nature of using historic documents. The truth falls somewhere between these extremes. Nevis' springs depend on rainfall,

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<sup>5</sup> *Lignum vitae*, also known as iron wood, was an important timber in shipping and other industries used for making block and tackle, gear wheels, and pulleys.

which percolates through the volcanic matrix, and surface in only a few places. In times of drought, as during the droughts of the late 1600s, Nevis found it necessary to purchase water from neighboring Montserrat, carried by ships in barrels between the islands. In describing the soil of Nevis, Moll (1708:196) voices an intriguing point:

The soil is fertile especially in the valleys. The rising ground is stony, and plantations grow worse and worse the higher the planters settl'd the mountain. The land being cheaper there than in the vale, being courser and not so easily cultivated. *Tis the same with us in England and for the same reasons.* [Emphasis mine].

### Characterizing Urban Settlement

Jamestown, by tradition the earliest settlements on Nevis, sits across the narrows from St Kitts where the islands are separated by a mere two miles. Now covered by a remnant coconut plantation, survey and shovel testing during the 2002 season yielded substantive environmental data and numerous artifacts of seventeenth century origin. Most were pipe bowls and stems, but also onion bottle fragments and late seventeenth century ceramics. In the vicinity of Jamestown, the so-called Fort Ashby stands behind a marsh and sand berm, well back from the sea, yet historic documents of fortification inspections in 1704, by Major Johnson, Lt. Governor of Nevis, clearly indicate the battery stood on a point extending into the sea (Mackling 2001). Test excavations and shovel testing in Jamestown provide evidence that the town may have had a shoreline character, perhaps built on the beach, now masked by land accrual westward.

Permission to work on the site was obtained from the property owner Mr. Frederick Stevens. The area was first examined in 2000, at the invitation of the NCHS. At the time, several stone structures were noted in the swampy, overgrown former coconut plantation that now strangles the site. Plans were made then to return for more detailed survey. After

establishing a base line tied to a bridge over a drainage creek on the north end of the site locale, a series of survey intervals were marked off. Transects were walked at tight parallel intervals (10 feet) west from the baseline. Each member of the team examined the surface to their right and left five feet and noted every artifact in different categories: glass, ceramics, metals, smoking, and so forth. Surface survey led to direct recovery of seventeenth and eighteenth century artifacts and several stone foundations, structural rubble, and isolated construction materials. Slightly less than one hectare was surveyed for this micro-scale sample. The value of this work comes from increasing the probability of accurately dating isolated structures elsewhere in the sampling universe by adding an additional point for comparison as other structures are encountered on the mostly undocumented historic landscape of Nevis.

We also conducted systematic shovel testing at Jamestown. These were dispersed over a grid pattern covering the entire survey area and generated additional data about shoreline evolution and site development. Results were surprising. Less than 10 feet west of these foundations shovel tests brought up rich sandy loam at 40 cm depth. Water seeped back into our test holes at 60-70 cm depth. Test holes of a meter in depth were dug close to the modern road without encountering water, but sandy loam was reached at 50 cm depth. Each 10 cm level was screened for artifacts. Artifacts were recovered at each level. In one case, an entire mattock was unearthed, along with another edged iron tool (See Appendix). Such mattocks, or cane hoes, are common even at present among local farmers. Finding them abandoned among surface deposits was not uncommon (we recorded five). A farmer living near our project quarters uses one identical to the find. Its age is uncertain. Levels sterile of cultural material were never achieved due to

groundwater seepage. Environmental data from Jamestown are highly suggestive of beachfront construction, perhaps directly on the historic beach itself. A warehouse district, is a distinct possibility (see Appendix 1:293).

Whereas St Kitts remained divided between French and English colonists, Nevis was singularly English.<sup>6</sup> The first settlement is situated near fresh water and reasonably flat volcanic terraces making a suitable location for establishing tobacco farms. Another small hamlet is shown on a few maps just south of Jamestown, occasionally referred to as Little Borough. From the first settlement the colony expanded northward beyond Hurricane Hill to Newcastle and southward toward Charlestown.

Oddly, there is little documentation of Jamestown. Early descriptions of Charlestown strongly suggest that most buildings were of timber and substantially built (CSP [1676] 1964) and we can infer this was the case for Jamestown. However, the towns were a fire hazard, with open ovens, cane juice boiling, and cooking fires in earthen stoves or open on the grounds. Compounds were enclosed by fences, roofs of thatch, and everyone smoked. The first of a series of prohibitions against thatched houses was passed in 1675 (CSP [1675] 1964), repeated in 1705.

No houses or villages datable with certainty to the seventeenth century have been located on Nevis.<sup>7</sup> Jamestown remains the most viable candidate. Two of the mills located during survey are of probable seventeenth century construction. Treatment of stone-facing, masonry technique and wall dimensions have parallels with the Jamestown features. Charlestown, named for founder Sir Charles Wheeler, had been settled before 1650, and excavations in the center of the waterfront by Southampton University

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<sup>6</sup> St Kitts was settled simultaneously by English adventurers and the survivors of a French shipwreck. They divided the island: English in the middle, the French at either end.

revealed masonry foundations constructed against a seawall (Morrison et al 2000). The construction has significant similarities to Jamestown structures. The Charlestown waterfront, however, has been completely altered by expansion and modern construction over the past several years. Waterfront businesses today are erected above historic structures, although a few are visible in underdeveloped districts. Historic structures throughout Charlestown principally date to the eighteenth century. Only Fort Charles and the St. Thomas Anglican Church offer details of seventeenth century construction techniques employed on Nevis, and even these have undergone extensive modification.

The Jamestown site was the only urban site recorded during the project and is somewhat enigmatic. Legends surrounding its demise are inconsistent and poorly documented. According to most accounts, the town was completely destroyed by a natural disaster, possibly a tidal wave or earthquake in 1680, and submerged beneath the sea. More probably the town was badly ruined by an major earthquake, such as the well documented tremor that destroyed a great deal of Charlestown in 1690, sinking ships in the harbor as well. Jamestown is mentioned in various Acts of the Nevis Council into the eighteenth century, so its destruction was likely not total and may simply have not been rebuilt to its former scale. An act dated October 22, 1700, for suppressing the use of thatched roofing, and requiring stone or brick chimneys in urban centers specifically cites Charlestown, Newcastle, and Jamestown (Acts of Nevis 1706). Furthermore, so little documentation of the event can be found that one suspects the importance of the town

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<sup>7</sup> One possible exception is the great house at Montravers.



relative to Charlestown has been somewhat exaggerated.<sup>8</sup> While Charlestown would have a fort protecting its harbor, Jamestown seems to have been protected by a shore battery.

Parallels between the destruction of Jamestown, and Jamaica's Port Royal, are telling, right down to the "church bells ringing under water on moonless nights." Port Royal disappeared beneath the waves in 1692, and was exceptionally well documented by contemporaries. Some conflation of the two episodes seems likely. However, the early date of the town makes it especially attractive for archaeological investigation into settlement patterns and seventeenth century construction techniques. Providentially, the Chimney and Thatch Act provides substantive information concerning the appearance of these early urban settlements and warrants further discussion.

The dangers of particular building traditions were recognized and described within the Act. Section II in the Act states "...no cook-room, kitchen or place of fire in any of the Towns...shall be built without brick or stone." A penalty of 1000 pounds of sugar was to be enforced against those who failed to comply. Thatched roofs are "...not to be allowed within two hundred yards of the main road..." [in Charlestown], and shingles alone were to be permitted, with equally stiff fines instituted. Section IV of the Act, defining the borders of Charlestown for purposes of enforcement, provides landscape details absent from other sources, and was based on known properties and landmarks rather than strict boundary demarcation. Combining archaeological evidence with documentary we can visualize towns of closely built houses and shops, with stone and mortar ground floors, wooden second stories, thatched roofs and detached cooking pits and ovens. In some cases, earthen chimneys, attached or within the structures, is

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<sup>8</sup> It is also noteworthy that every island tourist board seeks some extra allure through promotion of lost cities or haunted mansions. Nevis lays claim to both: Jamestown and the Eden Brown Estate.

suggested. Open fires for boiling sugar and other sources of smoke likely clogged the skies. Moreover, these dwelling places are within the town center coterminous with commercial establishments. Many warehouses were entirely built of native or imported woods. Fire was always a hazard in Charlestown and one can infer from the Act of 1700 that it was a problem for the other towns as well.

Surface clearing at Jamestown revealed a sturdy stone foundation with a width of 24 inches. This structure was designated Feature A. Site depth, subsurface integrity, and construction details along one foundation wall were ascertained from a single test unit (see Appendix 1). The exterior of the building fronted a cobble footing or street. Initially we thought a single large building had been exposed, but its orientation and details of construction suggested instead two adjacent structures sharing a central wall. Although additional features were mapped, no further subsurface testing was carried out. It was not our desire to additionally disturb the site nor was it a primary goal of the project.

#### Jamestown Artifacts

Considering that the Jamestown (refer to Appendix 1 and 3) survey area has been subjected to several years of undocumented collecting by locals<sup>9</sup> and has been disturbed by a coconut plantation, recent dumping, road expansion, equestrian activity and land crab burrowing, it is remarkable we found any artifacts at all. Yet many artifacts are brought to the surface regularly by burrowing land crabs, which both mixes the assemblage and even reverses its order in places. Artifacts were left in situ for mapping. Many artifacts were found adhering to root balls of fallen coconut trees.

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<sup>9</sup> One individual who I shall not name, has been collecting pipe bowls and diagnostic ceramic pieces for over a decade. He dropped by while we worked to show some of the finer pieces from his collection. We appreciated seeing some of the earlier spurred bowl forms, some decorated with roulettes and cartouches. One was definitely a Brosely bowl, c. 1675.

Artifacts from Jamestown surface collection were consistent with most assemblages on Nevis,<sup>10</sup> ranging in type and manufacture date from the early seventeenth century ceramics and smoking pipes to nineteenth century glass and trash. We recovered few ceramics exclusively manufactured in the mid to late seventeenth century.<sup>11</sup>

In contrast to the ceramic artifacts, most of the pipes and glass were definitively datable to seventeenth century manufacture. One pipe in particular can be confidently assigned a date of 1675. The relative high proportion of colonoware, stonewares, and coarse earthenwares to more refined English ceramics is noteworthy. Although popular, inexpensive consumer ceramics were present the nature of the collection suggests limited means and access to imported wares.

Also identified were three fragments of indigenous Carib pottery. Early descriptions of the colonization of Nevis cite the presence of Carib near the first settlement (Hilton 1675) and Jamestown is a few hundred yards from one of the island's few freshwater springs. The choice of this location for a settlement would also have been enhanced by the relatively flat land stretching inland behind it. The small cove of Kades Bay (Cades Bay) offers slight protection and shallow anchorage, but no harbor on Nevis is truly satisfactory. More importantly, shellfish—a Carib staple—would be harvested from the cove. A promontory overlooking Cades Bay would have answered the need for a lookout or defensive site, and served this role in the eighteenth century as part of the defensive works that extended between Charlestown and Newcastle in the north. Cades Bay was

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<sup>10</sup> Material from Meniketti 1997; published by Southampton 2000, 2001, 2002; and Time Team.

<sup>11</sup> Many seventeenth century ceramic types remained popular into the early eighteenth century. This is not to say they are not to be found in deeper deposits. But the lack of specifically seventeenth century types at the surface and the predominance of eighteenth century material goods recommends assigning a conservative eighteenth century Phase II date to the assemblage and a post 1700 surface deposit (see appendix for discussion of median manufacture dates).

systematically surveyed by divers but no construction or artifacts were found on the sandy featureless bottom.

No artifacts of industrial technology were identified in the context of Jamestown (refer to Appendix 1:303). The location did not have milling equipment, or mill-complex architecture. However, at a distance of half a mile inland a mill complex was encountered during survey that could be assigned to Phase II through Phase III based on specific construction features.

How then to organize such an assemblage? Mean ceramic ages provide confirmation of a late seventeenth century date and continued accumulation of refuse into the eighteenth century, but this does not appreciably add to our knowledge base. It merely confirms what was known. First, we can see that a limited range of colonial wares are present, with few finer ceramics or luxury wares. Porcelain is almost entirely absent. Inexpensive wares of English manufacture, particularly transfer-printed styles and plain whiteware of either English or American import form the majority of tableware. Sherds from plates, bowls and cups comprise the bulk of the collection along with jar forms. Pewter and wooden vessels, both certainly present historically from all accounts were not found. The perishable nature of wood and the durability or resale value of pewter means it would rarely find its way into refuse.

The assemblage from the Jamestown site lacked any identifiable industrial component or related artifacts on the surface and was comprised entirely of material common to domestic contexts although measurably limited in scope. If the area was a warehouse district as suggested by the architectural remains and spatial arrangement, it may well be that the site served both functions for a period, with individuals living in attached

residences in or around the urban structures, or more likely in second level residences. This was the case in Port Royal, Jamaica, prior to its destruction in 1692, where structures had street level shops and living quarters, either on a second story or in back rooms (Hamilton 1991). The finds of undecorated pearlware, creamware, and transfer printed white ware styles, as well as cups suggest that even here products of the emerging capitalist consumerism of the eighteenth century had penetrated and were in popular use. Another implication from this assemblage is that the site was used both before and after its traditional date of destruction and abandonment, eventually being buried by sand accretion and a coconut plantation. The artifact types and dates suggest a tapering off of site usage after the mid eighteenth century.

There is yet another possibility. Ceramics occasionally wash up on west facing beaches and are buried at various locations near Charlestown and Pinney beach. Exposed one year, they be entirely absent from the shore the next, only to be re-exposed some years later. If these same processes are operating at the Jamestown site, and indeed, the action of land crabs strongly indicate subsurface deposits that have been fixed on the site by land accretion, then the artifacts may have been deposited historically by wave action and currents as beach refuse and are not directly associated with Jamestown at all.

Environmental data are highly suggestive of beachfront construction, perhaps directly on the historic beach itself. We can conclude the structures were distinctly not organized spatially in the manner of industrial sugar works and did not have any associated industrial structures. The affiliation of these buildings with subsequent coconut plantations, if any, is unclear, but their arrangement and construction are highly suggestive of urban settlement; a warehouse district, is a distinct possibility, acting as

central place for plantations scattered across the lowlands of St Thomas parish and beyond. Alignment of the structures, paralleling visible foundations fronting the modern Equestrian Center across the main road, further suggest the constellation of structures formed part of a warehouse district, such as recorded on St Eustatius (Barka 1996, 2001). This might prove a superficial similarity as not enough artifactual or construction evidence was produced during the short field season to confirm the idea. Several small piles of architectural rubble should be excavated in the future. But taken as a group, the structures appear to be organized in rows along straight line avenues at right angle to the main road.

We noted that structures do not uniformly align to cardinal compass points and possibly were oriented with the historic beachfront. A tendency toward alignment on a north to south axis was common in construction during the late Georgian period in the British Caribbean. Such alignment was frequently associated with elements of symmetry in facades and spatial organization. Such symmetry and careful alignment to cardinal points was largely absent from the many sites recorded during surveys and suggests most were constructed prior to Georgian architectural influence or that environmental constraints played a greater role than previously imagined by architectural historians. Notably, the mill complex less than half a mile away exhibited at least three construction phases, the earliest of which is congruent with the alignment of structures at Jamestown. Additional structures at the complex align with compass points (See appendix 1:298).

### Industrial Sites

Agricultural production at a scale suitable for profitable export had demands that urban settings could not satisfy. Paramount among these were the vast tracts of land

necessary, and supervisory control over movement of enslaved labor. However, during Phase I, production was primarily tobacco, most labor were indentured persons along with the land owners themselves. Housing was on the plantation and documentation suggests early residences were of wood. Some earthfast construction for plantation houses seems likely (Leech 2000). The character of settlement in this phase would be separate rural agricultural units, rather than demonstrably industrial, linked to the urban sites by roads cleared through the jungle. No large processing facilities would be warranted.

### Residential Architecture

No archaeological evidence of detached housing from Phase I has been identified from survey. However, small finds from Jamestown hint at a portion of the population living in or around the masonry warehouse structures. Perhaps, as in the Jamaican town of Port Royal, colonists dwelled in rooms in second stories above the commercial warehouses venturing out to nearby fields as required. Timber construction in this period is suggested by Pulsipher's work on neighboring Montserrat, but the nature of housing in the early colony likely precludes survival.

### Religious Landscape

Documentary sources inform us that churches were absent for the most part until the end of Phase I. No structure that can be identified as serving ecclesiastic functions for Phase I was noted from our survey. Such structures may well have been in urban settings and may yet be identified. The large stone churches that continue in use today were not built before the 1670s.

## Summary of Evidence

Phase I may be the most exciting period but the least documented of Nevis' history. Archaeological evidence from this time is scarce and needs considerably more attention. In terms of the hypotheses presented in Chapter One, data from Phase I has only partial applicability. Hypothesis 1 suggests capitalism was not acting to structure early settlement and that landscape features would exhibit small productive capacity, organized by familiar patterns at the core. This appears to be the case to the extent the limited database can be quantified. Between initial settlement in 1625 and mid century, the colony was comprised of small, interdependent, plantations owned by companies of gentlemen adventurers, tradesmen and servants. This much is clear from documents. What archaeological evidence suggests is that there was little in material culture that distinguished these social groups one from another, at least in the form of non-perishable artifacts. We can conjecture that even if master and indentured servant dressed similarly or ate from similar wares, what they ate and with whom, would have provided unequivocal distinctions in rank. Future research focusing on foodways might yield data relevant to this question.

It is interesting to contemplate the shift from tobacco to sugar production despite evidence that tobacco could be highly profitable and required little overhead and less construction or expertise. The probable warehouses at Jamestown could serve as easily for tobacco processing facilities as sugar storage. They may also have residential functions for laborers as well as those of higher rank. Ceramic assemblages are of domestic character and seemingly out of place in a specialized production zone unless a residential component is considered.



Significantly, sugar plantations could more easily support traditional hierarchical relations than other forms of agricultural enterprise. Top down management, and the range of occupations available from those demanding specialized skills to the unskilled manual laborer, accommodated familiar patterns of the European divisions of labor, and could reinforce status distinctions. As capitalism developed, these existing distinctions may have been upheld allowing the elite from feudal relations to eventually emerge as the elite in capitalist relations.

Labor problems on Nevis were chronic. Initially, indentured Europeans were brought to the island. Those who survived, and this was never a given, often became small land holders and tried to enter the sugar economy. Most, according to written accounts, failed and came to fill various slots within traditional feudal character of society. But with acquisition of land plots by these former laborers (the key lure of indentures), feudal obligations would be tenuous at best. Perhaps feudal relations were rendered more tenuous by being in the periphery, outside traditional jurisdictions of control.

Hypothesis 2 suggests that changes in landscape and settlement were due to shift toward capitalism and the systemic needs of the new economic system emerging. This is a diachronic issue and Phase I data alone can not be used to explicate change. My model for development cannot be supported at this point either, data is simply too scarce. However, Phase I does provide a baseline for comparisons of material culture and landscape that will be possible after subsequent phases are described. Land use during Phase I, based on survey, can be characterized as small scale agriculture in isolated units, relatively near one another, but stretching along the coastal flats. Mill structures were open structures, small, and part timber, part masonry as found in the lower environmental

zones of St John (see Appendix 1 for site plans). Commodity production varied, but most were not as labor intensive nor as land exhaustive as required by the sugar industry and the plantocracy to come.

Hypothesis 3 suggests that environmental changes and exploitation can be explained in terms of capitalist development. Documentary sources and Phase I data allow this issue to be addressed in a limited way through analysis of plantation spread, road construction, and deforestation. Development advanced only as fast as the jungle was cleared, and this enterprise was arduous and depended on available labor. Thus, clearing was likely exponential as new settlers arrived. The variable load first colonizers experienced were largely those faced by colonists throughout the Lesser Antilles, namely, issues of soil fertility, cleared space, the need for water, and a want of labor. Additionally, colonists had to provide their own defense and shipping, all the while uncertain of markets in the mother country.

At this stage the colony consisted of no more than two towns, which acted as nominal central-places. These places were not founded because of their centrality to plantations but on the basis of safe anchorage; therefore, environment dictated where shipping could be located. To some degree then Phase I settlement was more concentrated and influenced by geography than in subsequent phases as more colonists arrived. Thus we may conjecture that while established for economic purposes, central-places may have also had political, defensive, or social significance by default as populations were in closer quarters, and estates yet to gain semi-autonomous status.

Each company cleared its own land and had its own trades-people according to historic sources. While all were drawing from the same pool in the core, the success of these

companies appears to have depended in large part on the talents of the skilled craftsmen within the groups, hard work, and luck. More often than not luck was a weather related phenomena. Initial investments were intended to sustain colonists and plantation development long enough for realization of profits through sale of the assorted luxury products they grew. Governance was through crown appointment but the colony was largely left to its own devices, semi-autonomous if not self-sufficient.

By 1650, numerous individuals and collectives were experimenting with larger scale production. Sugar was introduced among the colonies but the lack of expertise in both its cultivation and refinement, and the long period required for cane to mature, meant it would not be as important as other cultigens until production problems could be resolved. Small sugar works, of the type found during survey were possibly the norm and documentary sources suggest the same for other islands. Of course, such production problems that attended sugar had long been mastered by the Spanish and Portuguese. When the expertise and skills of sugar plantation management reached Nevis and other lesser Antilles islands in early Phase II, there comes a marked increase in the scale of production and a flood of sugar into home markets bringing about significant price declines, which in turned made the commodity affordable to economic classes previously excluded from consumption. This may well have spurred demand. Charlestown was established as an alternate port at Gallows Bay by the dawn of Phase II and eclipsed Jamestown as the chief urban center, probably because the bay was more defensible. The Nevis Council would eventually establish Charlestown as the principal shipping place with completion of Ft. Charles.

As the road system was essentially completed before the major influx of African slaves, who ultimately would be used to maintain the system, the road network represents a planned system of expedience, enabling companies access to coastal sites and the interior. Our survey results point to the road network as a defining variable for subsequent generations of planters; however, its influence in Phase I is uncertain. A coast road between Newcastle in the north to Bath Plain south of Charlestown would have served as an artery of some importance. Once in place, the network ordered the movement of people and goods, and would have patterned future settlement. New plantations, churches, and markets likely closely adhered to the system of roads in the dramatic agro-industrial growth that marks Phase II.

Based on survey evidence, in terms of my model, I suggest settlement proceeded around the island's shore north and south, penetrating the forest to at least 1000 feet by 1655, that plantations spread with the clearing of land along the coast and the penetration of roads into the interior. The scale of plantations and the use of rectangular tracts appears to have been an effort by colonists to impose a familiar order on the environment. Experimentation with commodity production and increasing scales of production, labor relations, and patterns of residence following initial settlement suggest a colony based on models of basic mercantilism. No evidence can be provided that suggests integration of capitalism by any particular sector of society in this phase, although historic data hints at increasing consumer demands in the core state. Nor can boundary indicators be identified for this period.

During these first years some 50-60 ships called annually to take off produce of the colony (Hilton 1675; Moll 1708). Settlement expansion was not immediately based on

# St. John Parish Phase I

- M: mill complex  
 T: windmill tower  
 V: village ruins  
 As: artifact scatter  
 W: well  
 C: cistern  
 F: masonry foundations  
 B: bridge  
 o: house platform  
 Vp: possible village

- Parish boundary  
 Road (modern)  
 Drainage ghyats  
 Ruins

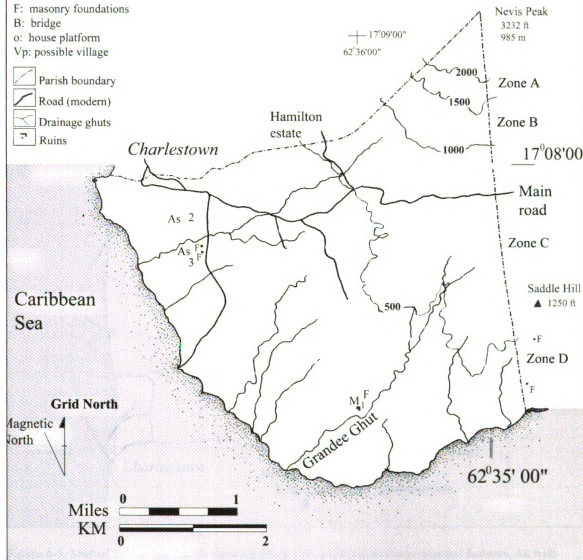


Figure 4-4. Map of St John Parish showing locations of Phase I sites relative to environmental features. For reference, Charlestown, Hamilton estate and modern roads are included. These early settlements are in the coastal flat lands and near large drainage ghyats. Although we did not identify Phase I sites in the broad expanse between those shown here, the model suggests there should be a few. Many Phase II sites are in the expanse and may have been built over existing Phase I components.

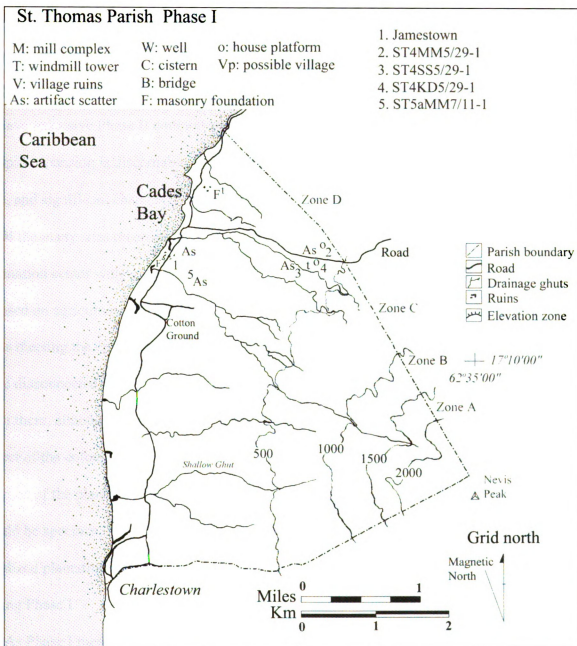


Figure 4-5. Map of St Thomas Parish showing Phase I sites relative to environmental features. As with St John, settlement appears to be in the relatively flat coastal areas along drainages. Modern road and Charlestown shown for reference. Jamestown was settled on the coast near freshwater springs.

market demands but appears opportunistic in scope. In general, artifacts and built features clearly associated with the initial development phase on Nevis are few and can only support a generalized characterization of settlement. Sites identified by survey as Phase I all have extensive Phase II components. In Phase II rapid expansion is discernable. There appears a diversification of material culture, site type, and significant changes in the variable load with increased productivity.

Of the many sites recorded only one can be construed as urban in character—a population center with commercial, religious, and civic components—not principally focused on agricultural production. The landscape of Nevis historically, as today, has few areas meeting the criteria for an urban designation. Plantation settlements and villages were disconnected from mercantile centers and in many cases at considerable distance from them, although none were actually at great distance. Indeed the entire industrial aspect of the colony appears to have been rural as opposed to urban. As nearly every element of the plantation operation was imported, to suggest they were autonomous would be specious. Furthermore, plantations did not fit into any cookie-cutter pattern. Idealized plantation models prevalent in the eighteenth century were likely unknown during Phase I.

As Phase I merged with Phase II, colonists faced uncertain futures. England was engaged in civil war, islands lacked adequate defenses, and small islands seemed crowded. Turmoil among the individual colonies provides a useful historical segue into the next chapter.

## Chapter Five

### Nevis Phase II 1655-1785

Nevis contains 320,000 acres...2000 acres patented, the whole island settled, except the top of the mountain...In Nevis, five places for trade, but two considerable; Charles Town, where are good dwellings and storehouses, built with the country timber, not exceeding 60 feet long and 20 broad, story and a half, the "Hurri-Canes" having taught the people to build low.

Calendar of States Papers  
Colonial Series 1676 [reprinted 1964]

The importance of sugar as a trade commodity can not be overemphasized. Between 1655 and 1700, the demand for sugar increased many fold. The landscape of Nevis appears to have changed dramatically during this time as plantation operations expanded widely to encompass the entire island. Small mill operations were established and new investors arrived with servants and slaves to establish sugar estates. Our survey revealed a built landscape still rich in remnants of Phase II industrial development. Nevis was foremost a sugar colony and sugar complexes were not merely dominant, but dominating features of landscape. Nearly every quadrat included identifiably industrial structures or evidence of built landscape designed to support industrial scale production. Expert engineering and masonry was employed to make the sugar-complexes permanent and impressive. The key element to the new landscape is scale, both in terms of size and number of estates. Data allowed the questions of both the character of settlement change and spatial organization to be addressed.

#### Historical Context for Phase II

In 1655, conditions on Nevis were far from secure. With the rise of Oliver Cromwell many Royalists fled England to resettle on Caribbean colonies. Barbados in particular experienced a rush of aristocrats and an influx of capital. By 1648 Barbadians had the



reigns on sufficient political power to proclaim Charles II as King of England and they attempted to sway all the island colonies away from their positions of neutrality. The year 1650 was climacteric. The passage of an Act by the Commonwealth of England forbid trade with Barbados, Antigua, Virginia, and Sommers Island because of rebellion. Once again the Caribbean became the scene of political and economic upheaval. Barbados was the chief economic rival of Nevis and Nevisian planters, regardless of political sentiments, must have briefly enjoyed a windfall. By 1652 Barbados was forced into surrender.

The capture of Jamaica, in 1655, part of Cromwell's Western Design--a consolation for failure to capture San Domingo--opened up a vast new territory for planters. English forces met almost no resistance from the small Spanish garrison stationed there. Puerto de Caguaga, the sand spit that extended from the land, was renamed Port Royal. Bringing their slaves with them, many planters from Nevis sought new opportunity and resettled in Jamaica which offered considerably better prospects for plantation expansion than did Nevis. A minimum of 1500 persons migrated from Nevis. Additional ships from England arrived at Nevis, we are told in a complaint, "to...induce people to transplant themselves, and to St. Christophers to draw what people he can from thence" (CSP 1964:114). Nevis underwent a period of brief decline. Thus begins Phase II on Nevis.

As will be made evident in the discussion to follow, landscape changes and development appear to keep pace with historic and economic indicators for change rather than lagging behind. This suggests Nevis was not isolated or on the margins despite being a peripheral outpost. Communication between the colony and the core probably conditioned responsive changes, maintained through constant maritime activity.

Determining which environmental changes can be attributed to expansion under capitalism and which simply to general ecological ignorance has been fundamental for addressing Hypothesis 3. The historical and archaeological evidence for modification of the environment is presented here in terms of roads, settlements, and introduced plants.

Mills employing animals used horses, mules or donkeys. Cattle were infrequently used. Most of the mill complexes we surveyed had animal mills, even if windmills were also present. Eventually the mule became the most important animal for such work in the leeward islands (Merrill 1955). Horses were brought from London, but also from Rhode island and New England. John Pinney, owner of Montravers Estate, imported camels for his mills in 1778 in a brief but unsuccessful experiment (Pares 1950). In truth, there appears to have never have been enough cattle on the island to afford adequate manuring of any plantation. Ash from boiling houses was more commonly used as fertilizer. Even a large estate on Nevis of over two hundred acres in 1775, had only 4 bulls, 9 steers, 12 cows, 4 heifers, and 6 calves, along with 28 mules (Pares 1950). And complicating the archaeological record, kiln waste was apparently shipped over as ballast to use as fertilizer as well.<sup>1</sup> The historic record does not provide much evidence for the use of plows. With slave labor available in large supply after 1730, it is likely all turning of soil was by hoe and backbreaking labor.

Around 1650, experimentation yielded to market forces as planters narrowed production to one or two principal crops. By 1675, nearly the entire network of roads on Nevis, which would serve into the twentieth century, had been completed. These roads can be traced on the few historic maps dating to 1704, and remain on the landscape.

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<sup>1</sup> I have not found documentary evidence corroborating this claim, but the assertion is frequently made on Nevis that broken pottery was dug into the cane pieces to add lime to the soil.

albeit, obscured and difficult to follow. The landscape itself had been transformed as we can interpret from the journal of Hans Sloane in 1675:

Nieves, sometimes Mevis or Meves, was inhabited in 1628. It consists of one mountain of about four miles to the top wence it is an easy descent to all parts of the island, but steepest toward the town where there is a road. They have neither springs nor rivers but have what water they make use of from cisterns receiving the rainwater...I went to the top to gather plants and though it had nor did not rain at bottom; yet I was taken there in so great showers that I was wet unto the skin...

Some 320,000 acres were then considered “manurable”<sup>2</sup> by the regional administration, of which 2000 acres were patented (CSP [1675] 1964:499). By comparison, Antigua, more than twice the size of Nevis was judged to have only 100,000 acres manurable, yet 70,000 had been patented. Despite the obvious difference in the number of colonists, and the fact that the English navy had established a major port on Antigua, Nevis was still reported to have the best built towns and roads of all the colonies. Other islands in the immediate vicinity, Staia, Saba, and Anquilla, were deemed only fit for raising stock animals.<sup>3</sup> Those who settled during the last quarter of the seventeenth century with an eye toward becoming “West India Planters” followed a different strategy from their predecessors in part because prime land was unavailable, and because investment capital was available in new forms. But most notably because a great deal of investment capital was required. Larger estates and acquisition of existing plantations provided the easiest avenue, if not the only practical way, for entrepreneurs to insert themselves into the profitable sugar market. Such an approach was not practiced before the late seventeenth century and suggests that important changes were occurring in financing and investment practices in the core.

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<sup>2</sup> “Manurable” was a common phrase implying cultivatable land, or land available for plantations.

<sup>3</sup> Anguilla was briefly used as a slave breeding island.

A few Nevisian estate maps from the eighteenth century illustrate sugar works concentrated into a tight block with slave housing at some distance, and planters' home isolated further (see Figures 5-2 and 5-3). Such arrangements contrast significantly with contemporary literature for models touting the virtues of efficient plantation design that were coming into vogue.

Archaeological evidence from surveyed sites confirms to a degree the departure from idealized estates and supports in generalizable terms a layout that isolated labor from the constant view of the overseer, agent, or owner/planter. Why this arrangement should arise is likely social construction rather than industrial need. In part this spatial arrangement may have been necessitated by the linear nature of the estates of which we have information, yet there was still sufficient space on plantations to have followed planning models. In practical terms, planters were only permitting housing in marginal lands, while maintaining social distance through physical separation. The presence of glass sherds embedded in the plastered tops of high walls is revealing of unspoken fears and realities of being one of the oppressor class.<sup>4</sup>

Significantly, our survey always found evidence of plantations but little evidence of the slaves who had labored on them. One transect in St. Thomas near Tower Estate crossed a cluster of stone piles that may have been slave housing but a lack of surface artifacts and other indicators prevent certainty (see Appendix 1). We recorded the location by GPS for future investigation.

For the would-be planter during the eighteenth century, a number of treatises on estates and plantation operations were available. Most are of French origin and depict idealized plantations designed *by le methode scientifique*, intended to yield maximum

harvests through efficient layout and labor management (see Figure 5-1). These idealized layouts were possible in areas of flat land with contiguous rectangular estates. The efficient plans optimized space and kept slaves and servants under constant surveillance through careful space planning. Great house and overseers' houses were situated relative to slave quarters such that all comings and goings passed by the plantation authorities. However, based on our sample, this idealized plan does not appear to have been realized with any regularity on Nevis. Seventeenth century plantations had already sectioned the island and the best land and much of the island was under cultivation. The few extant estate maps reveal a very different pattern of plantation planning, a different model of efficiency, and significantly, a greater accommodation to natural environmental constraints than the idealized plans would allow. Many of the sugar-works documented (see Appendix 1 site plans) support my interpretation that land contours were carefully integrated into construction design. The layout of milling, boiling and curing facilities appears to achieve standardization in the late seventeenth or early eighteenth century, but not its placement within the estate. Rather, proximity to roads and needs of transportation can be interpreted as variables of most importance to estates. The road system of the past was more extensive than it is today.<sup>5</sup>

A plantation required at least four different land components; fields for cane (cane pieces), pasture for stock, provision grounds for slaves, and forest reserves for fuel. On Nevis, forest land had been depleted quite early in colonization. Planters were forced into importing fuel or using the *baggasse* (dried crushed cane). Stone walls were used to

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<sup>4</sup> The embedded bottle bases and body sherds help date the structures to the mid 1700s.

<sup>5</sup> It may be more accurate to say that fewer roads are maintained or remain passable by vehicle today, so many are overgrown. Still some limited foot traffic is possible.





replicate their familiar diet in every way. According to Labat (1742) the Green Vervet monkey was first introduced to the Caribbean as a pet, some escaped, and now troops have permanent residence. The story may be true, however, there is little supporting evidence. What matters is that the environment has been altered by their presence and they continue to plague Nevisians, stealing ripe mangos and other fruit. Mongoose were also introduced as a means of controlling another stowaway; rats. Lizard, frog, and bird populations have suffered most. But the untenable practices of human colonists were of equal or greater impact. Nevis was famous for the variety and size of lizard species, noted by the first settlers as an important food for native Carib. One variety grew to five feet in length (head to tail extremity) and about one foot in girth. Called Ouaymaca, these behemoths were soon eradicated from Nevis through hunting. Moll (1708) relates that the first settlers were shown by natives how to eat them. They were apparently hard to kill. Three shots from a gun was said to fail in dispatching the animal. Carib natives showed that a stick thrust up the nose was all it took. By 1700 there were none left on Nevis: "... the creatures having been eliminated by the industry of the colonists" (Moll 1708). In all, biologists believe some 87 species have become extinct in the Caribbean in historic times (Barlow 1993). These accounts and the changes in environment recorded by survey all are indicators of a landscape evolving during settlement.

#### Survey Results by Environmental Zone

##### **St. John Parish Quadrats**

##### **Zone D Elevations (from sea level to 500 feet)**

The lower elevations of St. John are sun baked and parched, characterized by scrub, acacia (*Acacia nilotica*), century plant (*Agave caribaeicola*) or aloe (*Aloe barbadensis*),



various cactus including prickly pear (*Opuntia dillenii*), Turk's caps (*Melocactus intortus*), organ pipes (*Cephalocereus royerii*), and other plant varieties adapted to poor soils needing little annual rainfall. The ground is rocky and barren of grasses. Except around residential areas, trees were limited to isolated stands of Logwood (*Haematoxylum campechianum*). As one can tell from its scientific name, this tree species is an import to the island, as indeed were nearly all those mentioned. Aloe was most extensive in areas of abandoned domestic structures from which it seems to have spread. Aloe thrived on the slopes of deep ravines, or ghuts, that jaggedly scar the landscape. In the gentle sloping terrain terracing was common but widely spaced. We were fortunate to locate aerial photos of one stretch of lower St. John dated to the 1940s. The extensive use of terracing clearly stands out of the otherwise muddy image. Computer enhancement helped clarify the landscape through high contrast imaging.<sup>6</sup> The vast fields are relatively level, and today are either covered in acacia or lie barren. SJQ18 and SJQ19. Standing on stone boundary walls that demarcate one property from another, one can easily see windmill towers in several directions. At a time when these fields were in cane it would have been possible to view the operations of at least two other mills from any of the mill-complexes. Two stone animal pens measuring 25 feet by 40 feet, were also noted.

Found within the quadrats of lower elevations were several sugar works, and in SJQ19, stone house platform groupings. SJQ17 followed a ghut from 500 feet south to sea level. We terminated at a well that appeared carefully maintained for modern use. Its construction was like all other coastal wells dating from the late seventeenth century but had a recent cement upgrade around its perimeter. Artifact scatters in multiple locations

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<sup>6</sup> The image is not sufficiently clear for reproduction in this work.

ranged in composition from early eighteenth century materials to twentieth century items. These locations were not subjected to testing, so site depth is indeterminate.

One massive rock outcropping on the coast in the vicinity of Whitehall Estate, SJQ17, was littered with late seventeenth and eighteenth century pipe stem and bowl fragments. Ranges for these dates is based on bore diameter and designs. No systematic collection was performed. The terrain in this parched and rocky district is void of arable soil and wind drives the dust. SJQ14 was completed in reverse going north. Numerous sugar-works were encountered with windmill towers in poor condition. Two of these are identified on the 1984 OSM as Brown estate and Pembroke estate (not to be confused with Pembroke further north in the same quad. We could not identify the other works and their poor condition and lack of artifacts made it difficult to assign a reliable date.

SJQ8, SJQ9, SJQ11. These quadrats were previously discussed in terms of Phase I development. Phase II features and artifacts were also recorded indicating the continuous occupation and use of these lands just south of Charlestown. New government housing and road work created minor problems for us in maintaining straight line transects. Artifacts scatters on the surface of broad terraces were distinctly late eighteenth century in composition. As SJQ8 passes through the village of Bath, we were often restricted to dirt paths and empty lots where eighteenth century trash heaps were evident.

Not in any of our random quadrats, but within St. John Parish just west of SJQ8, stands Fort Charles. We investigated the site principally to record building details because the fort has a known construction date. We even found clay pipe stems embedded in the mortar. Measuring bore diameter added credibility to pipe stem dates we were obtaining elsewhere.

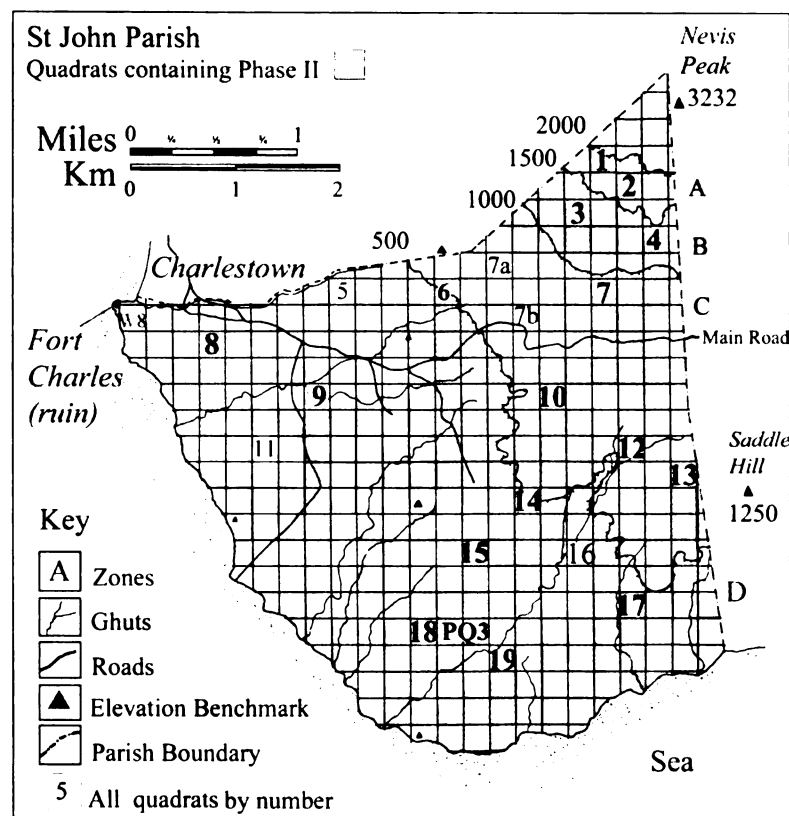


Figure 5-5. Map of St John Parish. Quadrats with identified Phase II features. Numbers are anchors for all quadrats. Quads run north-south.

