

‘A brave cedar house’: landscape archaeology at the Overplus House and Grove

By JOHN R. TRIGGS

SUMMARY: From 2004 to 2007 archaeological investigations were conducted at the Tucker family residence known in the 17th century as the Overplus House, and in the 18th century as the Grove. During four field seasons more than 30,000 artefacts were recovered from a complex stratigraphic sequence. In an attempt to understand the role played by the people who created, modified and experienced landscape transformations at the site, a landscape archaeology approach was adopted. This examines the interplay between multiple lines of evidence: archaeological and environmental data, documentary sources and oral history. Artefact studies provide substantive results for comparison with other Bermudian sites.

INTRODUCTION

For almost two centuries the rich agricultural land situated in the ‘Grove’ in Southampton Parish was home to one of Bermuda’s most influential families (Fig. 1). During the 17th and 18th centuries, seven generations of the Tucker family resided at the Grove in a continuous unbroken occupation. Archaeological investigations on the site seek to elucidate aspects of this period in Bermuda’s history by examining the Tucker family’s imprint on the landscape in an episodic progression from 1617 to 1799. As a way of accomplishing this goal an integrative research design has been adopted whereby the built landscape or the home lot,¹ i.e. the house, outbuildings, fences, roads, etc., and the human element — the aggregate of individuals comprising the household and their associated material culture — are viewed as inextricably linked to the natural landscape. At the site level of analysis the adoption of a landscape archaeology paradigm holds that the human and natural environments are inseparable, and in fact any such dichotomy is artificial so that a more appropriate conception of landscape would employ the terms *affected* and *unaffected*.² In general terms archaeological studies of landscapes encompass the view

that landscapes are artefacts³ — dynamic entities that are shaped by human intervention in meaningful ways, and entities which are perceived, experienced and contextualized by people.⁴

In the present study it is asserted that by using multiple lines of evidence such as artefact studies, documentary sources, archaeological stratigraphy, environmental data and oral history, past landscapes can be reconstructed. Indeed, examining the interplay between these various sources is recognized as essential in landscape studies.⁵ All sources must be considered together in order to contextualize the landscape in social and economic terms. Previous studies in landscape archaeology have addressed methodological issues involving artefact analysis,⁶ and more recently the correlation of documentary records with archaeological context. In his study, Mrozowski used the Southian Mean Ceramic Dates with attached standard deviations as a tool to isolate specific household assemblages. These were linked to documented dates of household transitions, and related to external forces (e.g. market forces of capitalism) and internal forces (internal household economic networks not geared to profit). Other types of artefact analyses such as minimum vessel counts, sherd frequency and artefact size as an indicator of curated and

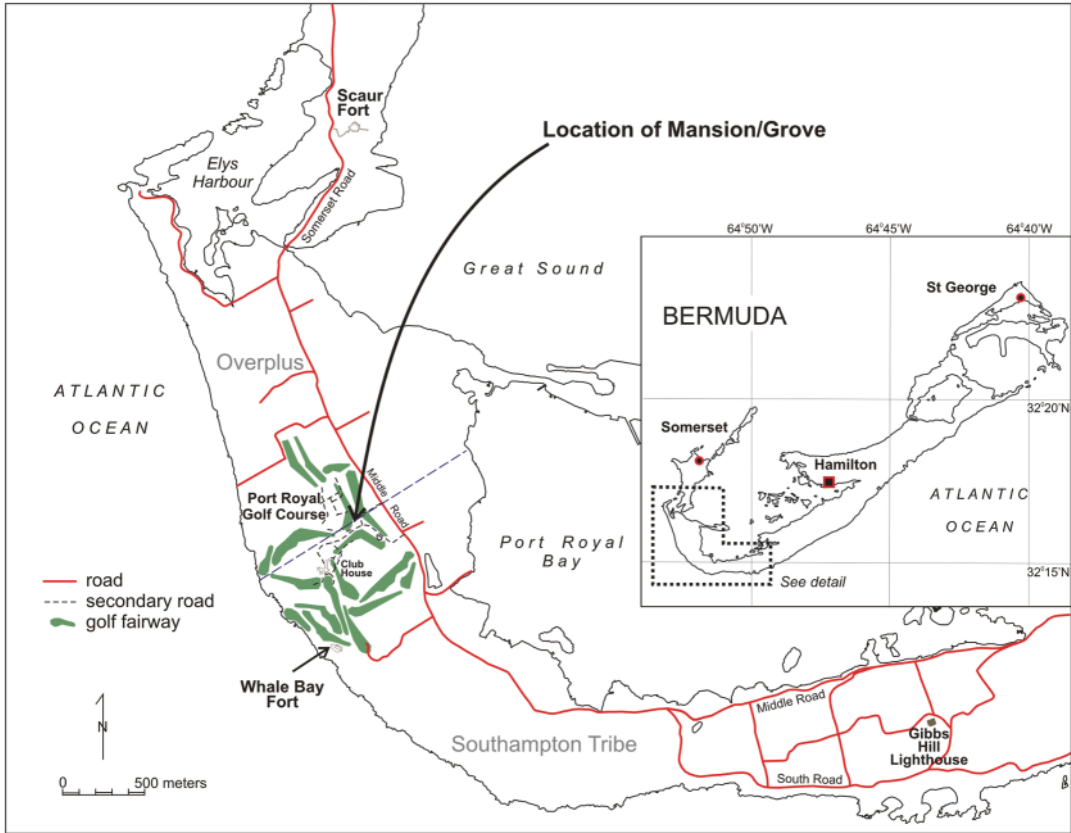


FIG. 1

Map showing the location of the Grove excavations in Southampton Parish, Bermuda (image by P. Schaus, Dept Geography and Environmental Studies, Wilfrid Laurier).

secondarily deposited items were examined in an attempt to link the ceramic assemblages to specific households.

Groover outlined an effective method for achieving his aim of relating changes in household structure and organization to landscape alteration.⁷ His contention is that changes to the life cycle of the household, changes in size, organization and generational succession, are often catalysts resulting in landscape alterations. This is especially evident on sites where a lineal family has occupied a home lot for more than a single generation. Periods of landscape stasis, alteration, and changes in settlement patterns were shown to coincide with changes in household cycles even to the extent that Groover was able to conclude that such changes occurred five to ten years before or after a household transition.⁸

While these studies address the overarching problem of linking the documentary record to

the archaeological record using artefact studies, to date there has not been a significant attempt to examine home lot landscape history within the context of a detailed *archaeological history* of a domestic site. A fine-grained stratigraphic analysis is fundamental to any archaeological study, whether a landscape study or otherwise, since this serves as the framework within which artefact studies, environmental data and oral history and documentary sources are examined. Critical as it is to landscape study, control over archaeological context, i.e. stratigraphy, is often absent from this type of research, or it is relegated to lesser importance in relation to larger questions of social, political and ideological forces that may have been active in the creation of domestic landscapes in the past.

This oversight stems partly from the unfortunate tendency to dismiss many archaeological sites — urban and rural — as being disturbed or as

being composed of secondary fill deposits.⁹ Yet it is clear that in fact most sites could be categorized in this way. Moreover, the ‘pristine site’ — one devoid of later disturbance — may contain even less culturally meaningful material than one that has been occupied for successive generations. Consequently, archaeologists must move beyond the *Pompeii premise*¹⁰ and realize that it is not theoretically sound, nor methodologically rigorous, to target a specific period on a site at the expense of all other periods. Beaudry argues correctly that sites with multiple occupation periods composed of different types of deposits — primary and secondary — contain more information because the nature and scale of landscape alterations can often be correlated with changes in a household’s composition, social and economic condition.¹¹ Rubertone also comments on the importance of fill deposits and notes that massive landscape alterations, which result in a changed topography, should be viewed as ideotechnic artefacts that are material expressions of the social order and economic system that created them.¹²

In landscape study it is also true that documentary research is just as important as stratigraphic analysis. Conducting historical research on any given site involves mining the archives for information found in a wide variety of primary sources and in some ways it is similar to genealogical research in that it focuses on a specific family history. The difference is that in landscape archaeology the information on household composition, names, dates of birth, death and marriage, is not viewed as an end in itself, but for insight into the broader context that links the family to the home lot. Constructing a fine-grained chronology of the household¹³ allows for an examination of how the home lot was experienced, perceived, and transformed by succeeding generations.

Even when the documentary record is rich, correlating historic households with the archaeological record remains a challenging endeavour. Establishing the linkage between specific households through time and archaeological context requires that the two different chronologies, archaeological and historical, be interwoven to produce a complete fabric representing the unified history of the site. In the present study the dates of occupation for each of the several generations of the Tucker family, a *lineal family*¹⁴ in residence at the Grove over a 200-year period, were established based on the highly variable quality of the documentary information that was available. Seventeenth-century documents were fewer in number, different in nature, and literally rife with holes due to active deterioration of the very material, compared to the 18th-century documents,

which presented their own unique challenges. These issues notwithstanding, a unified chronology was constructed for the site, albeit one that required some conjecture and intuitive guesswork — exercises not unfamiliar to archaeologists and historians alike. It is this chronology which serves as the interpretative framework for all subsequent analyses presented.

With a few notable exceptions there is not a substantial body of published material on domestic sites in Bermuda.¹⁵ Earlier studies are for the most part site-specific, and although artefact studies, genealogical research and stratigraphic analyses are important elements of these articles, the body of extant research could not be described as studies in landscape archaeology. This paper is intended as a substantive contribution to home lot archaeology on the island within a landscape archaeology paradigm, wherein are presented some of the more significant results of the work carried out at the site commonly referred to as the Grove. Approaches to complex stratigraphy and the need to establish temporal context on a complex site are discussed, as well as the problems inherent with integrating archaeological with documentary sources in chronology-building. Analysis of various artefact classes provides a means of comparison with other Bermudian domestic sites and leads to potentially broader conclusions regarding Bermuda’s place in the Atlantic world economy. Preliminary analysis of environmental data — pollen and faunal remains — is also presented, although more detailed results are forthcoming.

Interspersed throughout the text — *in italics* — are excerpts, transcribed by Pamela Schaus, from an interview with Mr H. Francis Stephens who lived at the Grove when it was a working farm in the 1940s (Fig. 2). Mr Stephens, in his 86th year, kindly agreed to an interview at *Elycott*, home of Edward C. Harris, in Bermuda in June 2008. His remembrances of the Grove paint a vivid picture of the property more than 60 years ago and add a unique first-person account of the Grove and rural life in Bermuda that harkens back to previous centuries. As a source of landscape history, the oral history also provides the valuable link relating the human element to the physical element.

RECONSTRUCTING THE AFFECTED AND UNAFFECTED REGIONAL AND HOME LOT LANDSCAPE

In order to appreciate the landscape changes that took place at the Grove over a period of almost four centuries it is necessary to understand the external forces that acted on the landscape during



FIG. 2

Aerial photograph of the Grove, c. 1940, showing the house and outbuildings in a rural setting (image courtesy of the Bermuda Government).

the first decade of settlement. From 1613 to the 1620s the Bermudian landscape was completely transformed as a result of the external economic forces of capitalism. That is to say, the colony of Bermuda was originally conceived as a company-owned enterprise — initially the Virginia Company until 1614, and then the Somers Islands Company — shares of which were sold to investors whose primary goal was not settlement *per se* but the generation of capital through various enterprises, predominantly cash crops. Contemporary descriptions provide a glimpse of the Bermudian landscape, which in so many ways was a transplantation of 17th-century English culture and economic aspirations.¹⁶ Bermuda was viewed by the colonists and investors as a ‘blank canvas . . . unsullied by previous occupation’. As Silvester Jourdan wrote in 1610, ‘Wherefore my opinion sincerely of this island is that whereas it hath been and is still accounted the most dangerous, infortunate, and most forlorn place of the world, it is in truth the richest, healthfullest, and pleasing land (the quantity and bigness thereof considered) and merely natural, as ever man set foot upon’.¹⁷

Within a decade, however, this paradise was transformed by the introduction of new species of plants and animals. During the first few decades of settlement, land was cleared and a new labour force of enslaved Africans and Native Americans were brought to the island in an attempt to integrate Bermuda into the New World tobacco economy which was thriving in the Chesapeake.

One of the earliest descriptions of the island flora in 1619 is also the most detailed account available of the native and introduced species at the time of settlement:

The cuntry when we first began the plantation was all over-grown with woods and plants of several kinds: . . . Such kinds as were unknowne to us (which were the most part) we also gave names: as in cedars, palmettoes, blackwood, whitewood, yellow wood, mulberrie-trees, stopper trees, yellow berry weed, red-weed: These and many others wee found naturally growing in the cuntry . . . But since it hath beene inhabited there hath beene brought thither, as well as from

the Indies as from other parts of the world, sundry other plants, as vines of several kinds, sugar canes, figge-trees, apple-trees, oranges, lemons, pomegranates, plaintains, pines, parsnips, raddishes, artichokes, cassivi, indico and many other. In so much that it is now become as it were some spacious Garden or Nourcerie of many pleasant and profitable things.¹⁸

Other food crops mentioned in early descriptions of Bermuda are corn, wheat, beans, melons, and 'cowcumber'.¹⁹ Another commodity, tobacco, was of economic importance during the first decade of settlement, although the significance of this crop waned in subsequent decades.²⁰ Seventeenth-century accounts are important sources of information because they describe not only the indigenous plant and animal life at the time of settlement but also the introduced species.

In the present study, although sediment samples were taken routinely from several stratigraphic contexts in each year of excavation, recent laboratory analysis did not reveal a single pollen grain from any of these contexts. The problem is due to the percolation of pollen grains through the soil by groundwater and the probable destruction of palynomorphs through aerobic fungi.²¹ The same problem was noted at Jamestown where pollen more than 100 years old was absent in all cases, unless sheltered by large artefacts, shells, or wherever the sediment had become cemented in iron concretions.²² Given these rather deflating results it was heartening to find that pollen did survive in another context.

In 1617 'some five or six of the best, experienced men made a search and triall for fresh water'²³ at the Overplus which '... in 20 dayes [was] found ... 44 feete Deepe'.²⁴ The veracity of these statements was born out in 2008 when the well described was sampled for environmental data.²⁵ A preliminary survey of the area by Edward Harris and Kate Meatyard tentatively identified the well described in 1617,²⁶ which today is located between two fairways on the Port Royal Golf Course (Fig. 3). The well is about 42 feet (12.8m) deep and 7 feet (2.1m) in diameter at the top, narrowing to about 4 feet (1.2m) at the bottom (Fig. 4). In 2008 the author descended to the bottom of the well to retrieve core samples of the sediment for pollen analysis. The sediment sample recovered revealed evidence of indigenous species and a variety of introduced species (Table 1).

... and you came to the well. Now the well was about this high, built up and I guess it was at least 8 feet across, then a big cedar tree next to it ...

The pollen assemblage resembles that in historic period Bermudian pond sediment²⁷ in that it contains those of introduced weeds, e.g. *Plantago* and *Ambrosia* and trees *Casuarina* and *Fraxinus*. *Juniperus bermudiana* pollen and spores of juniper rust were also found in abundance. The *Quercus*, *Carya* and *Pinus* probably were blown from North America [and the] *Palmae* pollen is likely to have come from introduced species rather than from the native *Sabal*. No pollen of food plants was identified.²⁸

Unfortunately, in the absence of stratigraphic context, there is no way to determine the order of introduction, nor the rate of introduction of various species. However, the presence of conifers, *Juniper bermudianis* especially, as well as pine, together with the other four species of trees supports the historical descriptions of the shaded and verdant Grove. The predominance of cedar is not too surprising given the description of Francis Stephens above, but the quantitatively overwhelming presence of cedar in the pollen sample reminds us of its importance as a commodity and therefore as a source of household or family wealth.²⁹ Cedar is listed in inventories and wills from the 17th through to the 19th century, frequently with provisions made for its conservation, suggesting that even from the earliest days it was viewed as a non-renewable resource to be used for shipbuilding and construction.

P.S. Now, what kind of fish would you catch?
F.S. Oh, pines, snappers, lots of snappers, lots of snappers out there. Rockfish, there are some nice little shoals out there.
P.S. Are those fish still the ones that you would catch today or are some of the fish ...
F.S. All gone! Nothing is sustainable anymore.

Fauna in Bermuda at the time of contact included eels in freshwater ponds, a variety of fish (mullet, bream, hogfish, rockfish, lobster), turtles, seafoal called

'Cabouze' and 'Pimlicoos', hogs (introduced by the Spanish probably in the 16th century), and wild cats.³⁰ 'Domesticated animals' introduced to the islands included 'calves, lambs, cocks and hens', all of which were present by 1614.³¹

As with flora the remains of fauna found in dated archaeological contexts yield important information on the rate of introduction, proliferation and relative contribution of these species to diet in the 17th and 18th centuries. Fish remains also yield potentially useful information on changes in the aquatic environment that resulted from over-fishing during the early decades of settlement. For example, Quitmeyer and Atkins

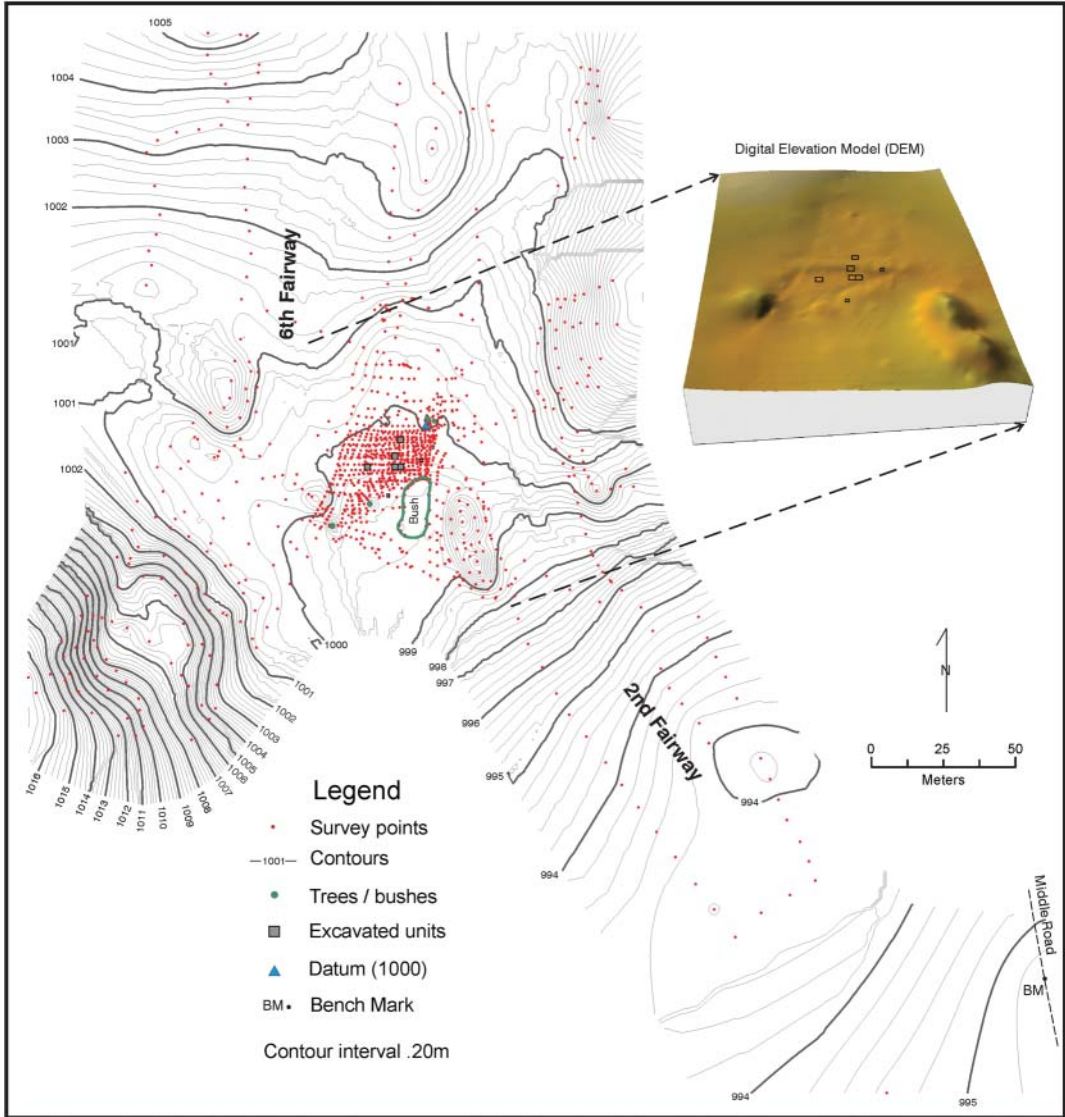


FIG. 3

Topographic plan of the Grove excavation area on the Port Royal Golf Course (graphics by P. Schaus, Dept Geography and Environmental Studies, Wilfrid Laurier).

identify a change from preferred reef predators (e.g. groupers and snappers) to an assemblage dominated by fish that were lower in the food chain.³² Particularly during the first century of settlement, such data are crucial for measuring the scale and scope of the human impact on the island ecosystem. Analysis of the rich faunal assemblage from the Grove remains to be done, but the dated archaeological layers and features from which these were recovered provide the necessary

context for examining changes to the affected and unaffected environments.³³

THE AFFECTED OR BUILT-LANDSCAPE AND THE SOCIAL LANDSCAPE OF THE GROVE

Today the Grove, as the house and property were called after the mid 18th century, is situated on the Port Royal Golf Course (Fig. 5), formerly the



FIG. 4

The Grove: view looking down into the well described in 1617 and located adjacent to the excavation area (photograph, J. Triggs).

TABLE 1

Pollen in well sediment at the Grove, as identified by McAndrews 2008.

Latin name	Common name	Pollen grains
Trees		
<i>Juniperus bermudiana</i>	Bermuda cedar	135
<i>Celtis</i>	Hackberry	13
<i>Bursera</i>	Naked Indian	6
<i>Carya</i>	Hickory	5
<i>Pinus</i>	Pine	2
<i>Quercus</i>	Oak	2
Total		163
Herbs		
<i>Dryopteris</i> type	Fern	14
Poaceae	Grass family	12
<i>Bunchosia</i> type	Peanut butter fruit	5
<i>Plantago</i>	Plantain	4
Tubuliflorae	Aster type	3
<i>Freziera</i> type	Tea family	3
Chenopodiineae	Chenopod	2
<i>Ambrosia</i>	Ragweed	2
Apiaceae	Carrot family	2
<i>Sida</i>	Broomweed	2
<i>Salix</i>	Willow	1
Cyperaceae	Sedge family	1
Total		51

‘Overplus’, a parcel of 207 acres at the western end of Southampton Parish. Surveyed by Richard Norwood in 1616, the Overplus consisted of seven shares each of 25 acres, of which Capt. Daniel

*P.S. What was it called then?’
F.S. The Grove. Oh yeah . . . referred to as the **Overplus**. You know Norwood came out here to do that survey . . . and he got everything right up until they got to the Grove and then things went bonkers. And then he started, I believe, from Ireland Island, and started to work back, and it went ok until he got to where — is, and then it all went bonkers again. And that is how it got called the **Overplus**, because old Tucker tucked it away for himself.*

Tucker, Bermuda’s second governor, managed to acquire three shares.³⁴ Soon thereafter, Governor Tucker began to ‘frame and erect a very substantial and brave cedar house upon this piece of delicate ground . . .’³⁵ referred to as the **Overplus House**

in 17th-century correspondence. With the exception of a vignette of what may be the Overplus mansion on an early 17th-century map (Fig. 6), no other depictions of the early manor house exist. However, Smallhythe Place in Milton,

*A cottage [an outbuilding on the property] a typical Bermuda gable cottage, just one gable. It had a kitchen, a dining room and two small bedrooms. Downstairs was, ah, they used to keep potatoes and stuff — a **root cellar**.*

Kent, England, Daniel Tucker’s birthplace, constructed in the 16th century, may have served as an unconscious mental template on which to model the Overplus House. This was a half-timbered building with a cantilevered upper story, steep-pitched roof and widely spaced chimneys. (Clay daub found during the Grove excavations supports the presence of half-timbered building, the spaces between the timbers filled with wattle and daub coated with plaster.) In 1617–18 workers were described as digging **cellars**, others as burning lime and making mortar and yet others as making shingles.³⁶ When completed, the residence was fairly described as ‘. . . a large and handsome [*sic*], and well contrivd house yet by farr the best in the islands . . .’³⁷ Robert Rich in his *Letters from Bermuda 1615–1646* relates what can only be described as an attempt to model the Overplus landscape into an English ideal:

he hath all soe caused my people to make a path to the sayd Overplusse some thirty foote broade and in length way a mile quite through-out planted with figg trees, which . . . required greate labour . . . for a **prospect [approach] to his howse**.³⁸

*Now, when you came in the gate it [the roadway] was **lined with cedar trees** . . . You came in and it had two big stone pillars there with The Grove written on it.*

Within two years, 50 acres had been fenced and two acres cleared and planted in fig trees and 120 acres of vineyard.³⁹



FIG. 5

The Grove: view looking north-east, showing the excavation area between the two fairways (photograph, J. Triggs).

Daniel Tucker lived at the Overplus House from 1618 until his death in 1627 when the estate was willed to his older brother George's children.⁴⁰ References to the 'Overplus House' appear in various 17th-century civil records until 1684, when the Somers Islands Company ceased to be the governing jurisdiction in Bermuda. In the absence of land title records the civil records compiled and transcribed by A.C.H. Hallett were a valuable source in the construction of a record of occupation at the Overplus House and for contextualizing the household and the place itself within 17th-century Bermudian society.⁴¹ For generations, the descendants of George Tucker were members of the Bermudian social and political elite and as such they assuredly accepted the traditional values and mores that characterized all those of their social station.⁴² In the middle decades of the 17th century the Tuckers served as members of the government, particularly Capt. George Tucker, Sheriff; Henry Tucker, Secretary; and Capt. Francis Tucker. During these

decades the Overplus House served on occasion as the meeting place for Council when held outside St George's.⁴³

With the death of Capt. George Tucker in 1670, ownership of the Overplus property and house was contested and eventually the court awarded the property to cousin St George Tucker ('gentleman'), plaintiff, over the brother, Francis Tucker ('gentleman'), defendant.⁴⁴ An account of Capt. George Tucker's estate upon his death provides some interesting details on the Overplus House and property, and the economic activities of the family in the middle decades of the 17th century.⁴⁵ For example, payments in 1669 amounting to several hundred pounds sterling included remuneration to workmen such as masons, who were engaged in the burning of lime for making repairs to the house, glazing windows and carpentry. Building materials purchased include nails and bricks (presumably a costly commodity as all bricks had to be imported), which also point to a

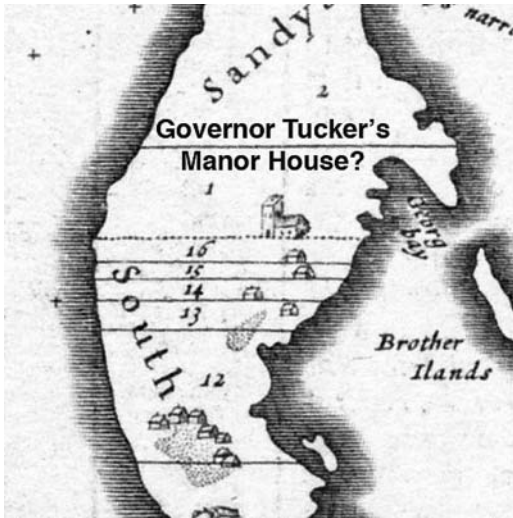


FIG. 6

Detail from John Speed's 1626 map of Bermuda: the Overplus mansion may be the large building with a tower on the left side (image courtesy of the National Museum of Bermuda, modified by J. Triggs).

house that was not only in need of constant repairs, but also one for which care was taken to maintain in a good state of repair. Indeed, succeeding generations of Tuckers maintained the property and enlarged the house not only out of necessity, but more out of a conscious attempt to demonstrate to visitors and islanders alike that the Tucker family held social prominence and exuded the genteel character of a refined family of notable societal rank.⁴⁶ This need to maintain social status was paramount, particularly for a merchant family who may have been viewed by members of the highest social ranks as upstarts.⁴⁷ Accounts make it clear that Capt. George Tucker was a member of this emerging merchant class engaged in trade of commodities such as rum, wine, salt, tobacco and probably slaves.⁴⁸ Throughout the 1670s and into the 1680s, a pattern of land partition and rental to tenant farmers is alluded to in several assize court rulings in which rent is awarded to St George Tucker from planters who failed to keep dwellings in good repair and others who illegally cut down cedar trees.⁴⁹ Commercial activities are also evident in the purchase, in 1677, of a ¼-share in the barque, *Ann and Rachel*.⁵⁰

In the first decades of the 18th century, oral tradition suggests that another residence, the **Grove** (Fig. 7) was built, according to at least one contemporary historian, on the site of the 17th-century Overplus House.⁵¹ By this time the Tucker family

The old Grove property I remember quite clearly. It was a single storey building with regular Bermuda roof . . . had extremely thick walls . . . the walls were thick enough that you didn't have blinds on the outside, the blinds were on the inside and folded back.

Ah, that building had a long verandah on the front and I always remembered because over this main entrance they had a fanlight with all the different colour glasses in it, you know. It seemed to be the thing at that period of time . . .

St George Tucker (1752–1827), who was sent to Virginia to further the family fortunes, point to a brisk trade in salt, indigo and large quantities of tobacco.⁵² Commerce was also conducted in staples such as flour and rum. Trade in commodities is sometimes mentioned where, for example, corn from Virginia was shipped by St George Tucker in Williamsburg to Bermuda in exchange for salt in 1779.⁵³ At the very centre of this expanding network of commercial wealth and political power was the family seat, the Grove. In the 18th century the Grove was the enduring foundation for the Tucker family, no matter how far flung its members — in London, New York and Virginia. It symbolized family stability, longevity and power, and it was the place where generations of Tucker family members were nurtured by doting parents.⁵⁴ The psychological attachment to the place is evinced in a poem, *The Bermudian*, written in 1774 by Nathaniel Tucker, Col. Henry Tucker's son

Beneath my bending eye, serenely neat,
Appears my ever-blest paternal seat.
Far in front the level lawn extends,
The zephyrs play, the nodding Cyprus beds,
A little hillock stands on either side,
O'erspread with
evergreens, the garden's
pride,
Promiscuous here
appears the blushing
rose,
The **guava** flourishes, the
myrtle grows,
Upon the surface
earthborn woodbines
creep,
O'er the green beds the
pointed sturtians peep,
Their arms aloft triumphant
lilacs bear
And jessamines perfume
the ambient air.

But I would think the main timber would be Bermuda cedar trees with a few Fiddlewoods thrown in and of course undercover Apple Sage bush that was it. The forestation was thick. It's incredible when I think about it . . . just off of the croquet lawn there were some fruit trees there. But there were guavas, as I remember them. Guavas used to be very popular here in their time.