Table 5-1.

St. John Parish. Survey quadrats containing Phase II components.

N/A refers to sites not assigned a number. Estate names given when known.

Quad	Zone	Site types	Site #	Artifacts	Landscape components
SJQ8	D	Artifact clusters	SJ8MM5/22-1 SJ8MM5/22-2 SJ8KD5/22-1	Pipes, ceramics	Bath village, flat plain, terracing mostly obscured. Split by ghut boarded by old road
SJQ8	D	Stone wall	None	None	Flat plain. Wall separates mill towers.
SJQ9	D	Sugar works	SJ9KR5/22-1	Ceramics, glass, pipes, industrial	"Long Point Road site." Animal pen, boundary walls, terracing broadly spaced, old service road.
SJQ19	D	Stone wall	N/A	None	Flat plain. Acacia thickets.
SJQ19	D	Animal pen	SJ19BB5/22-1	Ceramics	Flat plain. Acacia. Wide terracing
SJQ17	D	House	N/A Whitehall estate	Mostly modern	Flat, rocky open scrub. Gentle slope west. Acacia and agave.
SJQ17	D	Well	SJ17MM7/1-1	None	Coastal, rocky termination of ghut
SJQ15	D	Sugar works	SJ15MM5/21-1 Pembroke	Ceramics	Mill tower, eroded gentle slope
SJQ14	D	Sugar works	Brown estate	None	Mill tower, boiling facility

SJQ14	D	Sugar works	SJ14 KD5/19-2	none	Boiling train
SJQ14	D	Sugar works, cisterns, great house	SJ14(RD)5/19-1 Richmond-Lodge	Ceramics, glass, pipes, industrial	Steam mill. Clarifying tank, industrial materials, boiler, coppers
Pilot Quad 3	D	Mill complex	Dogwood estate	Ceramics glass, pipes industrial	Mill tower, boiling house, cistern, residence foundations, dense acacia forest, flat land
Pilot Quad 3	D	Mill complex	Coxheath estate	Ceramics, industrial	Animal mill, mill tower, sugar works, cisterns, coppers, residential structure, animal pen
SJQ6	D	Church	N/A	Industrial	Anglican Church on main road, copper in yard, cemetery, unidentified ruins on grounds.
SJQ14	D	Artifact scatter	SJ14KD5/19-1	Ceramics	Ravines, gullies, acacia and agave thickets. Towers visible.
WstQ8	D	Fort structure	Fort Charles	Not assessed	Stands on eroding cliff
SJQ10	C	Terraces	N/A	None	Scrub forest.
SJQ10	C	Artifact clusters	SJ10MM5/19-1 [PW7-31/02-1]	Ceramics, glass, pipes, kettles, slate	Situated on ridge adjacent to ghut cliff, terraced slopes, cobble road
SJQ10	C	Mill complex	Bush Hill # not assigned	Ceramics, glass, industrial	Acacia forest. Ghut and eroded ravines. Steam engine, boiler, tower and smoke stack
SJQ12	C	Cistern	SJ12KD5/16-1	None	Thick forest.
SJQ13	C	Artifact scatter	None	Ceramics	On ridge line in thick agave and acacia. Terraces
SJQ12	C	Mill complex	SJ12MM5/16-2	Glass	Prenlis estate? Animal mill, boiling house, modified walls. Adjacent road; below Saddle Hill.
SJQ12	C	Foundation, chimney	SJ12SS6/6-1	Ceramics	Kitchen building for ridge house.
SJQ12	C	Foundations	PW7-30/02-1,2,3	None	Rectangular stone rubble structures adjacent road
SJQ12	C	Foundations and ovens	PW7-30/02-4	None	Possible small boiling house
SJQ12	C	House foundations	SJ12KD5/16-2	Ceramics, glass, pipes	"Ridge house" on ridge, boarded by stacked stone wall. View to St Kitts
SJQ7	C	foundations	N/A	None	Base of Cole Hill
SJQ3	B	foundations	None	Ceramics	Sloped, forested, on cobble road. Terracing.
SJQ4	B	Terracing	none	Ceramics	Steep, dense canopy. Tight terraces
Not in quad	B	Mill complex	SJMM8/2-9[02]	None	Below Cole Hill, along road to Montpelier estate.
SJQ1	A	Artifact cluster	SJ1DR5/13-1	Pipes, ceramics	Artifacts in new road cut and grading for housing
SJQ2	A	Terraces	none	Cut stone	Tight terraces on steep slope
SJQ2	A	Animal pen	SJ2MM5/13-1	Pipe stems	Stacked stone, dense overgrowth, trees growing from pen.
SJQ1	A	Terraces	None	Ceramic sherd	Dense forest canopy, steep, angled along ghut.

### Zone C Elevations (500 feet to 1000 feet)

The slope of St. John continues upward gradually from the sea, but is characterized by narrow valleys and hills as one approaches 1000 feet in elevation. Terracing is more distinct, especially in hilly areas, and stacked stone walls used to create steps of flat land were measured between two feet and four feet in height, depending on slope, and as great as 15 feet broad. Terraces were found in SJQ10, SJQ12, and SJQ13.

Adjacent to the Bush Hill complex, in SJQ10, extensive artifact scatters were found in otherwise barren stretches of scrub. Whitewares of several types (see Appendix 3:302 for type descriptions), bottle glass, and iron kettle fragments suggest a nineteenth century village, possibly associated with the sugar mill following emancipation. Two abandoned cobble roads were traced, one leading from Bush Hill to Brown Hill and the cluster of mills there, and the other leading from the artifact scatter to Cole Hill. These roads are shown on some pre-nineteenth century maps. Bush Hill estate dates from the late eighteenth century and continued into the nineteenth century with a steam mill (still in situ). The complex is on a rise bordering a road and stone bridge crossing a shallow ghut.

The road linking the village of Cox with Coxheath Estate parallels the Grandee Ghut, a major drainage. Coxheath dates from Phase II and has an imposing windmill tower. Many of the wooded components of the mill superstructure rested against the interior walls. At several locations along the ghut we recorded artifact scatters of domestic character, stone house platforms, small plastered cisterns, and features of nineteenth century construction. A community cistern was located adjacent to the road, and another was serendipitously found in dense brush while setting corner points for quadrat SJQ12.



Figure 5-6. Coast round island road in lower St. John parish. Between White Hall and Dogwood estates SJQ19. Torrents have gushed through the ghut this bridge spans and have undermined its foundation. Continuing easterly around the island the road vanishes altogether.

These are of cut stone, mortar and plastered interiors, Some are rectangular, others rounded at the interior corners. Depending on where in St. John one is, this elevation zone has the greatest variation in topography and vegetation. Rainfall appears to be the principle determinant of conditions. Stone clusters and artifact scatters are all that remain of house groupings. Several clusters of house platforms were documented in the rocky flats near the sea cliffs.

#### Zone B Elevations (1000 feet to 1500 feet)

Cooling breezes help make this zone a preferred place to live for current Nevisians and judging from the number of house platforms and estates facing the cooling breezes of the trades, it would seem to have been equally popular in the past. A number of estate complexes located in this zone host windmills although there are exceptions.



Figure 5-7. Boundary wall of stacked stone. Although in collapsed condition the wall stands three feet and eight feet wide. In a few places the original condition was observed with a height of 5 feet. Lower St. John near Coxheath estate, between SJQ19 and SJQ18. Boundary may date from late eighteenth to early nineteenth century. Surveyed during 2002 season.



Figure 5-8. South lower St. John (Zone D) is characterized by rocky uneven ground with little soil. Stone piles formerly for house platforms are grouped in clusters of three to five. Tape in foreground measures 1 meter across. Artifacts (bottles, plate and cup fragments) suggest nineteenth century.

One unidentified mill-complex in a hollow beneath Cole Hill had an animal mill and small boiling train (SJMM8/2-9[02] (see Appendix 1). The property owner allowed me a brief reconnaissance. This complex did not fall within the random sample but deserved attention as it is not shown on current maps. I have very tentatively identified this complex as Beaumont estate based on the Iles 1871 map.

Quadrats in this zone SJQ3 and SJQ4, intermittently traversed from dense vegetation into clearings for past and present villages. Terracing was again found to shape the land in every location in every quadrat. In many places the stone walls used to create terrace levels were distinct, at other times only the cascading stair-step of earth was visible. In several areas adjacent to old roads, the terracing for past cane pieces now serves as level ground for homes. A few modern dwellings have incorporated historic foundations as their own, even when the wooden structures do not fully span the foundations, leaving them precariously perched.

Most of the population of St. John is concentrated in villages along the entire length of the main road. But survey evidence strongly indicates a more diffuse population in the past, with numerous now abandoned house clusters close to sugar-mills. Problematically, we could not accurately determine the site histories of house clusters from surface scatters. Flat irons were found frequently among the stones suggesting a nineteenth to early twentieth century occupation episode.

The highest sugar works noted in St. John was the Morgan's Estate, at 1000 feet elevation. We did not have permission to investigate the property but could examine it from the road that runs adjacent. The ruins boarder an open cattle grazing fields and cut by a dirt and cobble road that links with upper round road. It has a windmill and attached



vaulted storage structures are of mid eighteenth century construction. Artifacts scattered and emerging from the road bed are late eighteenth to nineteenth century types. The mill stands like sentinel above the village that descends the slope beginning from the opposite, west side of the road. The road cuts through the grounds and foundations are exposed in the road bed. With the sample documentation of Morgan's village we completed data collection on three villages at comparable scale. These villages have definite post-emancipation occupation and are discussed at greater length in Chapter Six within the context of Nevis' changing landscape after 1800.

#### Zone A Elevations (1500 feet to 2000 feet)

This upper zone within St. John has very little modern habitation. A few extravagant luxury homes have been built, carved into the hillsides. Historic sugar-complexes and great houses were built even within this increasingly steep terrain. In two locations, within SJQ2, seventeenth century ceramics were brought to the surface by modern house construction, and deposits of seventeenth and eighteenth century material were exposed in a road cut leading to new clearings for future development. Artifacts suggest that even before 1700, clearing of the slopes was widespread and that upper elevations were exploited for agricultural production and residences. Terracing was found in all quadrats of this zone and substantively supports assertions by Sloane in 1685 regarding the deforesting of Nevis. Many terraces were as close as eight feet across and ran narrowly parallel between intersecting ghuts like rungs of a ladder. Quadrats surveyed in this area required careful negotiation of property boundaries and cautious hiking. Narrow trails in SJQ1 alongside the terraces may have been recent, but easily suggest the toil necessary to work in these steep environs.

Ravines dropped off precipitously into well watered narrow valleys. These ravines are popular with banana farmers. Stone walls, rock shelters, and animal pens were also recorded in SJQ1 and SJQ2, but not possible to date. Animal pens were comprised of stacked stone forming an enclosure of up to twenty feet diameter with a single opening six to ten feet across. Some were round and others rectangular, and one was built to take advantage of a house sized boulder as one side. Within this zone, temperatures were cooler and rain more common. The resulting vegetation is more in line with what one expects from a tropical rainforest, however, this is due more to secondary growth from the modern era than remnant stands of native flora. Vegetation density was a factor in deciding to conduct transects at ten meter intervals throughout this zone. From the vantage point of this zone, windmills were occasionally visible across the landscape.

### **St. Thomas Parish Quadrats**

#### Zone D Elevations (sea level to 500 feet)

While St. John's seashore was rocky, active, and marked by short precipitous cliffs, St. Thomas in contrast, hosts most of the island's beaches and marshes. Due to the wedge shape of the parish, much of this zone extends northward from Charlestown, ending at Hurricane Hill. Historic French maps made in preparation of invasions depict defensive works and shore batteries running the entire length of the coast in St. Thomas. Early English maps also indicate defensive walls, as well as small forts. Between Fort Charles, built in 1675, and Newcastle to the north, Nevis was a fortress (Hubbard 1996).

The coastline is shaped by two important forces. The first is the prevailing wind and near shore current, which run northward toward the strait called The Narrows, separating Nevis from St. Kitts. The other is hurricanes. The coast is regularly scoured by these

natural sculptors, one acting patiently and the other dramatically. The beach on the north side of Charlestown was stripped away by hurricane driven waves in 1999 and redeposited far to the north at Cades Bay and Qualie Beach. Eighteenth century shore fortifications and cannon were exposed in eight feet of water some one hundred yards off shore as a result (Mackling 2000). I inspected seven in 2000. Coastal erosion and land loss exposed a burial in 2003 in an area once several hundred feet inland. A former cemetery is suggested but none are shown on any map in that particular area. (See Appendix 4 for details of burial excavation).

Three survey quadrats extended from the sea eastward. STQ8 crossed the grounds of St. Thomas Anglican Church and directly through its adjacent cemetery, where intricately carved mausoleums marked the graves of island elite dating from the middle to the late seventeenth century. The Church sits on the highest coastal ground between Charlestown and Hurricane Hill, surrounded by gentle slopes exhibiting furrows for planting. The area today is grazed freely by cattle. Nevis continued to produce sugar into the twentieth century so the abandoned furrows may be recent. New housing development and fencing prevented us from completing a full kilometer quadrat inland from the sea. Additions to the quadrat were appended as a compromise. The same procedure was followed in STQ3 (changed to STQ4alt) extending inland from the Jamestown site. As these transects penetrated thorny acacia fields a sugar mill-complex was found. ST4altMM5/29-1 consisted of animal mill, boiling house, fully intact cistern and foundations for several associated structures (see Appendix 1:298). The complex suggests that the Jamestown area continued to be a center of industrial activity, even if not a town, following the natural disaster of 1690.



Figure 5-9. Close-up from 1704 map depicting Nevis' western shore in vicinity of Jamestown site. Defensive works and batteries are clearly indicated at several points of vulnerability.



Figure 5-10. Coastal erosion has exposed and threatens fortifications that once stood inland more than a hundred yards from the shore. These ruins stand just north of Charlestown, approximately at letter K in Figure 5-11. Pinney Beach Hotel in background.

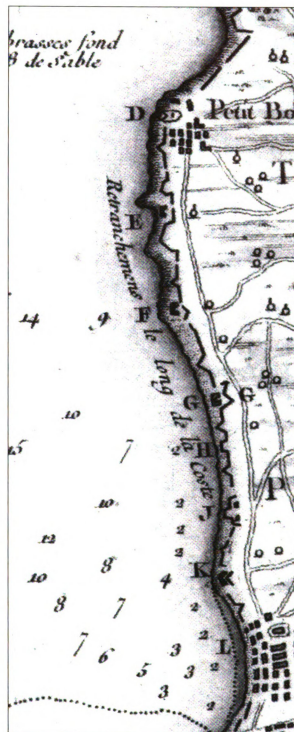


Figure 5-11. Enlarged section from the Bellin 1758 map of Nevis. Western coastal defenses from Charlestown northward to Jamestown area are illustrated. Charlestown is depicted at the bottom (L). Petit Bourg shown at top (D). This town is shown as Little Borough on the Jefferys Map. What town this actually was is uncertain. Possibly Jamestown, but it seems to be in the vicinity of Cotton Ground. The cartographer indicated cannon installations with capital letters. The numbers refer to depth soundings in fathoms.

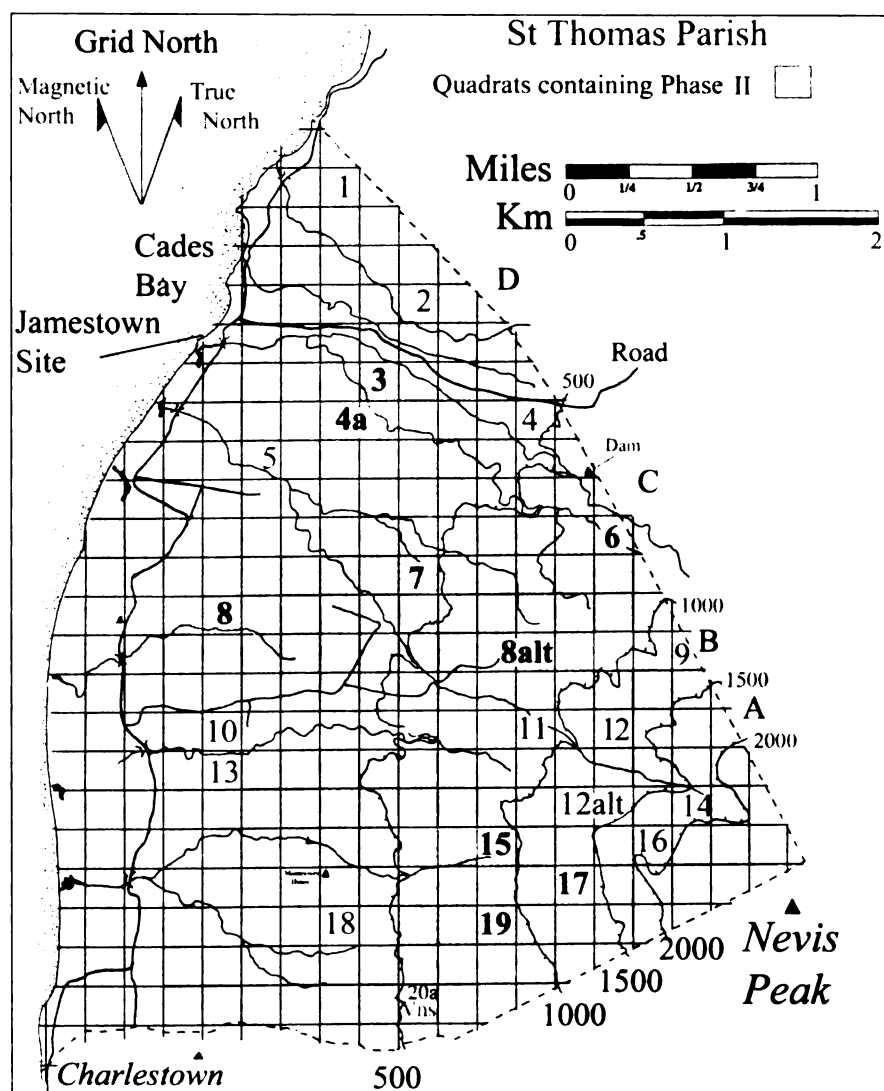


Figure 5-12. Map of St Thomas Parish showing Phase II quads with identified Phase II components. Numbers represent anchors for all quads of sample. Quads run east-west.

Table 5-2.

St. Thomas Parish. Survey quadrats containing Phase II components.

N/A refers to sites not assigned a number.

Quad #	Zone	Site types	Site #	Artifacts	Landscape components
Pilot quad	D	Foundations	JT[7-02] Jamestown	Pipes, glass, ceramics	Swampy coconut grove, along road near beach
STQ8	D	Church	Not assigned	none	Anglican church, cemetery
STQ3(4alt)	D	Sugar works	ST4aMM5/29-1	Ceramics, brick	Mill-complex, animal mill, cistern, boiling house
STQ7 (8alt)	C	Sugar works mill	ST7aKD6/1-1	Cane hoe	Tower estate, tower, boiling house, extensive terracing
STQ7 (8alt)	C	Mill complex	ST7aKD6/1-2	Industrial	On small hill above ghut

STQ7 (8alt)	C	Cistern	ST7aKD6/1-3	None	Associated with Tower estate
STQ7(8alt)	C	Foundations	ST7aBB6/1-1	None	Dense jungle, coconut palms in rows
STQ7(8alt)	C	Structure	ST7aBB6/1-2	None	Rectangular building, views to St Kitts, terracing
STQ15	C	Stone house	ST15DR5/21-1	Ceramics	Walls, near steep road
STQ19	C	Foundations, walls	ST19DR5/21-2 (not measured)	Ceramics	Masonry walls, 2 stories, boundary wall, close terracing. Dense forest, thickets
STQ19	C	Mill complex	ST19KD5/26-1 Rosingtons?	Industrial, iron crushers Iron pick	Thick forest, unique stone truss, animal mill, boiling house. Two story building
STQ19	C	Masonry foundation	ST19MM5/26-1	None	Circular structure of dressed stone, terraces at 10 m spacing
STQ17	B	Building	ST17MM5/28-1	Ceramics	Arched doorway, stairway
STQ17	B	Villa	ST17SS5/28-1	None	Masonry walls, artificial pond, terraces
STQ17	B	Townhouse	ST17KD5/28-1	none	Pariss Garden estate, garden terraces, masonry structures
STQ20alt	B	House platforms	Vaughans village	Bottles, ceramics	Extensive village, terraces, cobble road, cistern
STQ6	A	Road beds	N/A	Pipes stems	Dense forest, high canopy

that ruined it and its fortifications. Additional quadrats in the northernmost region of St.

Thomas, STQ1 and STQ2, were not possible due to modern luxury homes and the extreme cliffs.

#### Zone C Elevations (500 feet to 1000 feet)

All of the quadrats within Zone C, excepting one, were reached by hiking from Pond Hill along the upper round road. Most of these quads were begun at the lower end and extended upslope. A network of roads and terraces were found in the process of survey. Many old roads have been recently improved and new housing is springing up on former plantation fields. The Tower Estate was intersected by transects of quadrat STQ7/8 alt, and examined after gaining permission from caretakers. The mill-complex commands a spectacular view of St Kitts from its elevated position. Both a windmill and animal mill were on the grounds, but the animal mill was too far from the sugar works to have been

of practical use. More likely the animal mill represents an earlier operation associated with the structures immediately adjacent to the windmill contemporary with its construction. The indication is of two periods of operation and building on the plantation. Owners had in the past abandoned sugar in favor of coconut palm and standardized rows of palms now dominate the evenly terraced hills surrounding the complex.

In STQ15 the survey team encountered the extremely deep and treacherous Shallow Ghut (no doubt named with a sense of irony). Transects were begun at higher elevation directly off the upper round road and were followed down slope to the west. Steep terrain did not prevent the area from being used in the past and terraces, stone two-story house, and other structures were recorded in the dense jungle. Transects brought the crew abruptly out of jungle on to the 15<sup>th</sup> Tee of the Four Seasons Hotel golf course. The golf course has been carved from jungle by bulldozer and is spread over a former Estate just north of the Montravers House.

Two mill complexes were also located and one we have tentatively identified as Rosington's (ST19KD5/26-1). The complex included a large animal mill and surprisingly still retained all three iron vertical cane crushers. Like mill complexes elsewhere on the island slopes, its engineers had built it to take advantage of natural topography. The construction evidence and technology in situ suggests an early to late eighteenth century operation.

The village of Vaughan's was intersected in STQ19 and 20alt and is located very near the large estates situated in lower St. Thomas, immediately north and east of Charlestown. Stone clusters and house platforms were too numerous to count. Experience from recording Morgan's village in St. John parish enabled us to more quickly assess



pathways and terrace levels. The village was extensive and we could not accurately determine its full dimensions in the forest cover. We were, however, able to document a short swath through a section adjacent to an old cobble road that linked the upper round road with Charlestown. As with Morgan's, marginal land was used for house platforms in tight clusters. Artifacts in surface scatters were primarily nineteenth century medicinal bottles and printed ceramics. The area documented may not be completely representative of the village, yet can be said to be random, in that we recorded the first clearly evident clustering of platforms encountered. A distance of 200 feet was arbitrarily designated for recording. Continuation of the transect crossed numerous clusters upslope exhibiting similar character to the area we mapped.

#### Zone B Elevations (1000 feet to 1500 feet)

Some of the most spectacular structures encountered during survey were found in the zone just above 1000 feet. Quadrats were carried out through dense overgrowth and beneath tree canopy that often interfered with GPS readings. Slope was at ten to twenty percent grades leading to thirty percent grades and steeper in several locations.

Two villas or townhouses were intersected. One villa was set among walled formal gardens, STQ17. Its western facade stood two stories, with arched windows, remnants of slate flooring and wide staircases of finely dressed stone. There were several associated structures and vaulted chambers beneath the main house. This structure has been tentatively identified by Southampton researchers as Pariss Gardens, (shown on the 1871 map) and was a country house on the scale of townhouses enjoyed by country gentlemen in England--a planters retreat from his industrial sites--a place to entertain and display status (see Appendix 1). The other villa is less grand and has not been identified by name.

The smaller structure is nearly square and was associated with small terrace walls on either of its sides and an artificial pond. Both villas faced seaward and would have had expansive panoramic views.

STQ17 also intersected with a tree known locally as Grandfather Tree. A recent trail has been cut from Charlestown to the tree as an encouragement to eco-tourists to visit the "rainforest" of Nevis, bringing them to the magnificent Kapok Tree (similar to Banyan) with its roots ribboning 40 feet in various directions, one of many buttress root species on Nevis. Such trees commonly indicate wet, shallow soil, and several were found within Zone B.

#### Zone A Elevations (1500 feet to 2000 feet)

This highest zone in St. Thomas again presented terracing and difficult, steep terrain. No plantation structures were found, but we did intersect areas where old roads have been graded for recent construction of homes, which may stand atop former plantation features, STQ6. Dirt road beds were peppered with eighteenth century ceramics and the ubiquitous clay pipe stems. Vegetation included many broadleaf plants, Bromeliads, and ferns. Palms were also found in neat rows although no longer tended. The air was rich in organic odors and quite humid.

#### Environment and Social Change

In the eighteenth century, two novel socio-economic factors appear to have influenced landscape development. The first was the rise of a planter aristocracy founded on the successes of the sugar industry. The second was the near-institutional practice of the absentee landlord. The first led to the construction of large residences, the other to estate neglect. The Leeward Island Legislature complained in 1744, that nearly one half of the

property on Nevis was owned by absentees. Yet this same period saw the construction of the mansions and great houses on a scale never before undertaken in the colony. In 1722, the Pinney family built Montravers, a multi-storied structure with numerous rooms and out buildings. Historic luxury villas, complete with formal gardens supported with dressed stone walls were discovered in two quadrats in St. Thomas Parish at elevations above 1000 feet, and were truly unexpected (in STQ17). The Pariss Garden Estate townhouse,<sup>7</sup> located during survey, was surrounded by formal walled gardens (refer to Appendix 1:297). The Tower Estate in St. Thomas Parish, was built on a high ridge overlooking the sea, surrounded by gardens and artificial ponds. This structure highlights another critical aspect of the colonial landscape. Successful planters on Nevis were as likely to engage in displays of wealth and attainment as aristocrats on other colonial islands or in the fashion accepted in the "mother country."

The ostentation of the aristocracy in England was apparently being adopted on Nevis during Phase II, and further underscores a fundamental social reality—Nevisian aristocracy thought of themselves as British rather than creole or West Indian. Most who could afford to sent their children to England for education and most aspired to return to England. One can conjecture that this attitude is at the root of why island infrastructure was never fully developed. Structures were built of locally quarried volcanic stone, but imported materials were also used. The ridge house investigated in St. John Parish was humble in scale yet boasted slate flooring, just as the Pariss Garden townhouse had slate steps. Based on a reading of maps, the road system does not seem to have been expanded during the eighteenth or early nineteenth century. In fact, coastal erosion was causing the round island road to be swept away by the sea.

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<sup>7</sup> Roger Leech, personal communication. Also see Newsletter of the NHCS, Vol. 67 Feb. 2003.

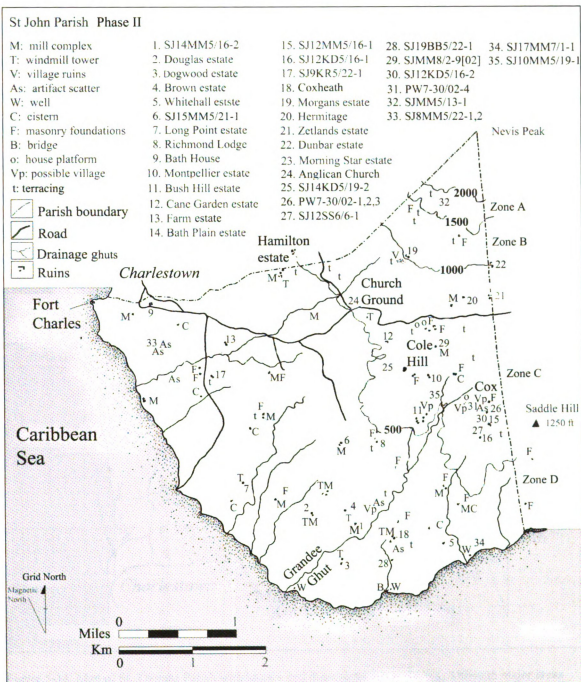


Figure 5-13. St. John Parish map illustrating locations of previously known sites and sites newly discovered during survey. All sites indicated have Phase III components.

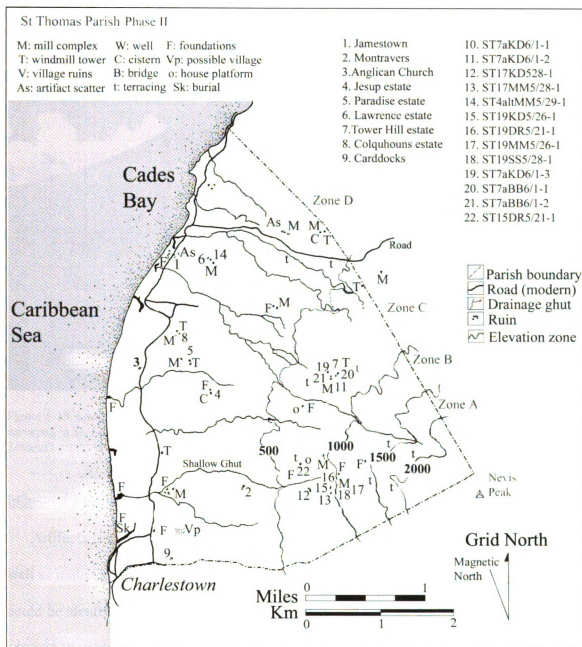


Figure 5-14. Map of St. Thomas Parish with known and discovered Phase II sites. Although major areas were not surveyed due to new property development the area between Charlestown and Jamestown was historically fully under cultivation by plantations of various sizes. With the lower flats and gentle slopes claimed, settlement expansion moved into the upper elevation zones. Terraces were found on the slopes as high as Zone A.

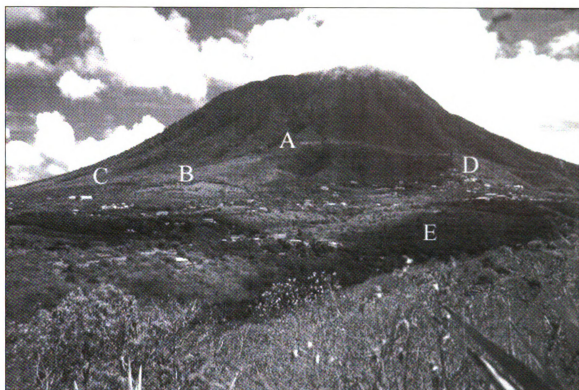


Figure 5-15. Looking NE toward Mt Nevis, viewed from atop the "Ridge house" ruins. A: Highest point surveyed in St. John, Zone A, 2000 feet. B: Brown Pasture near Morgan's village. C: Morgan's village. D: Zetland's estate toward Rawlins (not documented) E: Cole Hill, headquarters during 2002 season.

### Industrial Landscape and Technological Artifacts

Artifacts from industrial sugar mill-complexes include large iron machinery parts as well as material cultural remains, such as ceramics, glass, and personal objects. Sites could be identified by architecture, and the presence of milling equipment served to confirm the assessment. Although by no means common, vertical crusher rollers, mill center axles, boiling cauldrons (coppers)<sup>8</sup>, or fragments of these, and other equipment associated with milling were recorded at several locations. Several sites have been looted of these items and the architectural remains suffered from deliberate destruction to get at the coppers. Coppers are to be found throughout the island in use as rusty cisterns, wash

<sup>8</sup> The first pots for boiling sugar were of copper and the term *coppers* is used to refer to all boiling cauldrons regardless of material.

tubs, as troughs for watering goats, and as quaint antiques in front yards.<sup>9</sup> Even boilers from steam engines are used in this fashion. Many steam engines are still in situ, and parts can be found strewn about industrial locations.



Figure 5-16. Artifact of industrial sugar production. Iron vertical center crusher and axle at Pembroke. SJ15MM5/21-1. The machinery rests on the animal mill platform, Feature E.

### Archaeological Testing

Within SJQ14 was located a mill-complex meeting several criteria for testing. The Office of Physical and Environmental Planning had expressed an interested in monitoring and observing any archaeological testing we might engage in as a test case for their new permit process—a process that we were the first to experience. Site SJ14KR5/22-1 was situated near easy road access barely a mile outside Charlestown at an elevation of 150

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<sup>9</sup> For a clear understanding of the equipment employed in sugar milling there is no finer source than Owen's Dictionary of 1764. French treatise usually contain better illustrations. (see Appendix).

feet (Zone D). This not only facilitated observation, but excavation logistics as well. Additionally, the site is on land slated for government housing development, making its immediate documentation an imperative. Being on government land additionally facilitated the permit procedure. Most importantly, the structure initially appeared to be of early eighteenth century construction, possibly earlier, and comparable to a complex in another, more distant and logistically hellish part of lower St. John, also of early vintage (SJ14MM5/16-2). Placing this complex into Phase II was later supported by a combination of surface and subsurface artifacts, and details from the structure itself indicating its period of most probable use.

#### Excavations at Long Point Road Site and Ridge Site

Two sites were archaeologically tested to learn more of their construction and probable periods of operation. Site SJ9KR5/22-1, was a sugar complex adjacent Long Point Rd. near Sulfur Ghut. Located along the new road to Nevis' deepwater port, these works represent an early, small scale sugar milling operation. Three units were excavated at strategic points of the complex among a collection of foundations constituting the industrial site (see Appendix 1:271).

The road to Long Point Pier, was completed only in 2000 and its influence is already compelling. Construction of both low cost government housing and private development have encroached on former plantation grounds. Dredging has opened a deep channel. No anchorage is depicted in the vicinity of Long Point on historic maps. The point in fact offers no real protection from the trade winds. As far as I can determine the new Long Point Road follows the traces of an historic road shown on maps from 1703, that once allowed movement to fortifications situated at Long Point.





Figure 5-17. Documenting boiling train at Long Pt. Road site, SJ9KR5/22-1. The structure had been built up in three crude masonry courses, finished in dressed stone and plastered. Pictured: Bart Beecroft, Texas A&M, and Krysta Ryzewski, Brown University.

Clearing the area of brush provided an unobstructed view of the associated structures and their relationship. As found elsewhere, boiling table and syrup collection were at lower elevation than the mill platform, which appears to have been artificially raised.

Of particular interest to us was the volume of domestic artifacts scattered over the site. Their presence suggests a residential component to the complex not unlike that found at the ridge structure discussed previously. Artifacts from Unit 1 at a corner of feature 2, opened in the hope of locating a builder's trench, suggest an early eighteenth century construction episode (see Appendix 1:272).

Site SJ12KD5/16-1, also in St. John, was a combination-complex with a medium scale residential structure and associated sugar works, SJ12MM5/16-1 The house and its

separate kitchen structure was situated on a ridge at over 1000 feet (Zone B) and commanded impressive views of terraced slopes down to the sea in a near 300 degree panorama. Delle's (1999) analysis of Jamaican estate "panoptic" arrangements immediately comes to mind. Each visible mill-complex would have been visible to minimum of two other complexes. The mill sits on a rise within 300 yards and encompassed by the same stone boundary wall. From the vantage point the island of Montserrat to the south and St Kitts to the northwest were clearly in sight. From the house, several estates were visible across the landscape.

These two complexes afforded us an opportunity to examine roughly contemporary sites operating in two separate environmental zones. This comparison provide grist for answering some of the questions raised in Chapter One concerning variable loads and developmental trajectory. These mills also illustrate that expansion into multiple environmental zones during Phase II along the road network was common. Three smaller unidentified complexes were recorded within a quarter mile of the Ridge complex during the 2002 season. The mill-complex in question had undergone extensive rebuilding and alteration over time. Some changes were quite curious from an industrial standpoint, much of it crude, further suggesting the structure was not serving as a sugar works at the time of abandonment. Fire boxes had been filled or covered by other walls.

The quadrat in which this site was discovered crossed the road as it curves eastward and back toward the port. Two small farms were also encountered and survey teams had to gain permission to cross one farm. Relics from the mill are scattered across the farm land. Transects crossed directly over newly graded fields being prepared for government housing. A small rise to the west of the extreme outer transect line of this quadrat sported

a small stone ruin that likely was yet another mill. Between them are flat open fields grazed by goats and sheep. This area is a plain and terracing would seem to be unnecessary, yet terracing was broadly spaced at fifty feet or more.

Mill complex SJ14KR5/22-1 was associated with several additional features, including a boundary wall and terraces that extended along an east/west axis, and therefore encountered on several transect lines by survey crew walking south to north. A large animal pen is tied in with the boundary wall. The similarities of the complex to one found previously in the southern lower reaches of St. John were not immediately evident due to obscuring vegetation. After recording, however, the similarities became obvious and are striking.

As with all sites on Nevis, sheep and donkeys have trod a number of paths across the features. Sheep and goats often stand by as silent audience to the excavations. Stone piles and fire pits to the immediate northwest of the animal mill, situated beneath an aged tamarind tree were suggestive of historic dwellings, but probably post date the mill. Shovel testing among the stone piles to sterile levels revealed significant depth to charcoal deposits, seed pods, and nineteenth and twentieth century ceramic artifacts.

Spatial arrangements of sugar works were reasonably predictable. If one element can be found the others could be located as well. The process of sugar boiling and refining is well documented and need not be described in detail here (see Rees Dictionary 1819). The final product, a blackish raw sugar syrup with a considerable molasses content, was transferred to large barrels, called hogsheads, for curing. Hogsheads were stored in buildings designed to catch the molasses drippings and protect the barrels from weather. Storage did not have to be adjacent to the production center, but ideally was near as

transport of barrels weighing in excess of ton was no simple task even if rolling or carting it. At each of the industrial sites documented from survey a storage facility or likely storage area was identified.

We found that in five cases structures had been modified from Spanish Trains into Jamaica Trains, while two sites had undergone extensive additional modification with room additions of poorer quality (workmanship and materials) than original construction (sites SJ12MM5/16-1 and SJ14MM5/16-2). A Spanish train represented an early sugar processing technology wherein the various size cauldrons each sit above their own fire. The technological shift involved a redesign that allowed a single fire at one end of the boiling table to provide all the heat as it was drawn by draft under the cauldrons, thus permitting greater control of heat at critical stages. This suggests use prior to 1675 but not necessarily during Phase I. In the absence of supporting evidence from other artifact classes I have assigned these to early Phase II.

Artifacts from the ridge-mill complex and residence indicate a continuing occupation and utilization of the site from the late seventeenth or early eighteenth century well into the nineteenth century, although not necessarily for sugar (refer to Appendix 3:306). Ceramics present at the site are notable in their variety both in terms of style and form. Additionally, the presence of finer wares, such as porcelain point to a certain degree of showiness and attainment. Coarser and common wares in the same assemblage inform on the day to day foodways. In contrast to the Jamestown collection, there was a marked absence of sherds from storage containers and of those present, nearly all are of one type. Owing to the fragmentary nature of the colonoware in the sample we could not always assign a form, yet vessels identified by rims show that bowls were in use. We cannot rule

out other vessel types. Finer English ceramics and the range of popular wares, such as pearlware--a ubiquitous "poor man's" porcelain--and various transfer printed styles hint at both access and the means to acquire such goods. Even in a remote peripheral agro-industrial outpost such that Nevis was, middling planters still attempted to display refinement and attainment.

### Characterization of Site-Types

#### Residential Sites

Four forms of residence were documented, which help illustrate the hierarchical structure of society on Nevis during Phase II and the increasing display of status and wealth by the plantocracy. These can be divided further as industrial and rural. No urban residences were investigated. As stated above, industrial residences were in association with mill-complexes and were intended for agents, overseers, or the owner of the plantation. Owners might be male or female, but women who ran plantations were rare.<sup>10</sup>

The term great-house is functionally overused. Only in two instances can it be said that we found a residence on a scale where such a word applies. These industrial residences had stone foundations and multiple rooms at ground level. A second story is implied by the thickness of the walls and inset notches, which would have supported floor beams for the second story. Thick walls also served to keep interiors cool. Each had ancillary structures associated with them including separate kitchen buildings and walled enclosures. Such structures could be taken to extremes as the kitchen from the Montravers estate exemplifies. At Montravers the kitchen is a two-story affair larger than many of the industrial residences we examined on other estates. Montravers great-house

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<sup>10</sup> Pedro Welch and Alison Games have each documented the importance of women in colonial Barbados from the standpoint of European estate owners and among free colored.

itself is a three story stone edifice with vaulted cellar and extravagant grounds—a testimony to the success experienced by a few families of the sugar trade.<sup>11</sup> In each case, from modest to massive, the focus of the structures was on distinguishing the occupant from everyone else. Each faced either the fields or the mill-complex allowing supervision from the house. The Ridge house in association with a mill-complex provides an example of a modest residence from late seventeenth to early eighteenth century.

More humble residential structures included those with narrow masonry foundations and those with piled stone as a base. Wooden homes may have been erected above the stone or masonry platforms. The structures found during survey always had associated artifact clusters that included a wide assortment of domestic refuse, such as bottle glass, both for beverages and for medicinal use, ceramics, tool fragments, colonoware, and iron kettle fragments. Problematically, assemblages contained material from a wide range of mean manufacturing dates, suggesting either continuous occupation straddling pre and post emancipation or episodic occupation. Many of these isolated and clustered houses were bordered by tamarind, ginip, and mango trees. None of the house finds resembled the clusters shown on estate maps.

Between the late seventeenth and the middle of the eighteenth century prosperity for some led to the construction of impressive residences. The two country estate houses encountered during survey were as stunning as they were surprising. Although each had walled and terraced spaces flanking the structures, one was of especially grand scale.

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<sup>11</sup> Montravers is being carefully researched by Southampton University of England under direction of Prof. Roger Leech. See NHCS Newsletter Vol. 70, November 2003.



Figure 5-18. Structure associated with Pariss Garden townhouse. Building 1, ST17MM5/28-1. The menu board reads "near Vaughans" because the structure was located soon after intersecting the village before its association with Pariss Garden was realized.

The juxtaposition of luxury townhouse and laborers housing in villages would have been a stark contrast visually and psychological reifying the social order to both sectors of society as they passed on their way to the fields or town.

#### Religious Landscape

When walking the roads of Nevis, one quickly realizes the significance and dominant place churches hold on the landscape. Imposing and carefully situated on high ground along main roads, the Anglican churches built in Phase II are visible from considerable distance. The principal churches, Anglican and Methodist are situated near the center of each Parish at key intersections of plantation roads. St. Thomas Lowland Anglican Church, built in 1675, and St. John Figtree Anglican Church, each are situated on the main island road linking the capital to major estates and were places of worship for island elite. As with other English colonies, anti-papist and anti-Quaker legislation had been

enacted early in the colony's history. In 1661, a ship's Captain knowingly landing Quakers at Nevis could be fined 5000 pounds of sugar. Anyone seen wearing a Quaker hat could be fined 500 pounds of sugar. Although laws against Quakers were repealed in 1705, no Quakers remained on Nevis, nor settled there for the next century.