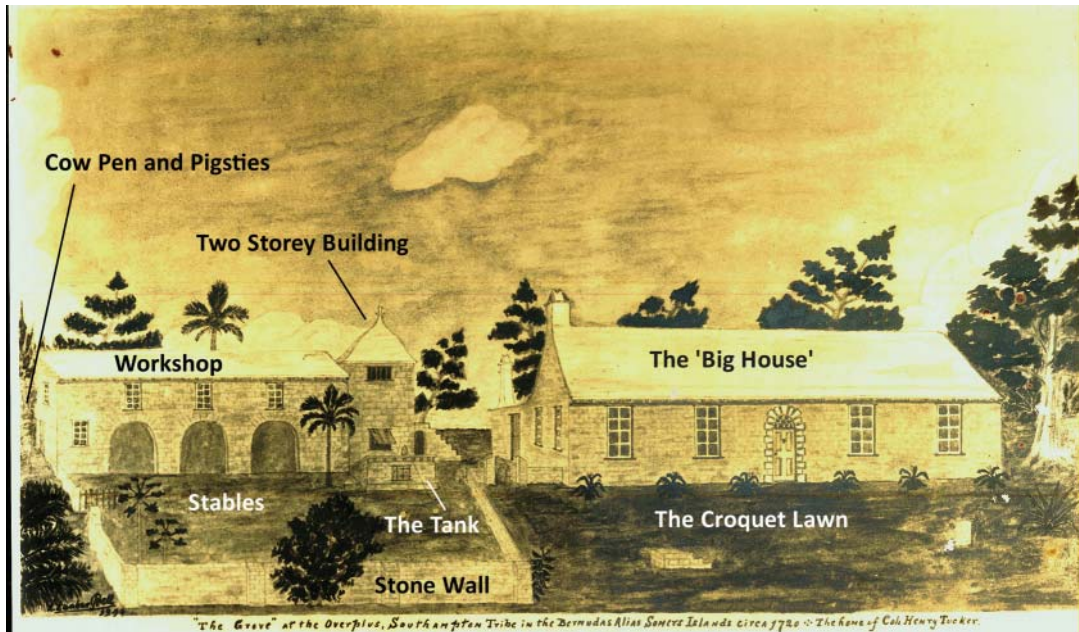


FIG. 7

Drawing of Grove by L. Dunbar Bell, 1940, with accompanying reminiscence by Mr H. Francis Stephens (image courtesy of the National Museum of Bermuda, modified by J. Triggs).

Now, out in front of the house there was quite a large lawn. It was a croquet lawn, completely surrounded with rose gardens . . . And, now when you pass the big house, you went down to the old part and at the end of that, on the right hand side there was a tank, and then there was a building, and I made my workshop up there. I guess it was a harness room originally. And down below there was three or four stables with arched fronts, and then around the corner there was a cow pen and pigsties, and right at the end there was a big two storey building, which I never quite understood because it didn't have any stairs in it, but it had a second floor, but it had a hoist on the outside, so I guess they used to hoist stuff up there. No fences, a lot of stone walls.

In the 18th century, the kinship ties within the Tucker clan were strong and far-reaching politically and economically. With the death of Col. Henry Tucker, possibly due to a smallpox epidemic in the 1780s, his wife Anne (Butterfield) Tucker stayed at the Grove with her daughter Elizabeth who was also stricken and made ill at that time. With the death of her mother in 1787, Elizabeth Tucker apparently left the Grove despite her brother Henry's offer to allow her to 'keep the house, servants, furniture etc.'⁵⁵ This marks the end of the Tucker family's tenure at the Grove.

What remained of the land, 25 acres, was sold by Henry and his wife Frances Tucker to John Nash in 1799. A thorough description of the property and landscape is provided in the indenture, listing 'houses, outhouses, edifices, buildings, orchards, gardens, lands, meadows, commons, pastures, treelings, trees, woods, underwoods, ways, paths, passages, ponds, islands and parts of

islands, waters, water courses, wards, landings, landing places . . . [and all rights] to profits, commodities . . . rents and services . . .'⁵⁶ Soon afterwards the dwelling house and outhouses, situated on nineteen acres of timber and pasture land, was sold to widow Mary Burrows, wife of Thomas Gilbert, whose family was interconnected with the Tucker family slave trade in the mid 18th century.⁵⁷

My great grandfather R.B. Munro, came out here with the Admiralty. Now, I read this somewhere, he was a horticulturalist but I don't know about that, I think he might have been a good gardener or something like that . . . everybody overrates themselves . . . He was not a pirate, he was not in the shipping trade, but he did marry a Tucker.

Mary Burrows died in 1844 and left the house to her daughters, one of whom, Elizabeth, did not marry and remained living at the Grove for another 30 years.

In the mid-19th century the Grove is described as having 'all the appearance of a

snug English cottage. The approach is shaded by an avenue of fine tall forest trees; and scattered clumps of cypress, lime, orange and magnificent West India locust trees on the smooth verdant lawn'.⁵⁸ Subsequent transfer of the property occurred in 1875 when **Robert Bishop Munro** acquired ownership of the house and 9½ acres. The property known as the Grove remained in the Munro family until it was sold in the 1960s to the Port Royal Golf Course.

TUCKER FAMILY GENEALOGY AT THE GROVE

Genealogical research was carried out to establish a chronology of land ownership and occupation by the Tucker family at the home lot, variously referred to as Port Royal, Southampton and the Grove. Between 1617 and 1800, seven generations of the Tucker family were resident here. Household size fluctuated through the generations with numbers ranging from as few as a married couple and two children, to as many as ten children, as well as extended family members. In addition, each 17th- and 18th-century household held slaves, and

although there is no record of indentured servants to date, it is reasonable to expect this was the case. At the beginning of the 19th century the property transferred out of the Tucker family to the Burrows family, who were related by marriage to the Tuckers. Although space does not permit a detailed generation-by-generation chronology, Table 2 does provide basic information on dates of tenure and household size. Based as it is on all the available information, the chart summarizes the inter-generational data, most significantly the dates of 'ownership' by the head of the household, and the connection between this and the archaeological periodization (discussed below). The table serves as a framework within which questions of landscape change as a result of household succession can be examined, as well as the changes that may have been occasioned by changes in household composition. The latter data are presented in the right-hand column where the documented members of the household — those directly involved in the productive and reproductive activities on the home lot — are recorded. The generations and periods are colour-coded to correspond to the stratigraphic matrix (Fig. 8).

TABLE 2
The Grove: genealogical and archaeological periodization.

Archaeological period	Generation	Dates of ownership	Head of household	Born	Died	Spouse/ext. family/child
II	1	1617–25	Capt. Daniel Tucker	1575	1624	3
II	2	1625–44	George Tucker III	1593	1644	5
II	3	1644–62	Capt. George Tucker IV	1621	Post-1662	10 (7 slaves)*
II	4	1672–1710	St George Tucker I	1651	1710	13 (15 slaves)
II/III	5	1710–34	Capt. Henry Tucker I	1682	1734	11
II/III	5a	1734–40	Frances Tudor (widow)	1681	1772	
IV	6	1740–61	St George Tucker II	1710	1761	6 (2 slaves)
IVa	6a	1761–87	Col. Henry Tucker II	1713	1787	7
IVa	6b	1787–98	Ann Butterfield (widow)	?	1797	14
IVa	7	1798–1800	Henry Tucker III	1742	1808	?
IVa	6b	1798–99	Elizabeth Tucker (spin.)	1747	1826	?
V	8	c. 1800	Mary Burrows			?
V	9	1800–33	James Burrows (son)			?
V	10	1844–	Elizabeth Burrows			?

* Documented cases of slaves only are included in this column.

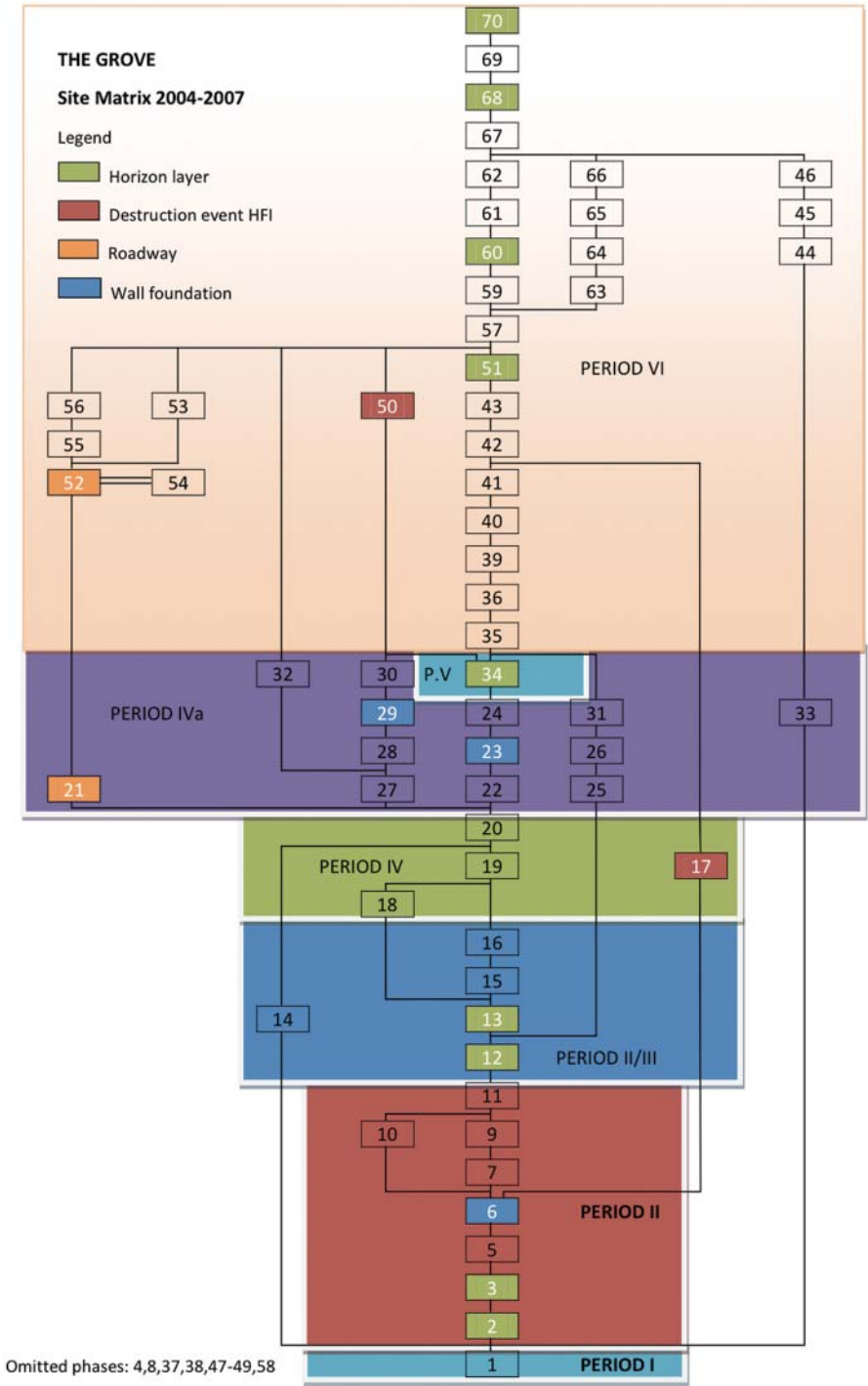


FIG. 8

Harris matrix for excavation area at the Grove showing phases [numbered boxes] and periodization (graphics by J. Triggs).

CONSTRUCTING THE ARCHAEOLOGICAL CHRONOLOGY

Excavations at the Grove took place between 2004⁵⁹ and 2007. Approximately 35 days were spent on site over that period. During that time 22 units covering 75m² (Fig. 9) were excavated using a stratigraphic methodology and the Harris matrix method of recording.⁶⁰ Stratigraphic analysis can be, and usually is, a time-consuming and meticulous part of the post-excavation process. The stratigraphic archive, consisting of hundreds of pages of field notes for each season, section and plan drawings, together with field photographs, must be reviewed, read, and referred to constantly. This must be done first on a unit-by-unit basis after which the stratigraphic sequence for each unit is subsumed into a master stratigraphic sequence for the site. The master sequence is constructed by correlating stratigraphic events in separate units on the basis of physical characteristics and superpositional relationships. Correlations are depicted on a chart with each row representing the relative temporal position of each stratigraphic event (e.g. Appendix 1). The stratigraphic sequence at the Grove is comprised of 62 phases, all of which are represented on a single diagram, the stratigraphic matrix (Fig. 8). Each box on the matrix refers to each of the phases shown on the correlation chart. Phases in this sense are stratigraphic events defined by layers, features and interfaces, which represent observable, i.e. recordable, moments in time. The 62 phases have been subsumed into six periods reflecting larger spans of time or major episodes in the depositional history of the site. It bears emphasizing that documentary evidence was not used to define the archaeological periods.

The utility and elegance of the matrix is that it subsumes a plethora of data into a single chart reflecting the occupational history of the site — no matter how complex the stratification. To render these diagrams more readable, colour coding has been used to identify horizons — *layers* that extend across the site; destruction events — represented by the term HFI or *Horizontal Feature Interfaces*; roadways and foundations, both of which are termed *Upstanding Features*. Phases not shaded, but which form an integral part of any stratigraphic sequence, are *Vertical Feature Interfaces* (VFI) which mark an intrusion into existing strata, fill layers, and intrusive features themselves (pits, builder's trenches, etc.). Because these terms are employed throughout the remainder of the discussion, it is useful to look briefly at what is meant by each.

Horizons, widespread layers with both breadth and depth, are significant because it is the surfaces

of these layers which at any given time, and for varied duration, served as the ground surfaces upon which human, animal and plant communities lived. Defined archaeologically, each horizon is the physical manifestation of a past landscape — a living surface — that may have been exposed and trod upon by people at the Grove, sometimes for generations. These types of long-lived deposits representing periods of relative landscape stasis are common features of domestic site stratigraphy,⁶¹ although they are frequently dismissed as sheet deposits not worthy of study, as Beaudry has noted.⁶² Six major horizons, reflecting periods of landscape stability and stasis of varying duration, have been defined at the Grove (Fig. 8).

Although horizons are defined by deposits, containing artefacts and ecofacts, it is the *surface* of the deposit which is properly the unit of study. As Edward Harris has pointed out frequently, any stratigraphic sequence could include almost twice the number of stratigraphic units in recognition of their significance to archaeological interpretation. To paraphrase Harris's blithe commentary, people do not live *in* deposits, trudging around ankle-deep in muck, but instead live *on* deposits. Practically, however, the surfaces of layers are seldom identified for study by archaeologists as the focus tends to be on the deposit instead. It is worth noting that geoarchaeologists do in fact study surfaces when these are defined. The problem is that this is more commonly carried out on sites belonging to prehistory rather than the recent past. Analytical techniques applied to the study of surfaces include sediment grain-size analysis, artefact orientation, chemical signatures, soil inclusions, and sediment density/compaction assessment, to mention but a few. Sherd size has also been used by archaeologists as a potential indicator of the degree of post-depositional disturbance,⁶³ and to distinguish curated items in the archaeological record.⁶⁴

While surfaces were not subjected to geoarchaeological methods of analysis in the present study, the identification and recording of archaeological horizons points out their significance to site interpretation and their value as physical, recordable remnants of past landscapes at the Grove. Total station surveying employed on the site from the first season of work onward has made possible the display of topography in a time-series format. In future studies, the three-dimensional digital images will serve as a point of departure for studying the evolution of the landscape at the Grove.