Sephardic Jews, however, had been welcomed during the later half of the seventeenth century and a synagogue briefly served a small but thriving community of Jewish merchants and sugar specialists. A Jewish cemetery in Charlestown with stones dated between 1670 and 1758, speaks to the community's stable, although brief occupation. An Anglican priest estimated that one-quarter of the white population in St Paul's Parish, Charlestown, was Jewish (Hubbard 1996). Many had come from Brazil and formed the backbone of the merchant class and sugar technologists. This period is critical in the adoption of new technologies in sugar manufacture and overlaps the period of greatest prosperity on Nevis. Their gradual expulsion came during the first major sugar crises of the eighteenth century (Terrell 1997).

### Military Sites

Prior to 1800 the only facilities that rivaled the plantation complexes for scale and labor requirements in construction were the churches and fortifications. Two elements of the island's defenses were surveyed. One was a shore defense and the other was Fort Charles. Both Fort Charles (Figure 19) and the coast shore batteries have been documented at a modest level and published by archaeologists and will not be dealt with in detail here (Machling 2000, 2002). They interest us here mainly in that they constitute an important feature of the total landscape.



Between the seventeenth and eighteenth century, over 15 forts, batteries, and gun platforms were constructed on Nevis. Local stone was used in all cases. Construction of Fort Charles was begun in 1671, at the site of an earlier wood and earth palisade, and finished in 1675. The guns overlooked the harbor of Charlestown from a promontory that is slowly degrading from wave action. The collapse of this once imposing edifice along its southern wall has already begun. Fort Charles was typical among fortifications of its day and exhibits the latest design features of military science.

The Dutch attacked Nevis in 1673, but were repulsed. The attack was only one of a series. When England and Holland had been at war in 1651, property of Dutch planters on the island had been confiscated, including 101,000 pounds of sugar. Dutch retaliation came in 1665 with the capture of 16 ships in Charlestown harbor (Hubbard 1996).

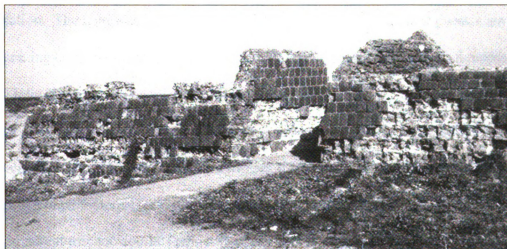


Figure 5-19. Entrance to Fort Charles viewed from east. With most guns pointed to sea, French forces captured the fort from the landward side in 1706.

In 1703 the new Lieutenant Governor of Nevis initiated a program to fortify the island and improve its defenses. Plans of the various forts survive. With its many cannon, it was a formidable deterrent to invasion until 1706. The French divided their forces and

while maintaining an attack on the western side of Nevis, landed troops in the south who marched overland and took the fort from the landward side (Hubbard 1996).

We may interpret the function of these defenses as less for the protection of the populous than they were intended to protect the property and investment in the sugar industry of the emergent plantocracy. The goal of military action in the Caribbean more often was economic disruption, not territorial gain. Plantation islands were often held hostage or estates destroyed just as military sites as a matter of policy. As if to immure the island, fortifications nonetheless served to remind planters of their precarious situation in world affairs.

The second military construction encountered during survey was a wall and platform of the old coastal defense. The location is north of Jamestown in the Cades Bay area. Behind the structure today is an open expanse of marginal land supporting minimal vegetation. The land was not always so. Prickly pear cactus and sparse grasses are all that grazing cattle have as fodder. Cades Bay (shown often as Kades Bay on maps) is a small inlet that may have served as a harbor in the earliest phases of settlement. More a roadstead than a proper harbor, it nevertheless is well situated near a fresh water spring and near enough to the Jamestown site to have facilitated transportation and shipment of goods. An underwater survey of the bay carried out in 2003 found no maritime artifacts but did note hurricane debris. Depths were adequate for the shallower draft vessels of the seventeenth century. Modern craft anchor in the protection of Cades Point.

In 1740 construction was begun on a fortress on Saddle Hill, at the boarder of St. John and St. George parishes. At 1000 feet above sea level, this fort was to provide a safe haven for the populace in the event of future invasions, rumors of which arrived with

every ship. The construction was costly despite being built by slave labor. Planters resented vociferously having to supply slaves they preferred to have working the plantations, despite the fact the defensive works were for their own protection. Walls extend 1600 feet, and in places, stand thirty feet tall. Because all attacks on the island came by ships driven by the trade winds, the fortress was built to command a view of the south and the predictable path of invaders.

Throughout the colony's first century, piracy was as much a problem as European rivalries, and not infrequently, was officially sanctioned by Governments as proxy agents of foreign policy. But piracy continued as an expensive problem well into the eighteenth century. Writing in 1703 William Burt of Nevis complained that, "...privateers are so thick amongst these islands, that we can't sail from island to island but with more hazard than between England and this place; hardly a vessel in three escapes...so that everything has risen to extravagant prices...Here are some vessels loaded with sugar and durst not stir for fear of privateers." (C.S.P. Col Ser. 1702-03). As reported in April of 1795, in a dispatch to the Columbian Centinel, a Boston newspaper, privateers from Nevis also attacked shipping from the United States.

But official hostilities were a greater plague. Between 1700 and 1800, there were barely thirty years in which England was not in conflict. Freight rates and insurance during this century of war maintained many planters in perpetual debt. Credit was not only a requirement to operate estates, but a necessity to maintain a planter's lifestyle. Payment to creditors most often took the form of sugar on arrival in English ports, and advances were made through agents and brokers. Planters on Nevis might never see actual currency (Lobdell 1972; Sheridan 1961). These details of economic machinery

meant that banking interests and houses of exchange were vested in plantation successes or failures, an aspect of capitalism's structure of reinforcement. The value of one's currency then fluctuated with the fortunes of the market and ones' ability to get it to market in timely manner. The major conflicts affecting development in the Caribbean as rival European powers vied for economic control of the region are chronicled in Appendix 10.

### Summary and Analysis

#### Demographics

Populations figures for Nevis are reliable for only a limited number of years. Moll (1708) offers the figure of three to four thousand after only twenty years of settlement and takes great pains to authenticate a population between 20,000 30,000 in the 1680s, and accounts for most as military garrisons and black slaves (1708:204). Moll's figures do not have corroboration. Jeffers (1792) cites 30,000 during the mid eighteenth century. These later numbers exceeds by three times the figures derived by other sources and is seriously suspect. During the years 1672-1686 there were important increases in the slave population among the Leeward Islands of Nevis, St Kitts, Montserrat, and Antigua. Dunn (1972) has calculated an almost equal number between European and African<sup>12</sup> populations for 1678, with a total of 7370 persons.

Population statistics also highlight an important feature of the time. Women were not in short supply and children, English, Irish, and African, represented more than 20% of the total population. This represents a tremendous burden for a society that did not produce its own food. We can not assume these are all children of colonists. Sweeps

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<sup>12</sup> Contemporary census data uses the terms white and black or non-white, occasionally free black as a distinction to slave. All such persons will be referred to here as African

through London streets to collect orphan children often took place, shipping the poor souls to the colonies. Citing a census taken by the Governor of the Leeward Islands, Dunn's figures indicate that while slave numbers remained relatively stable, or increased steadily over time, white population decreased markedly by 1708. Other tallies vary in quality. Iles estimated a total population of 12,000 for 1871, but offers the figure 10,000 for the official census of 1861. Perhaps the single most telling demographic detail is the sharp decline in the European population relative to African. Slaves came to make up the majority on the colony, living on estates and laboring in fields.

### Population Demographics

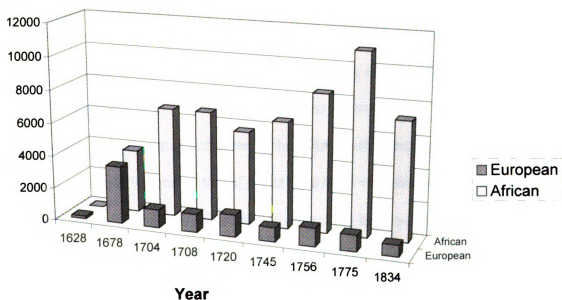


Figure 5-20. Population demographics on Nevis. Data compiled from Davis 1962; Merrill 1958; Pares 1936; Galloway 1989; Williams 1970; and Goviea 1965, and Caribbeana vol. 1-6.

The difference in population composition between Phase I and II also suggest changes in social structure and colonial focus. I suggest the changes reflect economic shifts toward increased control by proto-capitalists who have initiated a period of estate consolidation that leaves no room for small holders.

Landscape data from Phase I and II allows comparisons to be made respecting Hypotheses 1 and 2. Change is evident but not haphazard. Taken as a whole, landscape features in Phase II reflect the needs of the plantocracy for efficient operation of semi-autonomous plantation communities and maintenance of social distinctions within a stratified society. However, these two functions are often at odds, and there is evidence in spatial arrangements that suggest members of the plantocracy would occasionally forgo efficiency in favor of other priorities, possibly status maintenance. The industrial landscape appears to have been built to withstand hurricane force winds and to signify strength and permanence. The contrast between the stone edifices of industry and the homes of its captains, to the abodes of labor, served as not-so-subtle daily reminders of the hierarchy of social relations structuring the colony during the eighteenth century.

Even as labor and various sectors of society gradually were divorced from the fruits of production and the manufacture of surplus, they seem to become wedded to a system that defined them by their labor status or place within a labor gradient, apart from those managing the surplus. In this respect, generally, agro-industrial outposts resemble a mining community, often with similar absentee control.

As plantation life became the dominant economic institution it also emerged as the principal social institution as well. Towns were few on Nevis. Only three ever grew to

any significance and all three had safe anchorage: Charlestown, Jamestown, and Newcastle. All were situated on the lee, or western side of Nevis, with the exception that Newcastle is nearly at the northern most reach. These were centers of merchant life and shipping. Government representatives maintained offices in the principal port of Charlestown, which in Phase II , ostensibly controlled all shipping. Colonial development during Phase II on Nevis clearly is distinguished by increasing prosperity for a few elite and a marked shift in population demographics. The landscape features larger plantations, residential structures for the plantocracy of greater scale than previously built, (Pariss Garden or Montravers for instance) and an increase in attention to defense.

The human landscape changed significantly in Phase II as slaves swelled to become the majority population. Importation of labor increased partly because the new landscape dominated by macroscale sugar producers could manage a rotating schedule of production, harvesting and refining. Even though the environment was in a process of degrading, climate still allowed for at least three harvests annually.

Population demographics demonstrate that even as the number of planters decreased, labor needs were constant. We can interpret from the landscape, however, that the European population largely was rural in character, with the possible exception of merchants. This is a reasonable surmise because the focus was the plantation and all industrial production was rural. The exact numbers of persons filling the various needs of the colony, such as craftsmen, merchants, and so forth is not known. From letters between agents and owners we have the sense that few skilled craftspeople lived on Nevis. It is likely many were on St. Kitts. Indentured laborers with trade skills, especially masons, were valued in the colonies and found ready employment, if not wealth. Prior to

1680 one might find indentured white Europeans working the fields alongside black Africans. However, slavery became a racialized institution following passage of laws forbidding European slavery except for political prisoners. Writing in 1676 of the indentured, Christopher Jefferson claimed:

"...Scotchmen and Welshmen we esteem the best servants; and the Irish the worst, many of them being good for nothing but mischief... How many broken traders, miserable debtors, penniless spendthrifts, discontented persons, travelling heads and scatterbrains would joyfully embrace (the offer of transportation to St Kitts)..."

The variable load on planters operating during the eighteenth century was significantly different from their counterparts a century before. Whereas seventeenth century estate owners were concerned with transport distances and labor, eighteenth century agro-industrialists were more concerned with squeezing more juice from sugar grown on depleted soils. This is evident from the size of estates and the factory scale mill-complexes. Issues of water retention and field management were constants.

Better control over the boiling process ensured a higher yield from the juice during Phase II. The transition most likely occurred between 1680 and 1700 and suggests a date for the construction of the mill-complexes in question as the technology was adopted. The transitional technology was more efficient but required careful monitoring and was labor intensive. Efficiency in this case is not a measure of labor output but of product. Labor was for the plantations a fixed cost, albeit an insecure one. For the emerging capitalist economy on Nevis, land was treated more as the investment than was labor. Invention of the hygrometer for determining specific gravity at various stages of boiling was intended to replace even the sugar master (usually a slave) with unskilled, interchangeable laborers late in this Phase.



Roads completed in Phase I or during Phase II prior to 1704 linked estates to commercial and shipping centers via high and low avenues around the mountain at the island's center. Roads also joined estates in a network that facilitated communication and ease of transporting plantation products across rugged terrain to shipping locations. Roads directly served mills and townhouses, but only incidentally the villages. Churches presided over important intersections. These estates and road systems do not hint at a central place but as independent nodes. All produce and commerce was required to pass through the one or two shipping centers the island environment afforded, yet these centers served the estates, not the reverse.

Plantations for sugar production were only autonomous in theory. In terms of spatial organization they followed both set plans and novel configurations, yet in use of industrial space they seem to have conformed to a number of common practices. All were dependent on sugar markets, prices in the home market, credit, on the merchant class, which the plantocracy viewed itself to be above socially. Cramped spaces and legally restricted mobility officially defined the landscape for slaves and eventually the emancipated wage laborer. Unofficially, slaves created for themselves landscapes of which planters were not cognizant. The archaeology of these landscapes, social and physical, remains to be explored.

Following the destruction of Jamestown during a natural disaster in 1690, Charlestown appears to have emerged as the focus of all mercantile activity. With a great fort on a promontory overlooking the harbor, Charlestown gained distinction. The town figured prominently on several French spy maps of the day. Based on comments in narratives by Thomas Warner, it may have been bold bluff as cannon are described as "good for

nothing" (CSP 1964[1676]: 367). Although at least two and possibly three sugar complexes from our survey can be assigned a date before 1700, based on construction techniques and technology employed, most on the landscape date rather later illustrating the extent to which this Phase was marked by industrial expansion.

In 1706, an Act of the Nevis Council sought to encourage expansion by petitioning the Crown for resources to open another port for transshipment of goods. The result was the construction of a harbor complex for transshipment at Indian Castle, on the southern side of the island. However, the location is a poor one for ships. Exactly when construction went forward is not evident in extant documents. The new shipping port in St George Parish presumably facilitated sugar transportation for plantations on the eastern and southern side of Nevis (Meniketti 1998b, 1999). Fortifications were also increased on the south coast (too late to prevent French invasion in 1706). Archaeological evidence indicates the area was scene to plantation activity as early as 1675 (Meniketti 1998a) although the scale of these operations is undetermined. Nonetheless, the evidence provides additional data for characterizing settlement expansion as continuing along the coast, a pattern established in Phase I, and has provided raw data for addressing Hypotheses 2 and 3.

Based on archaeological survey, the number of estates located in our sample from this period, and the documented size of plantations, spread of plantations across the landscape would seem to have been rapid, rather than a slow progression from a central node. Transportation was a vital element in the settlement pattern. Two limiting factors would have affected initial expansion, the rate of forest clearing and available labor. Works associated with indigo, ginger or tobacco production have all vanished or been absorbed

into sugar complexes. As the scale of production increased, so too did the number of plantations in Phase II. In terms of my model for development, settlements appear to have expanded outward from transportation nodes at Jamestown and Charlestown in all directions, first consuming flat land along the island's perimeter. Distance was not necessarily a limitation. Plantations moved up the mountain nearest the urban centers before more distant locations were developed. Plantations under 100 acres were the general rule until the eighteenth century, and this considered large for its day.

During Phase II consolidation of middling estates by consortiums and a minority of wealthy planters significantly reduced the number of estate owners. New sources of credit allowed new planters to enter the industry by acquisition of existing estates (Lobdell 1972). Cost structures had changed making it unprofitable to start-up from scratch. This represents a different kind of colonist than had come before. The work of clearing had been accomplished, roads were in place, and a system in operation. Scale of production probably worked to allow fewer planters to monopolize the monopoly.

#### Sugar Markets and Nevis Prosperity During Phase II

Fortunate were the planters on Nevis that throughout this long century of conflict, 1700-1800, (or perhaps owing to it), sugar prices remained reasonably high. With English protectionist policies in place at home, growers enjoyed a monopoly and limited competition. Albeit, a guaranteed and secure market, but they also had limited access to world markets. As a practice, foreign policy in the Caribbean among European powers was aimed at disrupting sugar production and shipments. For Britain, this was less intended to reduce market competition as it was to dismantle the economic base of its rivals. For the French and Dutch, to damage English sugar production was to cripple the

English economy at one of its key sources. During war, less shipping reached ports. With a drop in overall tonnage it can be surmised that commodities fell in supply. But more importantly than an example of Adam Smith's simple formula of supply and demand controlling prices was the attendant decline in all arenas of the economy that had become yoked to the system then evolving. Sectors as diverse as textile manufacturing to cooperage could be affected by capture or loss of ships, through reduced capacities for remuneration.

It is noteworthy that cargoes of ships taken as prizes by privateers during war were differentially treated by law in England, with an eye toward keeping prize sugar out of domestic markets. Parliament pressed heavy protectionist taxes on foreign sugar. It should be obvious that protecting the plantocracy or their debtors, and not the consumer was the principal Parliament had in mind. Nonetheless, prize sugars could still reach the market through neutral countries and undersell English re-exports, limited though they were. By such means did world sugar pricing find its own level (Pares 1936:480).

Data for sugar exports from Nevis and market prices in London during the eighteenth century reveal a cyclical pattern of rise and fall, including several points of precipitous declines (Figures 5-4 and 5-5). When compared to production on other British islands the pattern is clearly not unique to Nevis. But prices and production volumes do not appear to be united. Other factors appear to be at work, among these possibly are weather, shipping, overproduction, and politics.

The famous "triangle trade" was far more complex than is usually depicted in history texts. Many vessels sailed directly to the West Indies with one of the more important commodities needed by the islands: food. Nevis imported all of its food, including fish

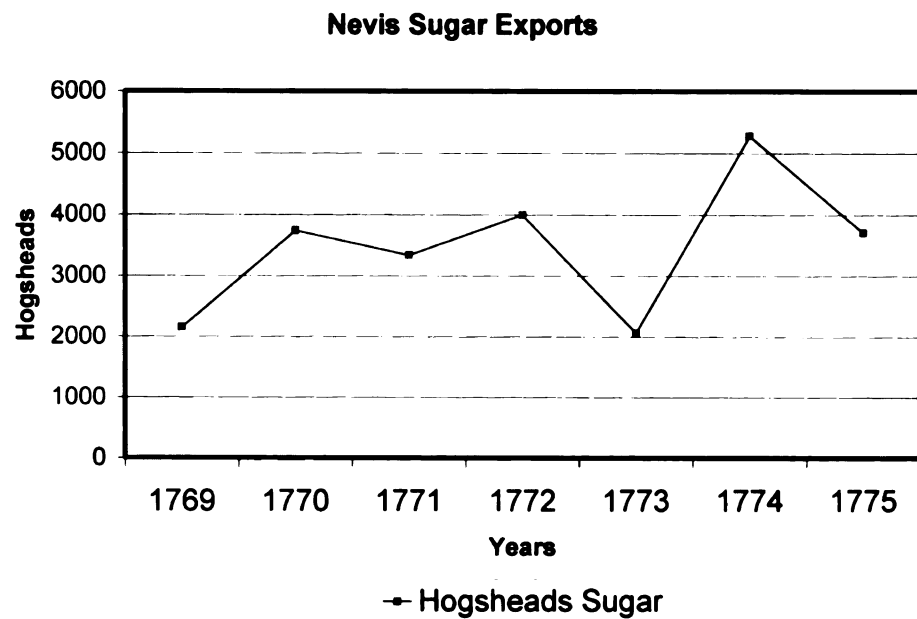


Figure 5-21. Shipments from Nevis 1785-1795. Sources: Sheridan; Pares.

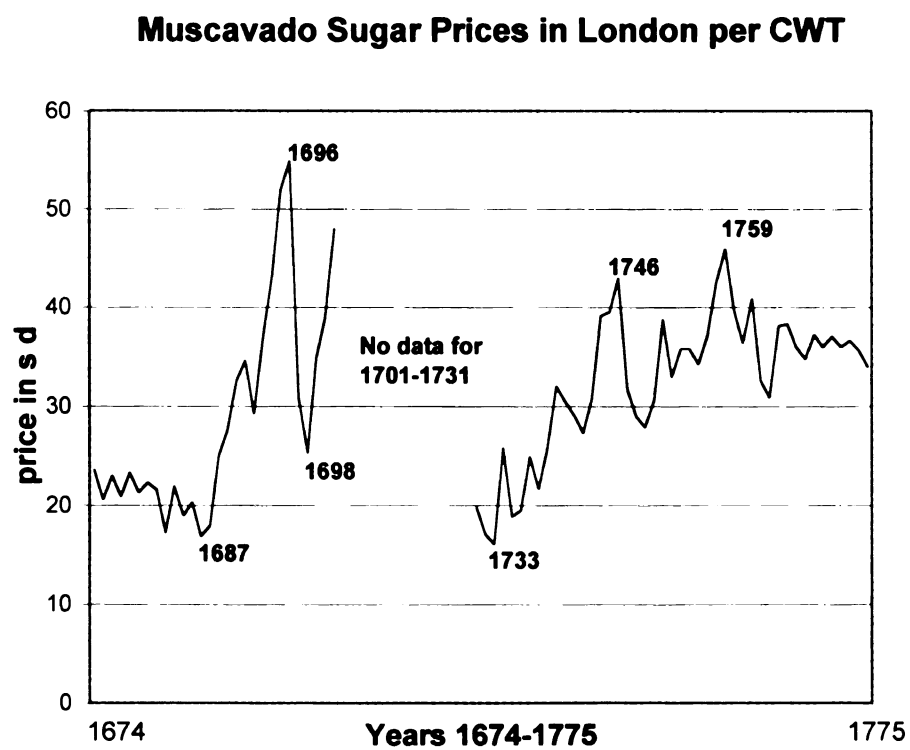


Figure 5-22. Sugar prices in cwt for the years 1674-1775. Fluctuations were caused by numerous factors, including: overproduction, poor production, loss during war, industry expansion, and changes in policy toward competition. Sources: Sheridan; Duffy; Williams; Pares; Galloway.

caught off Newfoundland and Greenland, beef from Ireland, and even on occasion imported water from Montserrat. In periods of peace, few though they were, the Atlantic trade might involve a host of ports and cargoes. While raw materials crossed eastward over the Atlantic, textiles, rum, and manufactured goods made their way to Africa. Slaves were transported to the West Indies, and sugar and other commodities, including coffee, indigo, ginger, and cotton were picked up for the return passage. Only coffee threatened to supercede the value of sugar as a bulk trade commodity, especially in France, where nearly 90 per cent was re-exported (Duffy 1987:9). But consumption of coffee and tea only increased the demand for sugar. The Atlantic economy was a world-system under full sail.

One well documented voyage serves as an example. In the late seventeenth century, the chartered vessel *Dorothy* carried 637 quarters of wheat to Cadiz. Unable to find a cargo homeward bound, the master took the ship to Cape Verde Islands, loaded 180 tons of salt and sold it across the Atlantic in Nevis. Having no cargo available at Nevis to take off (he arrived too late), then went in ballast (empty except for ballast in the hold) to Maryland. From Maryland he secured a freight of tobacco for London, a total voyage of fifteen months (Davis 1987:233).

Documents reveal that planters' agents often followed a prudent course of shipping sugar on several vessels rather than risking all to one. While safeguarding his shipment, the trader gambled instead that market prices would remain stable until all his sugar was transported. All of this bulk trade served as a stimulus to seaports in Britain and for agricultural production inland. Because final refining of sugar was reserved for home production, the sugar industry also had an impact employment directly in England.

Cotton production supplemented the income on several plantations and was subject to its own freight rating.<sup>13</sup> Reporting methods during the seventeenth century were often inaccurate, frequently changed, and regulation of trade was late in development. Therefore it is difficult to fully assess the trade from Nevis in the seventeenth century or to compare its value during the eighteenth. Available statistics do, however, allow general statements regarding its importance to the colony's economy. It appears that soon after the French capture of the island in 1785, Nevis suffered a sharp social and economic downturn exacerbated by globally declining sugar prices.

At the close of Phase II many mill-complexes fell into disuse. However, in the first quarter of the nineteenth century new construction appeared on the landscape—the smokestack—hallmark of the industrial revolution,. As will be discussed in Chapter Six, even as Nevis lost its prominent position in sugar markets, new estates were appearing and modest technological experiments were underway configuring the landscape once again.

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<sup>13</sup> Although light, cotton as bulk carried in the seventeenth and eighteenth centuries took up a great deal of space aboard ship and was rated accordingly. A dispute over the cargo of a vessel at Nevis in 1712 offers insights into the intricacies of commodity shipping. Officially capable of 200-tons burthen (capacity to hold 200 English tons of cargo) only 200 hogsheads of sugar and 80 bales of cotton were loaded for a total of 58 tons cargo (based on conventional measures at the time). The discrepancy arises from the bulk of the cotton which prevented further loading. The ship's master had to load carefully or risk a light ship that would be unstable. Tobacco, too, was loosely packed and transported in light hogsheads. The measure of a hogshead (barrel) varied considerably over time and between nationalities, even between islands. Making direct comparisons is often not possible. We find for example on Nevis in 1785 a hogshead close to 200 pounds lighter than one from St. Kitts.

## Chapter Six

### Settlement Phase III, Nevis 1785-1833

I rode entirely round this island, with the exception of a mile or two on the windward side, and found it uniformly rich and verdant, and beautiful. The roads are tolerable, though liable, in the lowlands on the north to be injured by floods. However, you may go whither you please in a gig, which certainly must allow to be a great sign of civilization.

Henry Coleridge 1825

Coleridge's observation of the Nevisian landscape seems pleasant enough. His wistful account describes pine forests, and "...old planters houses of superior styles and churches peeping out in the most picturesque situations imaginable" (Coleridge 1825:179). His are the observations of a traveler, a tourist, but he did not miss the industrial debitage that burnishes the landscape, adding, "There are two steam engines employed in grinding canes, a thing I had not seen anywhere else except Trinidad. Surely where water and coals may be commanded, the certainty and rapidity of making sugar would in the long run be worth the additional expense." These would be the two earliest engines on Nevis and the first indication the industrial revolution had extended to Nevis.

By emancipation there were only three or possibly four engines in place. Eventually, nearly thirty mills would employ steam engines, yet this is far less than half the number of estates that might have employed them and late into the nineteenth century. It is significant that in Governor Iles accounting of mills in 1871, nine out of thirteen estates (70%) in St. Thomas Parish are listed as having steam mills whereas in St. John, only five out of twenty-four (21%) are so listed. Most are wind, animal, or a combination. The new technology was slow to be adopted. In St. George Parish, which directly fronts the trade winds on the southeastern side, only three of thirty-three estates (9%) had steam engines.



Clearly environment played a role. Steam engines seemed an answer for declining labor (the slave trade had ended) and the uncertainty of winds. But for some, it would seem the cost was prohibitive, for in addition to the credit required to purchase engines, there was the cost factor of constructing new facilities for housing the engine, storing fuel, and spare parts, not to mention the price of fuel itself, which often had to be imported if *bagasse* was depleted. There was also the new dependency on external technocrats that may have caused traditionalists among planters to behave conservatively. Social rather than technophobic resistance may have been involved.

The technological transition on Nevis reflects the larger industrialization revolution underway in England, both in terms of the changes in landscape it wrought and the varied resistances it met. A new industrial landscape began to take shape as smokestacks appeared along side windmill towers. What the steam engine allowed was new spatial arrangements disconnected from patterns of conforming to contours of terrain as in previous Phases. Today on Nevis iron engine parts manufactured in Glasgow, Ireland or Derby, England, litter many estate sites, evidence of plantation changes prior to emancipation. Ironically, in the surge of technological innovation this period was also the beginning of major decline.

### Historical Context

Between 1782-84, the French again successfully invaded and controlled Nevis. This time the French restrained themselves from total destruction, choosing instead to levy taxes and tributes, although they again destroyed official documents. Correspondence about the negotiations and capitulation between the French military tribunal under Admiral, Count De Grasse, and members of the Nevis Council, offer highly revealing

details of the economic condition of the colony. In addition to new requirements of shipping and trade under French authority, we learn that a hogshead of sugar on Nevis no longer had the value or quality as that of St Kitts.<sup>1</sup>

Letters to De Grass from the President of the Nevis Council deserves quoting at length:

Sir,  
Nevis, Janry 20th, 1782

I had this morning the honor to receive your Excellency's very polite letter of the 18<sup>th</sup>...in a year or two I make no doubt but this island will be able to raise much more provisions towards supporting its own slaves, but hitherto it has been our invariable custom to depend almost entirely on America, and since the war in that quarter—on our imports from Great Britain and Ireland alone: and trust me, Sir! I do not exaggerate when I most solemnly aver that to my certain knowledge many plantations in this island are at present without a single day's provision for their slaves and are obliged to grind their canes before they are ripe in order to feed their negroes with molasses.

...As to the cattle we beg leave to observe that we depend almost entirely on them to work our estates in grinding our canes and carting our property, and that 'tis therefore highly distressing to us to part with them at this very time when they are most wanted.....the sugars of St Christopher are in general at least worth four or five shillings per hundred more than those of Nevis at any market...the lands of St Kitts are much richer and more easily worked...by calculation St Kitts averages crops of sixteen thousand hogsheads for about twenty five thousand negroes while they allow Nevis makes only four thousand hogsheads (which are smaller) with a little above eight thousand negroes...

Sir  
Nevis, 3<sup>rd</sup> June, 1782

...If the boat which was brought down from Antigua will serve the purpose of the harbor master, I will endeavor to procure Sailor negroes for her...four dollars from every Drogher... is a heavy tax that must ultimately fall on every planter...

[Watts 1929]

From these letters and many others we gain a sense that Nevis was already in sharp recession before abolition of the slave trade, much less from emancipation. Planters were well aware of issues of soil loss and diminishing sugar yields, knowledgeable of their

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<sup>1</sup> Bearing in mind that Nevis Council was comprised of planters directly affected by tariffs, it stands to reason they would downplay the value of their produce to negotiate reduced levies. Yet such matters as sugar quality were easily verified, so it is likely reported values were not far from truthful. 1000 St Kitts hogsheads were listed as equal to 1200 Nevis hogsheads.

dependency on North America, and uncertain of succor from England. The French also dismantled the military landscape leaving many on Nevis feeling vulnerable to change.

It is also important to take note that a portion of the slave population were capable mariners, accustomed to inter-island commerce. Some of these sailors may have taken part in communications between islands at this time.

Even after the departure of the French, Nevis faced the realities of social changes abroad. Global trends and changing world markets influenced colonial development in surprising ways. The moral argument against slavery having moved slowly, abolitionists followed a new tactic--economic in scope--that was more effective. Sugar manufactured in East India was reaching London in competition with West Indian sugar. But Indian sugar was not a product of slave labor. Attempts to have the public assuage their conscience, while still having their sweetener, emerged from public campaigns encouraging the purchase of non-slave sugar.

With emancipation in 1833<sup>2</sup> came sweeping changes in the plantation system and reconfiguration of the relations of production associated with sugar manufacture. The literature suggests it was once fashionable to blame emancipation for the fall of plantations and crises in sugar markets, for Nevis' decline in the sugar trade, and many other ills that beset the colonies. One can only make these arguments, however, by ignoring the fact that sugar markets were already in decline world-wide in the 1790s, that production throughout the world was in transition, and that sugar produced in India was selling in English markets cheaper than Caribbean produce even though not based on slavery per se.

Phase III ends as the former slaves, now free to earn modest amounts of money, till soil for their own needs on their own schedules, and begin to sell their labor based on economic structures imposed from the core. Restrictive laws were enacted, however, to minimize the free will of laborers, to tie them to particular estates, while collaboration between estate owners sought to control wages. Planters and slaves each viewed the concept of freedom and wage labor in a very different light. Many former slaves began immigrating to other colonies where work was more plentiful or where Crown land was more extensive and available for settlement, initiating a pattern that continues today (Olwig 1987). One might say mature capitalism had arrived in a form Marx would have recognized.

#### Survey results

I have presented results here in a modified form from the previous two chapters because so little of Phase III evidence was located in quadrats that could be separated from Phase II. Many of the mill complexes straddle the Phase boundary having operated from the eighteenth century into the nineteenth. Zone descriptions would be redundant. Only relevant quads and zones are discussed here in terms of new landscape components.

#### Industrial Landscape

Many of the agro-industrial complexes located during our survey had their first operation in Phase II, but continued operating into the nineteenth century, even into the twentieth. Construction details were used to suggest dating in the absence of artifacts. An

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<sup>2</sup> Emancipation in 1833 was really only the initiation of the "apprenticeship" period that lasted until 1838, when true emancipation came. The reality was that former slaves were elevated only to wage slaves, free but unable to engage in any labor but plantation work.

example of long term operation can be found at Coconut Walk,<sup>3</sup> which was taken over by the Huggins family in 1815 and continued until the 1950s, transitioning from wind and animal power to steam along the way. The Huggins were a new breed of planter on Nevis, consolidating estates all around the island under one family ownership and leasing land. Elsewhere on the island mill-complexes complemented animal or windmills with steam engines. Bush Hill and Hamilton's are additional examples. Most of the steam engine operations were outside our survey transects but can be documented from maps. Nevertheless, large complexes with steam were not the rule on Nevis, as wind continued to be favored.

### **St. John Parish**

Survey quad SJQ14, the Richmond-Lodge estate is one complex straddling the eighteenth and nineteenth century transition that fully transitioned to steam. The St. John Parish site is located in environmental zone C, at about 500 feet elevation. Shown on the 1871 Iles map, the complex exhibited a completely different attitude toward spatial orientation and efficiency from mill arrangements that came before. Located at the intersection of roads that linked it to other mills, the Richmond-Lodge Estate great house commanded broad vistas over lower St. John (see Appendix 1). Artifacts on the grounds were a mix of nineteenth century and modern domestic materials, mostly ceramics. Because the complex is adjacent to a dump site we could not consider the artifact scatters legitimate indices of site development.

Situated on the road between Brown Hill village and Bush Hill mill, the complex is representative of a new social landscape configuration in an era of mature capitalism.

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<sup>3</sup> Coconut walk was not in our survey parish. Its state of preservation serves for comparative dating of construction and industrial machinery. Excavations of a post-emancipation village at the site are underway

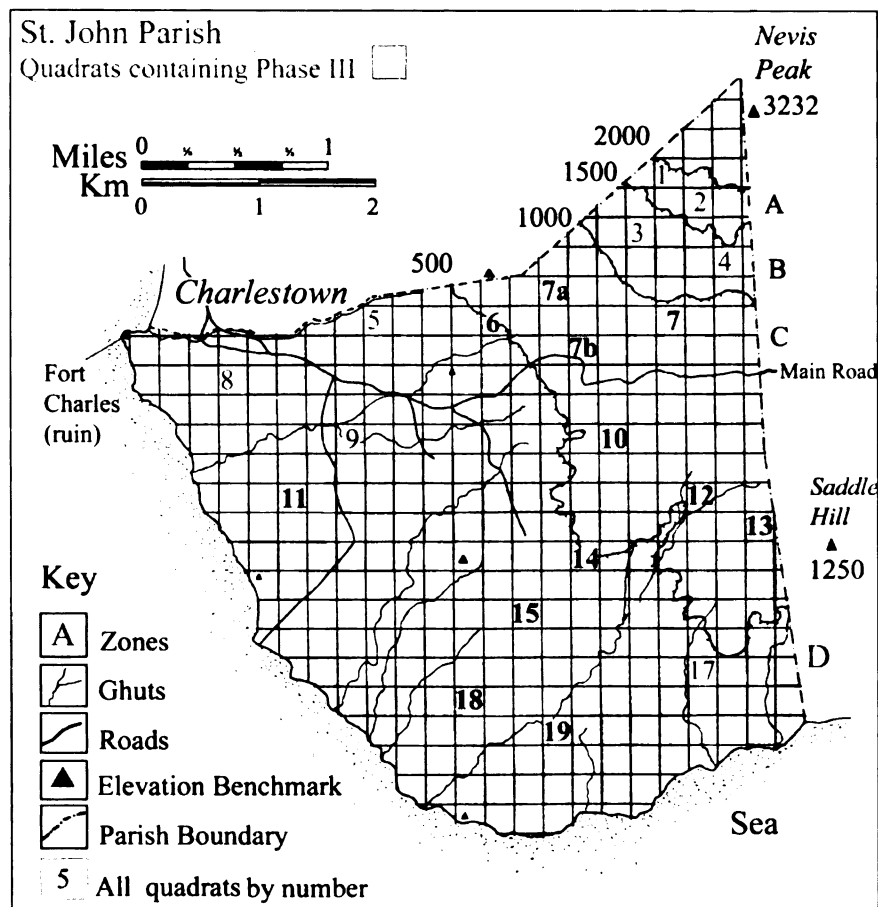


Figure 6-1. Map of St John Parish showing quadrats of known Phase III components and newly found Phase III sites.

Table 6-1.

St. John Parish. Survey quadrats containing Phase III components.

N/A refers to sites not assigned a number.

Quad	Zone	Site types	Site #	Artifacts	Landscape components
SJQ4	C	Mill-complex	SJHCLP5/19-1 Richmond-Lodge	Ceramics, industrial	Adjacent to road, slight rise above with great house. See Phase II.
SJQ11	D	Mill complex	N/A	None	Bath plain; near ghut
SJQ14	D	Artifact cluster	N/A	Ceramics, bottles, iron kettles	See Phase II Ridge top near ghut.
SJQ15	D	Mill complex	SJ15MM5/21-1 Pembroke	Industrial, brick, ceramic	See Phase II
Pilot quad 3 SJQ19	D	Mill complex	Dogwood estate	Industrial, ceramics, pipes	See Phase II
Pilot quad 3 SJQ19	D	Mill complex	Coxheath estate	Industrial, ceramics,	See Phase II

by Jim Chiarelli at Brandeis University (unpublished).

SJQ18	D	Sugar works	Douglas estate	Industrial	Along road from Pembroke. Eroded gullies, parched sloping land; acacia and agave.
SJQ6	D	Church	N/A	None	Anglican Church, cemetery
SJQ10	C	Mill complex	N/A	Ceramics, pipes, glass, tools	Bush Hill complex (see Phase II) Terracing, cobble roads
Pilot quad 1 SJQ7	C	House foundations	MM8/9-02-3	ceramics	Wooded slope along Cole Hill, view to Montpelier estate
SJQ12	C	Mill complex	SJ12MM5/16-1	Ceramics, pipe, bottles	Prenlis? See Phase II
SJQ12	C	House foundation	SJ12KD5/16-2	Ceramics, glass	"Ridge house" See Phase II
SJQ13	C	Artifact scatter	N/A	Ceramics, bottles	On leveled ridge top; above terraced slopes.

Other sites outside designated quadrats.

SJ-Vlg Mrgns (7alt)	C	Village	Morgans	Ceramics	Steep slope below Morgan's Estate At 1000-900 ft. Dense brush, close interval terracing, rocky
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Labor lived in the adjacent enclave of Brown Hill and similar small villages, still tied economically to the plantations through restrictive laws limiting employment opportunities and attempted to maintain pre-emancipation social dimensions. The road appears to end at Richmond-Lodge but actually continues in a deteriorated and overgrown state toward Bush Hill estate. Between are remnants of other masonry structures and stone entry gates for residences. Enclosure are now used by shepherds and clandestine rum distillery.

Survey quadrats SJQ11, 14, 15, 18, and 19, all in zone D contained mill complexes that were constructed during Phase II (see chapter 5) and continued operation into Phase III. Again chronology was based on a combination of construction finishes, details and material culture residue, consistent with comparisons of other structures. Artifact scatters in each of these quadrats are frequently associated with house features and were a mix of late eighteenth through mid nineteenth century material culture. Ceramics were the chief

find, but on a flat ridge-top opposite Bush Hill mill complex in SJQ14, artifacts included cast iron kettles, buckles, a wide range of bottles, tool fragments and flatirons. The scatter and volume suggest a village site. A plastered cistern is close by, but no definitive house platforms or foundations were detected.

Quadrat SJQ6 was extensively surveyed from existing roads. The area is developing and we were not welcomed on to small private lots. Transects were therefore limited in coverage. Fig Tree Anglican Church stands at the southern end of the quad. In this Church Horatio Nelson's marriage to Fanny Nesbit, daughter of a prominent Nevisian family, was sanctified in 1787. The keystone over the entry to the church read AD 1638.<sup>4</sup> Grave markers in the adjacent cemetery date to at least the early eighteenth century.<sup>5</sup> One of the earliest dates to 1734, for Edward Broadbelt. Salvaged industrial debris was sighted in most yards and a few eighteenth century masonry foundations prop up modern wood and cinderblock houses. A large copper rests on church grounds. The area was noted to be extensively terraced. Stacked stone walls demarcate properties and enclose gardens. The practice is common today and cannot be used as chronological indicator.

Within environmental Zone C, in addition to Richmond-Lodge, are mills and sugar works known from maps that were not in our random sample. SJQ10 ran south from near our operational base and crossed Bush Hill. Cobble roads, terracing, and cisterns were recorded in multiple locations. Quadrats SJQ7, 12, and 13 discussed in Chapter Five all exhibited industrial sites continuing operation from Phase II into Phase III. This interpretation is based on analysis of ceramics, glass, pipe stem dating and the Iles Burke map.

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<sup>4</sup> This date is out of synch with historical documents.

<sup>5</sup> Many markers that may date earlier are unreadable due to wear.



We did not find artifacts or industrial components on the landscape identifiable to Phase III within quadrats transecting environmental Zones B (1000 to 1500 feet), and Zone A (1500 to 2000 feet). We do know that mills in operation there in Phase II are indicated on the Iles Burke map and listed as operating. But no evidence hints at expansion into the area. Indeed, contraction away from the high country is suggested from the lack of late artifacts and absence of smokestacks in the area. Terracing in the area is in highly deteriorated condition and extensively overgrown in contrast to the wide open terraced fields of the lowlands.

### **St. Thomas Parish**

Quadrant STQ8, described in Chapter Five for Phase II, intersected St. Thomas Anglican Church, in Zone D near the coast. The church, first built in 1643, continues in use and highlights the continuity of religious institutions on the island. It serves as a hurricane shelter. The structure is not only a feature on the physical terrain but the psychological landscape as well. No other religious features were found in any quadrat at any zone in either sample parish.

STQ4alt encountered a heavily overgrown mill complex (STMM5/29-1) that was assigned to Phase II and III on the basis of construction and details of finish. The new construction on the site and realignment of some features suggests an ongoing operation. It is discussed below in the context of Jamestown.