Horizontal Feature Interfaces (HFI) are stratigraphic units marking the destruction of existing features. As surfaces, HFIs have only two spatial dimensions. These elements are essential to a stratigraphic sequence because they mark a unique event

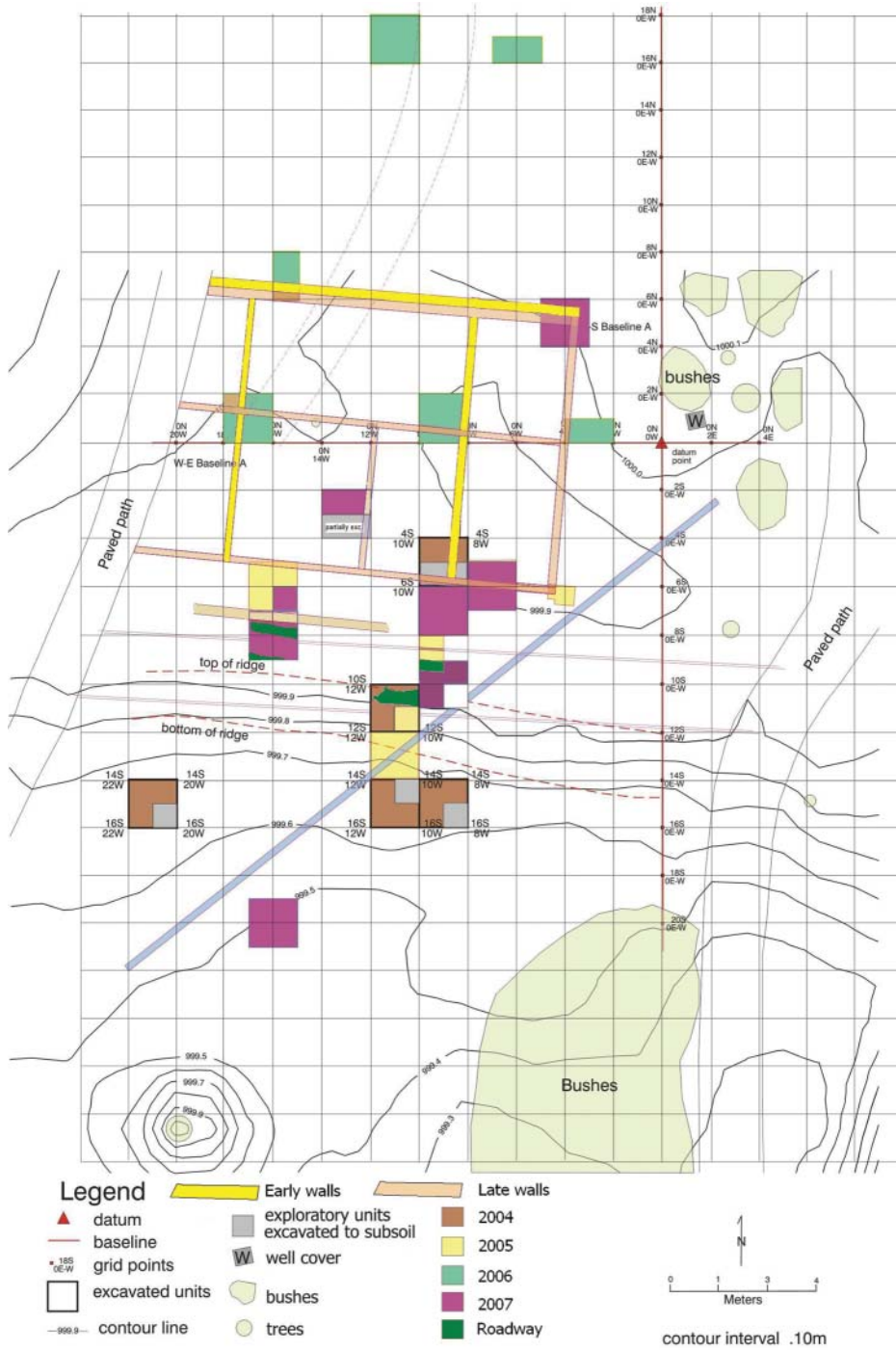


FIG. 9

Site plan of the Grove excavations 2004–07 showing all units excavated (graphics by P. Schaus, Dept Geography and Environmental Studies, Wilfrid Laurier).

in which a previously upstanding architectural element, such as a wall or post for example, was razed, chopped, cut, or otherwise modified from its original upstanding, functional condition. These events are to be expected on domestic archaeological sites where the domicile has been occupied by successive generations,⁶⁵ and modifications to the house may have occurred as a result of changes in household structure.⁶⁶ As stratigraphic elements these are significant too because they are often datable if interpreted in light of documentary evidence. In some cases the date of an HFI can be bracketed by arranging maps chronologically in such a way that the disappearance of a building and the appearance of another in its place become apparent. Actual dates of construction derived from other documentary sources (e.g. deeds, wills, correspondence) may provide a date for a particular destruction/construction event. Even if an absolute date cannot be applied to a specific event, it is the horizontal feature interface which serves as a basis with which to periodize the stratigraphic sequence, because it often marks a significant change to the landscape. The conscious action of eradicating a sometimes long-lived landscape element such as a house or outbuilding may have been precipitated by a change in economic or social circumstances, catastrophic natural events (e.g. hurricanes), a change in household dynamics, or the adoption of a new mindset and world view.

For the same reasons *Upstanding Features* are as significant as HFIs since they represent a conscious attempt to model the landscape according to personal preferences. Upstanding features are elements built with a specific purpose in mind. They represent an investment of time and energy (human labour), resources (natural and monetary), and decisions based on consideration of aesthetics and functionality. They can also be imbued with meaning and reflect everything from the builder/owner's socioeconomic status, religious or secular philosophy, to societal norms. As an element of study, *Upstanding Features* can be examined in terms of the building materials (local vs. imported), construction technique (skilled, unskilled, innovation, tradition), location on the landscape (as part of a larger building complex, integrated with or separate from the natural environment), and life history (duration of use, modification, repair).

Features and Vertical Feature Interfaces (VFI) are always associated with a feature, whether upstanding or intrusive. VFIs are two-dimensional surfaces that define a moment in time marked by the modification of an existing layer and the concurrent creation of a pit, trench, grave, posthole or any of a myriad number of intrusions created by cultural or natural means. The important point is

that the VFI and the feature fill signify different moments in time, and the time elapsed between the creation and later filling must be determined by other means, typically analysis of the contained artefacts. Artefacts found within features such as refuse pits may be functionally specific, or they may be secondary refuse completely unrelated to the feature's original function, e.g. artefacts found within a privy. If, however, a VFI such as a builder's trench interface is associated with a building where the date of construction is known, then any artefacts contained within the feature fill potentially provide a time capsule of material culture: no artefacts will date later than the construction of the building. This does not mean that earlier artefacts will be absent from the feature fill, since these may have become incorporated into the fill of the VFI and disturbed pre-existing layers, but in situations where pre-existing cultural layers are absent, the artefacts within a feature fill represent those in use at the time the structure was built. All this is to indicate that analysis of features and contained artefacts must be carried out thoughtfully and with an awareness of context.

PERIODIZING THE STRATIGRAPHIC SEQUENCE — CORRELATING GENEALOGY WITH ARCHAEOLOGICAL CHRONOLOGY

Correlating household history with the archaeological record is a major concern in landscape archaeology. Although previous studies have attempted to accomplish this goal using artefacts⁶⁷ and a more holistic consideration of the home lot landscape within the context of generational succession,⁶⁸ there has not been enough consideration given to the potential role played by the archaeological chronology — constructed using the stratigraphic archive — in realizing this aim. The approach adopted here is one that seeks to combine all sources of information, i.e. a fine-grained stratigraphic sequence, artefact analysis, household succession, genealogy, oral history and environmental data (to the degree that it was available), in an effort to connect the archaeological record — the layers, features and interfaces — to the documentary record. In landscape archaeology, establishing a genealogy should not be an end in itself, but should instead be viewed as an independent chronology which can be integrated with the archaeological chronology to create a *unified history* of occupation by providing *absolute* dates for archaeological events.

It must be emphasized that the stratigraphic matrix represents a *relative* chronology which, once established, does not change: it is immutable

insofar as it is subject to the laws of archaeological stratigraphy.⁶⁹ That is to say, the *relative* order of deposits in the stratigraphic sequence is not based on either the documentary record or the artefacts. It is constructed solely using the law of superposition and stratigraphical succession.⁷⁰ Maps, if available, can be used to periodize a stratigraphic matrix because when placed in chronological order they can serve as a record of construction and/or destruction events. In this way it is possible to provide an absolute date for a horizontal feature interface, for example, that marks the point in time that a building was destroyed. All associated deposits can then be dated in relation to this and other such events. When maps are not available other documentary evidence of construction activities found in official documents such as tax assessments, censuses, wills or court records, and/or unofficial documents such as diaries, correspondence, sketches and even photographs can be used in the same manner.

Unfortunately, maps depicting or describing the built landscape at the Grove are unavailable for the 17th and 18th centuries. Consequently, the stratigraphic sequence at the Grove had to be periodized in the following way: determining probable dates of property transfer and ownership from wills, censuses and court documents; working under the assumption that periods of construction and destruction/renovation were occasioned by a change in the head of household;⁷¹ and dating period assemblages using the ubiquitous ceramics and smoking pipes found during four seasons of excavation. In the present instance the two most important events during the 17th and 18th centuries were the construction of the Overplus House by Daniel Tucker and the later construction of the Grove. Establishing the date for the construction of the Grove was paramount because it provided the basis for all subsequent archaeological interpretations.

Firstly, there are several clues that suggest when the earlier Overplus House, built in 1617, may have been razed, partially destroyed or modified into the later Grove. As yet, no documentary evidence has provided the date when this might have occurred although some have speculated — perhaps on the basis of oral tradition, although even this is not clear — that the building later referred to as the Grove may have been constructed early in the 18th century. This would attribute the construction to either St George Tucker or Capt. Henry Tucker (Table 2).

In St George Tucker I's last will and testament, written in 1710, the residence is described simply as a 'dwelling' house. In 1736, Capt. Henry Tucker described the house in his will as a

'Mantion [*sic*] house'. Each of these households was composed of a large number of family and extended family members, and in the case of St George Tucker at least fifteen slaves were bequeathed to his children in his will. In the 1727 Bermuda census Capt. Henry Tucker was assessed at £1 4s. based on a rate of £1 per £1,000 value of property — equivalent to £1,200. Considering that only two other landowners were assessed at the higher rate of £1 8s., Capt. Henry Tucker was one of the wealthiest men in the parish.⁷² Although no direct references to the number of slaves owned by Capt. Henry Tucker have been found to date, he was involved with, and had kinship ties with several other merchants in Southampton.⁷³ It is quite reasonable to suspect, therefore, that a similarly large number of slaves were owned by Capt. Henry, as by his father St George. Just as cedar trees, land, cash on hand, real property and possessions were the manifestations of family wealth, so too were slaves, who were a means of creating wealth through their labour.⁷⁴ In Bermuda in the 18th century slaves were not as much involved in tobacco production as they were in the Chesapeake and Virginia colonies. However, as a labour force enslaved people cleared land, built structures, planted and harvested and in short produced everything that was needed to procure commodities — the true source of wealth.

Although it is not possible to state unequivocally which Tucker family head constructed the Grove, the weight of the evidence is persuasive, and it seems likely that Capt. Henry Tucker built the house, given the considerable increase in personal wealth as a result of involvement in the illicit slave trade.⁷⁵ The extent of the 'Grove' branch of the Tucker family's involvement in the slave trade in the 18th century was probably considerable. In his doctoral dissertation, Clifford Smith discusses how the Tuckers and other 'west-end' Bermudian merchant families who were engaged in this illicit trade protected their operations through kinship networks.⁷⁶ The Tuckers' kinship network is viewed as an example of a political alliance that reduced risk by either holding political offices directly or by marrying into those families in positions of power within the colonial government. In addition to the kinship-based political power structure, Tucker kinship ties were also geographically rooted and the lands surrounding the Grove were owned by business partners and members of the extended Tucker family.⁷⁷

It is worth noting that the pursuit of wealth through the production of commodities in the 17th and 18th centuries was considered to be the duty of the head of the household as a filial obligation to the previous patriarch. Estates, the sum total of all

household wealth usually inherited by the eldest son, were to be used to maintain a standard of living and social station. Increasing the size of the estate was done in honour of one's father and for the advancement of the male heirs and the family.⁷⁸ It is important that the construction of the Grove as a replacement for the older Overplus House, as well as subsequent renovations, be considered within this social context.

The residence continued to be referred to in 1740 as a 'mansion' by the next generation head of household, St George Tucker II, in his will. In 1787, the residence and the 'place' appear to be referred to collectively as the Grove for the first time in Col. Henry Tucker's will. Col. Tucker may have made some changes to the house during his tenure between 1761 and 1787, as there is archaeological evidence of a later construction/destruction episode and it has been noted that Col. Tucker invested considerable capital in construction projects at the Grove.⁷⁹ In her will in 1836, Mary Burrows, the daughter of Thomas Gilbert, another Southampton family involved in the slave trade, described the house as 'commonly called the Grove'.

THE OVERPLUS HOUSE AND THE GROVE: A UNIFIED OCCUPATIONAL HISTORY

As the previous example demonstrates, a unified occupational history of a site, established using documentary and archaeological sources of information together, requires interpretation of both the stratigraphic and the documentary evidence. There are some restrictions, e.g. the laws of superposition and stratigraphical succession on stratigraphic sequence, but a judicious reading of both types of evidence is still required. What follows, however, is a unique kind of historical narrative, very different from one constructed using documentary sources alone. It is not a history in the truest sense of the term, but is instead a chronology built up using two very different types of information about the past — material and written. By way of example, the following is a unified occupational history of the two major landscape events recorded at the site: the construction of the Overplus mansion and the Grove. Based as it is on the interplay between archaeological and documentary evidence, the narrative is unique and provides a perspective unachievable using either source in isolation.

After the first season of excavation in 2004, the veracity of surveyor Richard Norwood's 1616 description of the Grove became evident. In Bermuda's first survey, Norwood laid out the

Overplus in 'a most delicate enlarged valley [with] a fat and lusty soil'.⁸⁰ In Phase 2 (Fig. 8), the depth of soil is remarkable in comparison to other parts of Bermuda where only a thin covering overlies the limestone substrate, barely sufficient in many areas to sustain plant life. In the Grove, however, the natural soil consists of a thick layer of fertile sandy loam.

Phases, 5, 6 and 7 are associated with the construction of the Overplus House, represented by the builder's trench, wall foundation, and builder's trench fill, respectively (Fig. 8). Historically we know that in 1617, Governor Tucker began to 'frame and erect a very substantial and brave cedar house upon this piece of delicate ground . . .'.⁸¹ Archaeologically there is evidence to support the contemporary description of a 'large . . . house'.⁸² The mortared limestone foundation (see the 1617/18 description of workers 'burning of lime and making of mortar') revealed during the excavations indicates a sizeable structure (Fig. 10). Although the entire length of each foundation wall was not exposed, it is possible to project the walls found in individual excavation units and extrapolate a building measuring at the very least more than 16m (east–west)⁸³ by 12m (north–south). A recent discovery in the Bermuda Archives provides more exacting dimensions.

This was a two-storey house. He [Robert Bishop Munro] just stuck it on the end. The new part had absolutely no imagination whatsoever. It was just a square blob.

On a document dated 1967, a plan view of the 'old building' indicates a two-part structure labelled A and B, the former one-storey, and the latter a **two-storey** addition on the east end (Fig. 11). The one-storey section measures 36ft (10.97m) north–south, confirmed by the archaeological evidence, and the east–west dimension is 55ft (16.76m), the west end of the structure extending well into the existing fairway and therefore inaccessible to archaeological investigation. The two-storey addition, archaeological evidence of which was found in several units, measures 27ft (8.23m) by 36ft (10.97m). A closed porch, 8ft (2.44m) in width, runs the entire length of the one-storey section of the Grove on the south side. In all, the footprint of the building in 1967 measures 82ft by 36ft (c. 25 × c. 11m), excluding the porch.