Within environmental Zone D two quadrats intersected Phase III features that had also stood during Phase II. STQ7 and STQ7alt exhibited multiple tiers of terracing, palm lined roads and two mill complexes. The most impressive was Tower Hill estate (STQ7alt) described in Chapter Five. No artifacts were recorded.

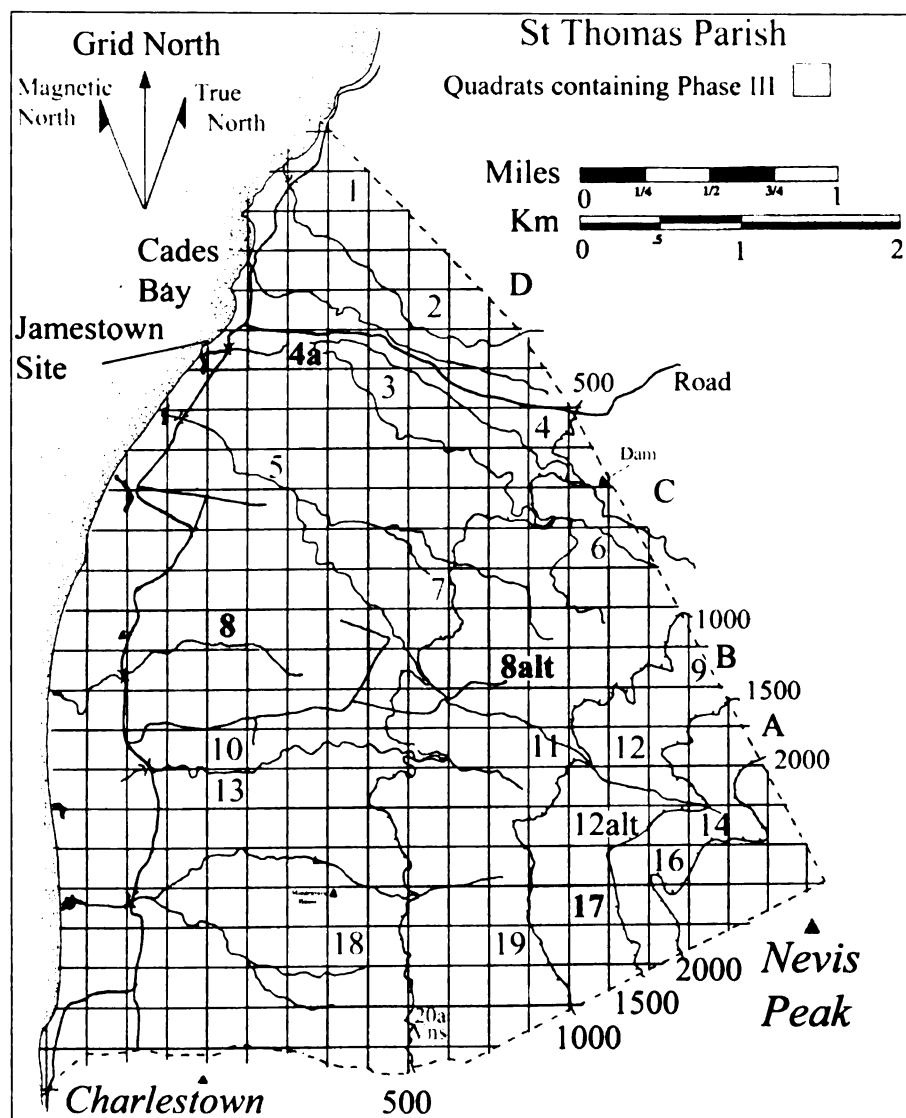


Figure 6-2. Map of St Thomas parish depicting sample quadrats with Identified Phase III components. Much of the Phase II landscape remains.

Table 6-2.  
St. Thomas Parish. Survey quadrats containing Phase III components.  
N/A refers to sites not assigned a number.

Quad	Zone	Site types	Site #	Artifacts	Landscape components
QST8	D	Church	N/A	None	Anglican church, cemetery.
STQ4alt	D	Mill complex	STMM5/29-1	Ceramics	Sugar works. See Phase II East from Jamestown.
STQ7 (8alt)	D	Foundations, mill-complex	St7aKD6/1-1	none	Tower estate. See Phase II
STQ7(8alt)	D	Mill complex	ST7aKD6/1-2	industrial	Tower estate. See Phase II
STQ17	B	Townhouse	ST17KD5/28-1	None	Pariss Garden estate

Other sites outside original sample quadrats.

STQ20alt	D	Stone house platforms	Vaughans Village	Bottles, ceramics	Village along cobble road, terracing. Forested densely.
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Some features near Tower estate encountered defied practical inclusion into our chronology as they seem to have been constructed from salvaged building materials, but likely in Phase III or later. One was a water retention facility and the other a small building that may have been a residence.

### Military Landscape

No features of the landscape in Phase III are associated with active military operations in either sample parish. Our survey quads did not locate any military features away from the coast, although some do exist in other parishes. Little attention was given to defenses in the years following the French invasion that ended Phase II. The forts and coastal defenses by the dawning of the nineteenth century were in disrepair or eroding into the sea. Iron cannon that can be found in several coastal locations are of mid to early eighteenth century vintage. Many of the cannon at Fort Charles were brought there from sites in St. George Parish by British Naval personnel.<sup>6</sup> With the exception of Nelson's Lookout on Saddle Hill, nearly all of the military landscape was coastal and not found in the upper elevation zones. Archaeological evidence is consistent with documentary sources and in accord with the changing political environment of the Caribbean of the early nineteenth century as the United States entered the arena. Strangely, this time of relative peace was also a time of decline, social stagnation and periods of unrest.

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<sup>6</sup> At the conclusion of the Falklands war, British Naval contingents toured the Caribbean. At the request of the NHCS, helicopters were used to transport several iron cannon from the area of Indian Castle to fort Charles. David Rollinson, personal conversation.

## Religious Landscape

The Methodist church was to have the most impact in island affairs of any religious order. Bishop Thomas Coke, of the newly formed Church, visited Nevis in 1787. By 1797 there were 400 in the congregation, of which 90% were black. Reception by the plantocracy was guarded, for Methodists were believed to be against slavery, and indeed, Wesleyans were to carry the banner of the abolitionist movement. Olwig (1992, 1995) has carefully examined the influence of the Wesleyans on Nevis culture as they incorporated ever more slaves into the church and attempted to institute the "cult of respectability." While a few planters saw the effort as a "civilizing" and "calming" measure, that kept slaves more tractable, others were suspicious of the Sunday meetings of so many slaves, and the ideas they were spreading.<sup>7</sup> The Anglican Church had long neglected the African, and Methodists were not only allowing them into the church, but openly encouraging oratory. In England, as on Nevis, the Methodist Church played a significant role in the debates over emancipation. The Charlestown Methodist church was set ablaze by a pro-slavery mob in 1797, but was saved (Hubbard 1996). Standing in St. Thomas Parish (not included in our survey sample) are the remains of Cottle Church, built in 1824. Founded by Nevis planter Thomas Cottle, an Anglican, the church was intended as a place of worship for all races. It fell into disuse after emancipation. Cottle was married to the daughter of Edward Huggins another prominent planter. The interlocking relationships of the plantocracy are well illustrated by this marriage. Not only were the estates being consolidated by the planter class on Nevis, but the families were as well.

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<sup>7</sup> The oratory encouraged by the Methodist Church unintentionally gave slaves an arena for speech that corresponded to certain traditional west African practices. These meetings did in fact lead to a new critical

## Villages

Three villages were investigated and will be aggregated in this discussion (see parish map). None of these sites were part of our original random sample, but were documented to provide data on residential patterns not associated with elites planters or Europeans. Evidence is insufficient from our investigation of these sites to infer a pre-emancipation history although it certainly cannot be ruled out. The period of most extensive occupation of these villages dates from post-emancipation and into the early twentieth century as evidenced by several artifact classes.

The villages are named on the 1871 Iles map as Vaughans, Morgans, and Harpies. Morgans may have grown from a pre-emancipation village that previously served Morgan estate in St. John environmental zone B. The village lies immediately below the remains of the Morgan Estate sugar works but the settlement is not identified. The settlement straddles a cobble road that descends from the upper elevation to Charlestown. One section has been recently bulldozed for a luxury home, cutting through the northern section of the site and destroying one portion of the former road. House platforms of clustered stone piles were closely grouped on terraces ranging from ten to twenty feet across. Small plots of furrowed earth were adjacent to some of the clusters bordering drainage ghuts. Stone clusters seemed to be organized around definite paths but this could not be accurately understood in the field. The pattern was quite distinct, however, once mapped. The pattern is strikingly similar to spatial arrangements found at two additional villages investigated in St. Thomas Parish within zone A, where the slope is considerably less severe. The same dense clusters and terracing were found. Each cluster of housing platforms was on rocky, unevenly terraced earth, with a preponderance of boulders.

Many boulders were larger than automobiles. Some stone piles were adjacent to the large rocks and at the Morgan village location, stone walls abutted a massive boulder, forming an enclosure or animal pen (see Appendix 1).

The Harpies Village site was examined in 2002. Over zealous and unauthorized artifact collection by another archaeological group had virtually denuded the location of surface finds. However, the land forms and house platforms were undisturbed.

Harpies village was in line of a new diversionary road that bypasses Charlestown so trucking from the deep water port at Long Point can avoid the narrow streets of Charlestown. The grounds of Harpies, so near to Charlestown, and to areas of extensive cane planting, was nonetheless quite marginal. The village was located where clearing and planting would have been most difficult. Road crews working on the bypass road were using heavy equipment to unearth and move rocks the size of houses. Stone piles and clusters set on terraces were in close clusters and suggest a high population density. The few artifacts that were recorded were mid to late nineteenth century domestic ceramics and bottle glass. No significant material culture finds were present aside from the architectural remnants. Joining multiple buildings on slanted terrain is made possible by varying the size of stones used as foundation. The area under homes can be used for storage but its principle purpose is to allow air to circulate beneath the structures.

The village of Vaughan's was spread widely and difficult to accurately assess. We identified a narrow alley that had housing platforms on either side. We could not determine the spatial area of the total site, nor could we determine where within the site we were. By extending the radius of our survey from the area we selected to document, we found that it was located between two cobble roads.

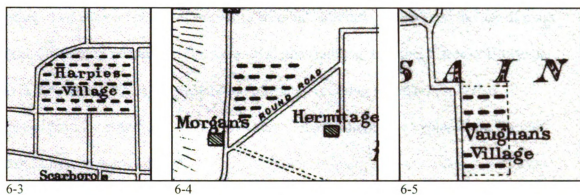


Figure 6-3, 4, 5. Villages depicted somewhat generically in the Alexander Burke Isles map, 1871. Harpies (6-3) is particularly well served by roads (still extant) while Morgan's (6-4) and Vaughan's (6-5) are situated in steep, and rocky waste lands, roads all but gone. Houses are shown in neat rows but the spatial organization of the villages was considerably more organic and conforming to terrain. See the complete Isles map in Appendix 7.

One of the roads was followed and discovered to link the upper Round Road to plantation tracts down slope at Hamilton's estate. GPS coordinates allowed us to pinpoint the area documented. Piles of stone in circular and occasionally square arrangements indicate where houses had once been erected. The three villages examined had similarities in spatial organization and in environmental positioning. All were on marginal land. Comparing the spatial ordering of these platform clusters with the other villages reveal a pattern of close quarters in a high density, rural, residential landscape. More significantly, these arrangements have much in common with residential and plantation spatial ordering of earlier phases. They are organized in an organic fashion, following contours with minimal environmental modification. Of course, restrictive laws of the day narrowed the living space choices of emancipated Africans, to some degree precluding more space between dwellings. But we can not assume village spatial organization was entirely outside the control of the residents. The villages may well have replicated familiar patterns of residence once maintained on estates. It is an issue requiring additional research. There is some limited artifactual evidence suggesting

adoption of consumer behaviors similar to colonial patterns, especially in the use of mass produced ceramics, or flatirons for pressing clothes, among this social sector. However, there is little indication of the penetration of spatial ordering based on capitalism suggested here for elite Europeans. There are too many alternative explanations for our limited sample to narrow down.

In general, artifacts were not visible in the dense jungle under-story, but the few we did find included medicinal bottles, common colonial domestic ceramics, and smoking pipes. The range in dates may be misleading due to the extremely small sample and unsystematic manner in which they were noted. But the artifacts support an assessment of early to late nineteenth century occupation. No twentieth century artifacts were evident, which may signal the period of abandonment. At Vaughan's village, a ghut divided the clusters of stone platforms. At Morgan's a ghut sided the village. Stone piles carried right to the short cliffs and small garden plots were discernible bordering the ghut's very edge between boulders. Survey data strongly suggests a reduction in settlement building and a period of contraction, with populations becoming more concentrated into fewer population centers. This process may have accelerated after emancipation.

### Urban Landscape

In St. Thomas Parish, Jamestown was no longer a functioning settlement. Data from environmental testing suggests that the site had become buried and it is not mentioned in any period documents outside the context of legend. However, mill complexes were in operation in close proximity. STQ4alt intersected a series of structures with two contrasting alignments and construction phases (see STMM5/29-1, Appendix 1). Along with late eighteenth century artifacts, imported bricks of various types, and details of



finish on the cistern, we determined the mill had operated into the late nineteenth century and possibly added a distillery. The area is bountiful in coconut palms but we cannot directly link the complex to the coconut plantation.

### Residential

The Ridge house (SJ12KD5/16-1) was both rural in character, and a site of industrial production that appears on the basis of ceramic and glass artifacts to have been in use in Phase I ,II and III. Material culture gathered from the Ridge house site nonetheless displayed a finer selection of wares than that from other urban sites investigated and this was unexpected. Significantly more tablewares of finer quality and specialization were present (refer to Appendix 3:306). Wares were also of finer quality and more variety than recovered at the Long Point Road site. But it should be recalled that no residential architecture was located by survey in the vicinity of the Long Point Road site.

Coarse wares are mostly absent from the table and everyday wares represented by a large assortment of designs and colors. The collection is befitting a middling planter or planter's agent with means to acquire the symbols of status fine domestic wares were becoming during the late seventeenth and eighteenth centuries. Here at a small plantation residence, tea was served in porcelain, meals on the latest serving wares and from decorative bowls and platters. We can't say whether pewter or wood were in service—they probably were if period probate records are to be trusted—but the resident or residents of this small sugar operation were certainly displaying, even if only for themselves, the material culture messages that psychologically confirm their position in Nevisian colonial society.

**Legend:**

- M: mill complex
- T: windmill tower
- V: village ruins
- As: artifact scatter
- W: well
- C: cistern
- F: masonry foundations
- B: bridge
- o: house platform
- Vp: possible village
- 1. Coxheath estate
- 2. Douglas estate
- 3. Dogwood estate
- 4. Brown estate
- 5. Whitehall estate
- 6. Pembroke estate (2)
- 7. Long Point estate
- 9. Bath House
- 10. Montpellier
- 11. Bush Hill estate
- 12. Cane Gardens
- 13. Farm estate
- 14. Bath Plaine estate
- 15. SJ12MM5/16-1
- 16. SJ12KD5/16-1
- 17. SJ9KR5/22-1
- 18. SJ14MM5/16-2
- 19. Morgan's estate
- 20. Hermitage
- 21. Zeilands estate
- 22. Dunbar estate
- 23. Morning Star

**Map Features:**

- Parish boundary:** Dashed line.
- Road (modern):** Solid line.
- Drainage ghuts:** Dotted line.
- Ruins:** Small square symbol.
- Geographical Labels:** Charlestown, Sulphur Ghut, Church Ground, Hamilton estate, Cole Hill, Cox, Saddle Hill (1250 ft), Nevis Peak.
- Grid North:** Indicated by an arrow pointing towards the top left.
- Magnetic north:** Indicated by an arrow pointing towards the top left, slightly offset from Grid North.
- Scale:** 0 to 1 mile, 0 to 2 km.
- Contours:** 500, 1000, 1500, 2000 feet.

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### St. Thomas Parish Phase III

M: mill complex  
T: windmill tower  
V: village ruins  
As: artifact scatter

W: well  
C: cistern  
B: bridge  
F: foundations

t: terracing  
o: house platform  
Vp: possible village  
S: smokestack

2. Montravers
3. Anglican Church
4. Jessup estate
5. Paradise estate
6. Lawrence estate
7. Tower Hill estate

8. Colquhouns
9. Craddocks
10. ST7aKD6/1-1
11. ST7aKD6/1-2
12. ST17KD5/28-1
13. ST17MM5/28-1
14. ST4aMM5/29-1
15. ST7aKD6/1-3
23. Vaughans Vlg.

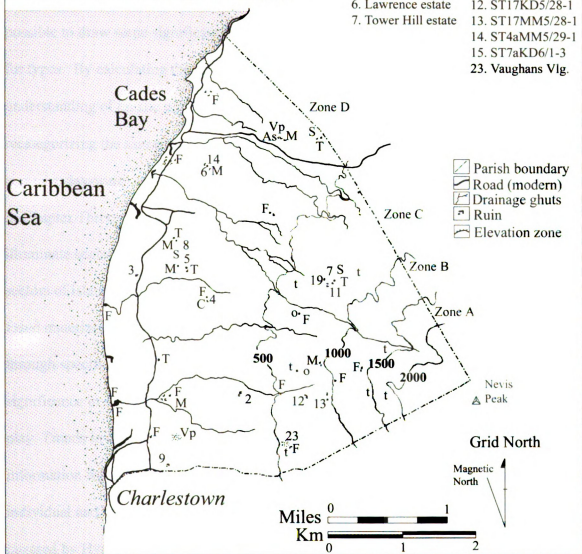


Figure 6-7. Map of St. Thomas Parish illustrating Phase III site identified during survey. Although terraces remain on the landscape at upper elevations, it is doubtful many were under cultivation. Some great houses were in use and steam engine technology was being incorporated on estates.

### Artifact Assemblages and Capitalism

Although the assemblages dealt with here are small, and minimum vessel counts lacking, important information concerning similarities and distinctions between site-types

has still been forthcoming. The two assemblages come from distinct site types—one a household, the other a possible warehouse district—nevertheless elements of the same material culture expression are apparent. Even without minimum vessel numbers it is possible to draw some significant inferences from the assemblage based on sherd counts for types. By calculating the percentages of vessel forms from the total we can gain an understanding of on site usage (see Appendix 3:302 for discussion). Further, by recategorizing the assemblage in terms of place-use (i.e. kitchen, storage, serving ware, common day-ware) we can suggest in general terms a lifestyle at the sites. As discussed in Chapter Three, assessing lifestyle in terms of status display in household contexts can illuminate social attitudes and behaviors while hinting at the degree to which different sectors of island colonial society were influenced by consumer trends at the core that fused material culture with enacted culture. Objects themselves lack messages. Only through specific contexts do they become fused with meanings and charged with significance in social relations. The role of an object can be scripted in a multi-layered play. Trends in consumer behavior are evident in our assemblages that offer relevant information for testing the essential questions concerning penetration of capitalism to the individual and micro-level integration of social changes associated with capitalism covered by Hypothesis 2.

Take for example a teapot, an item with a rich documentary background. The artifact is functionally a beverage container. But as the object comes to be used exclusively for tea it acquires a specialized utility that is associated with a specific act—the drinking and serving of tea. The act of tea serving carries its own suite of messages. One message quietly announces that the user/server is among the social group for which tea is a

hallmark. One can influence the messages of the act through the objects used. The finer the teapot, the stronger the message conveyed about social rank and access. Access signifies privilege if not wealth. The messages are lost on those unfamiliar with the script, automatically excluding those persons, yet even the cognoscenti must work to maintain position. Thus the entire relational exchange serves to segregate social units while grading those within a social unit.

The artifacts analyzed from Nevis belong to several different classes of commodities that can serve in both functional and social venues, often simultaneously. At Jamestown, table wares were of limited variety and no specialized serving forms were recovered. One does not expect a warehouse district to be the scene of fine dining and the assemblage mirrors the expectation. Yet even here are examples of the ubiquitous English ceramic exports that flooded the colonies, hinting at the penetration of consumerism at various social ranks. Colonists on Nevis were accepting and selecting according to their means the manufactured goods from Britain, in part, we can posit, because there was limited choice, but also because of what these wares proclaimed about the owner—they were part of the colonial prosperity and linked to the value system of the core state. The variety and range of qualities being produced in the metropole and in other peripheries, such as New England were part of an emerging capitalist, factory based, pottery industry. It is axiomatic to associate ceramic qualities with status, but we must also consider the association with social values. Colonists could use locally produced wares or wares brought in from the pottery factories on St Kitts, but availability of imported wares offered a choice that also carried the subtle messages of cultural attachment.

The small European population on Nevis actively and materially participated in the Atlantic trade, not simply at the level of industry or consumer of slaves as industrial machinery (Williams 1970). At least among Europeans there appears little evidence for resistance to the product oriented social system that was developing during the eighteenth century. No specialized Euro-Nevisian assemblage was invented. Colonists were

#### Percentages of ware types from Jamestown and Ridge house

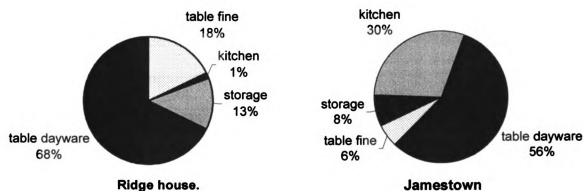


Figure 6-8. Percentages of assemblages comprising ware categories for the Jamestown and the Ridge house surface collections. The greatest distinction is in the fine, status laden table wares and the volume of kitchen utility wares.

importing more than necessities. They absorbed and incorporated into their lives the material culture produced in the core state, and by doing so they remained connected and dependent on the commercial system then evolving. If Nevis can be taken as an example, the sugar colonies were serving two purposes, 1) producers of raw material for extraction by capitalists from the geographic periphery and, 2) a consumer market for home industry at the core. In terms of my essential questions it is evident at this scale that there was no resistance to integration of a neo-materialism among the European sectors. Matching sets became a popular innovation setting in motion consumerism on a new scale. The rising middle class in the eighteenth century—a product, I suggest, of the successful

exploitation of colonial development—acquired the new markers of status as best they could, not so much displacing earlier measures of status as adding to the litany. Because new manufacturing techniques made it possible for wares to be accessible to wider classes of consumer at lower cost, social distinctions emerged from acquisition of an increasing range of wares rather than solely from the ownership of the ware itself.

In the colonies, where the stigma of being a "colonial" could hurt ones social attainment in the mother country, it seems the plantocracy took steps to establish themselves in the social hierarchy through established means. "Knowing how to act was reinforced by knowing what to buy and use" (Smart Martin 1996:76). As the eighteenth century progressed, new objects and commodities came in to use along with new social rules. Material goods, such as ceramics were just one aspect of their incorporation into, and adoption of, the capitalist mercantilism stemming from the Atlantic economy in which they aggressively participated and helped to expand. The term capitalist mode might be a better phrase to distinguish the seventeenth and eighteenth century from the modern consumer capitalism. The adaptations that were occurring transformed society, but as Smart Martin (1996:71) intones, "it was people, acting in a socialized context, that do the adapting."

During Phase I, ceramics among the various sectors of society tended to be of greater similarity than was the case during Phase II. There are several possible explanations. Despite the fact that social distinctions were hierarchical, among the first colonists these distinctions appeared to have been leveled somewhat or displayed by means other than foodways. This may in part be due to the nature of frontier living, need for basics over luxuries, and mechanisms for maintenance of hierarchical relations unrelated to material

culture. However, as the colony became established and the population increased, social divisions became highlighted by expressions within the material culture not uncommon to the home nation.

One arena of this expression that can be archaeologically documented is in the paraphernalia of food consumption. Evidence for the integration of behaviorally linked material culture into the social repertoire is found not simply through variety of wares, but also through extrapolation of what was actually being consumed in households. Many ware forms were used in suites that had associated behaviors of consumption and display. The presence of these wares in the assemblages speak to the penetration culture cues at the micro level that subtly reinforce realignments of social norms at the macro level.

Just as painted tin-glazed wares became fashionable status possessions in England around 1610, slip-trailing gained popularity around 1640. This popular ware then came to be replaced by newer fashions such as Rhenish style wares. Adoption of new commodities was not unusual. What was new for Nevis during Phase II was the degree of adoption of new consumer items. Spurred by expanding markets a "ceramics revolution" was underway with potters experimenting and marketing novel types and forms for the table (Allan 1999; Barker 1999). Several types made their way into the archaeological record on Nevis.

#### Summary of Evidence: The Linking Landscape and Material Culture

The new prosperity of the late seventeenth and eighteenth century, especially in Great Britain, resulted from colonization and the concomitant rise in market support for the sugar industry, mostly as manufacturing centers developed. New technologies and manufacturing methods allowed producers to expand the consumption of goods once



only available to the wealthy. While the colonies provided one outlet, home markets also bought in to the burgeoning repertoire of pottery manufacturers and other commodities. The spread of specific items of material culture to colonies and frontier regions can be viewed as tangibly linking and, among commodity users, cognitively reinforcing, sociocultural identity (Beaudry, Cook and Mrozowski 1991). The evolving consumption of new material culture and display behaviors did not cause the landscape of Nevis to change nor did landscape reconfiguration during Phases I, II , and III direct the modification of consumer behavior. Rather, these are different, but related, manifestations of the same phenomenon of capitalism's penetration into colonial culture and social institutions. Revisiting the assertion by Levefbre that capitalism is a source of unique spatial configurations, we can see how this has took form in Nevis. Archaeological evidence from several mill sites suggests the built landscape and evolving culture-scape underwent rapid and fundamental transformation in the century that followed initial colonial settlement, achieved an uneasy equilibrium during much of Phase II, and would be changed again in Phase III with new technologies, although not as significantly. As the landscape shifted from small scale agricultural production controlled by numerous individual land holders, to an industrial scale, conglomerated and consolidated plantation system, subtle societal changes occurred in tandem, many of which assimilated patterns of consumption and display externally promulgated.

In terms of my general hypotheses, archaeological data from Nevis at the beginning of the nineteenth century appears to be deeply embedded in the global system and not immune to the greater economic zonation of peripheral regions that had been underway throughout the eighteenth century. Political events in Europe had important economic

impact on the colony. Models for production were again in flux and planters on Nevis, for a variety of reasons, were slow to respond. Colonies such as Nevis were less economically vital to the metropole as the capitalist nations, fueled by the industrial revolution, muscled into new territories under an expanded model of capitalist imperialism. Hypothesis 2 stated that settlement practices shifted as a result of capitalism. What the archaeological data point to is expansion in scale rather than a shift in practices. But in this the pattern of land-use is associated with fewer entrepreneurs with greater capital and investment as we transition from Phase I to late Phase II and III. If capitalism was not at the heart of settlement change, capitalists were.

Plantation society as a corporate unit was sensitive to status during Phase II and the behavior appears to have continued into Phase III, but on a diminished scale. One tangible element of the change was adoption of new patterns of consumption related to status behavior exemplified in the artifact assemblages. While this process likely involved myriad categories of material culture and behavior, the archaeological record preserves the transition in ceramics best because of durability and the ubiquitous nature of the artifact. The differences apparent in differing assemblages are not simply hallmarks of differential wealth, but can be interpreted as signposts of the cognitive reinforcement of ideologies grounded in the economics of inequality. Another tangible was the use of space to broadcast position within society and architectural statements. Grand houses, manicured approach roads, and architectural displays as found across the Nevisian landscape, suggest the important role played by display behavior among the plantocracy.

Hypothesis 1 and 3 can be assessed in tandem. The deliberate organization of mill-complexes along with the practice of establishing planter or manager-in-residence on industrial sites points to the need among capitalists to increasingly control labor, manage industrial scale production tasks, and to structure production routines. The adoption of new technologies and the shift away from site construction of an organic character, wherein land contours were accommodated, to more rigidly oriented plans that modified land in conformity to industrial construction and the abstraction of compass coordinates illustrate changing ideologies of production and understandings of space, efficiency, and control. During the period of slavery, control was assured even if troubled. As Phase III dawned, documents make clear that control was less certain and labor resistant. We can detect stages of landscape alteration that coincide with the eve of emancipation. These same stages overlap expanded European global domination and may signal the emergence on Nevis of both mature capitalism and new forms of production relations.

The utility and unique characteristic of historical archaeology is the way in which text and artifact can be used to render a more complete picture of developments than either can alone. We have learned that the restrictions and demands of the metropole often conflicted with the desires of colonialists. Did this tension stymie or strengthen capitalist relations? Documentary evidence suggests damaging effects. Significantly, the core-periphery relationship, always strong, could occasionally be superseded by relations that obtained among the peripheral regions as colonial development progressed. I reason that the periphery-periphery contract allowed critical development at times when island colonies suffered from official neglect. For example, Dutch freeports, unable to compete in European sugar markets, developed smuggling operations affecting English and

French colonies, and Nevis directly (Crouse 1943, Schmidt and Mrozowski 1988; Klooster 1998). From official documents we find Nevisian merchants complained bitterly of the illicit trade from St. Eustatius. Archaeological evidence suggests the extent of this illicit trade beyond simple avoidance of tariffs on imports. Thus, status goods, unavailable through legal British trade, could still find their way to Nevis, and could play a role in the material culture of hierarchical relations, and may explain why Chinese trade porcelain finds its way into the artifact assemblages of households on Nevis (Meniketti 1998). Smuggling and other illicit avenues of trade should not be viewed as something apart from capitalism's mainstream, but rather as an integrated parallel economy entrenched, not despite laws designed to prevent it, but *because* of those restrictions. Artifact assemblages from Phase I, although limited, did not exhibit the variety, spectrum, nor the exotic character of assemblages of Phase II. Variety seems qualitatively less pronounced and restrained once again in Phase III. One explanation for the shifts may be levels of prosperity. Another possibility is that the assemblages reflect differences in composition of the population in each Phase. Or a combination of both explanations. This is yet to be fully explicated and will require additional on-site research.

## Chapter Seven

### Synthesis and Conclusions

#### Summation of Phases I-III And Future Challenges

"The commercial capitalism of the eighteenth century developed the wealth of Europe by means of slavery and monopoly. But in so doing it helped to create the industrial capitalism of the nineteenth century, which turned round and destroyed the power of commercial capitalism, slavery, and all its works"

Eric Williams (1944:210)

Combining archaeological surveys with documentary data, analyses of artifacts, both domestic and industrial, and environmental information allows a more comprehensive understanding of development on Nevis between first settlement and emancipation than was ever previously possible. By extension, study of these processes, with Nevis as a case study, broadens our understanding of the forces at work in the region as capitalism matured into the dominant economic institution. The research presented here is the first systematic survey of broad landscape and settlement patterning ever attempted on Nevis. The strength of a methodology grounded in historical archaeology is that it can synthesize independent lines of evidence, which include historical components, to test hypotheses. Historical sources can be used to create effective chronological controls, and can provide contemporary accounts of events in the background, but the key is to not let these overshadow the data generated through archaeological methodology. This issue is especially relevant when attempting to answer questions about abstract processes that historical participants may not have been aware were occurring, or would have thought to describe had they been aware. In revisiting the model of development framing this study,

we see that several aspects of the model can only be addressed through archaeology, particularly landscape analysis and general locational analysis, because the documents are muted on critical points necessary for testing the varied hypotheses set forth on capitalist development. Survey was essential to discover the use and extent of terracing, the number and scale of estate structures, the spatial organization of plantations, and the suite of consumer goods available or in use. And documents pertaining to Phase I are almost completely silent on the particulars of settlement or technological implementation.

As an alternative data set, historical documents provide a window into behaviors and material culture difficult to fully appreciate from archaeological testing alone. Albeit, the window has the curtains drawn close, but analysis yields relevant information for archaeological researches. For instance, while informing on material culture and fashion, we can surmise that not all who came to Nevis, achieved wealth or social position. Several wills dated between 1635 and 1800 include bequeathals of estates, horses, silver hilt swords, and thousands of pounds of sugar. A like many leave depressingly little more than debts. Consider the two wills excerpted below:

To my sister Elizabeth Pennington's children £50 each, they having greatest occasion thereof to be paid immediately. To my sister Meriam Shelberrie's children £10 each... To my god-daur Elizabeth Rolt 1,000 of muscovado sugar a year until she be 21 or married... To my friend Col. Charles Pym, riding horse, etc. To Charles Town Parish of this island 20 pieces of plate for service of Communion Table. To Friends Silvanus Taylor and Henry Bolton of this island £100... for the Customs and the Royal African Co., they also having regard to our debts... Col. Rowland Williams, Capt. Samuel Horne, and Mr Alexander, Crafford to have management of our Antegua plantation... to each a beaver hat...

Will of Thomas Belchamber, of island Nevis, 9 Feb. 1692  
(Caribbeana Vol. V, 1919)

...of the ship "Scarbrow" now riding in Nevis, under command of Hugh Tucker  
To my sister 40s. To Thomas Martin 20s Rest of wages to Thomas Teap, being a mariner belonging to said ship.

Will of Timothy Moresby, at Nevis, 6 Aug. 1697  
(Caribbeana Vol. V, 1919)

## Settlement and Environmental Change

The three principal hypotheses of this study and the essential questions designed to test them can now be examined in light of the archaeological analysis of the preceding chapters. Hypothesis 1: Capitalism was not operative at the time of first colonization on Nevis. It was suggested that settlement would be characterized by practices embedded in feudal relations. To answer the associated questions we sought to find sites from Phase I, compare them to sites determined to be Phase II and III, and to contrast spatial organization and other information to studies of plantation settlements elsewhere for this period. In truth our results, although promising, are meager. The Jamestown site in St. Thomas and a few mill complexes in St. John were the only locations within our sample that were not obliterated on the surface by subsequent Phase activity. Nonetheless, Jamestown provided a wealth of artifactual material and construction details. And the mills gave a clear picture of early sugar processing technology and spatial organization in the production sector, perhaps too small or too early to be referred to as being industrial scale.

Relevant studies for comparison of plantation models elsewhere in the British sphere have been generated by Delle (1999) and Klingelhofer (1999). Each author has tentatively explored this potential avenue of explication by comparing Elizabethan colonization in Ireland with New World colonies. This approach deserves more attention. More work is needed in this arena before substantive and valid comparisons can be made.

Hypothesis 2 as constructed visualized changes in the practices of settlement to be a result of a shift toward capitalism. Apparent differences in land-use patterns were suggested to be stemming from capitalist production systems. The historical data

provided spotty but significant information about agricultural yields, shipping volume, and prices that when combined, indicated a trend toward ever increasing production. The archaeological sample found rapid expansion across the landscape, assimilation of efficient innovations in sugar technology once introduced, and a general increase in the number and size of mill-complexes. These findings are consistent with the model for development and suggest a settlement dynamic centered on industrial expansion. In other words, the emergence of Nevis as an important node of commodity production. An alternative hypothesis might argue that expansion of the settlement was simply a natural outcome of increasing colonization. However, this can be refuted on both archaeological and historical grounds. Demographic data demonstrates that fewer Europeans were coming to Nevis while slave populations grew. Slave imports served the needs of production. A large and disproportionate slave population was necessary for production in the absence of any willing wage labor force. European numbers stabilized in Phase II. In times of large European populations the numbers can be attributed to military garrisons and troop deployments during wider Caribbean conflicts. Towns were not being constructed and there is no evidence of settlement that was not estate oriented.

Hypothesis 3 suggests that exploitation of the environment increased to satisfy systemic needs of industrial scale production under capitalism, and as this occurred land itself became an ever more critical variable. Hypotheses 2 and 3 are closely related. Examination of capitalism in the Caribbean must inevitably confront environmental issues because issues of economy and ecology are so tightly bound throughout the region. The evidence from surveys and documentary sources is overwhelming--environmental change was rapid, industry focused and, unfortunately for later generations, irreversible.



The affect of this change on settlement patterns, had unexpected impact on economic dependency, industry, and social behavior. Both the deforestation that stripped the landscape for initial colonization and the spread of plantations to cover the entire island are indicators of expanding productive capacity even as the European colonial population reduced itself to the essential personnel of management and property owners.

Two principal ways in which cultural behavior and environment have been integrated in archaeological research have been to either posit that cultural behavior functions as part of a system that also includes environmental phenomena or to demonstrate that environmental phenomena account for, or are in some way responsible for, the development of a particular cultural behavior under study (Watson, LeBlanc, and Redman 1984). At the outset this study was organized around the principle that humans are functioning elements of any ecosystem and their behavior is influenced or restricted (but not determined) by environmental constraints. Within historical archaeological parameters, and this distinction is essential, culture is viewed as more rigid and coercive than environment in realizing behavior. The importance of a landscape approach becomes evident when questions of environment and behavioral dynamics associated with settlement are brought to the foreground.

Plantations generated at least three distinct and visible environmental modifications. The first involved removal of native plant life and replacing it with imported agriculture. The second was through alteration of natural and existing land forms to impose an artificial landscape of flat land suitable for planting. The third was the construction of mill-complexes, living spaces, and roads. Surrounding these spaces were non-native plants introduced either for food or ornamentation. Not always visible, but nonetheless

experienced by the colonists, were boundaries between plantations or between social segments within the estate hierarchy determined by spatial organization. Modification of natural environment reached extremes for townhouses.

Alternatively, a hypothesis that no environmental change occurred can be rejected out of hand. The environment of Nevis represents nothing if not change. A further alternative explanation; that environmental change is unrelated to the needs of production but rather a product of colonization, would need to explain why no land was set aside to feed colonists, why no towns were established after Phase I, and why plantations continued to be built even as European population decreased during Phases II and III at increasing scale. The power of historical archaeology is the ability to combine historical documentary source data with archaeological data. Survey data clearly demonstrate the spread of plantations across the landscape while documentary data enables us to evaluate demographics and production capacity. These two lines of evidence converge on the conclusion that changes in the environment were aspects of the processes connected to commodity production and increasing demand by the core state spurred interest and investment in productive capacities.

Another conclusion we can draw is that settlement in the Lesser Antilles, in general terms, was based on environment. The islands afforded ideal conditions for certain luxury crops not easily cultivated in Europe, and the climate allowed for multiple harvests. Europeans had not come to the tropics for their health.<sup>1</sup> And Africans had not come of their own free will. Many early documents refer to Nevis as among the most "unhealthful

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<sup>1</sup> In a twist of historical fate, Europeans now travel to the islands "for their health." The hot baths on Nevis became an important tourist attraction in the late eighteenth and early nineteenth century. The baths, first mentioned by Sir Henry Holt in 1630 are again becoming an attraction. An entrepreneur, perhaps with more money than sense, has been rebuilding the Bath Hotel on Nevis as a spa.

of places." Such was the mind-set of colonists that the island could be rendered healthier by clearing the forests and "opening" the landscape.

If climate was a critical reason for colonizing the Caribbean, it also acted as a limiting factor. A planter had to be cognizant of drought, hurricane, and other unsettled weather patterns that could ruin crops. In periods of sustained drought a plantation might fail altogether. However, planters were usually in such debt that it benefited all to keep operating, for as long as some capital was generated, it was cheaper to function poorly than to shutdown and lose all. The letters excerpted below (from Gay 1929) offer three examples of environmental factors affecting a plantation and its attendant social costs:

1725 Oct. 18

A bad crop of provisions by dry weather and a prospect for bad crop. No provision from abroad from wence the negroes suffer; for wich reason he writes for beans...

From Herbert, Nevis

1726 June 1<sup>st</sup>

...A dry time and very little suggar made in the island and a bad prospect for next year. No provision in the island for negroes. If the weather had prov'd tolerably good he had ship'd my mother att least two hund: hoggs besides Ldy Russells ann<sup>ty</sup> and the plantation expenses. As things stand he shall not be able to shipp her above thirty. On the 16<sup>th</sup> may he was at my plant: where he was agreeably met by a fine shower of rain wich gave Mr Herbert room to plant a fine piece of canes the ground being open'd. ...he fears he will not have enough to answer all the debts contract'd there. As for making buildings he does not see any occasion for any, att present it being sufficient to keep them in repair that are already. My negroes look good. My mother has lost a great part of her stock att the salt ponds...

From T. Tyrrel, Nevis

1732 My 4<sup>th</sup>

...and am sorry you had occasion to complain of the small quantity of sugar you had from your plantation last year which was entirely owing to the dry weather and not to any fault of your manager. I was often at your plantation and see the canes he was cutting and they were short and dry. He did not make quite six thousand pounds of sugar off a piece that usually made sixty thousand but the weather was more severe on that side of the island than on this...

From T. Tyrrel, Nevis

We can interpret from these letters that weather and management influenced growing, but also the lives of plantation slaves. If these agents' letters are typical, one may well wonder how planters earned any wealth at all. Yet the market for sugar was protected and the demand ever growing. To shut down operations would not cause debts to evaporate as easily as personal status.

Just as the native Carib may have sought particular resources in specific ecological zones, so too were Europeans exploiting the ecology of the Caribbean basin for resource extraction. But European agro-industrial practices were not suited to the tropics. Perhaps it would be more accurate to say that the tropical rainforests were not capable of sustaining the form and scale of agricultural practices introduced with plantation production. The verdant nature of the islands is barmecidal, its apparent lushness easily misinterpreted for boundless fertility. The delicate balance in rainforest ecosystems is easily upset. On a nominal scale, plantations were immense when measured against Carib garden plots. Unlike the Carib, whose system of cultivation, known as *conuco*, was diverse, sustainable, easily maintained and drought resistant (Watts 1999:36), plantation scale monoculture was to prove remarkably susceptible to unsettled weather, disease, and was highly labor intensive as well as environmentally destructive.

Traditional Carib agriculture included cassava, sweet potato, yams, and other carbohydrate rich root crops. But most importantly, *conuco* farming did not appreciably damage the soil the way sugar production was to do. And while *conuco* agriculture provided a nutritious balance of foodstuffs, industrial crops of sugar, tobacco and cotton offered no nutrition at all. So little land was devoted to production of food in the colony that colonists imported nearly all their food. With the introduction of hogs, cattle, sheep,

horses (of which Nevis became renown) and dogs, the local ecology became irreversibly altered.

We can surmise that planters were willing to risk fortunes on even marginal land so great was the lure of profits to be made from sugar during the late seventeenth and early eighteenth centuries. The terraced fingers of land in the upper elevations of quadrats SJQ1, SJQ2, and SJQ3 are testimony to the measures taken to transform poor conditions into productive pieces. Terraces followed even the narrowest of ridges upward and to the very edges of ghuts. In addition to providing a level growing area, terraces were also intended to prevent soil loss due to erosion. Loose stone was stacked to form retaining walls and earth filled in behind on the up-slope side to create the terrace. Maintaining terraces was as much a demand on labor as holing and tending the cane, and was a chief occupation of slaves not otherwise engaged in plantation duties. Only a few plantations had large expanses of flat land. Despite these measures, soil degraded rapidly and with deforestation, topsoil blew away with the trade winds as easily as it washed away during storms. Rich volcanic loam was gradually depleted. Fertilizing in the form of cattle dung or lime was practiced by a few but was insufficient to enhance the nutrient poor soil.