Clearly, this presents a picture of the very latest phase in the history of the building, but it serves as a good illustration of the multi-phase nature of the structure. Aside from the two-storey addition on the east end, the evidence for a multiple-period building exists archaeologically in other parts of the building footprint in the form of double walls, two walls constructed side-by-side

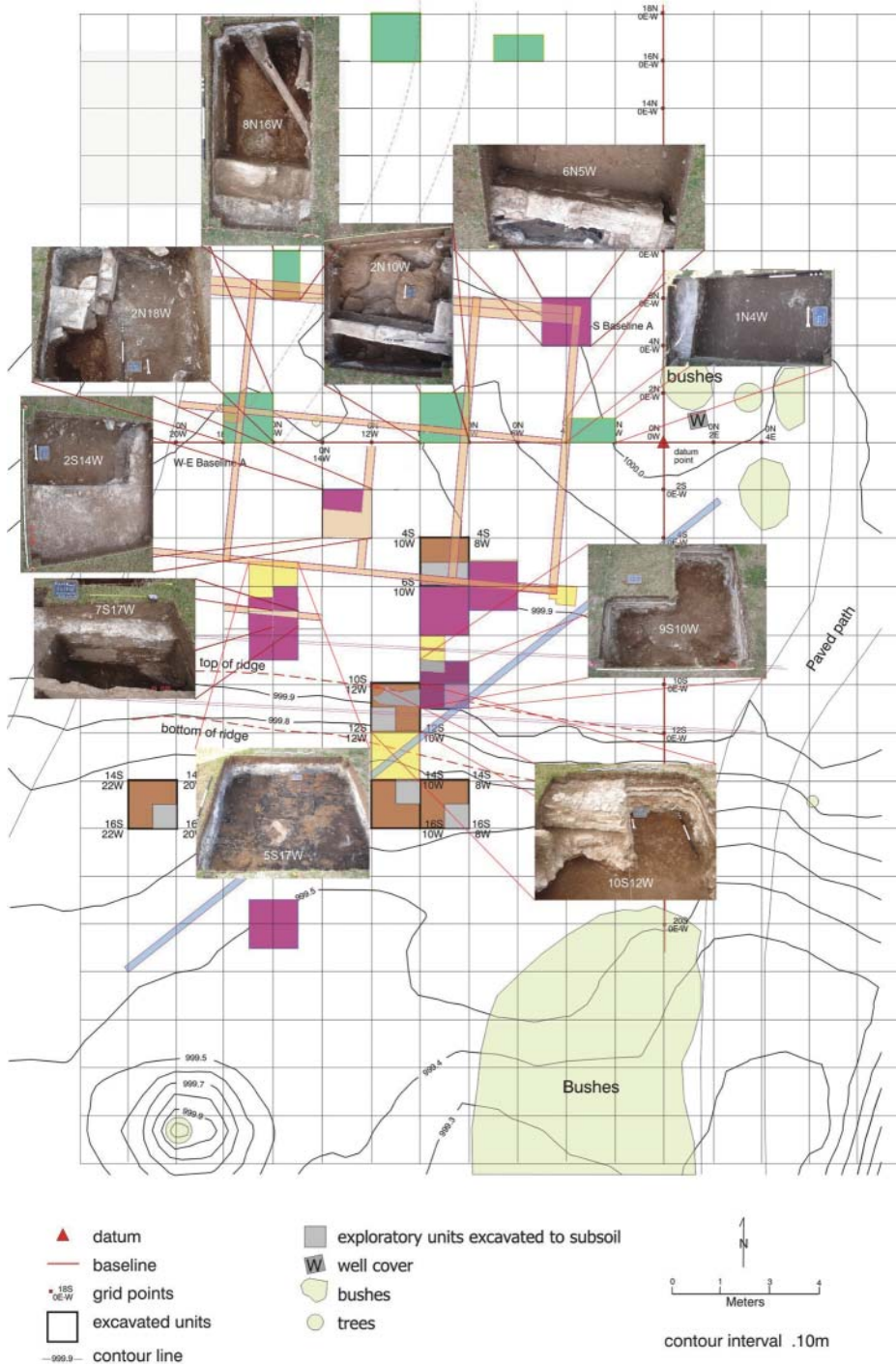


FIG. 10

Site plan of the Grove showing walls revealed to date (graphics by P. Schaus, Dept Geography and Environmental Studies, Wilfrid Laurier).

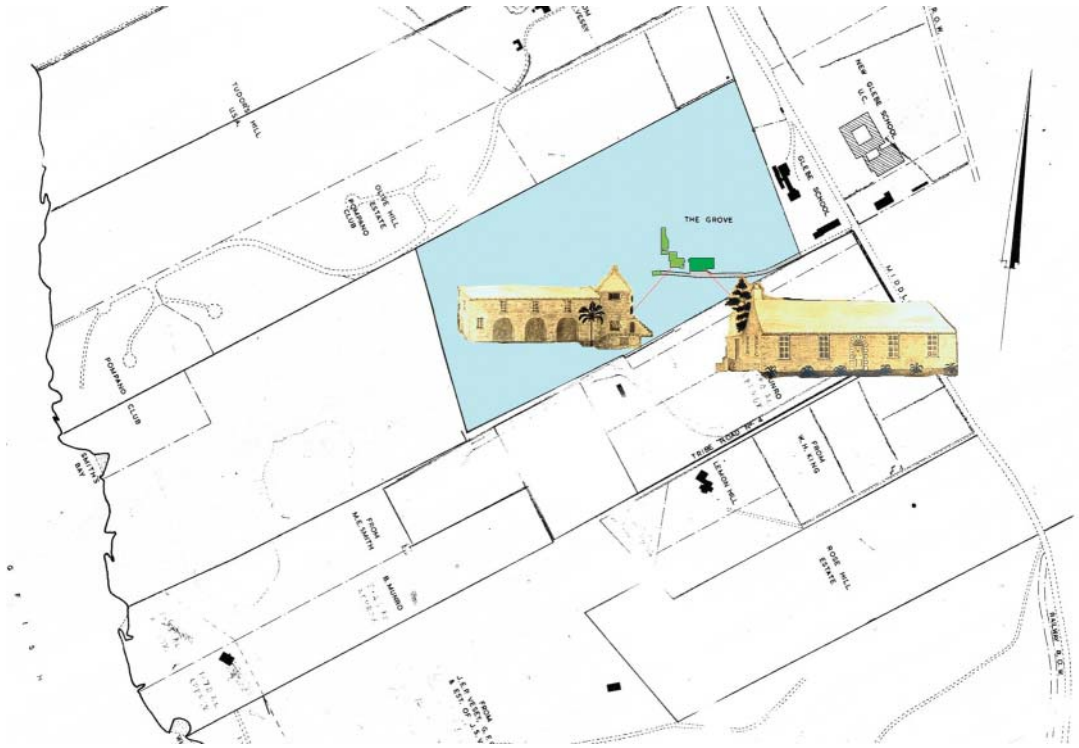


FIG. 11

Map of Port Royal Golf course and surrounding property, 1967, with superimposed Grove buildings as drawn by L. Dunbar Bell, 1940 (map courtesy Bermuda Archives; graphics by P. Schaus, Dept Geography and Environmental Studies, Wilfrid Laurier).

and intersecting walls. Analysis of the superposition of the intersecting walls provides the best evidence for distinguishing early period walls (yellow) from later construction (grey). Based on the two streams of evidence, documentary and archaeological, it now seems likely that the structure witnessed at least three phases of construction, the latest being the east end addition, some time in the final decades of its existence, and the two earlier phases dating to the early 17th and first decades of the 18th centuries.

The material evidence for a multi-phase construction is to be found throughout the site in the form of double walls, truncated interior walls, walls resting on archaeological deposits instead of bedrock, wall intersection and abutment. In the two units where double walls were found it is the lower absolute elevation of the Horizontal Feature Interface (HFI) which provides the best evidence for phasing the architecture. In one unit where walls were built side-by-side the exterior wall was razed at a much lower elevation than the inside

wall (Fig. 12). The stratigraphy clearly shows layers covering the HFI for the lower wall — positive proof that the two walls were demolished at separate times. It is this type of stratigraphic ‘fact’ which provides incontrovertible evidence for a multi-phase building.

When all the evidence is considered, the interpretation offered here is that the earlier wall, the 17th-century Overplus House foundation, served as the footprint for the later building, the Grove. The latter was a substantial stone building constructed adjacent to and, at least in one location, ‘inside’ the half-timbered Overplus House. The earlier Overplus House was razed, either partially or completely, at the time of the Grove’s construction. Although it would have been possible to build directly on top of the earlier Overplus House foundation, the substantial size of the stones used in the later Grove foundation, suggests an intentional effort to reconstruct on a grander scale (Fig. 13). By that time the half-timbered building, already more than a century old, was likely to have been



FIG. 12

Double wall, with Overplus house foundation on right and later Grove wall, partially exposed on left. The Overplus house wall was razed at a lower elevation and the destruction interface overlain with deposits dating to the 18th century (photograph, J. Triggs).



FIG. 13

Exterior wall of the Grove showing below grade foundation in unit S5W8 (photograph J. Triggs).

viewed as an anachronistic landscape element in the eyes of those now belonging to one of the most socially and politically prominent Bermudian families.

The foundation of the Overplus House was constructed of limestone blocks laid in courses about 5.9–7.9in (0.15–0.20m) high resting on a sill of similarly cut stones. An exterior coating of hard plaster covered the exterior face of the wall to the ground level when the structure was built. The plaster may represent the remains of the original exterior wall covering referred to by contemporary observers in the early 17th century. Several coatings of whitewash are evident on the surface. The

foundation wall itself is about 11.8in (0.30m) wide. This seemingly narrow wall would have been substantial as a footing for the support of a half-timbered structure although it would have been quite insufficient as a foundation for the later Grove — a building constructed entirely of masonry.

Although no evidence of timbers from the early half-timbered structure were found during the excavations, hundreds of small pieces of daub, irregularly shaped fired clay fragments with impressions of twigs, together with some brick fragments were recovered from excavation units located to the south of the foundations. These materials, found in period II and II/III contexts, likely represent the debris from the demolition of the Overplus House at the time the Grove was constructed. Although the use of mortar and plaster accords well with contemporary descriptions of the Overplus House, brick is never mentioned. However, in 1626 the Governor did have a shipment sent from England that included bricks⁸⁴ (a costly status item), which were probably used in some unseen infrastructural capacity rather than being visible as a building element.

ARTEFACT DATING AND PERIODIZATION

Once constructed, the unified site chronology (documentary and archaeological) also serves as an interpretative framework within which artefact analyses may be conducted. One question of considerable interest for landscape archaeologists, for example, is that of dating using artefacts, given what we know of the cultural and natural factors that can act on archaeological deposits before, during and after burial.⁸⁵ This is of particular interest with regard to the Grove, potentially even problematic, in view of the many recorded secondary deposits and the long-term occupation itself. Beaudry has consistently argued that sites with secondary deposits should not be written off as disturbed.⁸⁶ She even asserts that there is potentially more information to be gained from studying such sites since secondary deposits can be expected to occur on most sites, especially those occupied by successive generations. These observations notwithstanding, the potential effects of site formation processes such as landscaping alterations on archaeological assemblages has not been subjected to rigorous testing. Moreover, David Starbuck, in his study of 17th-century houses in New England, noted that on sites where the remains of a 17th-century residence still stood, although in a modified condition, there was very little present in the ground dating from the 17th century.⁸⁷ Finally,

Groover's ideas about landscape stasis where a 'surface' is left unaltered for long periods,⁸⁸ suggests that dating of a layer long-exposed to infiltration of artefacts from later periods may be problematic, to say the least.

In the present study all of the above observations hold true: landscape alteration is known to have occurred on a massive scale, resulting in secondary deposits; structures have been demolished and modified probably as a result of changes in household structure; land surfaces have been exposed for long periods of time; and the site has been occupied by successive generations from the 17th to the 20th century. Rather than dismissing any artefact studies as meaningless, however, there is considerable potential for deriving culturally meaningful results. Comparing artefact dates derived from clay pipe stems and ceramics, for example, with the unified chronology — the archaeological sequence dated using documentary evidence — yielded interesting results.

Pipe Stem Dating (hereafter PSD) is a method originally advocated by J.C. Harrington and is based on the observation that pipe stem bore diameter decreases in size through time.⁸⁹ Harrington's observations were, as is well known, later reduced to a linear regression equation by Binford, providing a supposed 'date' of occupation for selected archaeological contexts.⁹⁰ Despite criticisms levelled at Binford's method, e.g. reducing the data to a single 'date' while ignoring the temporal span of the site, this method has been applied to many sites dating between c. 1590 and 1780, the point at which the correlation between bore diameter and age begins to break down. As with the Mean Ceramic Dates, discussed below, the PSDs do not necessarily reflect an historic mid-point for any given period, but they do provide a means of comparison between periods.

The *Mean Ceramic Date* (hereafter MCD) formula⁹¹ was applied to the ceramic assemblages from each period with the following modifications. Since its introduction there have been valid criticisms of the Southian dating technique, perhaps most commonly the observation that the MCD provides a single date rather than a date range for an archaeological context. Mrozowski calculated standard deviations (68% and 95% confidence levels) and used a graphical method for identifying ranges to overcome this problem.⁹² Despite the problems inherent with the technique, it is still widely employed by North American archaeologists, and if used in a thoughtful way it can serve as a dating tool. Of primary importance are the data used in the calculation of the date, i.e. the date ranges, and also the ceramic types included in the calculation. In regard to the latter, consideration

should be given to the site formation processes that have acted on the artefact-bearing context in deciding which types to include.

Edward Harris describes three types of artefacts that can be expected in archaeological contexts: indigenous, infiltrated and residual finds.⁹³ *Indigenous* types refer to those artefacts whose dates of manufacture are contemporary with the formation of the layer in which they were found. *Infiltrated* types are remains that have a beginning manufacture date which post-dates the date of deposition.⁹⁴ These types can find their way into the ground through various cultural and natural processes.⁹⁵ *Residual* remains are those with end manufacture dates that pre-date the date of deposition. These are also commonly found in archaeological contexts where they may be described as heirlooms, items which may be retained by a household for a variety of social, economic or ideological reasons.⁹⁶ Few archaeologists have studied these types of remains systematically,⁹⁷ yet they can be expected to occur in any archaeological deposit and can have a potentially significant effect on date calculations, either in the calculation of an MCD or on dates based on the *terminus post quem* (TPQ) concept. (The TPQ method employs the date of the most recent object to assign a date to an archaeological context, but it should not be employed uncritically. There should be recognition that layers may have been exposed to human and natural agencies for long periods resulting in the infiltration of objects into earlier strata.) The identification of indigenous, infiltrated and residual remains is made possible by relating these to a periodized stratigraphic sequence in which beginning and end production dates can be compared to the absolutely dated archaeological contexts.

In the present study, the following modifications to the MCD dating technique were made. MCDs were calculated on *indigenous* (contemporary) types only. Those artefacts that occurred in frequencies fewer than ten were omitted from each period assemblage since it was thought that these rare types may have been infiltrated remains introduced into the deposit through natural or cultural means no longer detectable in the deposit. In almost every case where a rare type was eliminated it was clearly one of the latest ceramic types found in the assemblage. Residual types were retained in the analysis because it appears from other evidence, discussed below, that the retention of outmoded types of ceramics was a

You know we didn't have that much breakage. We had a lot of value on good stuff, good china. And if a piece of china got a crack in it, you didn't throw it away you know.

TABLE 3

The Grove: beginning and end dates used in MCD (Mean Ceramic Date) calculation.

Archaeological period	Historic beginning date	Beginning date MCD	End date (historic date)	MCD
Period II	1617	1617	1710	
Period II/III	1620	1617	1740	
Period IV	1740	1617	1765	
Period IVa	1762	1617	1800	
Period V	1800	1617	1950	
Period VI	1950	1617	1964	

conscious decision made by the Tucker household members, rather than a function of post-depositional disturbance. Furthermore, in instances where the terminal manufacture date of a type post-dated the historic date, end dates for types used in the calculation of MCD were based on the period end-date determined through a combination of information from wills, inferences based on genealogy and archaeological evidence. Beginning dates for the calculation of MCD were always taken as the beginning of occupation at the Overplus if the beginning date of a type pre-dated the date of occupation, i.e. 1617 (Table 3). MCDs calculated in this manner do not necessarily reflect the mid-point of occupation in any given period, but they do serve as a method of comparison between periods that was arrived at in a consistent manner. Lastly, all MCDs in the study were calculated on sherd frequencies owing to the small size of sherds and the difficulty or impracticability of using minimum vessels counts, even though the latter are arguably more meaningful culturally.

Data presented in Table 4 show that for each period, MCDs increase in value although the dates are for the most part, excepting periods II

TABLE 4

The Grove: PSD (pipe stem dates) and Mean Ceramic Dates.

Period	PSD	MCD	Mid-historic date
Period II	1658	1673	1664
Period II/III	1645	1697	1680
Period IV	1678	1703	1753
Period IVa	1661	1726	1781
Period V	1665	1758	1875
Period VI	1661	1776	1957

and II/III, earlier than the mid-historic date. Computationally, this is attributable to the presence of residual artefact types in the assemblage that serve to lower the absolute value of the MCD. The occurrence of these types in numbers greater than ten, however, suggests that their presence is not due to post-depositional disturbance but rather to retention of older types within the household. There are two reasons to suspect that this is the case. First, in almost every period there are small numbers of the newest types of ceramics — those providing a TPQ — found together with the rest of the residual and indigenous types. If the deposits were subject to post-depositional disturbance resulting in a mixing of all layers, it is difficult to explain why new, temporally diagnostic varieties would be found in each succeeding period. Second, it is clear that the value of the MCD increases through time *despite* the presence of these older varieties in every deposit. Again, if post-depositional disturbance had served to homogenize all deposits this would not be the case. The conclusion is that there was a conscious decision on the part of the household members to retain older ceramics far beyond their date of popularity, and instead discarding these only when the vessels became broken and no longer usable.

If, as seems clear, there is depositional integrity with little post-depositional disturbance, then it is perplexing why the pipe stem dates do not follow the same sequence of gradual increase in value, or 'date'. In all periods, the PSDs fall approximately within the third quarter of the 17th century. This cannot simply be explained as a computational problem, nor is it a refutation of the technique. When plotted as histograms, the distribution of stem bore diameters produce graphs similar to Harrington's original results.⁹⁸ Stylistically, all pipes recovered *from every period* are 17th-century in style: not a single 18th- or 19th-century pipe was identified among the 337 complete bowls and bowl fragments. Clearly this is not a function of sample size as adequate samples were found in each period.⁹⁹ Based on the PSDs alone, all periods would be dated to the 17th century. Considering that there is a clear progression of ceramic styles, with new styles being introduced shortly after their beginning manufacture dates in the 18th and 19th centuries, the question of why this should be the case becomes all the more important. This is certainly not in evidence on other Bermudian sites where smoking pipes do exhibit the expected evolution in style through the 18th and 19th centuries, but it clearly occurs at the Grove. Does this indicate a stockpile of pipes that was used for three centuries — an extreme example of manufacture-deposition lag? No readily apparent answer has yet presented itself.

CERAMICS BY PERIOD

The periodization of the stratigraphic sequence serves as the framework within which artefact and other types of analyses can be conducted. The focus of the current paper is limited to ceramics, although analysis of environmental data (faunal and floral) as well as other artefact categories could and should be carried out using this interpretative framework. Ceramics provide tangible evidence of the larger cultural processes that were operating in the 17th to 19th centuries, as well as information on dating, socio-economic status, food preparation and storage, and trade networks. Ceramics found at the Grove include an astonishing array of ware types dating from the mid 16th century through to the final decades of the 19th century. Most of the sherds recovered are small in size and until reconstruction of some of the vessels is completed it is difficult to determine the range of vessel types. However, vessels for storage (olive jar and earthenware crocks), tableware (plates, cups, mugs and tankards), and serving pieces have been identified in the assemblage to date. As is common on other early 17th-century sites in the New World, ceramics from several European countries are found in the assemblage, including England, Germany, France, Holland, Italy and Spain, as well as North America and China. A similar diversity of types was noted on late 18th- and 19th-century Bermudian sites — a pattern which is attributed to the far-reaching Atlantic trade and perhaps even small-scale, private transactions in line with smuggling and illicit trade.¹⁰⁰ While it is difficult to attribute this pattern of ceramic diversity to illicit activities, it is true that the wide variety of ceramics found serves to place Bermuda within a wider transatlantic trade network and helps to establish commercial connections that are otherwise unavailable in the written record.

The ceramic assemblage at the Grove consists of a total of 3,288 sherds from all periods (Table 5). Period VI, a secondary landscaping deposit covering the entire site and dating to the time when the Grove was razed in the 1960s, contains the largest number of sherds, representing almost 60% of the assemblage. Excluding period I, ceramics from remaining periods comprise between 4% to about 12% of the entire collection. Sample sizes are sufficiently large to be considered representative. Fourteen different ware types are represented in the sample (Table 6), along with dozens of decorative types.

In the period-by-period discussion that follows ware types indigenous to each period, based on a frequency of less than ten, are listed along with the decorative varieties that are the TPQ types. A complete list of all decorative types found

TABLE 5

The Grove: ceramic assemblage by sherd frequency, for all periods.

Period	Sherds	%
Period I	1	0.0
Period II	125	3.8
Period III/III	335	10.2
Period IV	382	11.6
Period IVa	168	5.1
Period V	381	11.6
Period VI	1,896	57.7
Total	3,288	100.0

TABLE 6

The Grove: ceramic ware types by sherd frequency, for all periods.

Ware type	Total
Coarse earthenware	623
Colono ware	7
Creamware	408
Delftware	891
Faience	45
Ironstone	26
Jackfield-type	7
Maiolica	2
Pearlware	357
Porcelain	233
Refined white earthenware	269
Slipware	111
Stoneware	286
Yellow ware	14
Total	3,279

is included in Appendix 2. The ceramic types reflect regional usage and the reader is referred to the Florida Museum of Natural History digital type series of ceramics, available online, for detailed descriptions.¹⁰¹ Through time, from periods II to VI, the number of decorative types increase, and this is not a function of sample size, i.e. later periods with smaller sample sizes still have a greater diversity of types. This may be attributable to the wider maritime trade from the mid 18th century onwards. However, it is also apparent that period assemblages are dominated by a small number of decorative types that make up about half of the sample. Without exception, types that predominate in all periods are lead-glazed redware, English and Dutch blue on white delftware,

and undecorated delftware. Another type that is strongly represented in all periods is lead-glazed coarse earthenware. Refined earthenwares, such as plain creamware, pearlware and white earthenware, dominate the assemblage in period VI — a trend which begins in period V with creamware.

Period II: c. 1617–c. 1710

The MCD, based on four indigenous ware types, i.e. coarse earthenware, delftware, slipware and stoneware, is fifteen years later than the PSD (Table 4). However, the mid-historic date is almost exactly between the two, indicating a good fit. The latest ceramic types, or TPQ types, are sponged delftware (1650+), English brown salt-glazed stoneware (1690+) and possibly white salt-glazed stoneware (1720+). Slightly less than 50% of the assemblage is comprised of lead-glazed redware (18 sherds), English and Dutch blue on white delftware (17 sherds), and undecorated delftware (26 sherds). There are seventeen indigenous decorative types. Archaeologically this period is characterized by only a few stratigraphic events and it represents the type of relative landscape stasis that has been noted on house lots following a period of landscape alteration,¹⁰² in this case initial settlement and construction.

Period III/III: 1620–1740

The MCD is considerably later than the PSD (Table 4). It is possible that the terminal date for the ceramic types (i.e. 1740) may be too late, resulting in a spurious 'date'. However, it must be cautioned that the dating formula values should not be read as absolute 'dates' but rather as an index of comparison between periods. It is reasonably certain that deposits from this period were exposed for a considerable time — another example of landscape stasis — before being superimposed by later construction and landscaping layers. This may account for some of the discrepancy, and at the very least it illustrates that the 'date' of a layer based on artefact content must consider the formation processes and the duration of time that the layer was exposed to infiltration of artefacts after it was initially formed. Indigenous ware types are coarse earthenware, delftware, slipware, stoneware and porcelain. TPQ types are agate ware (1740+), Jackfield-type ware (1740+), Chinese blue on white porcelain (1745+), and English soft paste porcelain (1745+). More than half (56%) of the assemblage comprises lead-glazed coarse earthenware (25 sherds), lead-glazed redware (45 sherds), English and Dutch blue on white delftware (49 sherds), undecorated (39 sherds) and sponged delftware

(31 sherds). There are 31 indigenous decorative types.

Period IV: 1740–65

The PSD dates are closer to the MCDs than in the preceding period, but they are also 25 years too early (Table 4). Both the PSD and the MCD are also much too early compared to the mid-historic date. The lower value for the MCD suggests that older ceramic types were kept in use for a long period if they were still serviceable. Clearly, wealth was not displayed through ceramics for the Grove residents — perhaps because there were so many other ways of reinforcing social status. Just as in period II/III, the indigenous ware types are coarse earthenware, delftware, slipware, stoneware and porcelain. TPQ ceramics are feather-edged and plain creamware (1762+). This type would have been introduced toward the end of the period, as the new lead-glazed wares eventually came to replace the delftware and white salt-glazed stoneware that had been popular throughout the 18th century. About 56% of the assemblage is comprised of lead-glazed redware (72 sherds), English and Dutch blue on white delftware (119 sherds), and Westerwald stoneware (27 sherds). There is an increase in Westerwald stoneware, which was present in all earlier periods but which now forms a significant proportion of the period IV assemblage. There are 29 indigenous decorative types.

Period IVa: 1762–1800

The sample is smaller than for other periods, but it is still an adequate size from which to derive meaningful conclusions. These contexts are from interior, sub-floor deposits, perhaps indicating a period of remodelling/renovation involving floorboard replacement. The MCD lags behind the mid-historic date by 55 years, as with period IV; the PSD is 60 years too early (Table 4). Depositional lag is in evidence for both ceramics and pipe stems, suggesting, especially in the case of ceramics, the retention of older types within the household. Newly introduced (TPQ) types are creamware, including royal pattern (1762+), as well as various decorative types of pearlware, such as banded slip (1790+), painted blue and white (1775+), early polychrome painted (1795+), and blue transfer-printed (1784+). Indigenous types are coarse earthenware, delftware, slipware and stoneware. Porcelain occurs in very small numbers (fewer than 10 sherds). Just over half the assemblage (54%) is comprised of four types: lead-glazed redware (21 sherds), English and Dutch blue on white delftware (33 sherds), plain delftware (25 sherds) and

plain creamware (12 sherds). There are 23 indigenous decorative types.

Period V: 1800–1950

The period V assemblage spans the entire 19th and half the 20th century. New 19th-century types are present in large numbers, i.e. various refined white earthenware decorative types (1830+) — annular banded slipware, and red, green and purple transfer-printed — as well as brown salt-glazed stoneware (1800+). The presence of large numbers of earlier types such as delftware and stoneware skews the MCD to a mid 18th-century value. The types considered indigenous include coarse earthenware, delftware, slipware, stoneware, porcelain, creamware, pearlware and refined white earthenware. The PSD is squarely in the 17th century (Table 4). The same problem as in period II/III, i.e. where a ground surface was exposed for more than a century, clearly has some effect on the ceramic dates and is a clear reminder that this must be considered when calculating MCDs. Half the assemblage (50%) is composed of lead-glazed earthenware (38 sherds), plain creamware (51 sherds), English and Dutch blue on white delftware (30 sherds), plain delftware (51 sherds) and plain pearlware (19 sherds). There are 50 indigenous decorative types.

Period VI: 1950–c.1960

Period VI is a secondary landscaping deposit, formed when the Grove was demolished in the 1960s and comprising more than 50% of all ceramics found on the site. Due to the large sample size and the archaeological

... of course, when they bought the property, the government, in all its wisdom, knocked the house down, which was the first Commissioner's house, Col. Henry Tucker's house. Now, I was devastated.

context, the assemblage contains almost all types found in earlier periods and a few rare types, e.g. Beauvais stoneware, black basalt ware, Scottish-style spongeware, and maiolica. The appearance of rare types in small numbers is a function of sampling representativeness, i.e. they might have been present in earlier periods, but in numbers too small to be accounted for given the sample size. The newest type to be introduced is ironstone with annular banded slip, gilded, moulded and transfer-printed decoration (c. 1860+). Indigenous types include all those listed in period V in addition to ironstone and yellow ware. About half (52%) of the assemblage is composed of lead-glazed coarse earthenware (99 sherds), lead-glazed redware

(94 sherds), undecorated creamware (306 sherds), English and Dutch blue on white delftware (157 sherds), plain delftware (112 sherds), plain pearlware (129 sherds) and plain refined white earthenware (93 sherds). There are 93 indigenous decorative types.

WEALTH, PRESTIGE AND THE RISE OF CONSUMERISM

Another aspect of the ceramic assemblage examined was the proportion of tablewares to utilitarian wares. The ratios of utilitarian wares, such as coarse earthenwares used for food storage, to tableware, food serving and preparation vessels, were calculated. It is clear that the proportion of tablewares to coarse earthenwares increases over time (Table 7). This increase may be an indication of wealth or conspicuous display of wealth, especially given that beginning in the 17th century, the role of 'host' was much more important a factor in Bermudian society than in the colonies of either Plymouth or Maryland.¹⁰³ Certainly, the fortunes of the Tucker family increased throughout the 18th

You would have to get from here to that tree there before you could see the sea, the cedar trees were so thick. Then, the cedar blight came in and all the cedar trees died.

N.B. Between 1946 and 1951 the accidental introduction of a scale insect eradicated almost 95% of Bermuda's cedars.¹⁰⁴

century through commercial enterprises of various sorts. The sheer volume of items listed in several Tucker family probated wills is staggering and includes items such as cloth, land, slaves and **cedar trees**, in addition to household goods. The increase in tablewares may also reflect growing consumerism, whereby more goods became available for purchase as mass-production increased. This was certainly true of clothing in 18th-century England during the period of incipient consumerism,¹⁰⁵ and may also be applicable to ceramic tablewares.

TABLE 7

The Grove: ratio of ceramic tableware to utilitarian wares by period.

Period	Ratio	Tableware/utilitarian
Period II	2.21	86/39
Period II/III	2.58	240/93
Period IV	2.6	276/106
Period IVa	3.77	132/35
Period V	5.01	316/63
Period VI	5.52	1,584/287

TABLE 8

The Grove: the proportion of porcelain compared to all ceramics and to tablewares, by period.

Period	% Porcelain to all ceramics	% Porcelain to tablewares
Period II	3.2% (4/125)	4.7% (4/86)
Period II/III	7.8% (26/333)	10.8% (26/240)
Period IV	6.3% (24/382)	8.7% (24/276)
Period IVa	1.8% (3/168)	2.3% (3/132)
Period V	6.1% (23/379)	7.3% (23/316)
Period VI	8.1% (151/1,871)	9.5% (151/1,584)

Another measure of wealth or status may be the amount of porcelain in the ceramic assemblage. When compared to either the whole assemblage (tablewares and utilitarian wares) or just the tablewares, porcelain is relatively scarce in periods II and IVa, but in all other periods it makes up on average about 8–10% of the assemblage (Table 8). In her study of ceramic assemblages from five domestic sites in Massachusetts, Seasholes noted that the proportion of porcelain on both rural and urban sites remained consistent, yet lower, at about 5%.¹⁰⁶ Comparative statistics need to be calculated for other Bermudian domestic sites in order to evaluate the significance of porcelain as a measure of social/economic status. The 3–5% higher proportion of porcelain noted at the Grove may be attributable to the fact that the Tuckers were one of the wealthiest Bermudian families at the time, or it may be an indication of how all Bermudian families, regardless of wealth or social status, communicated their social position in a society where land was the real measure of wealth. Observations made by St George on how land was perceived as a source of power in New England may be equally applicable to Bermuda.¹⁰⁷

Porcelain recovered from period IVa contexts, the interior sub-floor deposits, also provide some insight into larger-scale economic networks, in particular the external economic forces of capitalism to which the Grove household was subject in the 18th century. Prior to the 1740s, the period when Britain began producing its own porcelain to compete with Chinese export wares, porcelain was an expensive, though widely distributed, ware. Periods II and II/III contain only export porcelain. In periods IV and IVa both British and Chinese export wares are found, although porcelain in general was still a relatively expensive item at this time. In period IV, 1740–65, half the porcelain found is English soft paste ware, suggesting that domestic production had begun to supplant

Chinese export wares. Although the factors accounting for its almost complete absence in period IVa (1765–80) may be manifold, it is nevertheless interesting that this corresponds to a time when the domestic production of porcelain was just beginning, and this may indicate a shift in previously established economic networks. From the late 18th century on (period V) the price of porcelain decreased, although it continued to serve as a status item designed to convey the social prestige of the household.

PERIOD ARTEFACT ANALYSIS

A total of 30,375 finds (including bone) were recovered (Table 9). Almost 50% of the assemblage comes from Period VI, while periods II and II/III make up more than

P.S. Now, in your years there did you ever, you know, when you were out walking or anything, run across artefacts? F.S. We weren't really looking.

a third. Remaining periods average about 1,800 finds in each. Analysis of each period was carried out by classifying the assemblage according to the scheme proposed by South based on activity groups, which is widely used in North America.¹⁰⁸ Group composition in every period except period VI is, in order of magnitude, *faunal/floral*, *architectural* and *smoking*. Faunal remains, predominantly fish bones,¹⁰⁹ are such a significant component of the total assemblage (60% of all finds) that they mask the contribution by other important groups (Table 10). Consequently, a better representation of activities is gained by eliminating faunal bone from the assemblages for inter-period comparisons.