The damaging effect of untenable agricultural practices was not immediately felt. For at least the first half-century of colonization, estates were small and wide spread. Islands of rainforest separated plantations. Prosperity encouraged further development and entrepreneurs found willing investors. Not until the late seventeenth century did the problems of soil degradation become evident. Even with problems of soil loss, nutrient depletion, marginal land, and the irregularities of weather, there was no diminution in desire among entrepreneurs to invest in a sugar plantation. But by the middle of Phase II

it is evident the rules of the game had changed, and with them, settlement patterns changed as well.

A sugar estate was a large-scale agro-industrial enterprise that required capital and expertise on several levels to operate successfully. Many who lacked managerial skills failed. Indeed, I suggest the managerial acumen among the plantocracy growing out of the sugar industry is one of the key elements in the rise of capitalism. Managerial skills were certainly transferable to other industries and members of the new managerial class became important figures in the ascendancy of capitalism as an economic system separate from feudal models of patronage that were a hallmark of earlier economic models.

Again, the important contribution of historical archeology is the integration of historical sources with the ground truthing of archaeology. Documentary sources inform us that to establish a plantation, one had to acquire land, a labor force, and build a mill, boiling house, curing house, accommodations for servants or slaves, acquire carts, animals, and sundry supplies. Initial planting could take two years to reach maturity. Or, one could purchase an existing operation, perhaps already failing from poor soils. After careful study of the Pinney family papers, Pares (1950) found that in the eighteenth century a small, run-down property on Nevis could be purchased for £3000, but would need additional capital to bring up to production. This is many times the expense incurred during the seventeenth century. But estates varied in value considerably based on location, soil, and the number of slaves, who were categorized as stock along with cattle. And while equipment and buildings were costly, inventories from plantations in the Caribbean suggest that these constituted a small proportion of the total value. Slaves by far were the chief capital investment (Galloway 1989:89) after land. However, even a

small estate of 100 to 200 acres could make a significant impression on the environment. What the archaeology has revealed is how these estates and social sectors were distributed across the colonial landscape, which social arrangements emerged within the plantation landscape, and ways in which plantation layouts deviated from norms. Compromises with environment, logistics, variable loads, or social structures are all indicated from the archaeology, especially at the Ridge mill-complex in St. John.

The behavior of colonists on Nevis was not determined by the environment of Nevis, they brought their behavior with them. Culture is not an exosomatic mediator, but acts directly on the environment. That agricultural behaviors imposed on the tropical environment of Nevis was egregiously inappropriate was not immediately obvious, and probably did not matter to colonists in any respect. Compromises were likely the result of feedback from interaction within an environment. Not until the eighteenth century were concerns voiced. During Phase II, North American colonist Benjamin Franklin presented a paper at a scientific conference in Paris, on the deleterious effects of deforestation and its relationship to water loss on the islands (Grove 1997). French authorities sought measures to enforce buffer zones around water courses on their Caribbean colonies, taking the unusual step of prohibiting trees from being cut on either bank for a span of 50 feet as a means of reducing evaporation. A similar ordinance was in effect on Nevis, but was weakly enforced. As the Council of Nevis was comprised chiefly of planters, it is not surprising enforcement was lax. Planters were loath to compromise any part of their arable land for the public good--even in their own best interest.

The plantation system itself had systemic requirements all its own that reconfigured the landscape. Of these, perhaps none was as important as the roads linking estates to

points of commerce, or to one another, and joining rural regions to urban centers. Roads are often overlooked as landscape features, but roads not only facilitate mobility, they define social space and are an integral feature of interaction spheres between rural and urban or civil and industrial centers. The several roads investigated within our sample suggest far greater mobility than is possible on Nevis today. But the mobility patterns were evidently intended to serve plantation requirements, facilitating the movement of produce to shipping, and maintaining communication between estates. Maps do not show roads as conduits between population centers. This was undoubtedly because the population was distributed across the island at estates with the only area of concentration at the port which also served as mercantile center. Survey along these roads, especially in lower St. John, (see Chapter Five) recorded unidentified industrial works from Phase II and III, but no residential architecture or artifact scatters of material culture datable to the pre-emancipation era. Taken together, these data suggest the road network was intended for agro-industrial expansion and underscores my contention that Nevis was foremost an outpost for resource extraction.

Boundary walls, terraces, roads and pathways, serve to carve up the landscape into demarcated, managed, and controlled spaces. Roads join estate works to central arteries of transportation and in some cases, one estate to another. For example, the village of Cox in St. John, is linked directly to Coxheath works by a cobble road that is nearly four feet lower in elevation than the surrounding terraced fields (Figure 7-2). From this road are two branches leading to other plantations. Broad pathways join several estates to villages. The increased compartmentalization of space we find in the archaeological



landscape coincides closely with the historic development of the plantocracy as a political and economic entity controlling the colony.

#### The Archaeology of Environmental Change

The essential questions used to focus research on the hypotheses asked how the landscape evolved, whether development indicated acceleration or resistance to change, which sectors of society reflect integration of capitalism, and how the case of Nevis informs us on regional trends. These questions, to a substantial degree, can be answered in a way which increases our understanding of the stresses on colonial systems. Survey results presented in the preceding chapters support the conjecture that first settlement proceeded according to the needs of the initial colonists, expediently along the shore. The multiple factors of topography, management planning, market fluctuation, and weather all met in a synergistic relationship to help create a landscape of colonial agro-industrialism.

We have to ask why the road system was allowed to deteriorate so badly around the southern side of the island. Two probable answers come to mind based on the physical environment. The lower areas of St. John are dry and parched. Topsoil has so degraded that only acacia and century plant flourish, with prickly pear and turks-head cactus underfoot. Artifacts from every historic period into the early nineteenth century are commingled on the surface in conflated deposits. Estates in the area are shown on the 1871 Iles map, yet roads to these estates are also depicted as cut by ravines, which forced new patterns of mobility. Based on architecture and surface artifacts, abandonment of the lowland area as unproductive at a date in the late eighteenth century appears likely

Without plantations to service, road maintenance would not have been a priority. Of course, we could also conjecture that abandonment resulted from the combination of failing soils and road degradation. More than two centuries of agro-industrial exploitation had created a bleak and inhospitable terrain suited only to the roaming herds of feral donkeys common today.

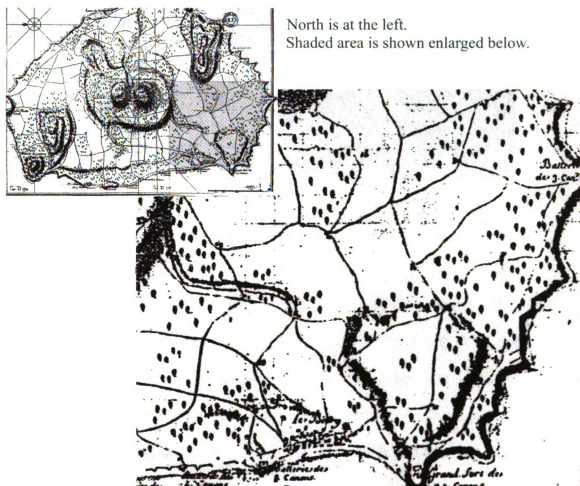


Figure 7-1. Example of road system from St. John Parish. The roads developed during the first century of the colony, seen here in a map from 1704, served to facilitate commodity transportation as the early web-like system enabled routes of shortest distance to shipping places while partitioning the landscape for plantation development. Yet this map does not depict plantations, or villages.



Figure 7-2. Road west toward the coast from Cox village. Zone B. Note the difference in elevation between road surface and surrounding field. The cobble road is bordered by stacked stone retaining walls. Surrounding fields are nearly at the level of the upper course of stone. Paul White, of Brown University, pictured.

Geographical analysis of spatial organization of human societies has intrigued many since von Thunen in the early nineteenth century, as well as Vita-Finzi (1970), and Christaller (1966) whose various modeling of distance relationships, site catchment, and least-cost systematics, respectively, have influenced the way scholars have addressed the functional relationships of settlement systems. The same holds true here. But rather than focusing exclusively on spatial patterning as a process unto itself, I've taken the posture that observable patterns are the nexus of environmental and economic relationships, mutually contributing through social feedback exchanges to influence settlement dynamics. While each of the factors ranging from distance relationships to cost factors

are operating, each has its own place and time of importance during a settlements historic trajectory, and at no time are any of these processes acting in solo. Settlement on Nevis does not appear to have evolved around a central place, per se, but expanded outward from a key entry point or node. The node was restricted by environmental factors not optimum efficiency. And actual colonial authority was located in another island colony altogether. Perhaps it would be best at a future time to reconsider the region, imagining the sea as a featureless plane with islands as settlement nodes.

As previously discussed, the pattern that emerged on Nevis was the establishment of semi-autonomous plantation enclaves. Yet merchants and government focus was on the nodes. Setting aside for a moment the urbanized shipping center, we can see from the roads that systematics were operating to create a network that would enhance settlement expansion. Roads came to distant parts of the island before settlements, so far as we can tell at this juncture, perhaps based on land speculation. Not a classic model of settlement based on cost minimization and efficiency, but related, and one which cannot be ignored.

#### Archeological Landscape

The archaeological record is, of course, incomplete and biased toward the substantial as opposed to the ephemeral, and there is always the problem of allowing a particular landscape feature to tell the whole story. The solidly built mill complexes and boundary walls, wind-mill towers and terraces are relics of the industrial character of the colony, but they were not places of residence, of worship, of commerce, or of defense—each a source of environmental modification. These are places where social structuring are most evident in the absence of excavation of slave housing or merchant quarters.

Documentary sources reveal that earliest mill complexes, houses, and curing facilities were built from wood. However, no wooden structures from before the middle of the nineteenth century remain or were found in the survey sample. This is not unexpected. Wood simply does not last in the tropics owing to rot. Charlestown burned on more than one occasion even without help from the French. Sugar refining is inherently risky owing to the open fires under the boiling pots and ash billowing from smoke stacks. As island timber stocks were used up for buildings and fuel, colonists turned their attention to stone as a construction material. Mill complexes prior to 1685 had masonry boiling tables (Spanish trains, with fires beneath each cauldron) covered by wooden superstructures. Ancillary structures were built of wood or a combination of wood and masonry. Introduction of the Jamaica train early in Phase II coincides with increased prevalence of masonry structures in the archaeological landscape, suggesting both a new focus on permanence of industrial sites on the colony and a focus on factory levels of production. It was an important period for capital investment and mirrors developments elsewhere in the Lesser Antilles in Both British and French sectors.

#### Variable Loads in the Colony

The beginning of this chapter raised important issues concerning the synergism of culture and environment, accepting as a first principal that the two are part of a system. In my view the resulting landscape stems from the compromises arising from the tension between the two elements, but this is an oversimplification. Cultural engagement with environment does not spin on a single behavior and environments are constituted by multiple variables. Identifying variables and the degree to which colonists adapted, modified or attempted to ignore them has been the goal of analysis. Decisions by

colonists contributed to the landscape formation. Returning for a moment to the model presented in Chapter One, we can see that the landscape is a synchronic manifestation of the culture/environment synergism, but also an active element in the synergism diachronically. Initial colonists were faced with multiple ecological variables and environmental obstacles. But their chief objectives could be satisfied within the ecology as they found it: the cultivation of specific crops at limited scale shared attributes of indigenous agricultural practice. As demand increased and the settlement scaled up, the demands of agro-industrialism imposed new pressures on the local ecology.

Of the many variables colonists were confronted with, few were as important as water availability. Everywhere on the landscape are constructions aimed at capturing this vital resource. But other variables played as dynamic a role in shaping the trajectory of settlement. These include, land availability and fertility, slope, and localized climate. Even the climate changed over time as each variable gained or lost importance with successive generations of colonists. Non environmental variables include distance to shipping sites, labor and estate management skills, technology, and market activity. Adaptations and decisions made in the context of the colony had serious implications for cultural development on the island, while the system in which it evolved had significant affects on socio-economic change within the core state historically.

#### Changes in Landscape Structure

Again focusing on Hypothesis 2 and the essential questions of landscape change we have several lines of evidence. Prior to 1650 last wills principally include bequeathals of tobacco with barely any mention of sugar at all pointing to the focus in Phase I on small farms. Plantations prior to 1650 tended to be small, of 200 acres or less, the majority of

no more than 100 according to documentary sources. Archaeological evidence from this period is minimal. Middling and small holders were the norm. When divided, resulting plantations could scarcely qualify as estates. But an explosion of sugar production after 1650, in what has been termed the "sugar revolution" (Sheridan 1963), led to colonial expansion and plantation development that also instigated changes in land usage. After 1650 plantations begin to average closer to 250 acres and some large estates of the eighteenth century had land in small lots across the island. For example, the Gardner estate in 1768, held land in lots of 140, 30, 210, and 60 acre across three different parishes, each running upslope from the sea. Another planter in 1774 had plantations of 100 acres in St. Thomas and 100 in St. John parishes.

With the colony focused squarely on production, shipping centers and road networks were organized to facilitate commodity transportation and settlement expansion. But new settlement was plantation based not structured around new towns, farms, or villages. The modern archaeological landscape contains vestiges of this episode in island history. Harbor locations were dictated by geography and settlement followed. Mill complexes became larger and more permanent in character. Estates for which records exist tend to be rectangular, even linear, and for many this unavoidably meant elevation variations from one end to the other. Another aspect of such a land and space arrangement is that contemporary models for estate efficiency could not effectively be applied. Sugar works were located nearest to roads, as were residences, but laborers could not be efficiently situated for optimum distance-to-field, or for constant surveillance as was considered ideal. The landscape seems to suggest that maintaining social distance was more prized

than agricultural efficiency among many planters. But also, that plantation dimensions and spatial units on Nevis helped in defining social space.

The discernable variable load shouldered by planters during each Phase changed incrementally as environment was altered and availability of land for second generation entrepreneurs diminished. Variables influencing settlement during the first quarter century beyond those already mentioned included forest cutting, land clearing, agricultural expertise, topography, and instituting markets at home—almost archetypal frontier mode. The second wave of colonists were free from the initial hardships but were forced to stake out less desirable land at greater distances from shipping and at increased cost. On comparatively larger islands, like St Kitts, this likely was of even greater importance, on flat islands such as Barbados, less so.

Small changes had large impacts. Clearing accelerated erosion and forced planters to implement terracing not only to create flat land but to retain soil. The many ghuts on the island have become enlarged due to excessive runoff. Several patterns of land use on Nevis are interpretable in the context of this study. Water availability was not a determining factor in plantation spatial organization or acquisition in the way Clement (1997) found to be the case on British Tobago, although this research corroborates his analysis that environment played a key role. Nearly every estate suffered from the same inadequacy of the resource. Cisterns became an essential and familiar landscape feature. Rain runoff from roofs was channeled into retention tanks at plantations and residences. Some mill works were located near ghuts where intermittent water flow could be channeled and redirected. Maintaining fresh water springs became a central concern of the established Nevis Council as it sought to combat urban pollution.



If clear-cutting by the first planters had generated unforeseen environmental degradation, the use of marginal land and steep terrain by subsequent estates only served to exacerbate soil problems. Crops yielded less sugar juice per acre as a result of nutrient depleted soils. The larger plantations that were more common during the eighteenth century emerged in part by the need to produce more cane simply to procure juice yields equivalent to what smaller plantations had managed the century before. More research is needed before we can say environmental change indirectly stimulated capitalist investment. As Richardson (1997:10) ruefully remarks, there existed an "incongruity between the Caribbeans' externally introduced peoples and the lands they occupied." The lack of any intimate link between colonists and the land contributed to an industrial/environmental imbalance that predates the institutionalization of capitalism and cannot be blamed on the economic system outright.

With respect to the rise of capitalism framed by Hypothesis 1, we would expect that increased capitalization would lead to changes in the social arena and this would be evident in architecture and material culture. In the seventeenth century, a planter obtained credit from a merchant who supplied the estate with necessities. When a crop was ready it would automatically be consigned to the same merchant who sold it on the British market and took deductions for supplies, commissions, and so forth. The system worked well enough unless prices fell or war broke out, as we have seen they frequently did. More significant for investment was the innovative ways new banks offered credit to induce planters to adopt the new technology, just as planters were accepting compensation from Parliament for costs incurred from emancipation (Lobdell 1972).

The eighteenth century saw the confluence of increased flow of capital from new sources of credit, but also the need to have larger estates to be competitive. Moreover, Nevis is a small island. Its chief competitors were larger islands. The various colonies were not a unified system but shared the same market and competed within a closed system. In this economic climate after 1700, a small planter on Nevis could not compete successfully even in the protected, monopolistic markets guaranteed in the British system. Consolidation of small estates into larger ones by fewer owners during the later half of the eighteenth century changed not only the plantation landscape but the social landscape as well. Middling planters could still maintain a presence but eventually many sold their interests to large holders. Adoption of technological advancements, especially in refining methods, led many operations to rebuild existing sugar-works in order to remain competitive. While great house and rural townhouses reflect the status displays of the wealthy, small residences, such the ridge house examined in St. John parish, open a window on to the life of planters of more modest means. Even here we learned that material culture expresses efforts to be, using modern parlance, "upscale" in behavior.

Demographic changes on Nevis appear to have been influenced by two principal factors, estate growth and external conflict. As estates grew in size physically, greater numbers of slaves were being imported. Simultaneously, the European population on the island declined.

Technology was another contributor to patterns of settlement shaping the landscape. The environment of each plantation set parameters with which planters had to accommodate. Nevis had no streams so water wheels were out of the question. The next best application of milling technology was the windmill. But not every plantation could



take advantage of wind. Where animal mills were the preferred approach, there was still flexibility in spatial arrangements of the complex so long as the mill platform was raised above the collection vats. Since mills could be placed anywhere on a property it is not surprising that proximity to roads was a deciding factor where wind capture was not critical. When wind was the driving force, mill placement was more constrained. Steam powered mills were introduced shortly after the cessation of the British slave trade. Steam engines were an important feature of the industrial revolution and I will address it only in the context of what I see as a major flaw in arguments concerning new technology investment throughout the Caribbean. It is often taken for granted that steam engines were introduced to reduce costs, especially as emancipation approached. In fact, steam engines did not fundamentally decrease labor or cost. The bottleneck in productions was not the milling process but in management of harvest and subsequent curing. What steam engines did was eliminate dependency on wind, daylight operation, and the need for animals and fodder, although water continued to be a weak spot. Even if a steam mill could crush faster, there still were the problems of juice collection and boiling.

Harvesting remained the principal labor issue. Within twenty-four hours cane juice begins to spoil. Cut or crush too much and much goes to waste. Boiling facilities could not process cane juice faster simply because more juice was on hand. Instead, estate managers were required to change the entire cultivation and harvest cycle for constant operation of mills. These factors may explain the slow adoption of steam on Nevis rather than traditionalist behavior or any reaction against capitalism.

### Residential Patterns Across Phases

The modern landscape belies past practices. A pattern of separating slave housing from planter residences is evident in the documentary record, particularly evident in estate maps but the sample is small and has not yet been confirmed archaeologically. Additionally, Europeans appear to have lived in smaller aggregate units than the African populations. This issue merits further investigation. There were no European villages the way there came to be African villages. Were the plantocracy living in isolated family units, exercising freedom of mobility to interact in the urban centers, while slaves lived in larger congregations and focused on interactions between congregations? If this were the case, two separate, overlapping systems of interaction spheres might be operating independently over the landscape. Official maps give us an indication of road networks but no hint at unofficial tracks. Lacking historical records to inform us, the only recourse will be to test this possibility archaeologically and through analysis of folk histories for pre-emancipation behavior.

### Assessing the Model of Development: Phased Exploitation

These were two different Caribbeans. One founded on exploration, conquest, tribute, patronage, assimilation and exploitation of indigenous populations, but also an expanding world empire's conscious extension of culture. The other was based fundamentally on environmental exploitation and experiments in modes of labor relations and management. The indigenous peoples were largely gone or contained as the age of exploration waned. The agricultural base of both eras was founded on slavery but the institution within each system was cloaked in unique qualities. The Spanish population swelled while the English, Dutch, and French never achieved substantial numbers comparable to that of the

Latin Caribbean. Naturally, the Lesser Antilles make up only a fraction of the land mass of the insular Caribbean region and are small by comparison to the islands of Cuba and Hispaniola, which could absorb a great many people. But that fact alone does not account for the population differences. This issue is widely debated by social historians but I find the evidence supports the argument that *intent* of colonization is at the root of intent in settlement dynamics. The following three maps provide a graphic interpretation of these settlement phases based on archaeological and historical data.

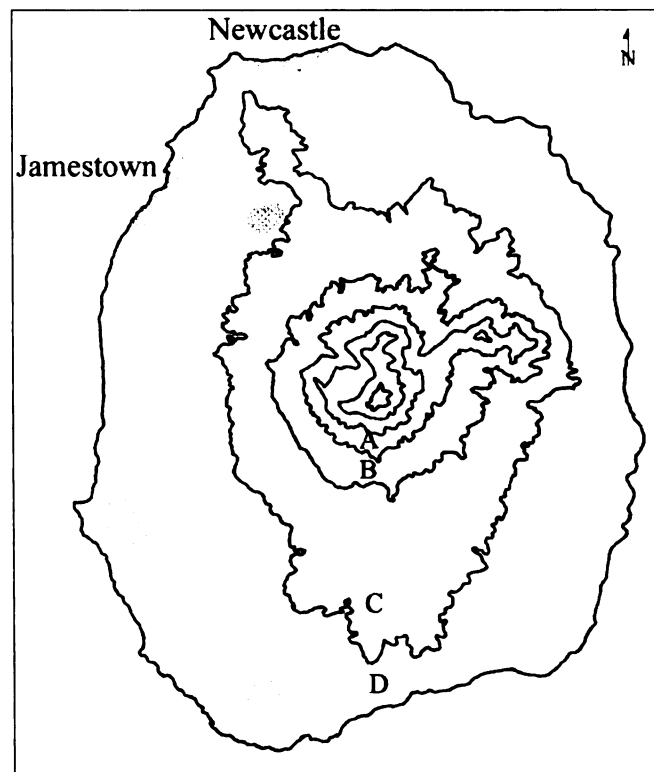


Figure 7-3. Nevis settlement during Phase I. Archaeological Sites located during survey suggest coastal spread with limited penetration beyond environmental zone D (0-500 feet).

In the British Caribbean frontier, land was devoted to commodity production operated by semi-autonomous plantations, not for colony sustenance. These settlements were able to absorb a laboring population but could spare little room for homesteads and farmers.

While there likely were a few farmers producing and selling locally, the documentary evidence is mostly silent on the matter and the only archeologically substantiated provision production was among Africans. Throughout the Spanish Caribbean there appears to have been greater emphasis placed on settlement infrastructure than is apparent in the Lesser Antilles under the British, with more land devoted to basic subsistence and agricultural support of the populous, again underscoring the significance Settlement on Nevis appears to have been coastal and within Zone D for its first quarter century. However, by the end of the seventeenth century, settlement, or at least cultivation, had penetrated into much of Zone B up to 1000 feet.

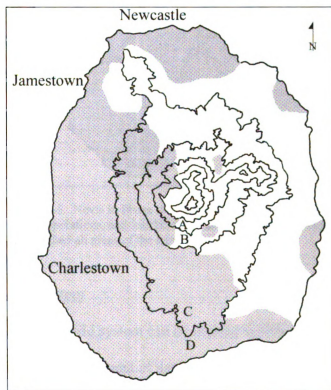


Figure 7-4. Settlement during Phase II. Extensive penetration into higher elevations and around the coastal regions. Evidence in the form of mills, house structures, roads, and terracing in addition to historic sources point to rapid environmental exploitation. Jamestown will fade from history in early half of the eighteenth century. Charlestown becomes the principal port in the latter half of the eighteenth century.

Late in Phase II settlement and environmental modification was evident in the upper reaches of Zone A. Phase III settlement retracted slightly with consolidation and with less land under cultivation, yet settlement had encircled the island and had penetrated Zone A.

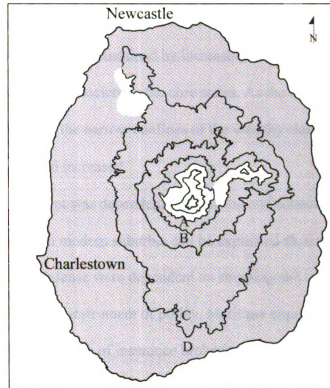


Figure 7-5. Nevis in Phase III. Although many plantations had ceased operations, and less land was under cultivation, settlement had reached all areas of the island.

### Nevis in the World System

Nevis' place in the world system can be highlighted by examining its rise and fall with external affairs. Development of agro-industrial outposts in the frontier created peripheral nodes in an economic system busy producing exchange commodities desired by core states. During Phase II government encouraged--but entrepreneurs and consortiums developed--the colonial enterprises of the Caribbean frontiers. This sounds like modern policy of major capitalist states. By development I mean substantive



establishment of plantations, commercial centers, ports, and the associated exchange relations that operated between these diverse focal points. Colonial development manifested challenges to existing support systems, which were met primarily by private sponsorship until a combination of profits and political power among an emergent planter class gained momentum and political clout. Much of this is evident in contemporary documents. Momentum was sustained by increasing consumption of colonial agricultural products at every level of society in the core states. As the luxury of tobacco and sugar broadened in use from the narrow confines of the wealthy classes to reach even "the meanest sort," demand increased.

Caribbean settlement was dependent on shipping and cannot be understood in its absence anymore than modern suburbia can be explained absent the automobile. Mobility, trade and defense were dependent on shipping and integral to the colonial system. Navies were an instrument of policy. Maritime requirements influenced settlement patterns. The rise of insurance brokering in the context of plantations added impetus to critical aspects of market capitalism, and supplied capital to new ventures.

Growth of the maritime sector came about as an answer to material and labor problems, transporting indentured servants from Europe and slaves from Africa. Maritime growth prompted adjustments in manufacturing, trade, investment, spawning opportunities for economic expansion. English shipping interests had a long standing practice of slaving stemming back to the Elizabethan's trade in slaves with Spanish settlements (Hakluyt [Hawke]1972). Slaving networks already in place extended and intensified to supply the labor-voracious sugar industry. Economic increase among the colonies enabled maritime centers in Britain, such as Bristol or Liverpool, to participate

actively in the trade where slaves were viewed as yet another commodity. These trade centers also enjoyed expansion of manufacturing and growth.

Documents contained in folios of Acts of the Nevis Council provide clear examples of the interaction between plantation settlement, commerce, and shipping. The desire to increase settlement on Nevis was closely tied to establishment of ports and port location was unavoidably dictated by environmental constraints (scarce availability of safe anchorage for example). The principle phrases from the Act are,

"...Whereas a great part of your Majesty's Island of Nevis remains still unmanured, especially in and towards the parish of St Georges', Gingerland, and foreasmuch [sic] as several of your Majesty's subjects, inhabitants of these part, have quitted and do so daily quit the same, which principally is to be attributed to the want of a free shipping-place, whereby the inhabitants may with greater ease transport the product of their plantations by water to Charles Town...your majesty's revenues will be augmented...lawful place to ship cotton, sugars, indigo and other goods..."

An Act for making Indian Castle a Shipping-place.  
Laws of Nevis 1704-05 (see Appendix for reprint of Act)

The world system is a network of sub-systems and not monolithic. Obvious though they may seem, maritime communities are often overlooked as critical cogs of infrastructural links in the world system--sources of news and information, carriers of ideas as well as bulk commodities. During the eighteenth century the impact of mariners was widely suspected, and denigrated. Colonial authorities did not need a Wallersteinesque world-system theory to recognize influences of maritime communities. Barbados, for example, during the last quarter of the eighteenth century was visited by 150 ships or more per year. It is likely the average citizen engaged in greater traffic of ideas and news in Barbados than the typical country citizen in England. Scott's (1986, 1991, 1996) and Bolster's (1997) important contribution exemplify the recent trend of investigating the lives of slaves and free-blacks from the framework of semi-autonomy

and resistance, as well as casting light on their contributions to Caribbean social development in a wider world beyond the confines of the plantation. Scott's (1986, 1991) study of black mariners, free and bonded, and that of Bolster (1997), cast light on a key segment of Caribbean society. Thus, it is reasonable to incorporate maritime boundaries into the broader colonial political landscape. Indeed, maritime activity often underscores the permeability of boundaries that might be supposed to exist between nations or economic spheres.

#### Periphery-Periphery

The relationship between British island colonies, such as Nevis, and those on the North American mainland in some cases may have rivaled the importance of that between the islands and the metropole—the sea acting less as a barrier than a highway for distribution of raw and manufactured materials. Similar relations held sway for French colonies, while Dutch holdings functioned in a singularly different manner. Dutch enterprise in the Caribbean may have indirectly contributed to changes in merchant capitalism through free ports and unrestricted trade (Crouse 1943; Klooster 1998).

During the eighteenth century, demand for sugar grew to such an extent that it passed from luxury good into common usage approaching the status of a staple. The steady flow of sugar kept 1500 refineries operating in London alone by the mid eighteenth century. Several industries that had once stood independent of the West India trade became deeply invested. The increasingly tangled economic relationships that emerged in this period form the backbone of the capitalist paradigm that would fund the industrial revolution before the century's end. As the West Indies emerged as the hub of Atlantic commerce, shipping, manufacturing, and the slave trade grew concomitantly. English commercial

sailing expanded to accommodate the rising tide of bulk cargo, and the insurance industry developed with it as a means of protecting planters from losses suffered during the vagaries of sailing or from conflict.

Shipping as an industry began to grow as the colonies began to prosper. It must be noted that sugar imports to England were a protected market and for solely internal consumption, whereas French and Dutch imports were just as likely slated for re-export within Europe. During this phase, non-British sugar also occasionally made its way into the British market as a result of various governmental policies. These differing policies had contrasting influences over price fluctuations, product availability, and impact on economies in the core states.

The web of political, colonial, and industrial development was beginning to strengthen and expand. Like it or not Nevis, and indeed all the sugar islands, were becoming integrated into a world system. The sugar colonies as an important economic zone was recognized and new waves of investment indirectly related to Nevis, but relevant to the developing capitalist economy, were undertaken. Significant numbers in parliament were planters sympathetic toward increasing the gains of the plantocracy. The target of trade legislation in the colonies was Holland. Barbados and many others in the colonies had been free to ship with whomever they chose and the Dutch were the principal carriers of sugar in the Caribbean undercutting British shipping (Newton 1967; Klooster 1998). A critical outcome of the restrictions was the imposition of the Navigation Acts that restricted trade only to English ships. While this was good for the shipping interests it placed a higher burden on the planters and costs were passed along to consumers.

Even as the social landscape in the Caribbean was changing, so too was it the case at home. The growth of port cities is just one example of the growing interdependency evolving between the core state and periphery during the seventeenth century. With population increases in the core we can detect concomitant and gradual rise of associated small industry and incipient improvements in economic conditions.<sup>2</sup> London alone would eventually be home to 1500 sugar refiners as the government established measures for creating and maintaining employment for the growing urban population.

In Wallerstein's world system framework, a key product of the world system that arose after the sixteenth century is economic zonation, with peripheral regions serving to produce surpluses consumed at the core, and absorbing the manufactured products from the core. Even though hypothesized as a precondition for capitalism's expansion, there is nothing inevitable about the ascendancy of capitalism in zonation. Although the core-periphery model focuses on the nature of long-distance trade interactions, strictly speaking, the British Caribbean as described here represents a variation of the periphery concept. Caribbean colonies were not exploiting indigenous populations nor forging hegemonic economic relations. But the region did form the backbone of an economic zone that fueled the industries at the core while absorbing much of its manufactured product. This was true for Britain, France and Holland at varying levels, but each followed a slightly different course, in part because of the differences inherent in their respective governments at the critical juncture of Caribbean colonization, mediated by the nature of their colonies and the environments of their islands. Nevis was participating in a

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<sup>2</sup> There were, of course, several concomitant factors operating that made such a population available for urban industry, most of which are outside the scope of this study. However, a few deserve mention. Changes in the structure of farming, improvements in agricultural technologies that increased production, enclosure laws, and surplus population resulting from improvements in food production and distribution, as

world system simply through its productive capacity of commodities it could not consume on its own, but exported in response to consumer desires.

### Economic Zonation

As touched on in Chapter One, differences among the various forms this dynamic as manifested in the Caribbean can be explained in part by the differential investment by central governments at the distant state. This derivation of Wallerstein's (1974) notion that state strength is key in the operation of unequal exchange between core and periphery and appropriation of the world-economy by core states. Such an exchange may be modeled effectively for late in capitalism's maturity but does not explain capitalism's emergence. Nevis was not a peripheral state under hegemonic control, but an economic zone with privileged access to markets of the core.

The central governments of England, France, Holland were dramatically different in structure at the outset of Caribbean involvement. And while they may have initially shared a common desire to carve out a slice of the Spanish pie, the historical trajectories of their respective colonies in the Caribbean reflect the unique national character of each state. Each national entity developed economic extractive zones in the Caribbean that benefited the state more than the colony in measurable but different ways. But the instrument of economic zonation was uniquely environmental in character.

Zonation implies differential integration into a broader system and, indeed, the Caribbean colonies functioned as specific agro-industrial centers. Resources extraction was never based on staples but on luxury commodities, and as these industries succeeded in broadening their internal markets to reach non-elites, the relationship between society

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well as rebound from periods of disease, all contributed to making available the people demanded by the urban centers. Some income was to be preferred to none.

and the agro-industrial system not only strengthened, it deepened. The astute observation made by Champion (1989) that the cost of the state extricating itself from the system became greater than of remaining embedded within it, shaped the social responses to systemic maintenance.

### Landscapes of Capitalism

Models by Wolf and Wallerstein suggest a global trade system was instrumental for incipient capitalist development. My model is wrapped around the idea that capitalism arises out of industrial colonialism and the synergism of support structures that evolved in response to socioeconomic development in these specialized peripheral sectors.

A major question framing this study asks: Do phases of development identifiable in the landscape indicate accelerated or countervailing resistance to changes, in spatial organization, in social norms or the relations of production in correspondence with historic events? To answer this we must first ask if phases of development could be identified. The simple answer is yes. But the answer is not simple. Development was at first lock step with production and certain pivotal historic events, but the process slowed. The rapid pace of change from Phase I to Phase II is evidenced by plantation spread and population demographics, but it appears the pace slowed due to saturation of space rather than from resistance. Expansion was most rapid in the period when profits were greatest in the earliest stages of the development of the Atlantic economy and slowed with the broadening of the world system. But current archaeological evidence is insufficient to rule out coincidence.

At least two economic innovations were critical in sustaining capitalism's inadvertent rise. First, innovative forms of credit were made available to allow start-up. Second,

governmental encouragement through controlled markets. The resonance between global trade and new credit stimulated wider prosperity for the plantocracy. Perhaps an important reality of the transition from feudalism to capitalism was that those with privileged positions in the upper levels of the social hierarchy remained there. In the frontier social asymmetry persisted as well. Elites remained elite, but rules for entry to upper levels were in flux.

As to which aspects of settlement or segments of society most reflect the integration of capitalism and adaptation to social change, the archaeological and landscape evidence at hand only reflects the attitudes of Europeans. Inadequate archaeological evidence is available from this study to address this intriguing issue among other social groups on Nevis prior to emancipation. The archaeological evidence points to reliance on externally generated consumerism and standards, internalization of culture-reinforcing behaviors associated with socially-defining material culture. However, the ever present colonoware on sites hints strongly at local adaptations and continuities in the face of change, possibly in all social sectors. Artifacts clearly indicate Nevis, although a peripheral economic zone, was not a backwater. Nevisians were not the "country cousins" of consumerism that Smart-Martin (1996) labels the frontier colonists of Virginia. The constancy of shipping insured that the Caribbean colonies were unlike other frontier regions suffering more social isolation. Material culture expressions at the core found their way into Nevisian communities with minimal lag time.

More work is necessary to adequately answer the question that individual lives were influenced by capitalism at the micro-level. Limited evidence from analysis of material culture to this point suggests greatest assimilation of capitalism among those already



benefiting most from extant systems of social attainment. Members of the plantocracy adopted capitalism as a *modus operandi* and assumed roles in the new social system that assured their status. Always in debt, many planters welcomed new modes of credit as long as their peculiar status in West Indian society could be maintained. As Ragatz (1963) quipped, plantation life had marked characteristics, one of which was, "...to view financial obligations lightly, lack of public spirit, and a striking measure of ostentation."<sup>3</sup>

One expression was architectural--grand houses and facades, fashionable gardens, or imported building materials--another through forms of semiotic social interaction communicated by objects and praxis. Specialized ceramics, non-utilitarian wares, and wares associated with social ritual, such as tea drinking, all indicate the assimilation of behaviors promulgated from the core state. Yet the presence of locally manufactured wares among assemblages also reflect a pragmatic concern for functionality. Evidence is incomplete on the affect over individual lives at all scales other than incorporation of consumer ideology among upper levels of society, and an acute wariness of being perceived as creoloized.

### Regional Trends

The case of Nevis informs on regional trends (non-Iberian) in the development of capitalism and inclusion of the Caribbean in a world-system in several interdependent ways. The very conception of the Caribbean as a distinct region emerges out of the old world as rivals of Spain made incursions for plunder. The Spanish Main and the

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<sup>3</sup> Much like the tendency for banks today to freely offer credit cards to the public then later complain of cardholders failing to make payments, or declaring bankruptcy, banks at the start of the nineteenth century according to Lobdell (1972), continued to offer novel credit arrangements to sugar planters even as the industry was collapsing. Planters used the money to maintain displays of success before investing or repaying other debts. And just as banks today seek a legislative answer to a problem they helped create, so too did banks appeal to Parliament. However, many members of Parliament were absentee planters with specific sympathies for the colonialists.

Caribbean became separated cartographically as it did culturally. Even the Latin Caribbean developed special character relative to the mainland as the Greater Antilles were bypassed by Imperial Spain to pursue objectives on the continent.

Colonies of the Lesser Antilles were a vital part of an interlocked system. World markets and developments on the other side of the planet influenced plantation success, ultimately affecting every colonist including slaves. Revolutions by the continental colonies (with whom many Caribbean colonies sympathized), revolution in France and in Saint Domingue (Haiti), all had repercussions of social and political scope. Disruption in production influenced developments in the mother countries and the loss of a single sugar island could have damaging effects on national economies.

The Caribbean periphery served both as economic zone and functioned as proxy site for warfare. Thus it is apparent the region has long been a surrogate political arena for the traditional powers of western and northern Europe. Far from being isolated, the Caribbean was incorporated into the tentative world economy at an early stage of development, and remained so into the twentieth century, albeit with less economic significance.

A second regional trend for which the evidence is compelling is that of environmental degradation. Sauer (1966) was among first to recognize environment as a key component of Caribbean settlement. Pulsipher's (1972) dissertation research on Montserrat, qualitatively combining landscape and ecology, foreshadowed environmental interest in the region and a trend in landscape studies. Evidence of ecological transfiguration from Nevis is staggering. As one of the smallest islands in the Lesser Antilles, its problems are

greatly magnified. But from this case we can recognize the pattern and the legacy of environmental neglect.

### New Knowledge

Study of the Nevisian landscape in the framework of capitalism has substantively increased our understanding of the trajectory of colonial development and the far reaching affects of environmental exploitation by exposing the degree and scope of change. Furthermore, new knowledge and insights have been produced in three distinct arenas: 1) factors imposing landscape change and long term affects 2) material culture transformation and complexity, and 3) aspects of the spatial character during the rise of capitalism. Furthermore, a mechanism has been suggested and investigated that may yet improve our comprehension of the incremental steps leading to the transition from feudal relations to capitalism.

This was the first systematic, broad scale, controlled sampling of historic landscape attempted on Nevis. Systematic sampling and landscape survey has revealed major environmental change and irreversible damage, which in turn degraded the original settlement enterprise. Yet those embedded in the system were apparently unable or unwilling to extricate themselves due to perceived short-term costs, both financial and social. This pattern can be found in many frontier arenas and in regions of capitalist peripheries in the modern era where capitalists and industrialists do not plan on remaining after profits are reaped. This study enables us to understand the historical context of environmental problems in the Caribbean from new perspectives. For example, as resource extraction after the model of a mining camp. Furthermore, many new sites and plantation structures were located, many not on modern maps and unsuspected on the

landscape. these will provide substantial data on industrial practices, spatial organization, and construction methods for future research.

In terms of material culture, Nevis was not an important entrepôt, but an outpost. We do not find the full range of goods in archaeological assemblages available in England or in the Dutch freeports, and we would not expect to, yet wide variety was nonetheless visible in the archaeological record for middle and late phases. New knowledge of the link between Caribbean consumer markets and the pottery industry has been forthcoming. Within each assemblage are the basic export wares distributed in the English Atlantic economy. Throughout the eighteenth century, potters produced an ever growing suite of ceramic types and specialized forms for table use and decorative purposes. Adoption of not only the latest style but the most recent forms by members of the affluent classes set new standards by which attainment and position could be identified within social groups. But the less affluent were incorporating new wares as well. As a result, potters, such as Josiah Wedgwood, to name only one of prominence, and others manufactured table wares for special purposes uncommon in the centuries prior to colonization. They were both meeting a demand and creating a desire. It bears repeating that the plantocracy was not engaging in status behavior to impress slaves whose station was clear, but to create nuanced distinctions among themselves, perhaps to replace the rank categories of feudal retentions that were eroding away as capitalism blurred old institutions.

New knowledge has also been produced concerning construction, of spatial organization, adaptive reuse of factory technology, and mill-complex histories. This project has documented how old mills were modified to incorporate technological change

and has produced a set of measured drawings that will form the basis for comparisons of site footprints over time.

### Future Research

There is, of course, a great deal more that can be done. Research on Nevis would benefit significantly from advanced geophysical surveys in the areas of settlement. This has been shown an effective means of mapping subsurface remains by Leech (2001) at Jamestown and Terrell (2000) at the Jewish cemetery outside Charlestown. Sophisticated GIS applications would further enhance landscape research by providing digital tools for analysis. New systematic aerial photography and infrared studies would certainly increase knowledge of settlement distribution.

More research is needed in the areas of capitalism's direct impact on the individual through advanced study of the role played by material culture in shaping cultural schemas. Cognitive studies and recognition of ideological constructs imbued in objects, as well as studies of architectural iconography forcefully suggest material culture under capitalism is, and has been, a powerful agent in social relations. But how this manifested at various levels of colonial society remains speculative. Who sets the agenda of change within material culture; the manufacturer; the social elite; or the underclass, continues to be a vexing question in Caribbean archaeology. Archaeological research into household artifacts among free laborers and slaves would significantly improve understanding of the penetration of consumer capitalism and attitudes toward social conformity functioning at different levels of society. Elites continue to garner all the attention because their residences are so visible and their records more accessible. Elites continue to disproportionately influence the history of Nevis and colonial settlements generally. The

survey carried out for this study found several sites of middling and lesser domestic settlement that offer significant potential for illuminating the lives of colonial society's non-elite, silent participants. Many of these sites are in archaeologically undisturbed contexts and would be rich data sources. Phase II likely had separate stages but at this point they cannot be distinguished. Future study may produce data which will help discriminate sub-phases in Phase III settlement linked to economic restructuring.