PERIOD ASSEMBLAGES WITH FAUNA REMOVED

Excluding the faunal group, all assemblages, except period VI (8,654 finds), range from 600 to

TABLE 9

The Grove: breakdown of the entire finds assemblage (including bone), by period.

Period	Frequency
Period II	6,223
Period II/III	4,484
Period IV	2,118
Period IVa	2,179
Period V	1,458
Period VI	13,913
Total	30,375

TABLE 10

The Grove: breakdown of faunal remains by period.

Period	Frequency	%
Period II	5,648	31.0
Period II/III	3,584	19.7
Period IV	1,188	6.5
Period IVa	1,498	8.2
Period V	757	4.2
Period VI	5,550	30.5
Total	18,225	100.0

just over 1,000 artefacts (Table 11). The three dominant groups are *architectural*, *smoking* and *foodways* (predominantly ceramics). Together these three groups comprise between 85% and 93% of finds for each period (Table 12). For the *architectural* group nails outnumber window glass fragments in each period. Particularly in periods II and IVa the significant proportion of these finds

corresponds to periods of construction of the 17th-century Overplus House and the later modifications and construction of the Grove in the 18th century. The absolute number of window glass fragments and nails is greater in period IV/IVa (355 combined) than in any other period. *Smoking* pipe fragments (mostly unmarked stems) are numerous in all periods. The proportional measures are greatest in periods II and IVa, both of which are associated with the construction episodes noted above and suggesting that the smoking pipes may have been discarded by labourers rather than residents. Finally, the *foodways* group, with the exception of period IVa, shows a steady increase in proportion, as already noted in connection with ceramics.

Another measure which is sometimes ignored in favour of proportional measures used in activity group analysis is the actual frequency of artefacts. For example, ceramic sherds remain fairly consistent between 300 and 400, with the exception of period IVa, and period II, which pre-dates the 'consumer revolution'. Attributing absolute numbers of finds to any one factor is fraught with

TABLE 11

The Grove: ceramic abundance recalculated to account for the presence of bone.

Period	All finds (A)	All minus bone (B)	Ceramics (C)	(D) = (B+C)	% Ceramic (C/D)
Period II	6,223	496	125	621	20.1
Period II/III	4,484	670	333	1,003	33.2
Period IV	2,118	690	382	1,072	35.6
Period IVa	2,179	521	168	689	24.4
Period V	1,458	574	379	953	39.8
Period VI	13,909	6,808	1,846	8,654	21.3
Total	30,371	9,759	3,233	12,992	

TABLE 12

The Grove: three main artefact groups, with frequencies and proportions.

Period	Architecture		Smoking		Foodways		Total %
	%	Freq.	%	Freq.	%	Freq.	
Period II	37.4	232	26.9	167	23.5	146	87.8
Period II/III	30	301	19.2	193	36.5	366	85.7
Period IV	30.4	326	11.5	123	43.2	463	85.1
Period IVa	39.6	273	21	145	30.4	209	91
Period V	27.8	265	18.8	179	46.8	446	93.4
Period VI	47.7	4,130	5.4	466	31.1	2,694	84.2
Total		5,527		1,273		4,324	

problems and it is more likely that quantity is a function of several factors together: consumerism — more goods available for purchase; fluctuations in household size; length of time that a layer was exposed; and archaeological context. For example, period II/III remained exposed for about a century, and period V deposits were exposed for about 150 years. It is reasonable to suppose that the more time that elapses before a deposit is buried the greater the number of finds that will enter the archaeological record. Likewise, in periods II and II/III, the household headed by St George Tucker I (1672–1710) had fourteen family members, and that of Capt. Henry Tucker I (1710–35) had twelve. In both cases these numbers exclude slaves, some of whom may have contributed to the household waste-stream. Context is also important when considering assemblage size, and in this regard period IVa, a sub-floor interior deposit, is not directly comparable to exterior ground surfaces and features. The relatively small number of finds and the type of artefacts found below the floor in a building can be expected to differ because the processes active in the formation of the deposits are so radically different. This may explain the relatively small number of ceramics found in period IVa. It is evident that the absolute frequency of finds is important, but difficult to interpret. A more useful measure would be one where several variables are collapsed into a single index.

Although more detailed analyses of the finds from the Grove remain to be carried out, it is clear that in such studies must consider the ways in which material remains are incorporated into the archaeological record. Patterns of discard can be expected to change through time, although on a working farm, which the Grove always was, it should be borne in mind that the patterns of behaviour in the recent past may not have been too different from those centuries before. We have a tendency to view our recent obsession with recycling as something novel, but the idea of reuse has a long history, particularly in a rural setting. Discard of food waste in barnyard contexts as a means of composting and fertilizing soil may explain many of the faunal remains found in secondary fill.

CONCLUSIONS

Assembling the disparate pieces of the puzzle into a coherent whole is part and parcel of any landscape archaeology study. At the centre of the research is the home lot and household about which we seek to learn more by fitting together evidence from multiple sources: archaeological (the stratigraphy and artefact studies), documentary, environmental and oral history. Theoretical

- F.S. *It was a working farm . . . Potatoes, onions, carrots, you know the standard. Watermelons, of course.*
- P.S. *Were there a lot of livestock animals as well?*
- F.S. *There were some pigs and Mr. — used to keep about, ah, I guess about a couple dozen pigs, and five or six head of cattle, which were just for milking.*
- P.S. *Now, I guess you would have a lot of things to get rid of, over the years, on the property, garbage and things. Is there a spot where you would normally put that?*
- F.S. *Well, we used to have something which was called recycling. Everything that was biodegradable, like when you peel the carrots, you peel the potatoes, you peel the onions, you peel anything, it all went out to the pigsty out the back. And then it went down and it was mixed with the manure and eventually when it got about this thick, they would go out there with a hoe or pick axe and dig it out, and it was hard, and then they would spread this with seaweed.*
- P.S. *Well, what about ah, for example, if you had your pork and, you know, used the animal, with the extra bones that were left over, things like that?*
- F.S. *The bones?*
- P.S. *Did they go back into the . . .*
- F.S. *Bones — you put them in a soup pot.*
- P.S. *But after that, what would you do?*
- F.S. *Then there were just bones, because the marrow had all been boiled out of it you know.*
- P.S. *But what would you do with those?*
- F.S. *Just throw it away, into, into the pigsty.*
- P.S. *Into the pigsty?*
- F.S. *Yup.*
- P.S. *Everything goes into the pigsty.*
- F.S. *Everything goes into the pigsty.*

approaches to landscape study are rife in the archaeological literature, but methodological considerations are less well developed. Constructing chronologies for any domestic site, using documentary and archaeological sources, is considered a fundamental step in landscape study since it forms the basis from which all conclusions about cultural change are derived. One area that deserves particular attention is that of linking the archaeological chronology with the documentary chronology. This requires the conjunction of multiple lines of evidence, most notably the documentary, archaeological and artefactual evidence, into an interpretative framework which then allows for discussion of changes to the landscape and material culture in a meaningful way.

The preceding study has attempted to demonstrate the value of combining the documentary and archaeological information to create a unified landscape history of a site. Landscape history written in this way provides a framework for examining questions of culture change in a multitude of ways. Artefact studies, for example, can be conducted within such a framework and the results can shed light on site formation processes, questions of dating, and larger questions of trade and

commerce. A unified history also provides the chronological framework for examining changes in subsistence and subsistence strategies through faunal studies, and also landscape change on the local and regional level by looking at micro- and macro-botanical floral remains. Questions addressed in this way — using a detailed chronological framework — can then be further applied to contemporary sites or individual archaeological contexts in Bermuda and elsewhere.

The reanimation of the landscape, one that was created and experienced by successive generations as in the current study, is the ultimate goal of such an exercise. Once completed, and when viewed in its entirety, we are reminded that the archaeological remains at the Grove have larger significance. They go beyond the home lot and the Tucker family household. The artefacts and architecture, the landscape and the people who lived there — the aggregate of household members, the Tucker family and others, the enslaved peoples and servants, together with an untold number of indentured workers and tenants — are the past participants within the larger social and economic forces that shaped the world of today.

ACKNOWLEDGEMENTS

Thanks are extended to all involved in the project: the Board of Directors, Port Royal Golf Course for providing permission to excavate; the staff at the Bermuda Maritime Museum, particularly, Dr Edward Harris, Dr Clarence Maxwell and Dr Clifford Smith. The 2004, 2005, 2006 and 2007 archaeological investigation at the Port Royal Golf Course in Bermuda was conducted by a team from Wilfrid Laurier University, Ontario, Canada. I would like to thank all the student project participants: David Barker, Nicole Brandon, Megan Brooks, Victoria Brooks, Harley Brown, Jodie Campbell, Megan Daniels, Sarah Daniels, Justin Donaldson, Amelia Ferguson, Matthew Fowler, Lindsay Harasymchuk, Caitlin Henderson, Sarah Henderson, Rebecca Knapp, Nadine Kopp, Shan Ling, Elizabeth Matwey, Christine Morgan, Melissa Novak, Amber Nowak, Jim Pratt, Emily Stott, Heather Tulloch, Chandra Young-Boyle and Emily Zeran. I wish to thank my colleagues and friends from Wilfrid Laurier who have provided the support necessary to ensure a successful project each year: Jonathan Haxell and Pamela Schaus. A final note of thanks also goes to Dr Lisabeth Robinson of Western Reserve Academy, for her assistance on the 2006 project and her continued assistance in the forging of a new landscape perspective.

The following archive resources were consulted: Bermuda Archives, Hamilton, Bermuda; and Swem Archives, Special Collections Research Centre, Earl Gregg Swem Library, College of William and Mary, Williamsburg, Virginia.

The author gratefully acknowledges that financial support for this research was received from a grant partly funded by the WLU Operating funds and partly by the SSHRC Institutional Grant awarded to WLU.

NOTES

- ¹ Gibb 1996, 17.
- ² Adams 1990, 92.
- ³ Rubertone 1989, 50.
- ⁴ Ashmore & Knapp 1999, 1.
- ⁵ Adams 1990; Beaudry 1986; 1999.
- ⁶ Mrozowski 1984.
- ⁷ Groover 2004.
- ⁸ Groover 2004, 39.
- ⁹ Beaudry 1986; 1999.
- ¹⁰ Beaudry 1986, 42.
- ¹¹ Beaudry 1986.
- ¹² Rubertone 1989.
- ¹³ Groover 2004, 28.
- ¹⁴ Groover 2004.
- ¹⁵ e.g. Agbe-Davies 1993; Bream 1991; Brown 1994; Picket & Brown 1998; Triggs 2006.
- ¹⁶ Robinson 2009.
- ¹⁷ Jourdan 1971, B4.
- ¹⁸ Norwood 1945, lxxxii–lxxxiii.
- ¹⁹ Jourdan 1971, F.
- ²⁰ Jourdan 1971, C6; Hughes 1971, B1. Norwood (1945, xlvi) comments that tenant farmers worked the land and grew tobacco. See also Norwood 1945, lxxxii and Jourdan 1971, C1.
- ²¹ McAndrews 2008.
- ²² Kelso *et al.* 1995.
- ²³ Lefroy 1981, 111.
- ²⁴ See Ives 1984, 98: letter from Governor Daniel Tucker to Sir Nathaniel Rich, 10 March, 1617/18.
- ²⁵ The well discovered at Jamestown in 2006 also preserved pollen, and other environmental information due to the anaerobic sediment conditions.
- ²⁶ Harris & Meatyard 2001, 2.
- ²⁷ Watts & Hansen 1986.
- ²⁸ McAndrews 2008.
- ²⁹ Gibb 1996.
- ³⁰ Hughes 1971, B2. According to Hughes, the cats may have been introduced from shipwrecks. Over-hunting of the wild hogs quickly reduced their numbers after only a few years.
- ³¹ Hughes 1971, B2.
- ³² Quitmeyer & Atkins 2009.
- ³³ Adams 1990.

- ³⁴ Norwood 1945, 64–6.
- ³⁵ Lefroy 1981, 102–3: Nathaniel Butler, *Historye of the Bermudaes*.
- ³⁶ A shingled house was in itself a sign of wealth in Bermuda. Even as late as 1687, 80% of the houses still had thatched roofs: see Raine 1966, 17.
- ³⁷ Ives 1984, 97–101: letter from Governor Daniel Tucker to Sir Nathaniel Rich, dated 10 March 1617/18.
- ³⁸ Ives 1984, 52: letter 22 February 1617/18, Robert Rich. There is no straight line of sight for a mile in distance leading from the Grove to the Great Sound, the nearest landing, and so this is an exaggeration. H. Francis Stephens' recollection of a tree-lined roadway does, however, indicate that such an approach to the house always existed.
- ³⁹ Harris & Meatyard 2001, 2.
- ⁴⁰ Ives 1984, 36.
- ⁴¹ Hallett 2005.
- ⁴² Hamilton 2003, 14.
- ⁴³ Hallett 2005, I, 29: 6 August 1623, meeting at Overplus house; I, 284: 17 October 1648, Council Meeting held at the Overplus house.
- ⁴⁴ Hallett 2005, II, 116: 27 May 1672, Assizes Actions entered.
- ⁴⁵ Hallett 2005, III, 168: 22 November 1670, Estate Settlement.
- ⁴⁶ Hamilton 2003, 19.
- ⁴⁷ Hamilton 2003, 18.
- ⁴⁸ Smith 2003.
- ⁴⁹ Hallett 2005, II, 287: Actions entered since the Assizes of 16 December 1674 and ended the Assizes of December 1676; II, 359: December 1678 Assizes, Actions entered since the Assizes of December 1677; II, 390: December 1679 Assize Actions entered since the Assizes held in June last past.
- ⁵⁰ Hallett 2005, III, 620: 20 March 1677/78, Sale of interest in a barque.
- ⁵¹ Zuill 1965, 345. Zuill believes that the Grove was built on the site of the former mansion. It has been suggested also that the destruction of the mansion and subsequent construction of the Grove may be related to the devastation caused by one of two hurricanes known to have visited Bermuda in 1712 and 1715. In papers found in the Swem Archives in Williamsburg, Virginia, the earliest reference to the 'Grove' as the singular, primary address is from a document dated 1770. Beginning in December 1773, most subsequent correspondence is addressed from 'The Grove, Port Royal, Bermuda': Binder 1 *Tucker-Coleman Papers* Shelf List, 30 April 1664–18 December 1785.
- ⁵² Swem Archives, *Tucker-Coleman Papers*, Letter dated 16 May 1778, from Henry Tucker (Bermuda) to St George Tucker (Williamsburg) describing shipment of salt; Letter dated 24 February 1779, mentioning Spanish indigo shipment lost to Americans; Letter dated 28 April 1778 mentioning tobacco shipment.
- ⁵³ Swem Archives, *Tucker-Coleman Papers*, Letter dated 24 February 1779.
- ⁵⁴ Hamilton 2003, 15–17.
- ⁵⁵ Swem Archives, *Tucker-Coleman Papers*, Letter dated 13 June 1798, from Elizabeth Tucker to St George Tucker: 'With the death of mamma my situation will change — our father's will left his entire estate to our mother . . . my brother has offered to keep this house, the furniture, servants, etc. and use them as my own — this I could not accept — then he invited me to live with him . . .'.
⁵⁶ Bermuda Archives, 'Book of Deeds', vol. 4 (1793–1800), 248–54: Indenture, 25 July 1799 — Henry and Frances Tucker to John Nash.
⁵⁷ Smith 2003, 180.
⁵⁸ Lloyd 1835.
⁵⁹ Triggs 2004.
⁶⁰ Harris 1989.
⁶¹ Groover 2004; Mrozowski 1984.
⁶² Beaudry 1986, 122.
⁶³ Triggs 1998.
⁶⁴ Mrozowski 1984.
⁶⁵ Beaudry 1986.
⁶⁶ Groover 2004.
⁶⁷ Mrozowski 1984.
⁶⁸ Groover 2004.
⁶⁹ Harris 1989.
⁷⁰ Harris 1989, 30–4.
⁷¹ Groover 2004.
⁷² Bermuda Archives microfilm 349, Bermuda Census of 1727, 'A List of the Inhabitants of the Bermuda or Somer Islands in America', Southampton Parish: original in The National Archives, Kew, London, CO37.
⁷³ Smith 2003, 177–81.
⁷⁴ Gibb 1996, 40.
⁷⁵ Smith 2003.
⁷⁶ As yet archaeological evidence of the enslaved population at the Grove is limited to fifteen sherds of 'colono ware'.
⁷⁷ Smith 2003, fig. 5:4.
⁷⁸ Gibb 1996, 41.
⁷⁹ Hamilton 2003.
⁸⁰ Craven & Haywood 1945, 64–6.
⁸¹ Lefroy 1981, 102–3: Nathaniel Butler, *Historye of the Bermudaes*.
⁸² Ives 1984, 97–101: Letter from Governor Daniel Tucker to Sir Nathaniel Rich, dated 10 March 1617/18.
⁸³ Unfortunately, the overall east–west dimension is unknown as the structure extends beyond the area able to be investigated and onto the adjacent golf fairway. The eastern end is certain but the western end remains to be determined.
⁸⁴ Hallett, I, 57: Council Minutes 6 July 1626.
⁸⁵ Schiffer 1987.
⁸⁶ Beaudry 1986; 1999.