In a similar vein, more research is needed to develop a basic theory on colonoware--who actually produced it and for whom--and what functions did it serve. Was it strictly utilitarian? In what contexts was it used? Too many assumptions continue to underpin its interpretation. Dating the changes of mill construction and technological changes in refining would also be a productive area for study useful across the Caribbean. When and why boiling cauldrons change shape and materials has not been adequately explained. My work at Indian Castle on Nevis discovered coppers *in situ*, a rarity on Nevis (Meniketti 1998). An established chronology of industrial technology would have appreciably facilitated dating the associated structures rather than resorting to still debatable ceramic and pipe stem dating.

Maritime slaves traveled between the islands, North America, and often to Europe. Association between slave sailors and those who toiled ashore can be construed to have allowed communication between separated family members or groups. And with regular sailings such communication would not have been as haphazard as a casual glance would suggest. Research into this avenue of communication and parallel social development for the un-free<sup>4</sup> remains to be explored. Often what one sees depends on the lens one uses to

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<sup>4</sup> I have use the term un-free to distinguish between the slave and the free Black. Mariners who were slaves inhabited a peculiar social space and enjoyed semi-freedom of a scope yet to be fully defined.

view with. Interpreting extant documents with an understanding of maritime slave community may help explicate several questions about Caribbean slave material culture. Examining differences in households between field-hands and mariners might also reveal distinctions in social hierarchy with African communities not previously suspected.

Perplexing questions remain unanswered concerning pre and post emancipation, African villages, capitalism and slave society, and inter-island social networks. Although the separate British colonies shared a common heritage, they did not represent a national unity. Each acted autonomously as its own state when possible, enacting local laws, and competing vigorously. The approach to market development was quite different for French planters. British sugar was almost entirely for home use while French sugar made its way into re-export markets. A more comprehensive understanding of colonial relations between Nevis and neighboring St Kitts could shed light on several discontinuities in settlement strategies, particularly where environment plays a role. Comparative studies between two English islands would be just as informative as comparing English and French models of plantation development. Rivalries and environmental variations may well have played significant roles in settlement patterns. Questions remain concerning the generalizability of the Nevis case. Future archaeological research into Caribbean landscapes, whether aimed at contact period studies, explicating culture change, or the relations of states, will unavoidably be ecologically oriented as the historical trajectory of Caribbean settlement was inextricable from ecological change. Recently, researchers have begun to take up the ecological banner because the full effect of environmental problems is beginning to manifest itself. Ecotourism in the region has also sparked new awareness of problems and the potential for economic growth within the tourist business.

Dominica has recently created underwater preserves and hinterland trails. Nevis recently received UNESCO funds to complete a round island trail system. Other island legislatures hotly debate the merits of cruise ships and related environmental dilemmas. Archaeological research can contribute significantly by emphasizing the historic scope of the problem.

Only touched on by this study, inter-community and extra-community interactions deserves future attention. Such interactions have implications for landscape use. This alone could define a career. As more historical archaeology is conducted in the French islands, comparative studies may be come realized. As the two culture systems approached the Caribbean *colonialization process* from the perspective of two different worldviews concerning slavery, production, and commerce, one should expect differences in land use, spatial organization and landscape. There is at present practically no such work underway. Preliminary examination of sugar industry sites on Guadeloupe by Delpeuch (2001) and Kelly (2002) is promising and welcome.

#### Concluding Remarks

The Caribbean during the seventeenth and eighteenth century was developed as a peripheral economic zone to serve the interests of traditional European powers. The timing of Caribbean colonial development coincided with nascent economic globalization and geopolitical hegemony by Europe. National interests were served but the unanticipated result was the genesis of new institutions and socio-economic systems. Incremental feedback between colonizers and core states affected development status and infrastructure in economic and political sectors. Over time these systems became embedded in the social and industrial fabric of the colonizing nations.



Founded at a time in which feudalism was the dominant social system, the island societies gradually incorporated ideological constructs of capitalism, which affected social and labor relations. Capitalism gained strength even as the system of slavery served to retain elements of old feudal hierarchy, or perhaps, because slavery was a step toward working out the issues of labor that are hallmarks of mature capitalism. The nexus of nascent globalization, and proto-capitalist economics, allowed mercantile adventurism to combine with novel investment opportunities, creating a new model for settlement and colonization based on industrial entrepreneurial enterprise.

Nevisians today live in a changing landscape that still reflects plantation colonialism. One can hardly walk about without encountering relics of the past. Plantation structures and industrial artifacts are incorporated through adaptive reuse into residential properties. The last mill closed only in 1950—a mill in operation since 1815. The family that owned the operation continues to have stature on the island and has converted some works into luxury hotels. Colonial status itself only ended in 1987. The road system today, better paved perhaps, is the same as established in the seventeenth century and along with property lines, patterns mobility, access to resources, and social attitudes.

The natural environment is unnatural. Nevis was cleared, partitioned, enclosed, and modified to answer the requirements of industrial-age agriculture and shaped to the needs of an emerging capitalist society, at the same time restricting mobility of the enslaved majority. The environment with which Nevisians today contend is dramatically unproductive, its foliage foreign to the region. Dependent on imported fuel to operate generators, one wonders why Nevis doesn't capture the steady trade winds with modern energy producing wind mills. The advent of eco-tourism may yet affect the Nevisian

landscape in unexpected ways and subject citizens to the demands of the new global consumer capitalism of the twenty-first century. This may well be the fortune of all the former sugar islands unless the natural virtues of the former colonies can be turned to advantage. There is still much to be learned about the forces that shaped the modern Caribbean, and Nevis is one of the best places to conduct research.



Figure 7-6. Cane field laborers delivering harvested cane to storage sheds prior to milling. Stereoview from St Kitts 1910. A scene like this would have been very common on Nevis, both before and after emancipation. Hipped roof design has been maintained, but zinc or tin sheets have replaced shingle or tile roofs. The low aspect deflects strong wind and the lack of overhang prevents the wind from getting a purchase on the roof and tearing it away. The double shuttered doors are still a popular feature on West Indian homes.

## **APPENDIX 1**

Descriptions of Sites Arranged by Parish and Phase.

## Site Descriptions / Supplementary data

This appendix provides individual descriptions for a majority of documented or excavated sites located during surveys. Sites have been organized by Parish and Phase.

### **St John Parish** Phase I

SJ8KD5/22-1, SJ8MM5/22-1, In Bath plain, south from Charlestown. Artifact clusters associated with earthen mounds—mostly domestic materials. Surface scatters of seventeenth century ceramics and pipe stems. Bore diameters suggest late seventeenth century manufacture. Ceramic types include combed brown and yellow lead glazed-slip wares, colonoware, Rhenish stoneware, along with English delft. Also noted onion bottle bases and body sherds. A number of depressions were also found with stone piles suggesting house platforms with dug out cellars. The area is being developed with new housing. Sites were located in open fields between housing projects. Evidence from finds and documents make clear the areas has been continuously used for settlement since founding of Charlestown. Bath area still has landscape marked by broad terraces but much is obscured by housing. Components of the these scatters also indicate eighteenth century Phase II refuse.

SJ14BB6/30-1, Artifact scatters on the surface associated with stone piles and clusters of stone in roughly rectangular layouts. The suggestion is house platforms. Artifacts consisted mainly of domestic ceramics and pipe stems. Both seventeenth and eighteenth century material was represented in the surface scatter. The site is adjacent to a ghut and in the midst of dense agave and aloe on a wide flat terrace. The location is about 100 meters from a small sugar works.

### Phase II

SJ17MM7/1-1, Coastal well. Carefully maintained masonry well. There isn't a dwelling for miles along this shoreline or rocky seascape yet this well has been cared for with recent cement trough and topping. Interior is rough unfinished stone but the exterior made use of finished stone. We found no evidence on the surface of a cistern as we had at two other coastal wells. Remnants of the old coastal road are visible in the landscape as a broad flat road bed of cleared rock. An edge is discernible. The road is cut by ravines and disappears at the shoreline cliff pointing to massive coastline erosion.

SJ12KD5/16-1, Isolated freestanding masonry cistern. Plastered interior.

SJ10MM5/19-1, (formerly PW7-31/02-1) Based on surface scatters and rock clusters we believe this to be a village site belonging to Phase II and III, and certainly post emancipation. Adjacent to a steep ghut on a bald, flat top ridge in sight of Bush Hill mill-complex, the artifacts are distinctly domestic in character. Iron kettles, belt buckles, bottle glass, ceramics of mean manufacture dates ranging from seventeenth century to early twentieth.

The following two complexes described, SJ14 MM 5/16-2 "Lower St John" (LSJ) and SJ9KR5/22-1 "Long Point Road Complex," (LPR) have been grouped together for comparability. Located in quadrat SJQ9, the LPR complex was found by two crew walking at 25 meter intervals, its outlying associated features were found by three other crew. The complex is comprised of five immediately apparent industrial features: a boiling facility, associated foundations, a mound that proved to be an animal mill, an adjacent cistern and an enclosure fronting the boiling structure. An animal pen was also associated and was linked by a stacked stone enclosure wall surrounding the entire complex. All iron industrial artifacts were gone and the boiling facility had been demolished to gain access to the cauldrons. Fragments of cauldrons were picked up during surface collection. Initial impressions from artifact scatters, construction details and small scale all suggested an early date for the mill. This site bore striking resemblance to a modest complex found in quadrat SJ14, termed lower St John complex, also judged to be of early design and construction. By good fortune, SJ9KR5/22-1 was located just off the new Long Point Road, on government land, and therefore satisfied two important criteria for further testing.

Logistically, the site was accessible, and being on government land gave us authority by permit to work there. Politically it had additional value. A new government housing project was encroaching on the site and the nature of this threat justified thorough documentation. Its proximity to the road meant representatives of the government could visit the site to review our work (a condition of our permit). The other complex was in a better state of preservation, undoubtedly due to its remoteness, but its very isolation far from roads presented its own set of logistical problems. We elected to conduct excavations at the Long Point road site and to document for measured drawings the remote LSJ complex for comparison. This proved a wise decision as the two complement and inform on one another in design as well as construction.

An excavation unit was sunk at the base of Feature 1 (SJ9KR5/22-1) to determine construction details and to learn if any floor remained between it and Feature 2. A second unit was excavated at the southeast corner, in part to capture construction details but also in hope of locating a builder's trench. A third unit was eventually placed at a curious mound at the north side of Feature 1 which we believed to be a passage area between the two structures.

In addition to these test units, the entire enclosure was systematically tested by shovel test at random points on a grid. Surface collection of artifacts was also carried out within the enclosure. The space defined by the surrounding stone wall was divided into 10 x10 foot quads. A random selection of quads representing a 10% sample was systematically surface collected. 100% of artifacts in the quads were collected. The objective of this artifact sampling was to provide material that could characterize use of the site as well as give a framework for relative dating. It is worth noting here that artifacts were of a typical domestic character in contrast to the more obvious industrial nature of the architecture. Furthermore, while the site exhibits characteristic late seventeenth and early eighteenth century industrial components, the artifacts constitute a late eighteenth and early nineteenth century assemblage. Based on this evidence, we widened our survey and located two adjacent areas of possible domestic occupation indicated by stone house

platforms. Shovel testing revealed deep charcoal deposits. An aged mango tree next to one of the platforms and the traces of an abandoned road further suggested the site had a long and varied history.

Unit 1 exposed the plastered wall of feature 1 and its underlying cobble stone bed. Flooring had been removed, perhaps at the same time the cauldrons had been torn free of the masonry. Unit 2 did not reveal a builder's trench as hoped, but did expose massive dressed foundation stones set in mortar at a meter's depth. We were unable and unwilling to break through this layer. From the substantial footing revealed by the unit excavation and the quality of construction we can infer that Feature 3 was multi-storied and built by master masons, or at least the construction was managed by a master. Artifacts from the unit were few but informative, hinting at a late seventeenth century construction. Unit three was not continued after it was found to consist of stone debris from the purposely destroyed wall of Feature 1.

The first variation we noticed between LPR complex and others was that it was aligned on an axis of north-south. The animal mill had been artificially raised above the rather level terrain to create a gravity feed to the collection vats that would have been housed in the structure built twenty feet south. The mill platform was more rubble pile than structural, however we found a section of dressed stone that formed an arc at its base enabling us to extrapolate its dimensions. The mill is among the smaller platforms we recorded. We currently believe the entire area of the works was artificially raised above the surrounding fields. The boiling train measured 17 feet by 4 feet.

Systematic surface collection and shovel testing were carried out before any test excavations were undertaken. These were extended into adjacent areas exhibiting evidence of domestic occupation. Only a 10 % random sample was executed. Sheer volume of artifacts across the site was a factor in collection of only a representative sample. In addition, artifact distribution was of principal interest, not simply accessing the character of artifacts in proximity to the structures. Unlike the ridge complex, no house structure was located within the confines of the complex, even though the artifact assemblage was similar in terms of domestic consumer goods, vessel type, and diversity.

The sugar complex stands in a broad plain that is tilted slightly downslope toward the sea. Deep Sulfur Ghut runs to the sea not far to the north. Like the ridge complex, this site also is enclosed by a wall of stacked stones but it is not possible to state the two constructions are contemporary. Unlike other complexes we encountered, the long Point Road site has a associated stacked stone animal pen for holding livestock. The pen is adjacent to the mill platform. A cistern is also adjacent to the platform on its east side.

Foundations were cleared for documenting. A broad threshold was centered on the east wall with the doorframe cut into massive cut stones, with average measurements of 24 inches. Evidence for stone flooring remained despite clear signs of robbing. Feature 2, the curing house, displayed a marked depression where its interior space had been gutted, perhaps to gain access to vats and other industrial material. Likewise, the boiling structure (Feature 1) had been destroyed on its western side to remove the cauldrons. This left the east side intact up to its mortared and dressed top course. I refer to Feature 1 as a boiling structure rather than a boiling house because it is raised above floor level and



Figure Ap1-1. Unit 2 at SW corner of curing facility. Note foundation support blocks separated by layer of mortar from stones above. Artifacts were found in this unit at 90 cm depth of late seventeenth century manufacture.

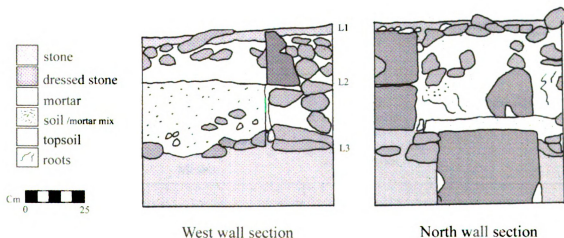


Figure Ap1-2. Wall profiles for Unit 2. Long Point Road site. Note the size of base stones. These were set into a mortar and cobble platform for stability.

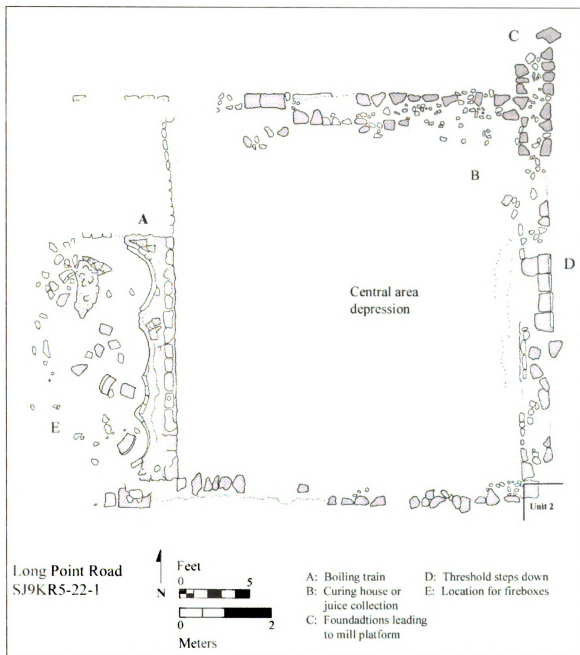


Figure Ap1-3. SJ9KR5/22-1 Foundation of curing facility and adjacent (attached) boiling table. The train had been badly damaged by looters who removed the coppers from the west side. Excavation unit 2 is indicated.

does not indicate it was enclosed by more than a wooden roof, very like that shown in sketches by Labat in 1724. In contrast, LSJ complex had a masonry wall on its western side that gave the boiling house a second clear story and would have supported a hipped roof over the narrow train. Feature 5 of LPR complex fronting the boiling structure was of indeterminate function. Stacked stone walls lacked any mortar or evidence of similar construction and may have been for storage or be from a later period of use on the site.



Feature 4 was a plaster lined cistern adjacent to the animal pen (Feature 6). Four coppers were once supported by the train. Iron cauldron fragments were found during surface collection, possibly broken off during salvage. Destruction of the train made it difficult to determine its technological phase but we had some evidence that it had been a Spanish train. Unlike the very similar sugar complex at SJ14MM5/16-1, we found no trace of modification, but this may be misleading due to the nature of destruction. The associated cauldron fragments included a prop for a straight sided cauldron. There is some pictorial evidence that this is a seventeenth century style hat later gave way to curved and rounded forms. Unfortunately, no study of cauldron forms or chronologies has ever been published that would confirm this.

Masonry features and finishes hint at an earlier building date. Further, it is clear from foundations revealed by Unit 2, that the building was designed to support a heavy load and likely supported a second story with hipped roof reaching out to cover the boiling train. The site was not precisely aligned to cardinal points, but being on relatively flat land, the builders would not have been constrained by topographic features prevalent at other sites we examined. The complex was small. By the standards of the eighteenth century the complex would have been inefficient. The site falls within the area hypothesized as among the first zones on the island to have been developed. Without further evidence, we can only speculate that the lack of modification and upgrade of the complex suggests a middling operation that failed as the land itself ceased to be productive in the area.

SJ14MM5/16-2 the Lower St. John site. This structure was by far one of the more intriguing, in part due to preservation and partly owing to its proximity to the Grandee ghut. In retrospect, Grandee Ghut site would have been a better name. One gets the false impression in the modern landscape of acacia trees that block views in all directions, that this site was extremely remote. But in fact it would have been in clear view of other coastal complexes when the surrounding fields were in cane. Remnants of the former coast road are not far to the west and would have afforded easy transportation to Charlestown. Although I suspect this complex was I use during Phase I, the evidence supports a Phase II operation with more certainty and so I have grouped it accordingly. We found no Phase I associated artifacts.

The complex has a strikingly similar layout and spatial organization as the Long Point Road site, with an important distinction. The boiling house was more substantially intact and was enclosed with a stone wall and hipped roof. The complex had been robbed of its cauldrons but care had been taken in the process, leaving a remarkably intact boiling table. The boiling facility had undergone modification during its use-life, and was converted from a Spanish Train to Jamaica Train. Its fire boxes were completely sealed off with stone. The train measured 24 ½ feet by just under 5 feet. Like the Long Point site, it once housed four cauldrons of diminishing size, but with the boiling table in such good condition it was possible to measure diameters from the cavities left behind. The coppers had been salvaged by breaking only one side of the masonry supporting the first copper.

The animal mill platform was little more than a raised earthen mound and raises several questions. No channel or masonry was found to indicate a means of gravity feeding juice to the works. Elevations were surprisingly shallow at less than two feet

(assuming we were measuring from the highest point on the platform). Whatever mound had been present was now nearly flattened. A wide area search found dense artifact scatters of eighteenth century domestic ceramics, bottle glass, and colonoware among stone piles about 300 yards away on the edge of the Ghut. Nearly impassable stands of aloe and several tamarind trees bordered the vicinity. Both the long Point and Remote mill-complexes were small operations compared. The compact spatial arrangement, however, was a characteristic of later sugar works as well, where efficiency of moving product through the system was carefully designed. The nearest road to the Remote site was the now eroded coastal round road to the west.

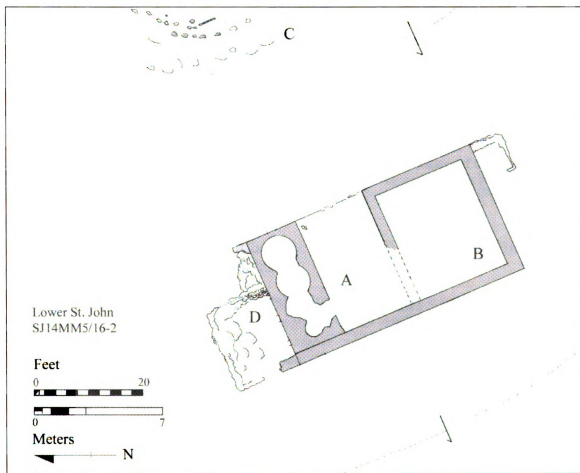


Figure Ap1-4. Lower St John mill site plan. SJ14MM5/16-2. The mill has striking similarity to the Long point road site. However, this boiling table was enclosed by a masonry structure. A: Boiling house. B: Curing facility. C: Mill platform. D: Fireboxes and building addition enclosing fireboxes.

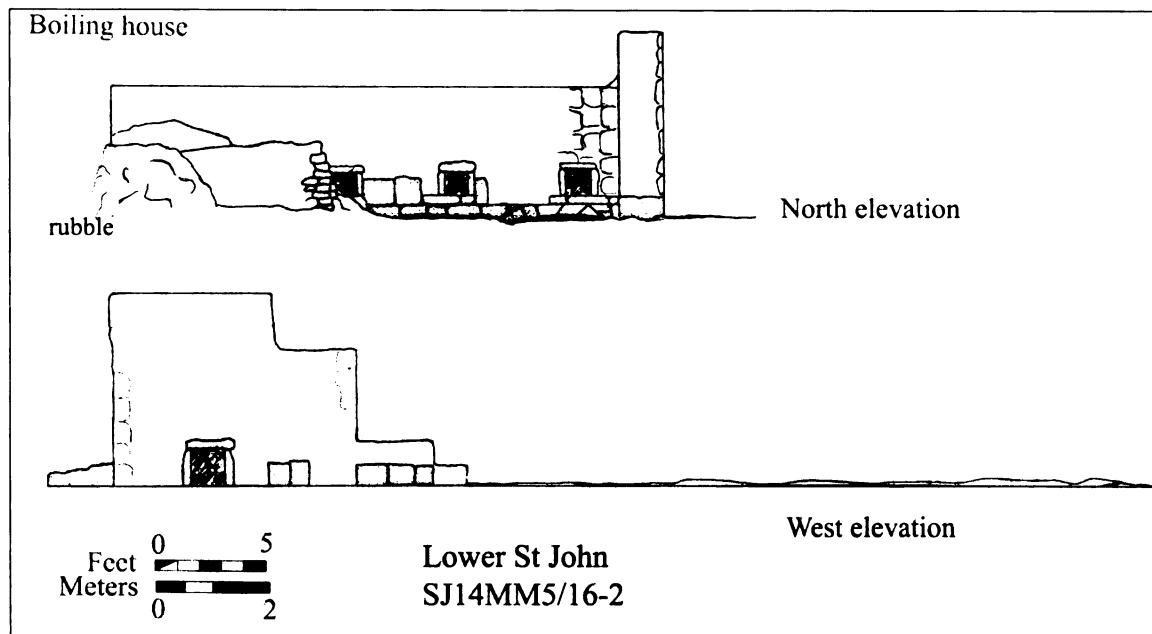


Figure Ap1-5. North and west elevations of boiling house, and adjacent foundations of Lower St. John site. Nearly all of the dressed stone has been removed. The structure most likely supported a hipped roof covered in tile. The boiling house could get very hot with fires below and sugar juice boiling.

SJ12MM5/16-2, SJ12KD5/16-1(formerly 7- 30-3 2002), and SJ12MM5/16-1, Ridge house and associated Ridge mill-complex.

SJ12KD5/16-1, The "Ridge house." This residential structure found during 50 meter interval test survey along a ridge during the pilot study in 2002, but was not systematically documented at that time, was relocated during quadrat SJ12 survey. Its proximity to a sugar mill-complex and modest scale suggested an agent's residence or home to one of the lesser planters.

The "ridge house" as we termed it, had a single threshold on the north side with remnants of slate flooring. Walls were two feet thick and foundation stones were particularly massive. Condition suggested robbing of flooring and dressed stone from the walls. The north side opened onto a leveled area demarcated by a stacked stone wall. Shovel testing indicated this area had been artificially leveled and packed to produce a court or garden. Traditional structures on Nevis generally have a stone ground floor which serves as both foundation for a second floor and as storage cellar, with entry on the second floor which is usually constructed of wood. It was surprising then to find a ground level entry. Elevations, however, offer an explanation. This multistoried structure likely had a second story entry facing south and the ground level threshold opened on to the "garden" at the back. The house was perched on the very edge of the ridge and the view from the leveled area was unobstructed toward Montpelier and Bush Hill estates, with excellent views of St Kitts and St Eustatius. An eighteenth century structure in Charlestown, currently occupied, also has stone first floor with ground level entry, stepping down, just as this one exhibits and might serve as model. But we were unable to examine the interior floor plan (except when the occupants left their door open, which is

directly on to the main street. Downslope from the house was an outbuilding in a poor state of preservation and was likely the kitchen. The kitchen structure had not been found in 2002 despite being within 20 feet because of thick brush. It came to our attention during a 10 meter interval survey. Immediately west and south of the structure the slopes are terraced at close spacing averaging 12 feet across. Artifact scatters on the terraces were characterized by eighteenth century domestic wares as well as pipe stems and bowl fragments. These were noted but not collected. Our interest in the "ridge house" was amplified by its unique location and proximity to an unidentified sugar mill-complex about 300 yards away, found the previous year. A stacked stone wall encompassed the ridge house and the mill-complex. The only map showing a mill in the area is the rather distorted Iles 1871 chart. Based on relative positioning, our best surmise is this was the Prenlis Estate. However, the usually reliable parish by parish list of estates and plantations Governor Iles added as an appendix in his book, does not mention or describe Prenlis or give names of owners.

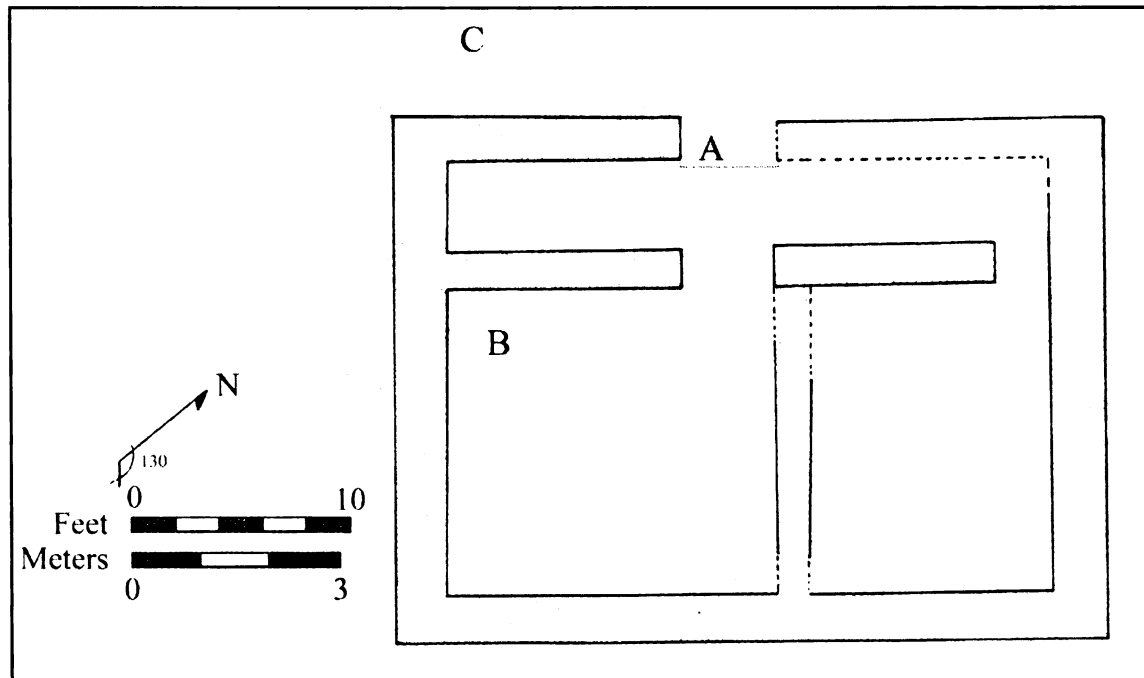


Figure Ap1-6. SJ4KD5/16-1. Ridge house foundation plan. A: threshold, step down, slate flooring. B: room with stone flooring, step down through second threshold. No evidence of steps remain at entry to B.

The masonry house foundation was in proximate association with the ridge mill-complex and possibly was the house of an overseer or planters agent. A single threshold stepped down onto the main entry. Remnants of slate flooring were still embedded in the threshold step. The narrow entry corridor probably enclosed a stairway to the second floor in the manner exhibited by a few eighteenth century structures in Charlestown. Walls were from 18 inches to 24 inches in thickness. The robust walls would have served

to support a second story and keep the first floor interior cool. The foundation itself is supported by rough cut blocks ranging from 18 x 9 x 6 inches to 24 x 9 x 9 inches. Rubble fill and white mortar constitute the wall core.

The structure faced southward and would have been able to take advantage of cooling breezes and unobstructed view of the terraced fields below it and clear view of other plantation works as well. A stack stone wall bordered the structure to the north and retaining walls artificially leveled the space behind the house, which otherwise stood on a sloping ridge. There is ample evidence the exterior walls had been thickly plastered. Although we did not excavate the center of the structure, a circular depression hints at a cellar. A detached kitchen building stood down slope (SJ12SS6/6-1). Keeping the cooking separate from the main house was not uncommon and helps reduce heat in the dwelling. The masonry structure measured 14'9" by 22' with chimney rubble at its south wall. Wall thickness averaged 24 inches.

Association of the house with the mill-complex SJ4MM5/16-1 was more evident during the 2003 season because drought conditions had eliminated much of the overgrowth and the two facilities could be viewed simultaneously. Based on the 1871 Iles map, I tentatively identify the site as the Prenlis Estate, but more documentation is necessary to confirm this, because we located other candidates. The 1871 map shows only one estate in the area whereas we located four mill-complexes within a tight radius.

Two complications surround work at the ridge house site. First was access. The second issue was vegetation density, which affected mapping. The site could only be reached by hiking in from a road currently embroiled in litigation. Apparently, someone has purchased egress and is blocking its use. The Physical and Environmental Planning Office and the NHCS both strongly urged that we not use the road due to litigation between the apparent owner and the courts.<sup>1</sup> The site had been located during transects that crossed the slope from below the ridge, not from the road. We used tortured routes up-slope to reach the site for work. The project team was first assigned documentation of the mill-complex.

This complex is situated on the side of a bluff just below Saddle Hill with an expansive view of terraced slopes. The structure had been found almost by chance. So overgrown was it that only a fraction of an exposed portion of wall was glimpsed during survey. It was not possible to comprehend its extent even when the crew was on the site owing to the tangled vines and overgrown vegetation. We were not the first to find the structure as the abundant vodka bottles testify. Shepherds use the structure and goats were often in attendance. The arrangement of the complex was unique. It has one of the largest animal mill platforms we documented. The platform is built above the boiling facility to allow a gravity feed of sugar juice to collection vats, with an adjacent boiling house. In this it is similar to nearly all works. Elevations reveal the structure was built to take advantage of the natural topography.

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<sup>1</sup> The road in question is clearly shown on maps dating to the early eighteenth century, and has always been believed to be government property. Every Nevisian uses the road and it is the only access to a major tourist attraction. A recent land purchase, however, seems to have included the road and easement, and the "owner" is claiming sole jurisdiction. He has blockaded the road on occasion. The courts have ordered the blockades removed until right of way is untangled. Meanwhile, the owner has successfully sued groups, such as the NHCS, for trespassing. We were obliged to circumvent the road issue by cutting a path through jungle overgrowth beneath the site. In doing so we discovered yet another abandoned village.

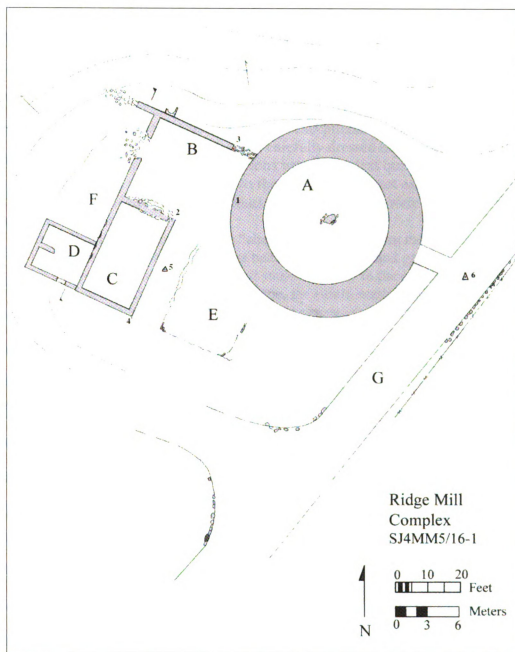


Figure Ap1-7. SJ4MM5/16-1 Ridge mill-complex. A: animal mill, B: curing facility, C: boiling house, D room addition, E leveled platform with remnant foundations, F: firebox wall, G: cobble road. Points 1-6: datum. Section drawings through D-F. The north wall of room D completely blocks a firebox. Room D was set against, not integrated with, existing walls. Stacked stone was used to form an enclosure at datum 3. In its most recent use structure B may have served as an animal pen.

Although the location would have seemed ideal for a windmill there was no trace of such a structure. A road sided the complex, which continued southward downslope toward the coast. We did not find the boiling caldrons ("coppers") in situ, nor any milling

equipment, but the complex was not as badly robbed of stone as less hidden mills generally are, despite its western wall had been torn down to access the iron works. Based on its dimensions, the boiling room would have housed four "coppers." A second, rafted story, supporting a hipped roof is likely. Plastered flooring with a pronounced convex or canted interior relief was still evident.<sup>2</sup> The complex had undergone several episodes of modification. Most curious was the addition of a room to the exterior, which completely blocked one of the ovens. The stonework of the room addition butted against the existing exterior west wall. Construction was exceptionally fine in all other regards with finely crafted window and door frames, carefully dressed facing stones, and precise masonry at corners. However, other alterations were of far less quality or even crude. Upper courses of stone work, especially on the north side, did not exhibit the same craftsmanship as foundation and lower courses, and some walls were little better than stacks of robbed stone.

Significantly, all upper courses were "cheated" by use of extra mortar and filler stones than the close fitting masonry that typifies better construction and greater cost. In part, this was an answer to the lack of quality cut stone available to the masons making these additions. Lacking uniformity of size and shape, the stones were stacked into excess mortar or gaps were filled with irregularly shaped stones as wedges. A clean out vault added to the north side had been butted against the wall with mortar and was not integral to the wall. One hundred feet south of the complex we located a wrought iron shaft for a vertical crusher roller protruding from the ground. It was left in situ. The structures were not simply dropped onto the landscape sans planning. Each had been carefully integrated into the contours to take advantage of what this afforded.

Once mapping was complete, the area between the complex and the ridge house was surveyed at ten meter intervals to assess boundary zones associating the two structures. Stone walls were found to demarcate the area inclusive of the mill and house structure and to separate it from adjacent areas that also hosted additional ridge structures. The walls indicated an enclosure over 200 meters in length. A 100% surface collection was executed within the enclosure, which encompassed the house structure and lower reaches of the complex (see Appendix 3). Intervals were at three meters or less on the first sweep and one meter on the second. In the process, a second structure, believed to be the kitchen building for the ridge house, was discovered. A team was assigned to document the structure and another to conduct shovel testing of the foundations. A third team returned to the mill-complex to acquire elevations and survey old roads found adjoining the mill. Full profiles were recorded because the structures clearly had been modified and rebuilt for different purposes during its functioning lifetime.

The boiling house of the Ridge mill-complex was situated down-slope from the adjacent animal mill, allowing cane juice to be gravity fed into collection tanks before boiling. A cobble road abutted the mill platform on its east side at nearly the same level. The platform rose just above the road, which was accessed by a ramp. On the west side the platform stood nearly six feet above the floors of adjacent structures (see photograph and elevation drawings).

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<sup>2</sup> In truth, I can not say whether or not the cauldrons were in situ. The flooring construction was similar, although the room smaller, than found at the Indian Castle Estate complex in St George Parish. There "coppers" were discovered in an undisturbed plaster floor (Meniketti 1998).

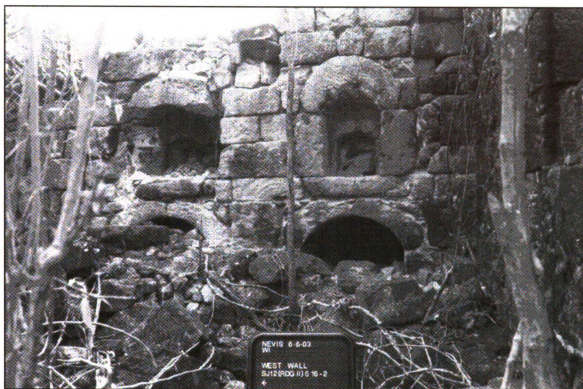


Figure Ap1-8. Ridge mill-complex. West wall showing fireboxes.



Figure Ap1-9. The mill platform at the Ridge mill complex. Fine masonry contrasts with rubble stack walls of later addition to boiling house.



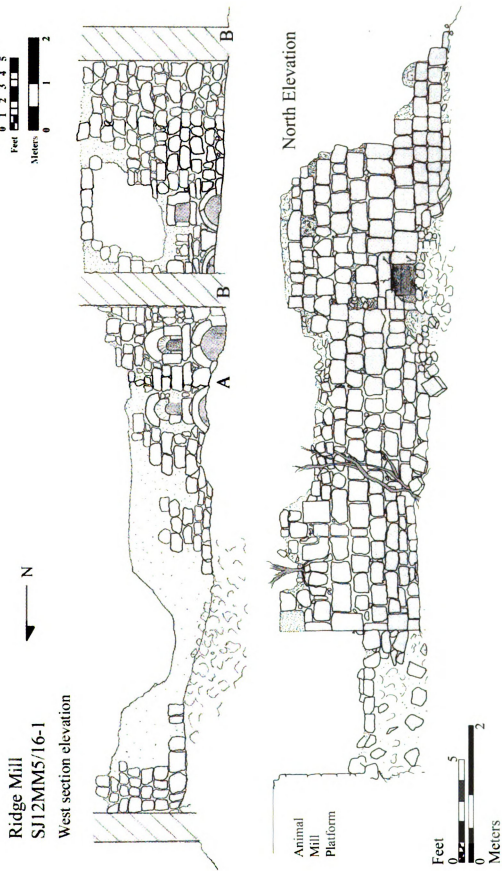


Figure Apl-10 and 11. Ridge mill complex, north wall. The space between the mill platform and the curing facility once was spanned by a gate or door. Iron hinge pin are extant in the stonework of the building. Stacked stone barrier in the space currently is relatively recent.

SJ15MM5/21-1, Located adjacent to Brown Hill village. A complete crusher with gear and center spindle was found on the edge of the animal mill platform. These industrial components are more often found separately if ever. All other industrial artifacts had been salvaged. The boiling train had been torn asunder to access the coppers. There is architectural evidence near the cistern suggesting the site was also engaged for distilling, but no artifacts of the distilling operation were recorded.

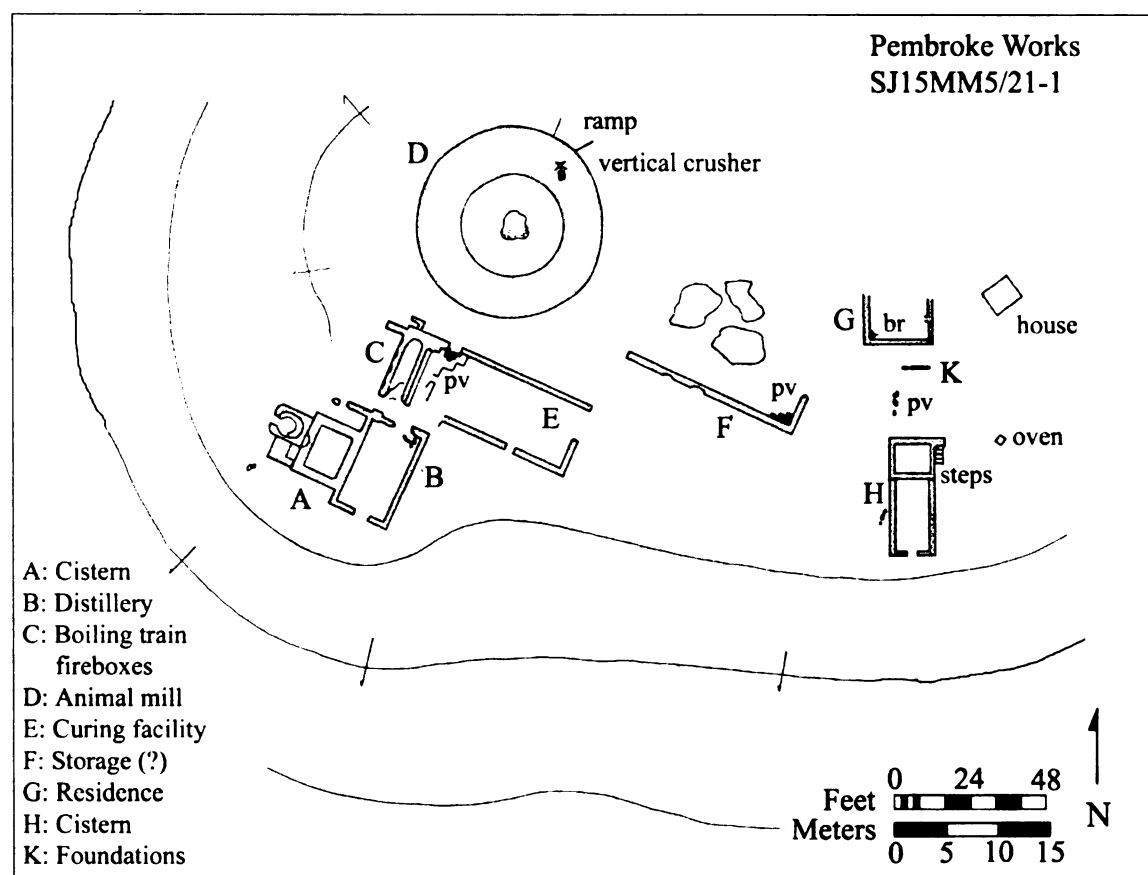


Figure Ap1-12. Pembroke mill-complex. The animal mill is irregularly shaped. The structure was built on a bluff overlooking terraced fields. The north side of the mound supporting the mill may be artificial. Feature F is built over flat bedrock which appears to have been incorporated in the design as a floor surface. Rectangular paving stone is indicated by letters pv, and brick flooring is indicated by letters br. The crusher shown in Figure 5-16 is depicted here on the animal mill where it was found.

Tentative identification as the Pembroke estate complex is based on review of the Burke Iles map of 1871, and on the 1984 OSM. Pembroke fell within quadrat SJ15. Situated on a bluff to the west of Brown Hill Village, Pembroke exhibited a layout and a few features not found at other mill works, but shared the spatial orientation found at other industrial sites of attempting to fit the various functions of the complex into the extant topographic contours. Alignment did not coincide with cardinal compass points. The layout took advantage of stone slab outcrops for flooring in a staging area, and high ground for placement of the animal mill. The juice retention vats and boiling house were on lower ground, which may have been excavated further, to allow a gravity feed of

crushed cane juice to the vats. Nearly all iron boiling and mill equipment had been robbed out, leaving gapping holes in the structure. Only a single iron, vertical crusher and spindle remained in situ (and I use *in situ* in the most generous sense). One curious feature of Pembroke is its cistern, which exhibits unique architectural elements. The trough feature has not been found elsewhere on the island but likely was used for a distilling operation.

The view from Pembroke is outstanding with unobstructed surveillance of terraced fields on three sides, and clear sight of several other mill complexes. The character of the land in this part of St John is such that it would be impossible not to have sight of other estates and to suggest intentional spatial arrangements for that purpose would be weakly supported as the spatial pattern could have arisen by chance. The mill platform was artificially raised above surrounding works but was nonetheless built on the highest ground, perhaps reducing the need to build it very high. Measurements of the mill taken at several diameter suggest it was not symmetrically and round which gives it a slight distortion in plan view. Additional structures on the site are aligned along a north/south axis and with associated construction details suggest a later phase of construction.

SJMM8/2-9[02] This mill complex was not located in any of our survey quads, but was visible below project headquarters at Donderhill, Cole Hill. The property owner kindly allowed me a brief inspection. The complex is on property at the corner of roads leading between Montpelier and village Cox. It consisted of a raised animal mill (five feet high) and adjacent boiling house with three fire boxes. (there may have been four based on spacing but one was obscured by a tree growing out of the structure. The mill was at least 30 feet across. The boiling house measured approximately 27 feet by 42 feet and is aligned on cardinal points north-south. Interestingly, the boiling house is sunk into the ground below the mill, which gives the mill greater relative height. Two other very small masonry structures stood nearby. No sign of any curing facility. This structure is not shown on the OSM map. Iron industrial components were present at the mill.

PW7-30/02-4, A small masonry structures with two ovens or fire boxes. Interior measurements 20'6" by 12'6". The building was a curiosity because it was not associated with a mill or any other building. It is tucked into the hillside along a cobble road just outside Cox Village leading to saddle Hill. The hillside is extensively terraced.

SJ2MM5/13-1, Stacked stone animal pen built against large boulders. Found during deep forest transect. The only hint of age comes from two pipe stems. In all likelihood this pen served for its function into the twentieth century. It is heavily overgrown and shows no sign of recent access. The land around is densely forested but also extensively terraced. Terracing is apparent in landform and the occasional stone retaining wall. Large Kapok tree growing up within the enclosure. The stacked stone wall is 3 feet wide and four feet high. Boulders on uphill side at least 15 feet high.

SJ1DR5/13-1, This cluster of artifacts represents the highest site identified by our survey in Zone A. A new luxury home had cut a driveway up the slope and seventeenth and eighteenth century ceramics and pipe stems were exposed. No structures were in association. We surveyed upward steeply between two luxury properties across terraced slopes. The nearest sugar works was Zetlands at 1100 feet zone B.

Fort Charles. The fort served Nevis from early in Phase II through early Phase III. The fort was examined principally for construction details. We did not fully document the compound and its history is published elsewhere. However, the fort has never been archaeologically tested. The large filled in cistern and other structures await proper documentation. We scraped off a layer of soil at its western wall and found that wide paving stones are in situ. A pipe stem found embedded in the mortar of a collapsed wall section had a bore diameter of 7/64 inch; about right for a late seventeenth century date. The fort deserves future study as it is being undermined by wave action and the south wall has collapsed into the sea. Two sets of cannon are on the site but many were brought there from a different fortification.

Pilot Quad 3, which connected SJQ18 and SJQ19, intersected two mill-complexes. Both were in operation from Phase II into Phase III judging from construction details and artifacts. Both are shown on the Iles 1871 map. These were easily identified as Coxheath and Dogwood estates. These have not been fully documented. Both had animal and windmills. Dogwood is listed by Iles as having operated with a steam engine but we found no clear evidence. Both are large factory scale facilities and had residential components. Dogwood has several cisterns, one measured 41 feet in diameter. At Coxheath the residence was substantial enough to refer to as great house. It had vaulted cellars, expansive staircase, and multiple rooms. The structure overlooked the boiling house and mill. The animal mill measured 52 feet in diameter. The vaulted windmill tower was smaller.

SJ14KD5/19-2, Small unidentified boiling train. No coppers in situ. No associated buildings. No artifacts associated on surface. Although possibly from Phase I, we lack evidence to place it in such a narrow time frame.

### Phase III

PW8-1/02-1, Small house foundation along old cobble road joining Coxheath and village Cox. Built mainly of robbed stone with a cement addition. Walls 20 inches thick and 74 inches tall. Small cistern close by. Artifacts late nineteenth century through modern era, mostly ceramics (blue transfer-wares, hand painted polychromes and thick black bottle glass.

SJ14HCLP5/19-1, The (Douglas)-Richmond-Lodge mill works has both an industrial and residential component. The works are located at the end of the road leading out from Brown Village, and is situated adjacent to an old road (now footpath) leading to the Bush Hill Estate. Douglas-Richmond lodge and Pembroke are 250 meters apart and visible one from the other. The present ruins contain a steam engine manufactured by the Fletchers company, Derby, England, about 1873. There are two clarifiers present. The stately, multi-storied, stone masonry residence with sweeping front staircase sits on a hill above the mill works and enjoyed expansive vistas from its west facing front porch. However, this view would have been completely obscured from smoke during periods of mill operation. A separate cistern stands adjacent and may have been for household use. No evidence of animal or wind mill was found and the design layout suggests a nineteenth century construction and operation. However, nearby windmills at Douglas estate may

have been used. The linear alignment of the complex on a road corner and its axis are consistent with nineteenth century industrial practices.

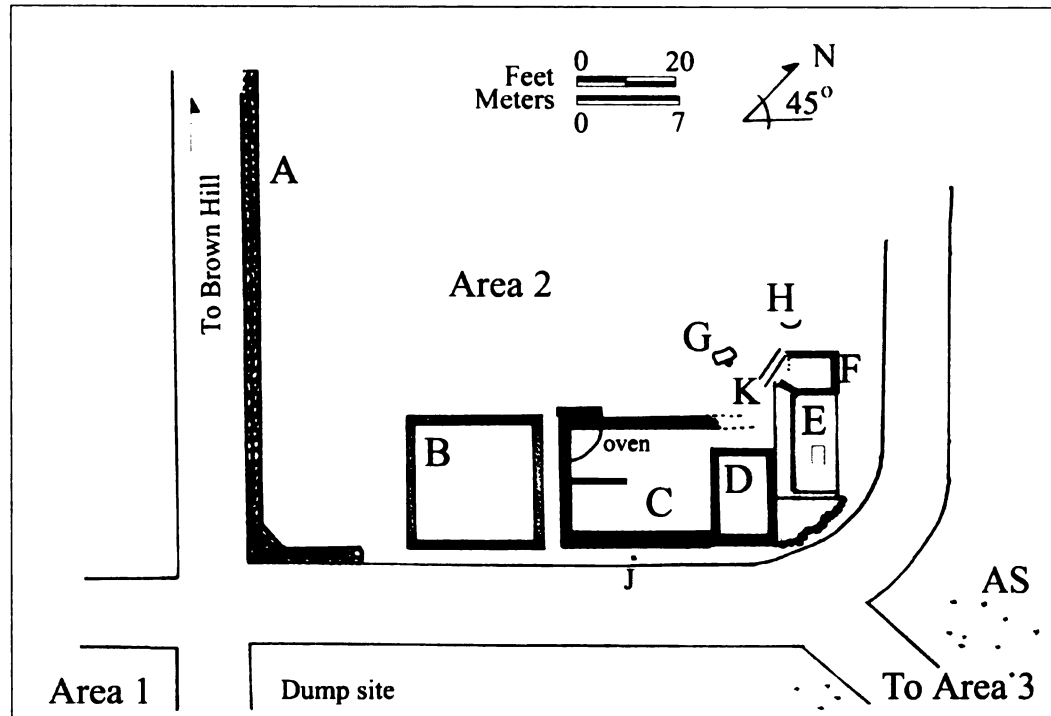


Figure Ap1-13. Richmond Lodge industrial section, Area 2. A: stone boundary wall, B: storage building, C: refining/boiling house, D: clarifying room, E: engine house (steam engine in situ), F: possible fuel storage, G: boiler, H: iron cauldron, J: clarifying vat, K: channel. AS: domestic artifact scatters. GPS coordinates taken. The road to Area 3 rises upslope to a great house elevated above the industrial sector.

The Richmond Lodge complex is well known and on named on modern maps but undocumented. The mill-complex displays highly significant features relevant to the discussion of social and technological transition. Two and possibly three construction phases are evident at the site marked by differences from other mills in construction techniques, particularly the use of imported brick, other exotic materials, and spatial orientation. Structures are evenly spaced and set to a grid of forty-five degrees of north. The rigidly aligned structures housed a steam mill, and the usual compliment of buildings. But all were level with one another. Sugar juice was sluiced down a channel to vats engineered to provide shallow gravity feed. The underground component of the engine house was not investigated. The area was partitioned into three areas. Area 1 consisted of large cisterns and storage facilities overlooking gently sloped fields. Area 2 was the industrial center. Area 3 was situated above the mill-complex on a bluff less than 100 feet east of the mill. A multistoried stone great house stood on the slope with a panoramic view over the mill buildings in Area 3. A great cistern, measuring 18' by 16' is built adjacent to the house. stood adjacent to the house and probably served household needs. The house is of mid-nineteenth century architectural style with a sweeping front staircase and archway. Front porches and stone rear patio are overgrown but intact. Three

grand rooms are raised above surrounding terrain creating a lower "basement space." An additional level is suggested by wall thickness and center pillars. The next floor level may have been wood as we found insufficient debris to hint at a masonry upper level. The overall area for the house and associated structures measured 145' by 64'.

SJ7MM 8/2-2, west (previously SJ8-2-2-02) This small house structure was located during single area transects in 2002 and is typical of many house platforms found in the bush or on borders of plantation estates. I include it here as a representative of more than a dozen of this type recorded. The structure was on the edge of a precipitous slope overlooking Brown Hill village, west from Montpelier. Stones were clustered in a roughly rectangular arrangement 15 feet by 10 feet. Two foot paths joined to form one at a cut away boulder and large ginnip tree adjacent to the structure. A tamarind tree was also noted. Common blue transfer printed wares, nineteenth century floral painted and feather-edged whitewares (mostly plate and saucer forms), yellow-slip stoneware, brick fragments, clay pipe bowl fragments and additional domestic artifacts are suggestive of an early to late nineteenth century household. Built on marginal land, without terracing, with stone piles as props for the house, this site reflects both the conditions for poorer Nevisians, but also hints at the range of consumer goods being used. Humble dwelling perhaps, but attractive day-wares for the table.

#### Villages

All three villages investigated by the project have been placed in Phase III. They are shown on a post emancipation era map but are not evident in earlier documents. We have not excavated or sampled artifacts. Although a pre -emancipation occupation is possible, I can not support such a dating at this time. Morgan's is located in St. John. The other two are in St. Thomas and St. Paul parishes, but are grouped together here for ease of comparison.

Morgan's village was more extensively surveyed than Vaughan's and provides a greater sample. We surveyed at ten meter intervals owing to the density of brush and tree cover. Here the terrain was steep, dropping as much as twenty feet over 100 feet, and to accommodate the slope the village was extensively terraced. Although terracing was mostly evident in leveled earth, extant stone retaining walls were intersected several times, usually with elevation changes of six feet. Along the ghut that demarcated the northern extreme of our sample, house platforms were sided by small furrowed patches of land demonstrating at least minimal household agriculture. A public road bisected the village. House platforms were tightly clustered. In a space equivalent to that sampled at Vaughan's, we recorded in excess of 30 stone pile house platforms. Few exhibited the same uniform shape as found at Vaughan's, however, and groupings were less distinct. If indeed all the platforms were for single families, and using the same assumption of household as employed for Vaughan's, we arrive at 120 persons in the sample area. This intuitively seems excessive and suggests the basic assumption of household is likely incorrect. But as a comparison, and accepting that the two samples are comparable, Morgans village was significantly more densely occupied than was Vaughan's.



Figure Ap1-14. Morgan's village. Downslope from dirt and cobble road bordering Morgan's mill and works. T: terraces, M: mill, F: furrows, Fd: foundations, As: artifact scatter, h: cane hoe. Terrace heights varied from three to six feet. House platforms consisted of stone piles in circular or roughly rectangular arrangements. This section is adjacent to a ghut on its NW side (right side of plan) and begins where the public road crosses a stone bridge (B).

Vaughan's (ST20alt) was investigated to increase data about village spatial organization. The village was located east and south from the townhouse described below. Here we found that a historic road bordered the village and narrow avenues meandered between the stone platforms. Platforms were of two average sizes but the majority measured less than ten feet to a side, and under three feet in height. Although not located in the immediate vicinity of where we recorded house platforms, a cistern was found that probably served the community.

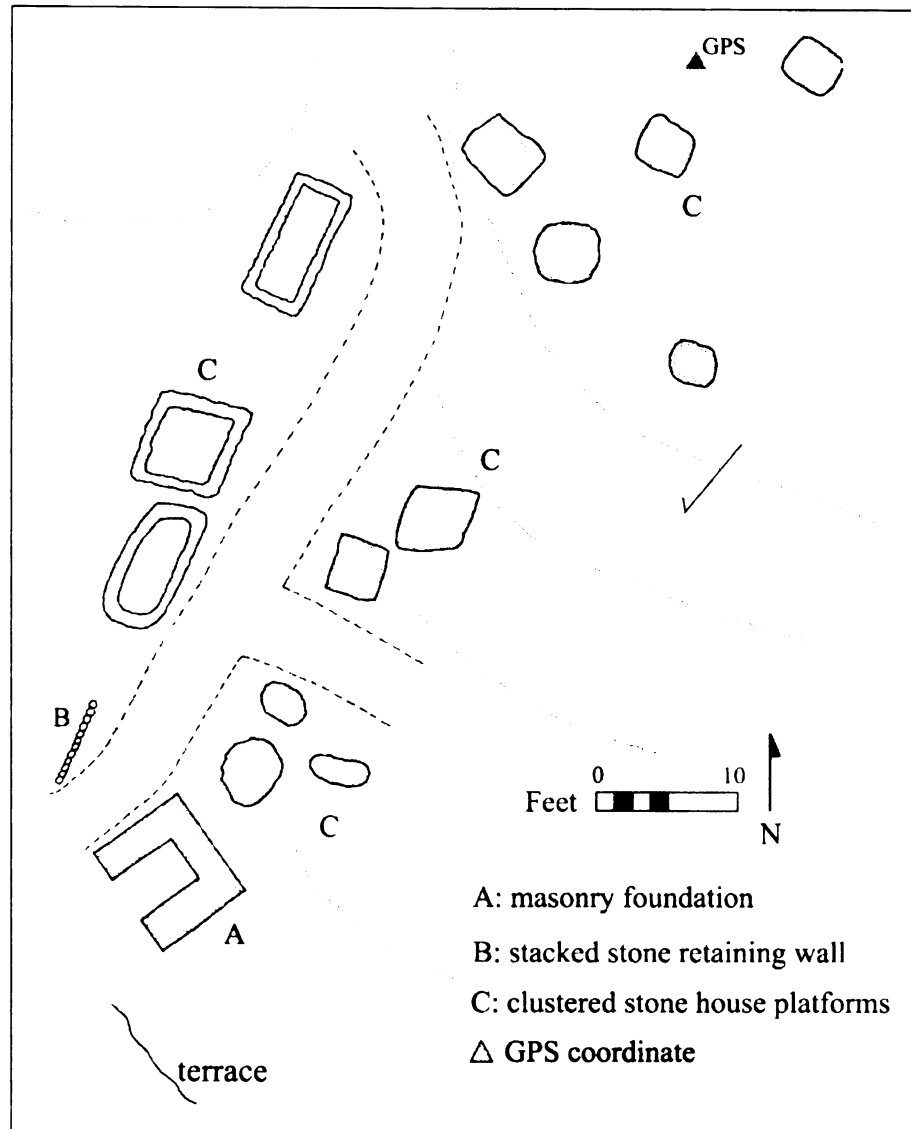


Figure Ap1-15. Vaughan's Village plan. This randomly selected section of the village was bisected by a wide lane that met a cobble road. House platforms consisted of stacked stones. The height of individual platforms ranged from 5"3" to 2' although most were 2'6". Each platform created a hollow space or enclosed cellar. The same spatial order continued in all directions. We estimate coverage of less than 1% by our sample.

The population density in Vaughan's was likely very high. We recorded thirteen platforms in a 200 foot by 100 foot block with an spacing of ranging between five and twenty feet. However, we do not have any reasonable idea of the number of people per dwelling. Given a basic household of 4 on the assumption of two adults and two children per unit (probably an unrealistic assumption) we find 52 people packed into this small sample area.

Harpies was investigated in 2002. This former post-emancipation village for Afro-Nevisians was threatened by new road construction and briefly surveyed. The area is generically depicted on the 1871 Iles map. Ten foot intervals (roughly 3 meters) intervals were followed on compass tracks.



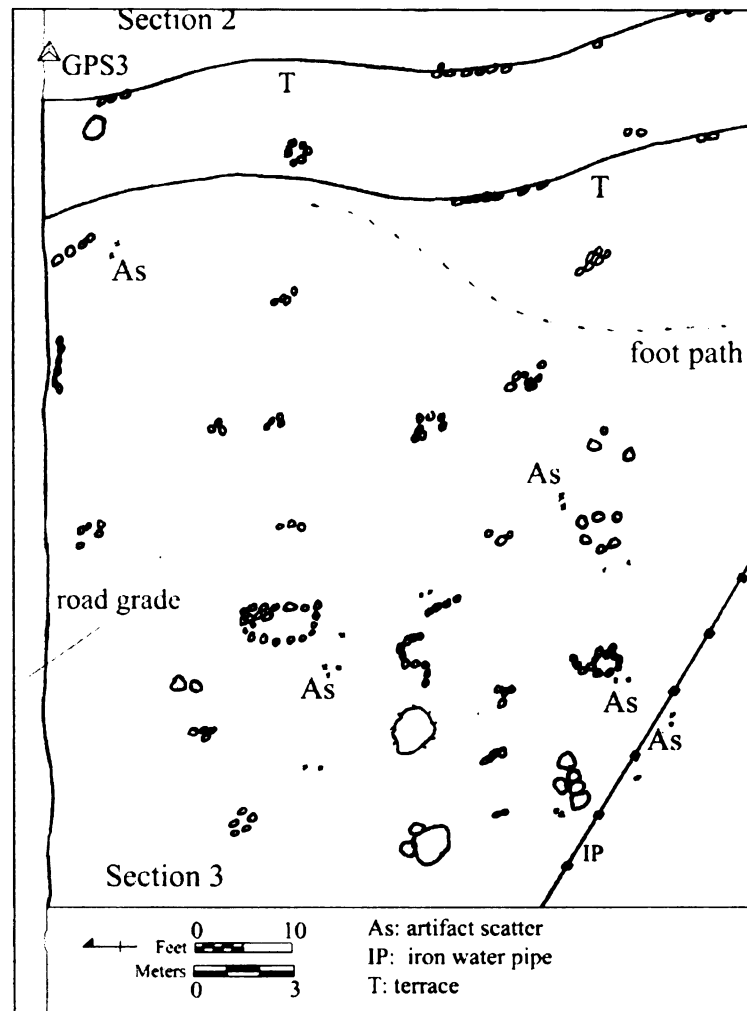


Figure Ap1-16. Section 3 of 9 from Harpies village. House platforms and earthen mounds are all that remain of the village.

We returned up slope on reverse compass tracks and repeated the process a third time back downslope. Working between two recent road grades we sectioned the survey area into six quadrats measuring 100 feet to a side. Several GPS coordinates were taken to monitor coverage in the thick brush. The village has been cleared of most surface artifacts and we noticed only a handful of white ware fragments, blue transfer printed wares, or clay pipe stems, so our assessment was strictly based on terracing and numerous probable stone house platforms. Our survey began at the uphill, eastern side, on the "new bypass road" and was bordered to the north by the road where it turned westward. The entire area exhibited distinct terracing for leveling.

House platforms were quite common but the distribution was slightly less dense than we found at either Vaughan's and more inline with what we found at Morgan's. We located no distinct roads through the village however we did locate secondary terracing and retaining walls, as if to support separate levels of primary terraces. Late nineteenth or early twentieth century iron water piping was recorded passing through the village.

## **St Thomas Parish**

### **Phase I**

#### **Jamestown**

The Jamestown site was investigated during the 2002 season and work there was reported in the 2003 Interim report, on file with the NHCS at the Nelson Museum Archive, Charlestown. Rather than repeat material from the report, I will simply summarize relevant aspects of the survey. In all six structures were identified on both sides of the main road. The main road passes parallel to extant foundations and in all likelihood the modern road is simply over the historic road. The foundations all parallel one another. Widening of the road in 2003 has probably covered some structures. We cleared the foundations of two buildings and partially that of a third. Walls averaged two feet in thickness. Narrow passages between the long sides of the structures are suggestive of alleys between warehouses. A shovel test between structures did not recover any artifacts nor encounter a cobble paving. Cobble paving was found during excavation of Unit 1. Although several structures are in rubble heaps, cut cornerstones can still be discerned and this enabled us to determine building dimensions. Shovel test data is included in Appendix 9. Because few structures were located west of these six and due to the nature of subsequent land build-up, as well as the nearness of the lagoon, we conclude the most of Jamestown is east of the main road. Furthermore, the spatial arrangement of the foundations we recorded also suggest a former beach front and its outline. The structures probably are the forward-most of the settlement. The second building was designated feature A2 as we had already assigned B to still another foundation. The contrast in quality, width, and construction methods of the two became more apparent during documentation. Differences in mortar also suggests different construction episodes or reliance on a mix of sources. Limited analysis of mortar composition on Nevis has been conducted. The one available study tentatively suggests pink-tinted mortars are locally produced while white was imported (Williams; in Morris, et al 1999). Pinkish mortar was especially noted in interior wall construction.

Future study would be able to confirm this observation. Geophysical survey by Southampton University also suggests a historic beachfront in 2002. (See Leech 2003).



Figure Ap1-17. Photo of excavation Unit 1, foundation wall of Feature A at Jamestown. Katherine Forgacs, pictured.

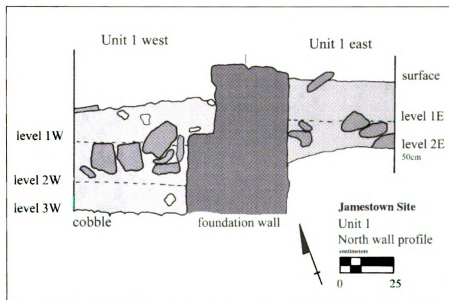


Figure Ap1-18. Feature A, Unit 1 profile, interior and exterior of structure. Jamestown. Levels were assigned based on color changes and soil composition.

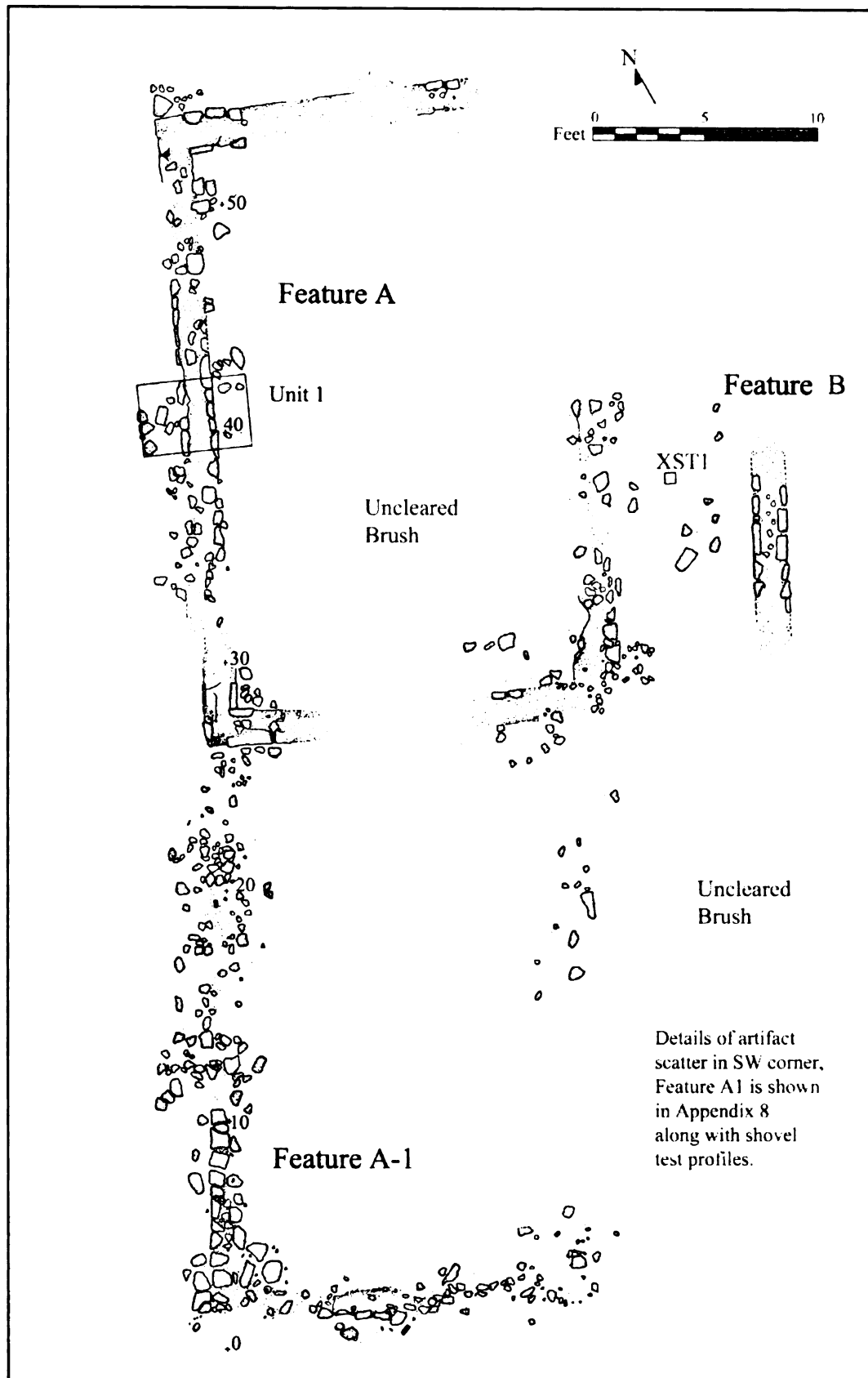


Figure Ap1-19. Two attached structures. Several parallel foundations from Jamestown suggest a possible warehouse district with residential component.

An exploratory shovel test XST1 was sunk between foundations of Feature A and B.

ST4MM5/29-1, ST4SS5/29-1, ST4KD5/29-1, House platforms made from clustered stones. Ceramics and pipe stems provide the evidence for dating this site to Phase I. The landscape is terraced but likely is from subsequent phase. These three sites within the same quad suggest a scattered settlement. All are situated on broadly terraced land having a gentle slope. Although in Zone D, these sites are well inland from the coast near 400 feet elevation.

ST5aMM7/11-1, Isolated artifact scatter consisting of early seventeenth century ceramics and coarse earthenware of indeterminate date. This quad was an alternate from the original sample forced by new property development and fences. The site may be related to the Jamestown site.

## Phase II

ST7aKD6/1-1, cistern associated with Tower Hill estate.

ST7aBB6/1-1, masonry foundations. No artifacts recorded.

ST7a BB6/1-2, small rectangular building with views toward St Kitts. Located on property associated with Tower Hill estate. No artifacts recorded.

St19DR5/21-1, ST19DR5/21-2 Two stone buildings in close proximity to one another. Both were found in dense jungle. STQ19 intersects former Pinney estate land and these may be associated with early operations of the plantation. The terrain is hilly and steep with deep ravines. Old access roads are crossed by more recent bulldozed roads. One structure had two stories, masonry construction.

ST19KD5/26-1, "Arch site." An extensive mill complex with multiple buildings. The mill platform was raised above the surrounding structures and three milling crushers for the animal mill were in situ. This complex displayed several unique features compared to all other mill complexes and is worthy of considerable future study. The slope was gentle (approx. 5%), but significant enough for the builder to cut away the hillside and grade the area for the construction. Facing west, the boiling house stood two stories. Unique architectural features were incorporated in the second story of the boiling house, including a load bearing masonry arch across its main facade, combining structural integrity with decorative distinction. A single large window was set above the masonry and arched. The complex was symmetrically arranged. Both in layout and structural design. Unlike any other complex, the mill was centrally located among the buildings. Narrow alleyways passed between structures, and several buildings may well have been residential structures, as their numbers and size exceed any standards for milling operations. We have tentatively identified the complex as Rossington. The mill platform has the best preserved central masonry mount for the iron crusher of any animal mill we encountered on Nevis. The list of mill operations provided by Iles places the complex in St Paul parish but on the map in St Thomas. Site ST19KD5/26-1 still retained all three crushers from a vertical mill protruding from brush on the animal mill platform, but no other machinery was visible. Fragments of coppers were recorded among the ruins. A

single, intact, 16 inch long pick/hoe was recorded at the site. Its age is probably nineteenth century.

ST17SSE5/28-1, This structure was not industrial yet was also unlike any residential structure. The construction was square with sides of 51 feet except for the west side. A stone lined and mortared channel ran diagonally from the uphill SE corner toward the center. Remnants of another channel were found in the NW corner. An artificial depression to at the NW corner gave the impression of a pond and we surmise the complex was in fact part of a formal garden. A four foot high retaining wall at the western side partitioned the structure into two distinct levels. The lower level was further partitioned by masonry walls. A single masonry column was recorded in the NW corner.

ST17KD5/28-1, Townhouse (Pariss Garden?) Although we did not fully document this residential complex, it deserves some special description as it is larger than any of the mill complexes we investigated. We lacked time during the survey to acquire all the measurements we would have thought important. In addition, Southampton University intends to conduct a thorough documentation.

Several buildings were associated with the townhouse, as well as extensively terraced platforms upslope from the west facing main building. Structure ST17MM5/28-1 measured 37 feet by 19 ½ feet. We later designated it feature 1 after learning the extent of the complex. As with many structures of this kind and early eighteenth century date, it was built with natural contours in mind, conforming to land forms while artificially creating "natural" areas. Retaining walls were set downslope to the west from the structure. Proceeding upslope, we encountered additional buildings. Feature 2 gave the impression of actually being a partitioned structure, each 10 feet by 20 feet at two levels. This building joined a raised wall that extended on a north/south axis 100 feet. In all the structure had four distinct levels with additional terrace walls behind it upslope constituting another two levels. The entire complex was made up of nine buildings. West facing structural wall was substantial enough that vaulted livery storage chambers were intact. The upper floor was reached by a slate staircase raised on masonry. The terraced platforms upslope from the residence proper, were each on a uniform north/south axis. Completing the complex wee its own cistern and smaller garden areas where circles decoratively edged by stone were in small alcoves.

The identification as Pariss Garden by a team from Southampton seems a logical conclusion based on our own survey information. The buildings in the cluster are of matched, dressed stone and various exotic materials are evident. Slate steps and flagging stones were present. Arched doorways were of quality masonry design without evidence of "cheating," or use of hidden interior timbers.

The grounds around the townhouse were terraced to provide level ground for the buildings as they marched up the slope. Two retaining walls behind the house created broad level terraces. The arrangement of structures and its expansive, west facing front entry, speak of a successful planter's home away from the industrial site that was the source of his wealth. This was a place where the owner displayed his position among the elite.

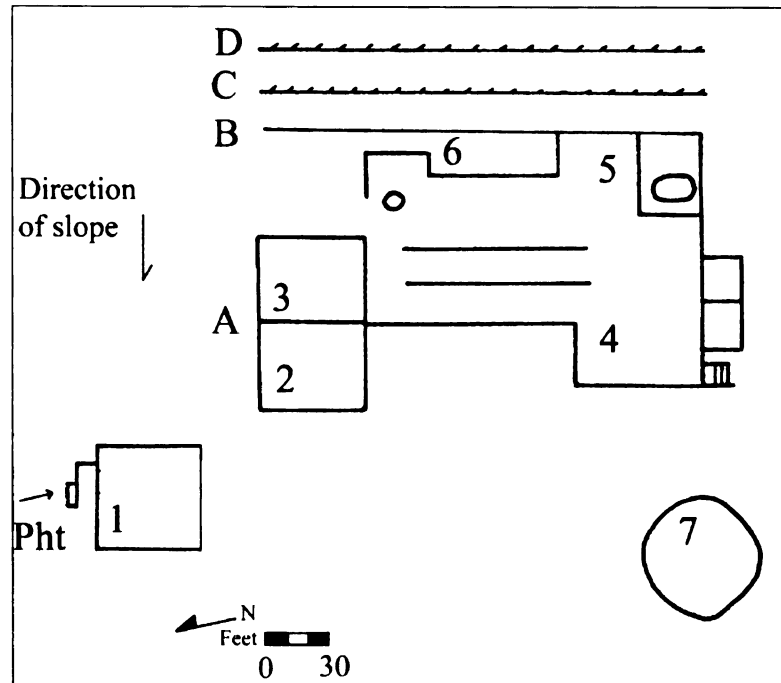


Figure Ap1-20. Townhouse schematic from field sketch, not at accurate scale (1 and 7 are not so near the other structures). Six of nine buildings recorded are shown. Feature 7 was a near circular depression that may have been a reflecting pool. Building 1 was the first to be intersected during transects and was carefully documented. Pht indicates where photograph shown in Figure 5-18 was taken. A-D represent distinct levels. C and D are masonry retaining walls.

ST17MM5/28-1, Building shown as Feature 1 in above Pariss Garden illustration. The structure was found before survey teams intersected Pariss Garden and was documented separately. The building measures 31' by 19'6". Steps on the northern side lead to a small porch with entry at a right angle through an arched doorway, measuring 3' wide. The porch measures 13' by 11', but is irregularly shaped. A north side entrance was on a raised landing, approached by steps and crowned by an arched doorway of 55 inches height. Walls were 24 inches thick See Chapter Five for photograph.

ST4(alt)MM5/29-1, An unknown mill-complex east from the Jamestown site This site may be part of the Lawrence estate shown on the 1871 Iles map, known to have been active in 1815, but I have serious doubts as some architectural components of the complex suggest earlier eighteenth century phase. It does not match descriptions provided by Iles for mills in the area. Structures include a boiling house, animal mill platform raised above the works (one of the largest) cistern, and out buildings. Several aspects of the structure suggest a late eighteenth or early nineteenth century construction date, particularly the use of imported fire bricks around the boiling train, and rough hewn facing stones. Details of mortar finish between stone courses is also reminiscent of detailing from Charlestown structures dated to the nineteenth century. Yet the arrangement of boiling train to curing house is similar in design to mills we have place chronologically earlier. The cistern and other structures are not in alignment with the works and also are substantially better constructed and has been spared the stone robbing the other buildings have suffered.

The complex was built a few hundred feet south of a ghut that runs to the sea north of the Jamestown site. No complex is depicted in the area on the Iles 1871 map and Iles only lists one plantation with an animal mill in St Thomas, and that one (Good Hope) is further north. Alignment of structures are not consistent nor are the masonry techniques or the finishes between stone courses. The complex is well situated near the main road. Elevation of this site is less than 40 feet above sea level, Zone D

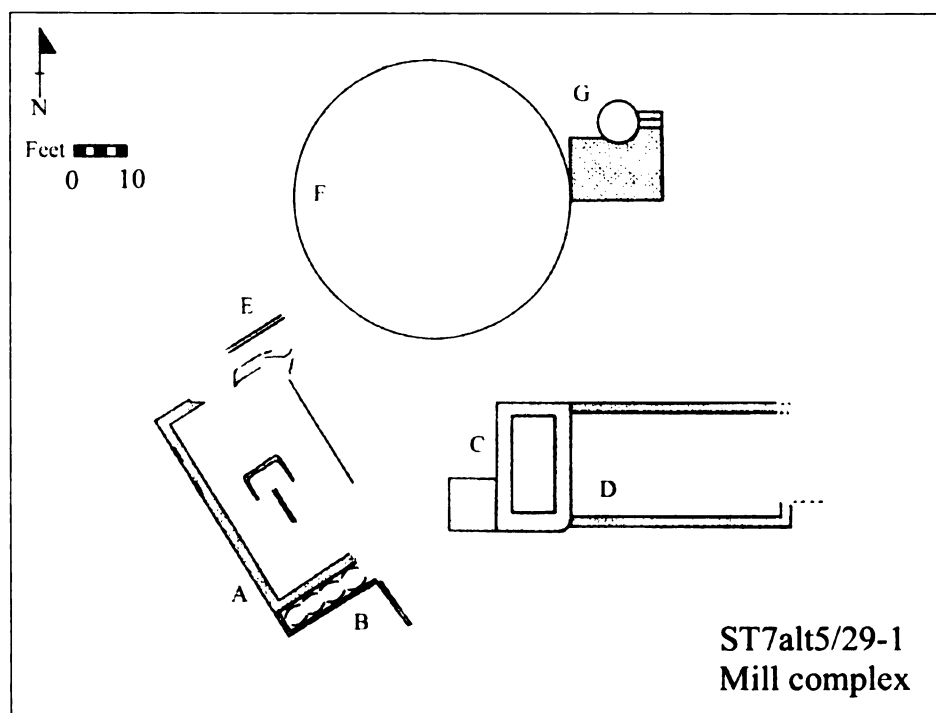


Figure Apl-21. Mill complex east from Jamestown. Two periods of construction on the site exemplify the manner in which old mills were kept in operation for long periods of time.

A: Curing facility with attached boiling house. B: Boiling train. C: Cistern D: Unknown, but evidence that this might be a distillery. E Foundations to adjacent structure, F: Animal mill platform. G: Well.

### Phase III

All of the above Phase II structures in St. Thomas Parish appear to have been operational during Phase III and would have been part of the dynamic landscape past emancipation. The Tower Hill complex seems to have been upgraded in the nineteenth century with new buildings and a new mill. Our transects did not intersect any sites uniquely Phase III.

### St George Parish.

Rawlins Estate is the highest mill complex examined during this project. The complex was not within the random sample Parishes. We documented features of the works to add comparative information to the database for seventeenth and early eighteenth century sugar work, and to examine a sugar-works built at high elevation Zone B. The complex straddles a road with windmill and curing facilities on high ground, and the boiling house across the road at a lower elevation. There is indication of nearby



housing, and several enticing mounds of construction debris. An aged strangling fig tree grows up through the center of the windmill tower.

Indian Castle estate is mentioned in the text as an early operation on the south east coast. The structures may have been a harbor facility but also were used for curing and distilling. Artifacts from the area date from at least the late seventeenth century, prior to mention in extant official documents. See Meniketti (1998) for full site documentation.

#### Utilitarian Landscape

Roads were frequently encountered during survey. Measurements of these roads was problematic because no justification could be made for measuring in one place as opposed to another. Several measures gave a very crude approximation of standard widths at 15 feet for the more obvious cobble roads. Many of these had stacked stone retaining walls on either side. But roads as narrow as ten feet were also common. While we could determine that many roads served estates, not every road appeared to link plantations, and may have in fact led to villages. Outside the village of Cox, for instance, two overgrown cobble roads lead directly out from a paved road, along two branches. One leads up hill toward Saddle Hill and passed an unidentified industrial complex, while the other descends toward Coxheath complex. On either side are foundations of various structures, and extensive artifact scatters. Most bottle and ceramic finds are nineteenth century. The suggestion from our finds is that the village of Cox was once considerably larger. A similar relationship between road and residences was noted on a linkage between Montpellier and Bush Hill mill complexes. The bluff immediately east of the Bush Hill mill exhibited the same scatter of domestic wares, iron kettle fragments, flatirons, buckles and rarities such as school slates. From this and other road walking we have determined that Pond Hill, Cole Hill, Cox, and neighboring villages were once more densely populated. Most of these roads are depicted on the 1984 OSM, but by no means all of them. Several are so obscured by brush that they are not apparent until one is actually walking on them.

## **APPENDIX 2**

Chronology of Sites in St. John and St. Thomas Parishes.

Table Ap 2-1. Chronology of sites described in this study relevant to Phases. Only sites with structural components are listed. Because artifact scatters were assessed in the field solely to provide phase data but were not collected and counted, valid statistical date ranges can not be made for the purposes of this chart. Sites with multiple data sets, such as architecture, artifacts, and any documentary information were incorporated into this chronology. Termination date for some sites is based on mention in Gov. A. Burke Iles book and map of 1871. In other cases by comparison between sites. Mill complexes mentioned in the text are assumed to be in operation to that date, which falls, in any case, outside the range of Phase III. Sites not named in the text are assumed not to be in operation during his tenure as governor. Many of these late dates could be improved by using extant government Blue Books in the Horatio Nelson Museum Archive.

Site Number	Site name	Parish	Zone	Estd. date range	Category	Type	Phase
STKD5/29-1	none	St Thomas	D	1625-1700	rural	residential	I
JT[7-02]	Jamestown	St Thomas	D	1625-1710	urban	foundations	I
SJ14MM5/16-2	"lower SJ"	St John	D	1650-1800	industrial	mill complex	I
SJMM8-2-9[02]	none	St Thomas	C	1700-1800	industrial	mill complex	II
no #	ST Anglican Ch.	St Thomas	D	1675-current	religious	church	II-III
STMM5/29-1	none	St Thomas	D	1750-1900	industrial	mill complex	II-III
ST17aKD6/1-2	Tower	St Thomas	D	1700-1950	industrial	mill complex	II-III
ST17KD5.28-1	Pariss Garden	St Thomas	B	1750-1875	rural	residential	II-III
ST4aMM5/29-1	none	St Thomas	D	1700-?	industrial	mill complex	II
ST7aDR5/21-1	none	St Thomas	C	1750-1800	rural	residential	II
ST19KD5/26-1	Rosington?	St Thomas	C	1700-1875	industrial	mill complex	II-III
ST19MM5/26-1	none	St Thomas	C	1700-?	rural	foundations	II
ST17MM5/28-1	Pariss Garden	St Thomas	B	1750-1875?	rural	residential	II-III
SJ9KR5/22-1	"Long Point Rd"	St John	D	1650-1750	industrial	mill complex	II-III
SJ14KD5/19-1	none	St John	D	1675-1750	industrial	boiling train	II-III
SJ15MM5/21-1	Pembroke	St John	D	1700-1875	industrial	mill complex	II-III
SJ14(RD)5/19-1	Richmond	St John	D	1785-1875?	industrial	mill complex	II-III
no #	Dogwood	St John	D	1750-1875?	industrial	mill complex	II-III
no #	Coxheath	St John	D	1700-1875	industrial	mill complex	II-III
no #	SJ Anglican Ch.	St John	D	1675-current	religious	church	II-III
no #	Ft Charles	St John	D	1671-1785	military	fort	II
no #	Bush hill	St John	C	1750-1900	industrial	mill complex	II-III
SJ12MM5/16-2	Prenlis? "Ridge"	St John	C	1675-1875	industrial	mill complex	II-III
SJ12SS6/6-1	"Ridge kitchen"	St John	C	1725-1875	rural/ind	residential	II-III
PW7-30/02-1	none	St John	C	1750-?	?	foundations	II
PW7-30/02-2	none	St John	C	1750-?	?	foundations	II
PW7-30/02-3	none	St John	C	1750-?	?	foundations	II
PW7-30/02-4	none	St John	C	1750-1800	industrial	boiling train	II
SJ12KD5/16-2	"Ridge house"	St John	C	1750-1875	rural/ind	residential	II-III
no #	Douglas	St John	D	1700-1875	industrial	mill complex	II-III
Village	Vaughans	St Thomas	D	1833-1900?	rural	village	III-
ST7aBB6/1-1	none	St Thomas	C	1800-?	?	foundations	III-
ST7aBB6/1-2	none	St Thomas	C	1800-?	?	foundations	III-
no #	Harpies	St Paul	D	1800-19?	urban	village	III-
no #	none	St John	D	1830-?	industrial	mill complex	III-
no #	Morgans	St John	C	1800-19?	rural	village	III-
MM8/9-02-1	none	St John	C	1850-19?	rural	residential	N/a

Major known sites, such as Coxheath, Dogwood, etc., were not assigned site numbers. These were investigated during the pilot study and not on specific transects. They will be given a site number consistent with the 2003 system at a date of future site documentation.

Site categories were designated based on the component of landscape that best describes functional characteristics. Mill complexes were termed industrial even though they generally are rural in setting. Sites with no obvious functional category were grouped according to setting alone. Thus, some structural foundations found in rural landscape without clear association with industrial, military, or other category were grouped as rural. In some instances even this expedient did not seem appropriate. Three sites found during the pilot study (PW7-1,2,3) were in rural areas but near enough to both industrial sites and village locations to have been historically associated with one of those categories. I played it safe and left those "undeclared" in the table for future research.

## **APPENDIX 3**

### **A Discussion of Artifacts from Jamestown Site and the Ridge House Complex.**

## Artifacts

Artifacts have several important uses in archaeological settlement studies. Among these are utility in establishing chronologies, determining settlement distribution or the character of settlements, and in making comparisons between settlements of various character. In the context of this study, artifacts were used in each of these capacities, but also to glean insights bearing on the social status of individuals and to better understand social consumer behavior. But ceramics are markers, not only of status and wealth, but of influences from abroad, of changes in attitudes and behaviors, and of aesthetic sense. While Nevis was not an emporium or important entrepôt, its archaeological deposits nevertheless exhibited the wide assortment of colonial wares so beloved by historical archaeologists. Apparently often broken and discarded, yet durable in the archaeological record, ceramics are often the only ready clue to site occupation and history. Colonial types and styles are well defined and forms generally understood. The challenge is not to piece together an entire agate-ware bowl, but to understand the bowl and style in the context of foodways and social life.

Mean ceramic mean manufacturing dates were compiled and used as conservative chronological tool during surveys and excavation. The dates ranges, based on several sources (see Appendix 11:332) provided a useful tool for assigning approximate date values to assemblages and surface scatters encountered during the project. Additionally, analysis of forms and their associations yielded information about possible usage. The examination of midden composition and associated structures can be used to inform on the possible activities at sites (King and Miller 1991). For example, utilitarian wares were an important part of colonial households for food preparation and storage. Finer wares were intended for serving and display at the table. This has almost become a mundane statement. But this presupposes a household of some means that also has begun to internalize behaviors of display. Households with humble wares may exhibit less differentiation between wares for preparation and those used for consumption, yet may aspire to the same behaviors displayed by social elites. Wares might be expected to serve double-duty in households lacking the means to have specialized wares or sets. Should we assume that humble means automatically indicates humble wares or simply fewer?

Artifacts recovered during surface collections are not unusual in scope and have parallels elsewhere in the Caribbean, such as reported by Armstrong (1982, 1990) at Drax Hall plantation in Jamaica, Mayes (1972) at Port Royal, Jamaica, Meniketti (1998) at Indian Castle, Nevis and Morris (2000) on Nevis. For that matter, these same wares are found in New England, colonial south, and frontiers of North America; a testament to the remarkable expansion of material culture that followed Europeans. These and many other studies have been particularly useful for developing an appropriate categorization of artifacts. Categorization has benefits for analysis, but its construction must not force a line of reasoning on the archaeologist. For instance, if we are to label a particular vessel as "food preparation" we may begin to identify the locations where the vessels are found as kitchen areas. However, what is driving the identification--sure knowledge of the vessel as a kitchen item or its association with a kitchen? The assumption that an object is found in its assigned activity area is compelling, but never certain. In the cases presented here, categorization comes first from architectural association and context. Artifacts from Jamestown were associated with an apparent warehouse context and so the occurrence of household goods requires explaining. At the Ridge house the association was a residential

structure and smaller nearby kitchen structure, where table wares and food preparation vessels would be anticipated.

Admittedly, the collections discussed here are not large and only limited statistical analysis has been carried out, yet the sample does provide useful data, particularly in addressing the issue of adaptation to changing consumptive behaviors.

#### The Jamestown collection: ceramics.

At Jamestown a minimum of 33 plates were identified. Of these only two were pearlware and none were porcelain. The majority were transfer-printed types and whitewares. Whiteware and transfer-printed plates comprised 70% of the plate forms. I have separated whiteware from transfer-printed types for because it was not always possible to determine whether the transfer-prints were on pearlware or other white wares. Therefore, transfer-print is used here as a descriptor of decoration. The chief purpose was to have an indicator of date ranges and in as much as the period of introduction for various print patterns and colors are generally known, this lack of exact knowledge of ware was not a handicap. When referring to pearlware or whiteware the reference is for plain, undecorated ceramics that can be distinguished as those common types.

Cups displayed the most variety, but again only two of 22 were porcelain and two of pearlware. Coarse earthenware bowls constituted 48% of bowls with whitewares and transfer-prints representing 24%. Annularware styles, with distinctive incised and painted rings around the vessels (generally blue) and colonoware bowls comprised 10% each. A single pearlware bowl form was identified. A similar pattern holds even for sherds of which forms could not be identified. Colonoware, earthenware and whiteware fragments constituted 63% of the assemblage compared to .02% porcelain and 0.0% pearlware. We recovered a few sherds of lead glazed yellow and brown, combed, slip decorated vessels, but none identifiable as plates.

In terms of place-use, storage containers and kitchen wares totaled 7 vessels. Insufficient information was available to assign the earthenware bowls to kitchenware or daily wares, so setting those aside for the moment, cups, bowls and plates of all types totaled 101 sherds. Only two were porcelain. The earthenware bowls may have been for serving or preparing food and together with the colonoware bowl fragments totaled better than 58%. The general composition of this assemblage differs significantly from that collected at the residential/industrial site.

Sherds from ceramics included: salt-glazed stoneware, possibly from mugs and tankards, as well as brown and white stoneware rims and bases; generic stonewares with brownish mottling, widely used as storage vessels (these are often misidentified as Bellarmine, itself a highly specific type of late sixteenth and early seventeenth century manufacture); Rhenish gray stoneware body sherds and Rhenish tradition wares--deeply incised and further decorated with blue paint from both mug and jug forms—each popular from the late seventeenth and early eighteenth centuries. Plate rims and body sherds included the highly distinctive basket pattern, along with feather-edged, creamware styles (including Queen's ware). Shell-edge pearlware of varying qualities were recorded. Pearlware was the English potter's answer to porcelain and produced to meet the demand for fine table ceramics. Many of these patterns are from the eighteenth century. Willow pattern plate rims in a bright blue also were collected from the surface. Again, an early eighteenth century date is suggested (Sempill 1944). These patterns were

produced in great quantities in English pottery factories for distribution and sale to a rising middle class, eager to display hallmarks of their social attainment (Barker 1999). Fragments of lead glazed slipwares were recovered in small numbers, mostly in yellow and brown slip decoration representing at least two known styles: agate and marble wares. Yellow and brown comb decorated body sherds also inform on early material culture. Delft was noted but vessel forms were not always identifiable from the fragments. Much tin-glazed earthenware or Delftware is Dutch in origin. Its popularity reached a zenith between 1720-1740. Its presence on Nevis is not surprising. The Dutch island of St Eustatius is nearby and Delftware arrived on Nevis by legitimate trading through England as well as via smuggling. The ware was characterized by a yellowish paste and thick, buff glaze, usually with painted decoration. English delft was also present. Delft was largely supplanted by finer "soft paste" ceramics that imitated porcelain. New types began to emerge on the market as consumer taste for coffee and tea dramatically expanded after 1740 (Noel Hume 1985; Barker 1999)

Bowl or cup forms of common annular ring design (referred to herein as annular ware) were of several colors. Sherds of course red, brown, and black burnished earthenwares with grit and sand temper were abundant. These vessel fragments were likely storage containers judging by the thickness, and body curvature, possibly sugar cone molds, but several rim pieces had diameters that suggest serving bowls or tableware as well. The general term applied to most of these is colonoware, a term meant to imply slave manufacture or production in an African tradition. However, it can not be assumed that slaves alone used the containers or that colonoware is indicative of residential debris. Or indeed, that slaves were the manufacturers. Despite the presence of clay deposits on Nevis, it isn't even certain the colonoware was made on Nevis.

If local materials were used for manufacture of sugar molds (documentary sources do not provide any reliable indication) these would qualify as industrial artifacts. However, molds for "claying" sugar were probably imported. Several plate fragments were decorated by transfer printing in green, brown, purple, and blue.

In all 167 plate sherds were identified with creamware 32%, whiteware/transfer prints 10%, shelledged whiteware 9%, and pearlware 19%. Where porcelain was lacking on the dinner table, it was instead well represented in cups at 36% of cup forms identified and 128 sherds or 16% of the unidentifiable forms, possibly saucers or more cups. On the other hand, porcelain bowl sherds represent 34% of the collection. Colonoware bowls comprise another 10%. Late seventeenth century tankards and mugs represented 48% of other drinking vessels. White salt-glazed mugs also were a substantial 47% of the assemblage. Also on site were a salver, a puncheon, a porcelain teapot and two serving platters. Intriguingly, jar forms were nearly all of late seventeenth century Rhenish style stonewares. Where we might have expected earthenware or colonoware storage containers we found none. The entire collection of storage container sherds consisted of eighteenth and nineteenth century salt-glazed stonewares.

However, when median manufacturing dates for types and sherd counts are plotted, a bi-modal distribution of manufacturing dates is produced, suggesting episodic occupation of the site. In addition, we recovered fragments of small nineteenth century stoneware jars. Median manufacture dates are not particularly useful in this analysis because samples are small, and the date range is too imprecise to be an accurate chronological tool. They do, however, provide confirmation that the site was in use from



an early period of the colony. The table below quantifies the number of sherds recovered according to form and type/decoration. Data can be compared to the table of ceramics from the Ridge house site, also in this appendix. A distinctive character of the assemblage is its general lack of fine or specialized table wares and the trailing off of eighteenth century ware types. In terms of sherd volumes, the greatest numbers are among plain undecorated white ware and earthenwares, some tin-glazed (possibly delft), as well as colonoware. The colonoware may have been for storage, for serving, or for these purposes combined. Does its presence signify Africans at the site or local adaptation and use of easily made and cheap utilitarian wares? The answer to this question will require additional research

Table Ap3-1. Jamestown ceramics.

Jamestown ceramic sherd counts by ware form and type.									
Ware Type	P	S	B	C	J	T/M	Un	Chpt	Totals:
whiteware	12	3	9	4			21		49
creamware				4			2	1	7
pearlware	2		1	2					5
porcelain				2			2		2
hand painted	4			1			6		11
sponge decorated	1			2					3
transferprinted		1					8		9
(green)	1		1						
(brown)	1								
(purple)			1	1					
(blue)	9			3					8
Annular ware			5						3
yellow/green	1								1
Rhenish stnwre						1			1
Bellarmine									
yellow & brown slip decorated			1	2			1		4
Delft	2	1					2		3
unknown				1			1		2
stoneware					5				5
saltglazed stoneware					2		5		6
earthenware			22			1	6		28
tin glazed earthenware			1				10		25
colonoware			5				20		25
possible Carib							3		3
Totals:	33	5	46	22	7	2	87	1	200
P:plates, S:saucers, B:bowl, C:cups, J:jars, T/M:tankards & mugs, U:unidentified, Chpt:chamberpot									

### Pipes and Smoking

Jamestown numbers are too few for valid statements of statistical significance from this collection, but are tantalizing. Calculations of mean date is barely worth the exercise. We will say only that the majority of bowl forms and stem-bore diameters (following formulas worked out by Harrington 1978; Noel Hume 1974) point to a late seventeenth century date. Bore diameters varied, but 60% of a total 61 with measurable bores were 7/64 inch and 8% at 5/64 inch, well within the 1650-1680 range. Only 8% are of early to mid eighteenth century manufacture. These lower percentages barely escape the margin of error. Tulip shape bowls and spur bearing bowls, as well as bowls exhibiting rim decoration, (rouletting) also suggest a range of 1650-1680. Some footed bowls displayed monograms and other patterns. A surface find of a pipe stem from the cleared foundation at Jamestown exhibited rouletting around the circumference as well as *fleur de lis* stamping.

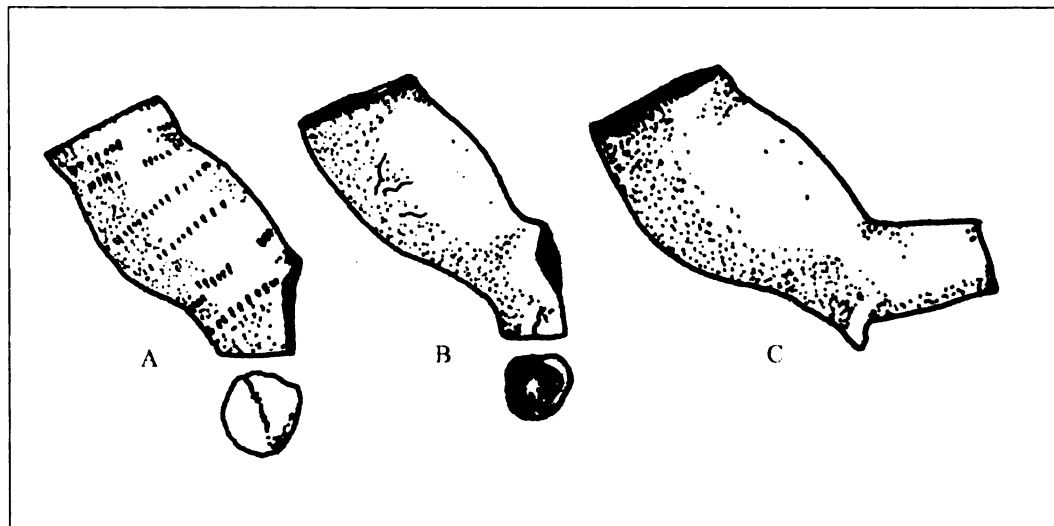


Figure Ap3-1. Examples of three pipe bowls at the Jamestown site. Forms are common to mid to late seventeenth century.

### Glass artifacts

Although onion bottle glass was recovered we had few suitable diagnostic pieces. Such bottles were commonly used during the latter seventeenth century for liquors or wines and shipped in crates. The few rims and bases identified ranged from early to late eighteenth century styles rather than forms common to the seventeenth century. Black glass from a square case bottle and brown and green bottle body shards were recorded. We have far too few fragments to calculate significant minimum vessel quantities.

Clear glass from a tumbler, stemware fragments, and a decanter rim and base of cut glass allow us to say we have one of each vessel. Due to the incompleteness of the items accurate dates can not be assigned. However these items suggest a measure of affluence for whom ever owned them and suggest a conscious effort to display such affluence, even in a frontier colony.

## Metals

Few iron objects were found. These could not be identified but we could determine they were of wrought iron. The extremely wet and salty nature of the site hastens corrosion. Wrought iron square nails were documented as well as iron spikes. Two tools were recovered from a single shovel test: a mattock or cane hoe, and an edged cutting tool (see Appendix 9: 327). Handles had long ago rotted away. These tools were common to the sugar industry, but continue to be used today.

One oddity we recovered was a small pin of bronze shaped like an S and decorated on its surface to resemble a snake. It measured a little under two inches in length.

Two pewter buttons were also collected.

## Ceramics at Rural Industrial Sites

SJ12MM5/16-1 and SJKR5/22-1

A site with residential and industrial character was systematically surveyed during this project. Both sites were enclosed by stacked stone walls, demarcating a segregated space from surrounding terraced fields, creating a production/staging area. But each site had distinctions. One (SJMM5/16-1) referred to as the Ridge mill-complex, also had an associated domestic component, referred to here as the Ridge house. Artifacts were collected from the mill-complex located on a ridge at 1000 feet, just below Saddle Hill. As at Jamestown, crew walked close intervals and collected a 100% surface sample. Beyond the enclosure, artifacts of similar character were visible on the surface and against the rocks of terrace retaining walls downslope, but were not recorded.

From the Ridge mill-complex we recovered a wide range of domestic wares, of which there were many of finer quality, both in absolute numbers and type proportions. Few were of early manufacture. It was not possible to always determine a minimum vessel count due to the fragmentary nature of some sherds. But it was possible in many cases to determine vessel types and vessel forms from diagnostic pieces, bases, rims, fragment curvature and body thickness.

The assemblage differs sharply from that at Jamestown, and we would expect it to. But not just the quantity of finer wares, such as porcelain and pearlware, but also in vessel forms. At the Ridge house site is an extensive selection of plates, cups, and beverage containers. There is an abundance of Delft and creamware in plate forms. But more important than a potpourri of consumer wares of the seventeenth and eighteenth century, this assemblage also hints at display behavior as conducted at the dinning table (Adams and Boling 1989; Smart Martin 1996). Discussion in Chapter Three examined in depth the possible meanings of objects as status indicators and I will not repeat the discussion here. However, it is worth pointing out that the assemblage included a large number of colonoware fragments. We could not identify vessel forms reliably from the sherds at hand, but it would not be unreasonable to conjecture they were types used in the kitchen, alongside the generic white salt-glazed stonewares. It may also be conjectured that these wares were used by house servants, but this is an assumption. Servants may also have had access to finer imported goods. Armstrong (1990:150) offers a reasoned and compelling argument that colonoware was an "adaptive syncretism" that evolved from generalized African forms and manufacturing methods. This seems to be the case on Nevis, but its use may also have been a form of adaptive behavior among Europeans.

### Glass

The principal form of glass recovered from the site were alcohol bottles. Based on bases and rims we can confidently say their date range spans from the middle of the eighteenth century through about 1950. (Again, the chief source for identification was Noel Hume). The majority of pieces come from a single source among a pile of rocks just 50 feet up-slope from the ridge house foundations. Placement among the rocks undoubtedly prevented the pieces from being subjected to the same site formation processes as glass on the open ground. Using bases and rims to identify bottle types, these ranged from the mid eighteenth century to modern. Possibly the rock pile has been a favored discard site.

Medicinal bottles and other vessels identified as toiletry items make up the second major category of glass artifacts. The fragmentary nature of these vessels make it impossible to accurately assign a date to them, but they appear to mainly be of late eighteenth to late nineteenth century manufacture, possibly the early twentieth century. No fine stemware was present but cut glass, decanter fragments, and other identifiable kitchen glass was recovered. One medicinal was traceable to a Massachusetts company operating between 1880 and 1920.

### Pipe bowls and stems

Among the collected small finds were 126 clay pipe stem fragments and 208 bowl fragments. One base exhibited the mark "LE" which is a fairly common manufacturers mark of the eighteenth century, and examples are known throughout the Caribbean. Stem diameters are of a range that spans the eighteenth century. Additional marks found on stems further support an eighteenth century pedigree.

### Miscellaneous small finds.

Small finds of unusual character included a glass bead, a polished coral celt, and three worked-edge conch shell fragments. These are highly portable items and should not be construed as necessarily suggesting a Carib site. Metal items included wrought iron square nails, as well as other iron fasteners, iron cauldron fragments, pewter discs and medallions, and one copper alloy furniture fixture or possibly a boss for horse tack of ornate design.

Brick and roofing tile fragments and eight broken gunflints or strike-a-lights were also recorded.

The table of ceramics from the Ridge house area illustrates an interesting character. There is an abundance of finer wares than at Jamestown, but more interestingly, the percentage of wares associated with the table as opposed to preparation seems unbalanced for a domestic household. The durable quality of food preparation wares may account for the difference, needing to be replaced less often either for breakage or changing styles and aesthetic taste.

Table Ap 3-2. Ceramics from the Ridge house site.

Ridge house ceramic sherd counts by ware form and type.																
Ceramics	P	C	Pl	S	B	T/M	J	Srv	Pchn	Slv	St	T	SV	L	Ub	Totals
porcelain		20			14					1	1				128	164
saltglazed stoneware brown mottled						2					27					29
redware	13				3				2						50	68
terracotta																
comb toothed yellow-slip decorated	18	10	2												35	65
white ware/shelledged	16															16
White ware/creamware	54	3		1											68	126
white ware/transfer printed (see by color)																
blue	10	4		4	3			2						1		24
green	3															3
brown	2															2
red	2															2
printed/stamped	3	3			12										10	28
Delft	10	1			1										220	232
pearlware	32	1		2		2									44	81
colonoware					4										34	38
stoneware/generic							2									2
Bellarmine/ Rhenish							23									23
White saltglazed		10			1	18	1						11		209	250
Rhenish/ Westerwald stoneware						19										19
earthenware/slip decorated																
agate & marble ware	4	4			3	1										12
painted stoneware																
other/unknown																
roofing tile																
Carib															3	3
Totals:	167	56	2	7	41	42	26	2	2	1	27	1	11	1	801	1187
P:plates,C:cups, Pl:platter, S:saucers, B:bowls,T/M:tankards & mugs, J:jars, Srv:serving dish, Pchn:puncheon, Slv:salvor, St:storage vessel, T:teapot,SV:small vessels (jar forms), L:lid, Ub:unidentifiable body sherds																

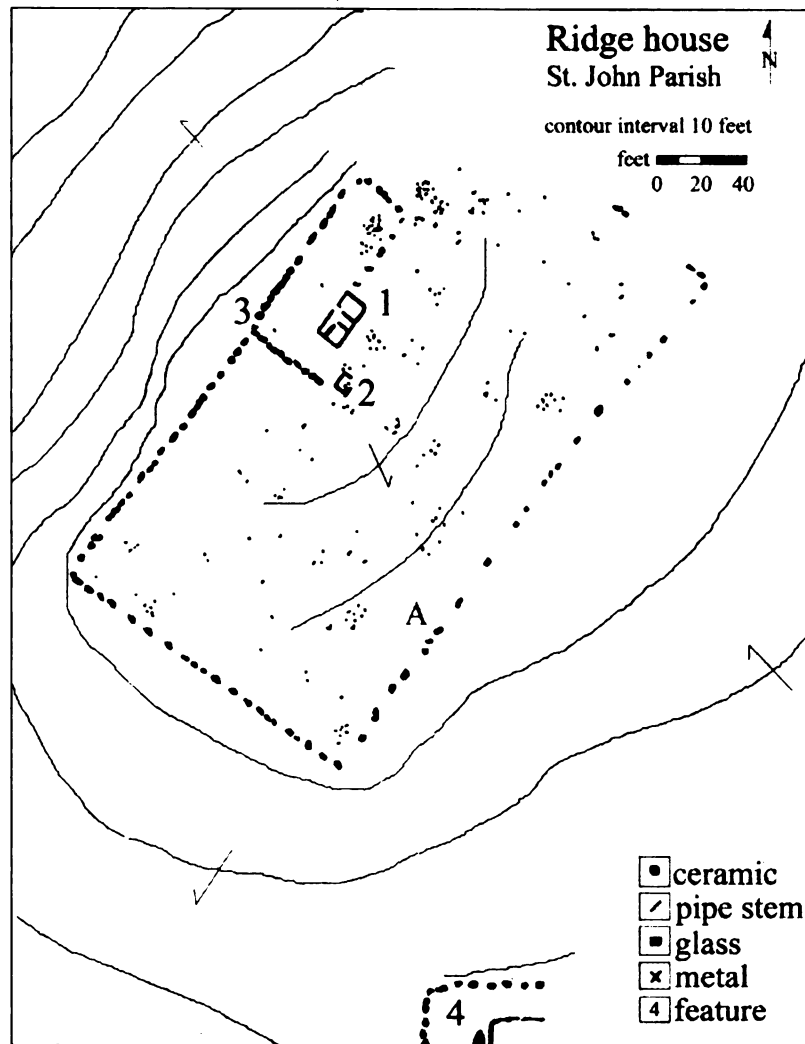


Figure Ap3-2. Area plan for Ridge house artifact surface collection. (Modified for this format. 1: residential structure, 2: foundations for kitchen structure, 3: enclosing stone wall, 4: secondary structure and cave entrance, A: polished coral celt, probably Carib. Due to terrain, many artifacts were likely washed downslope. Individual items are not distinct at this scale, but overall distribution and clustering is discernible.

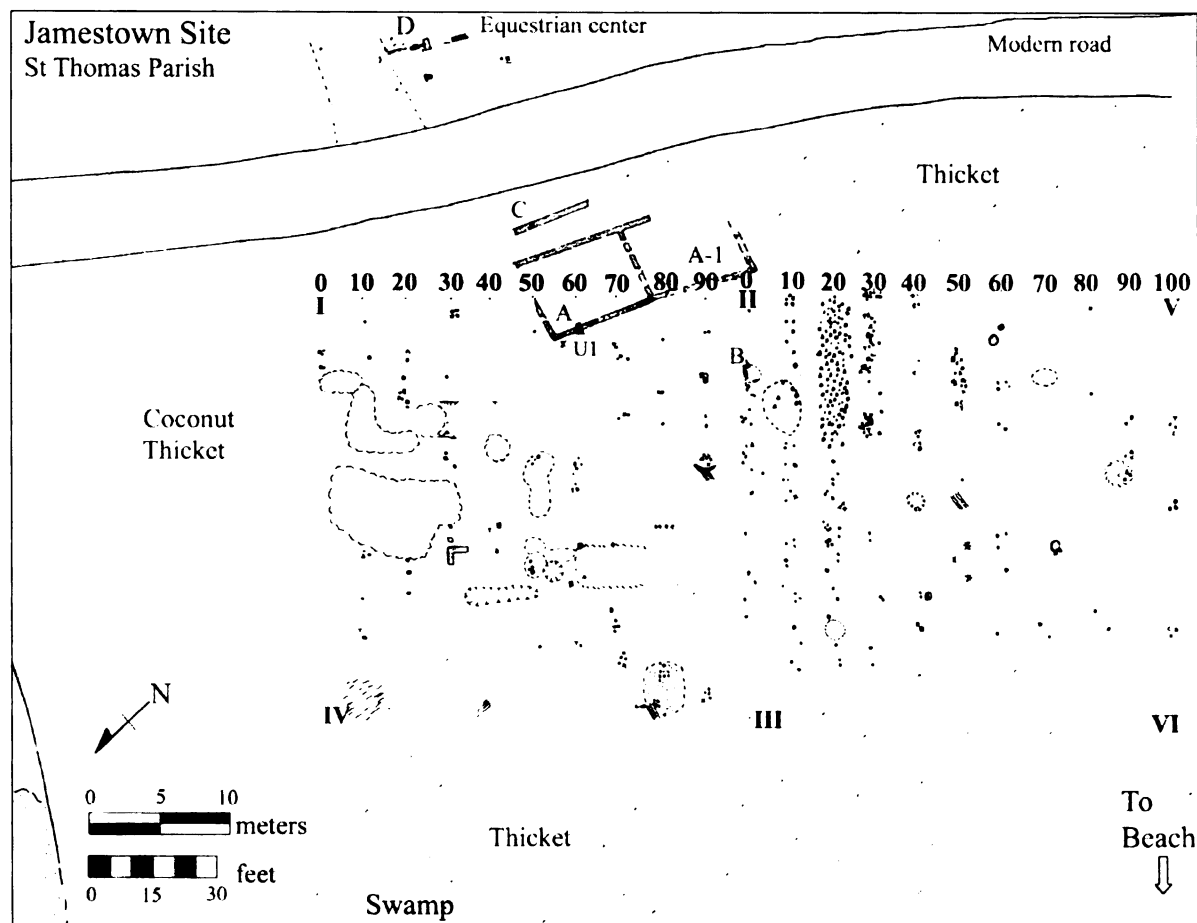


Figure Ap 3-3. Section from area map at Jamestown site modified for this format One hundred meter quadrats were set (indicated by Roman numerals) with survey team walking transects at ten meter intervals (Arabic numerals). Transects were continued westerly an additional 100 meters but no artifacts were found beyond the line IV-III-VI. At this scale individual artifacts are not distinct but represented by dot clusters. Each small c, p, x, o and dot represents finds of ceramics, glass, pipe stems, metal, or other items. Clustering of artifacts along line 20 and 30, between quad corners II and V, may indicate another structure. Structural features are A, A-1, B, C, and D. Excavation unit 1 is indicated by U1 along the wall of Feature A. Several earthen mounds and depressions are encompassed by quad I-II-III-IV. Several foundations are emerging on the property of the equestrian center. Artifact scatters at D include pipe stems and ceramics.

## **APPENDIX 4**

**Burial Excavation at Pinney Beach.**



### Beach burial.

Late in the project members of our crew were approached by a Nevisian with queries about bones. On investigation we learned he had discovered a human skeleton eroding from the Pinney beach. The location was north of Charlestown in an area where previous skeletons had been reported. Recent hurricane damage to the shore has apparently been exposing a historic cemetery. Although a cemetery is shown on the 1871 Iles map nearby, this usually is interpreted to be the small Catholic cemetery visible today. No known cemetery is located where the skeleton was found. Furthermore, the area has been so eroded over the centuries that we conjecture the burial was originally two hundred yards inland from the shore. Wave action, however, is now revealing the burials. Its association with a standing eighteenth century defensive structure in the same matrix, and the soil suggested a historic rather than recent interment and I recommended the date range of two to three hundred years.

After informing the Nevis Conservation and Historical Society, we undertook a two day excavation on their behalf. The remains were subsequently cleaned, stabilized, and prepared for the museum to curate the bones until further study is possible. The burial was east to west with the head in the west. The crania had long before eroded out and was lost. The individual was on his back with arms stretched across the body with hands crossed over the pelvis. Based on pelvic dimensions, robustness of limbs, as well as fused epiphysis in the femurs, we are tentatively suggesting the burial to have been an adult male.

The surrounding sandy hardpan matrix was rock hard and required chiseling for removal. No evidence of clothing or a coffin were found. The excavation presented some practical problems but we had no difficulty keep in the bones from drying out as the waves broke over the excavation. The challenge was preventing any bones from being washed away. A small, partial coffer dam was constructed on the seaward side to blunt the force of the sea. Bones were kept moist, rinsed for several days in tap water to dissolve salts and consolidated over several days with white glue in ever increasing concentrations. After drying the bones were wrapped and boxed for the museum. The skeleton remains to be fully studied. Without the crania, a more informed assessment of sex, age, and possibly race could not be made from our cursory investigation.

On March 28, 2004 an email was received stating that a skull had been found by a beachcomber a year ago. After reading the article in the local paper about the skeleton the individual contacted the NCHS. The skull was still in his possession and he wished to give it to the museum—all teeth intact. The odds that these two belong together is remote but not beyond the realm of possibility. A future trip to Nevis with forensic experts may answer the obvious question.



Figure Ap4-1. Burial during excavation. The hard-pan sand matrix was hard as stone. The full skeleton was recovered (sans crania) and is being curated by the NCHS.

## **APPENDIX 5**

**Changing Technology of Sugar Production.  
Comparison of Spanish Train with Jamaica Train.**

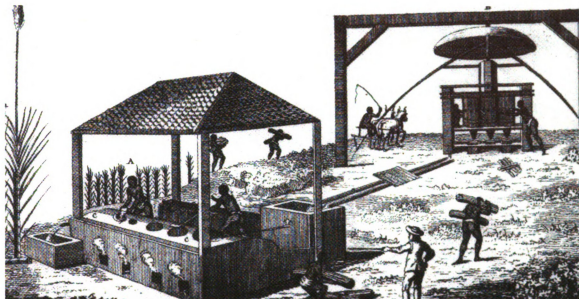


Figure Ap5-1. Boiling table or Spanish train. The sugar is boiled in coppers, each with its own fire. The structure pictured is similar in scale and design to finds on Nevis, Phase I and II. Cane is being crushed for juice by a three-roller vertical animal mill. Juice runs through a sluice or channel on gravity feed to a retention tank. The old technology was eventually replaced by the more efficient so-called Jamaica train. The innovation was probably by the Portuguese in Brazil. Source: Owen's Dictionary Vol. VII, 1775. The Bancroft Library, University of California, Berkeley.

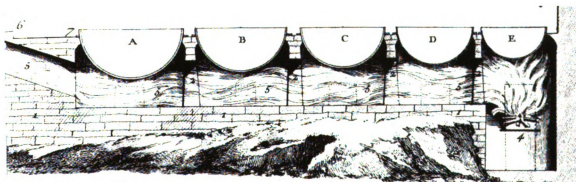


Figure Ap5-2. Jamaica train. In this technological advancement for sugar manufacturing only one fire (4) is used. A chimney (6) draft allows heat to be drawn under the coppers allowing for more control over heat. The system is easier to control and requires less labor. Copper A is where sugar processing begins and syrup is moved toward copper E at appropriate stages of refinement; large copper to small. Source: *Recueil De Planches sur Les Sciences* (Paris) 1751. Library of Congress, Washington DC.

## **APPENDIX 6**

**Bellin Map, 1758**

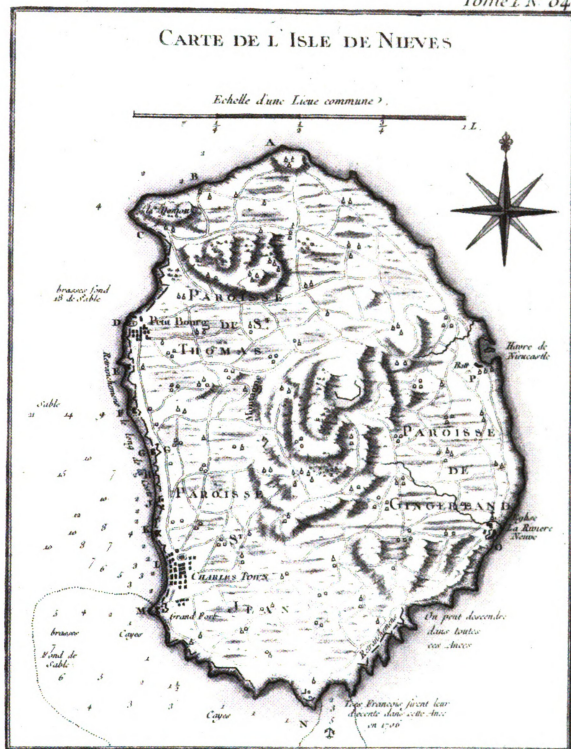


Figure Ap 6-1. Belin map of Nevis of about 1758. Note the defensive works along the western shore. The Town of Newcastle appears in the wrong position to the east rather than at the north. The road system is extensive.

## **APPENDIX 7**

Map of Nevis by  
Governor Alexander Burke Iles, 1871.





## **APPENDIX 8**

Excavation Detail from SW Corner of Jamestown Foundations.

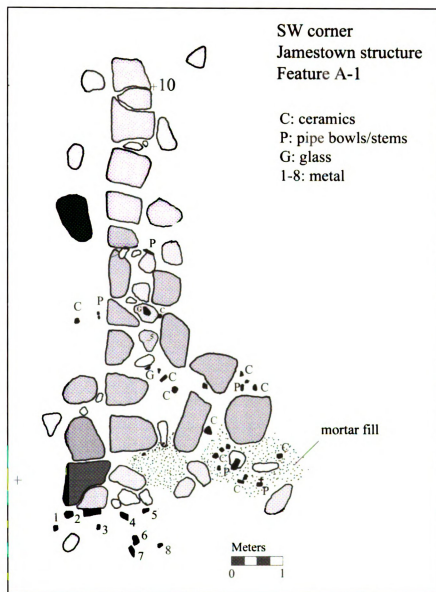


Figure Ap8-1. Southwest corner of Jamestown Feature A-1 foundation showing distribution of artifacts. Pipes and ceramics ranged in date from late seventeenth to mid eighteenth century. Most glass was of nineteenth century manufacture suggesting the corner has been exposed for sometime. Metal fragments were unidentifiable corroded wrought iron.

## **APPENDIX 9**

**Shovel Test Profiles from Jamestown Site.  
A Representative Sample from the Grid.**

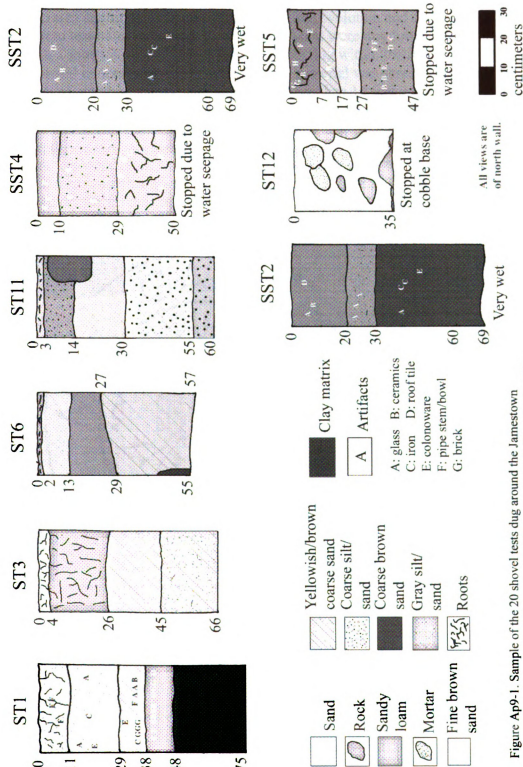


Figure Ap9-1. Sample of the 20 shovel tests dug around the Jamestown structures. In most cases soil was found to be very wet at shallow depths. Wet sandy matrix suggests beach front construction for the site. Depths are given in centimeters.

Shovel tests at Jamestown were dispersed over a grid pattern covering the entire survey area and generated additional data concerning shoreline evolution and site history. Twenty standard test holes measured 30 cm to aside, and were dug following natural stratigraphy in a squarish shape. Shovel tests were not dug within the interiors of structures to avoid unnecessary site disturbance. All material was screened through 1/8 mesh.<sup>1</sup> Results of our shovel tests were surprising. Less than 10 feet west of the foundations (Feature A) rich sandy loam was reached at 40 cm depth. Water seeped back into our test holes at 60-70 cm depth. Test holes located close to the modern road reached a meter in depth without encountering water, but sandy loam was reached at 50 cm depth. Artifacts were recovered from each level. In one case an entire mattock, or cane hoe, was unearthed along with another edged iron tool Figure Ap9-2(no.3). A sterile level was never achieved due to groundwater seepage.



Figure Ap9-2. Cane hoes found during survey and shovel testing. Specimen 3 was found in a shovel test at Jamestown site.

<sup>1</sup> This mesh was much too fine for practical purposes because the soil matrix of organic material and sandy-clay could barely be passed through the screen. The 1/8 mesh, however, was all that could be obtained locally until the following season when ¼ inch mesh became available.

## **APPENDIX 10**

**Conflicts Influencing Colonial Development in the Caribbean  
with Particular Emphasis on Conflicts Affecting Nevis.**

Table Ap 10-1. Chart illustrating the periods and duration of various conflicts in Europe, North America and the Caribbean that influenced development on Nevis. Affects could be positive or negative. For planters either by affecting prices for products, disrupting shipping, or by interfering with rivals r cutting off trade partners.

Conflict in the Caribbean ( European conflicts fought in the Caribbean)

Seventeenth Century		Eighteenth Century		Nineteenth Century	
1600		1700		1800	
		1702	War of Spanish Succession	1805	Napoleonic War cont.
		1706	France invades Nevis		
				1812	War with United States
		1713			
1618	Thirty Years War				
1627	*Nevis Settled				
1629	*Spanish attack Nevis				
1630	English Civil War				
1640				1833	Emancipation
1648					
1652	First Dutch war				
	*War with Spain				
1654					
1655	Cromwell's Western Design				
		1756	Seven Years War		
		1763			
1665	Second Dutch War				
1667					
1672	Third Dutch War				
1674					
		1776	War of American Independence		
		1782	France invades Nevis		
1688	War of Grand Alliance vs. French and Dutch				
		1789	Haitian Revolution		
		1792			
		1793	French Revolution & Napoleonic wars		
1697					
Data based on Merrill 1958; Pares 1936; Newton 1967; Hubbard 1996; Davis 1962; Williams 1970					

## **Appendix 11**

Mean Manufacturing Dates for the Various  
Ceramic Types Recovered During Surface Surveys on Nevis.



Table Ap 11-1. Ceramic types from Nevis. Median manufacturing dates for common colonial ceramic artifacts. Date ranges are shown to illustrate possible use periods.

	1600	1650	1700	1750	1800	1850	1900	median
Pearlware					-----*			1790
Painted					-----*			1797
Whiteware						-----*		1860
Shelldged					-----*			1772
Willow pattern						-----*		1812
Dot/diaper, basket					-----*			1752
Creamware					-----*			1782
Transfer-printed (on white wares)								
Blue					-----*			1792
Green					-----*			1792
Brn/blk					-----*			1815
Agate/marble ware					-----*			1780
Yellow&brn slip decorated					-----*			1730
Polychrome						-----*		1830
Annularware					-----*			1802
English Delft								1670
Dutch Delft								1675
Porcelain								1730
Earthenware								
Slip					-----*			1787
Coarse					-----*			1787
Stoneware								
Saltglazed					-----*			1762
Belramine					-----*			1675
Brown mottled					-----*			1733
Rhenish gray					-----*			1707
Westerwald					-----*			1700
Colonoware								1740

Sources used for compiling these date ranges include, Sempill 1944; Mayes 1972; Noel Hume 1974, 1985; Adams and Boling 1989; Allan 1999; Barker 1999. The use of these median dates, by default, places most of the sites on Nevis investigated during the present study into Phase II. But it was still possible to assign Phase I dates when ceramic mean dates coincided with architectural data and was combined with date ranges provided by tobacco paraphernalia and glass forms. In particular, Phase I dating in this study was never founded on presence of any single ceramic type. Our protocol required at least two types in addition to other data sets with comparable ranges.

No mean date is provided here for colonoware because data I consider suitable regarding its manufacture is unavailable. The ware was present at most sites and in assemblages assigned to each phase.

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