- ⁸⁷ Starbuck 1980.
⁸⁸ Groover 2004, 28.
⁸⁹ Harrington 1954.
⁹⁰ Binford 1962.
⁹¹ South 1972; 1977.
⁹² Mrozowski 1984.
⁹³ Harris 1989, 121.
⁹⁴ Harris 1989, 121.
⁹⁵ Schiffer 1976.
⁹⁶ Groover 2004, 28.
⁹⁷ e.g. Gerrard 1993; Triggs 1993; 1998.
⁹⁸ Harrington 1954.
⁹⁹ See Table 12.
¹⁰⁰ Trussel 2009; Smith & Maxwell 2002.
¹⁰¹ <http://www.flmnh.ufl.edu/histarch/gallery_types/type_list.asp> [last accessed 3 January 2011].
¹⁰² Groover 2004, 28.
¹⁰³ D'Agostino 1998, 137.
¹⁰⁴ Rueger & von Wallmenich 1996.
¹⁰⁵ Styles 2007.
¹⁰⁶ Seasholes 1985, 65–7.
¹⁰⁷ St George 1982.
¹⁰⁸ South 1977.
¹⁰⁹ In her MA thesis, Sondra Jarvis (1997) identifies this pattern of fish consumption as a uniquely Bermudian subsistence strategy, which offset risk when resources were scarce.

BIBLIOGRAPHY

- Adams, W.H. 1990, 'Landscape archaeology, landscape history and the American farmstead', *Hist. Archaeol.* **24**:4, 92–101.
 Agbe-Davies, A. 1994, 'The ceramic assembly at the "Hill House" site, Hog Bay Park, Sandy's, Bermuda', *Bermuda J. Archaeol. Marit. Hist.* **6**, 129–44.
 Ashmore, W. & Knapp, A.B. (eds) 1999, *Archaeologies of Landscape: Contemporary Perspectives*, Oxford: Blackwell.
 Beaudry, M.C. 1986, 'The archaeology of historical land use in Massachusetts', *Hist. Archaeol.* **20**:2, 38–46.
 Beaudry, M.C. 1999, 'House and household: the archaeology of domestic life in early America', in Egan & Michael 1999, 117–26.
 Binford, L.R. 1962, 'A new method of calculating dates from kaolin pipe stem samples', *Southeastern Archaeol. Conf. Newsl.* **9**:1, 19–21.
 Bream, J.W. 1991, 'Historical and archaeological investigations of the Stanley House, Flatt's Village, Bermuda', *Bermuda J. Archaeol. Marit. Hist.* **3**, 89–113.
 Brown, M. 1994, 'Review of the archaeological work at the Henry Tucker House', *Bermuda J. Archaeol. Marit. Hist.* **6**, 168–93.
 Craven, W.F. & Hayward, W.B. (eds) 1945, *The Journal of Richard Norwood, Surveyor of Bermuda*, New York: Scholars' Facsimiles and Reprints.
 D'Agostino, M.E. 1998, 'Household Stuff: Material Culture and Identity in the Seventeenth-Century Anglo-Colonial World', University of California, Berkeley unpubl. PhD thesis.
 Egan G. & Michael, R.L. (eds) 1999, *Old and New Worlds*, Oxford: Oxbow Books.
 Fairbanks, J.L. (ed.) 1988, *New England Begins: The Seventeenth Century, 2. Mentality and Environment*, Boston: Museum of Fine Arts.
 Gerrard, R. 1993, 'Beyond crossmends: stratigraphic analysis and the content of historic artefact assemblages on urban sites', in Harris *et al.* 1993, 229–49.
 Gibb, J.G. 1996, *The Archaeology of Wealth: Consumer Behavior in English America*, New York: Plenum Press.
 Groover, M.D. 2004, 'Household succession as a catalyst of landscape change', *Hist. Archaeol.* **38**:4, 25–43.
 Hallett, A.C.H. (ed.) 2005, *Civic Records of Bermuda Under the Somers Islands Company 1612–1684*, 3 vols, Bermuda: Juniperhill Press and Bermuda Maritime Museum Press.
 Hamilton, P. 2003, *The Making and Unmaking of a Revolutionary Family: the Tuckers of Virginia 1752–1830*, Charlottesville: University of Virginia Press.
 Harrington, J.C. 1954, 'Dating stem fragments of seventeenth and eighteenth century clay tobacco pipes', *Q. Bull. Archaeol. Soc. Virginia* **9**:1, 10–14.
 Harris, E.C. 1989, *Principles of Archaeological Stratigraphy*, 2nd edn, New York: Academic Press.
 Harris, E.C., Brown, M.L. & Brown, G.J. (eds) 1993, *Practices of Archaeological Stratigraphy*, London: Academic Press.
 Harris, E. C. & Meatyard, K. 2001, 'Earliest archaeological site on mainland Bermuda', unpubl. report, Bermuda Maritime Museum.
 Hughes, L. 1971 [1615], 'A Letter from the Summer Ilands' (B1), in *The English Experience: Its Record in Early Printed Books*, facsimile 391, New York: Da Capo Press.
 Ives, V.A. (ed.) 1984, *The Rich Papers: Letters from Bermuda 1615–1646, Eyewitness Accounts Sent by the Early Colonists to Sir Nathaniel Rich*, Toronto: University Press.
 Jarvis, S. 1997, *When There's Nothing Better to Eat: Subsistence Strategies in Eighteenth Century Bermuda*, The College of William and Mary unpubl. MA diss.
 Jourdan, S. 1971 [1613], 'Plaine Description of the Barmudas', London, in *The English Experience:*

- Its Record in Early Printed Books*, facsimile 394, New York: Da Capo Press.
- Kelso, G.K. *et al.* 1995, 'Differential pollen preservation in a seventeenth-century refuse pit, Jamestown Island, Virginia', *Hist. Archaeol.* **29**:2, 43–54.
- Lefroy, J.H. (ed.) 1981 [1882], *Memorials of the Discovery and Early Settlement of the Bermudas or Somers Islands*, Hamilton: Bermuda Historical Society.
- Lloyd, S.H. 1835, *Sketches of Bermuda*, London: James Cochran.
- McAndrews, J. 2008, 'Pollen Analysis at the Grove', unpubl. rep. on file at Department of Archaeology and Classical Studies, Wilfrid Laurier University, Waterloo, Ontario.
- Mrozowski, S.A. 1984, 'Prospects and perspectives on an archaeology of the household', *Man in the Northeast* **27**, 31–49.
- Norwood, M.R. 1945 [1631], *The Description of the Sommer Islands Once Called the Bermudas*, in Craven & Hayward 1945.
- Quitmeyer, I.R. & Atkins, S.C. 2009, 'The Zooarchaeology of King's Castle, Bermuda: Subsistence During the Mid-17th and Late-18th Century', Toronto: Historical and Underwater Archaeology, Society for Historical Archaeology Annual Conference paper.
- Pickett, D. & Brown, M. 1998, 'Archaeology of the Tucker House kitchen revisited: recent excavations of the kitchen', *Bermuda J. Archaeol. Marit. Hist.* **10**, 107–23.
- Raine, D.F. 1966, *Bermuda Style: a Short Survey of Architecture in the Bermudas*, Bermuda: Longtail.
- Rich, R. 1970 [1610], *The English Experience: its Record in Early Printed Books Published in Facsimile 269. Newes from Virginia*, Amsterdam: DaCapo Press.
- Robinson, L. 2009, 'Attempting Eden: the English manipulation of the Bermudian landscape in the seventeenth century', *Bermuda J. Archaeol. Marit. Hist.* **19**, 31–54.
- Rubertone, P.E. 1989, 'Landscape as artefact: comments on "The archaeological use of landscape treatment in social, economic and ideological analysis"', *Hist. Archaeol.* **23**:1, 50–4.
- Rueger, B.E.I. & von Wallmenich, T.N. 1996, 'Human impact on the forests of Bermuda: the decline of endemic cedar and palmetto since 1609, recorded in the Holocene pollen record of Devonshire Marsh', *J. Paleolimnology* **16**, 59–66.
- Seasholes, N. 1985, *Report on the Intensive and Reconnaissance Archaeological Survey of the Hooper-Lee-Nichols Houselot, Cambridge, Massachusetts*, Boston, Mass: Centre for Archaeological Studies, Boston University.
- Schiffer, M.B. 1987, *Formation Processes of the Archaeological Record*, Albuquerque: University of New Mexico Press.
- Smith, C.E. & Maxwell, C.V.H. 2002, 'Bermuda smuggling-slave trade: the "Manilla Wreck" opens Pandora's Box', *Slavery and Abolition* **23**:1, 57–86.
- Smith, C.E., Jr. 2003, 'The Manilla Wreck: Bermuda's Role in the Atlantic Slave Smuggling Trade', University of Kentucky, Lexington, unpubl. PhD thesis.
- South, S. 1972, 'Evolution and horizon as revealed by ceramic analysis in historical archeology', *Conf. Hist. Sites Archeol. Pap.* **6**, 71–116.
- South, S. 1977, *Method and Theory in Historical Archaeology*, New York: Academic Press.
- Starbuck, D. 1980, 'The archeology of Canterbury Shaker Village', *New Hampshire Archeol.* **21**, 67–79.
- St George, R.B. 1988, "'Set thine house in order": the domestication of the yeomanry in seventeenth-century New England', in Fairbanks 1988, 159–88.
- Styles, J. 2007, *The Dress of the People: Everyday Fashion in Eighteenth-Century England*, New Haven: Yale University Press.
- Triggs, J.R. 1993, 'The seriation of multilinear stratigraphic sequences: phasing using the Harris Matrix', in Harris *et al.* 1993, 250–73.
- Triggs, J.R. 1998, 'Matrix Seriation: a Relative Dating Technique for Sites with Multilinear Stratigraphic Sequences', University of Toronto unpubl. PhD thesis.
- Triggs, J.R. 2004, 'Searching for Governor Daniel Tucker's "mansion": the first season of excavation', *Bermuda J. Archaeol. Marit. Hist.* **15**, 7–47.
- Triggs, J.R. 2006, 'Peering into the cocoon: archaeology as a strategy for conserving Bermuda's vernacular architecture', *Bermuda J. Archaeol. Marit. Hist.* **17**, 17–63.
- Trussel, T.D. 2009, "'Their private ventures": Bermuda's Role as Atlantic World Trade Nexus and the Archaeology of Smuggling', Toronto: Historical and Underwater Archaeology, Society for Historical Archaeology Annual Conference unpubl. pap.
- Watts, W.A. & Hansen, B.C.S. 1986, 'Holocene climate and vegetation of Bermuda', *Pollen et Spores* **28**, 355–64.
- Zuill, W. 1965, *Bermuda Journey: a Leisurely Guide Book*, Hamilton: The Bermuda Book Stores.

ABBREVIATIONS

- SSHRC Social Sciences and Humanities Research Council of Canada
 WLU Wilfrid Laurier University

APPENDIX 1: STRATIGRAPHIC CORRELATION CHART FOR THE GROVE (2007 UNITS ONLY)

Legend - green = horizons; plum = walls Phases omitted: 4, 8, 37, 38, 47, 48, 49, 58

Period	Phase	Period	Description	2007 Units	N6W5	S2W14	5S8W	6S10W	9S10W	6S16W	7S17W	19S17W
VI	70	Modern	Sod and topsoil				1, 2	1		1, 2		
VI	69		2005 backfill					2	3			
VI	68		Sod		1	1			1		1	1
VI	67		Topsoil		2	2			2		2	2
VI	66		Medium brown sandy loam – top of fill in utility trench									
VI	65		Utility trench fill – 2005									
VI	64		Lower utility trench fill – 2005									
VI	63		Interface for utility trench – 2005									
VI	62		Deep pipe trench fill for mechanically excavated line for water and electrical conduit leading to iron cover chamber at south end of site									
VI	61		Interface for above									
VI	60		Small mortar flecks and fragments in sandy loam		3	3, 3c, 4	4		4		3	
VI	59		Layer below unit 6 in 2N18W – unknown – not excavated								5	
VI	57		Trench fill for concrete curb								7a, 7b	
VI	56		Curb								4, 4a	
VI	55		VFI curb trench									
VI	54		HFI for raised tracks for road surface									
VI	53		Mortar over edge of road surfaces									
VI	52		Three compacted road surfaces of soft stone, loam etc, metallised surfaces								5, 6a, 6b	6

Legend - green = horizons; plum = walls Phases omitted: 4, 8, 37, 38, 47, 48, 49, 58

Period	Phase	Period	Description	2007 Units	N6W5	S2W14	5S8W	6S10W	9S10W	6S16W	7S17W	19S17W
VI	51	Golf Course construction 1965	Mortar and plaster destruction layer		5, 6	6	10			3		
VI	50		HFI all walls		4a,9a	7a	3a				8a	
VI	46		Sandy loam cellar fill with destruction debris									
VI	45		Large rubble building debris within matrix of brown sandy loam									
VI	44		Interior cellar fill below rubble and within large rubble									
VI	43		Roofing tiles on mortar/plaster deposit		7							
VI	42		Pipe trench fill		10							
VI	41		Cast iron pipe		12							
VI	40		Charred timber		13							
VI	39		Interface for pipe trench		11							
VI	36		Grey sand/mortar deposit on south side of interior wall		14	8						
VI	35	1965	Charred timber									
V	34	c. 1800-1960s	Well compacted deposit - ground surface?		8			4				3, 4
IVa	33		Cellar floor deposit in building north of Grove									
IVa	32		Dark brown sandy loam interior deposit									
IVa	31		Interior sub-floor deposit									
IVa	30		Builder's trench fill for interior wall			9						
IVa	29	INTERIOR WALLS	INTERIOR WALL - EAST-WEST AND NORTH-SOUTH SECTIONS			7						
IVa	28		Builder's trench interface for interior wall			9a						

Legend - green = horizons; plum = walls Phases omitted: 4, 8, 37, 38, 47, 48, 49, 58

Period	Phase	Period	Description	2007 Units	N6W5	S2W14	5S8W	6S10W	9S10W	6S16W	7S17W	19S17W
II/III	12	Ground surface early 17th/mid-18th C.	Exterior ground surface – north side of Grove – reddish-brown sandy loam	15								
II	11		Construction deposit? Dark brown sandy loam with small rubble adjacent to early exterior Foundation wall	16								
II	10		Plastered surface of exterior early foundation wall									
II	9		Mortar deposit on exterior of wall									
II	7		Builder's trench fill for exterior wall – early phase									
II	6		EXTERIOR WALL IN UNITS WITH CONTIGUOUS WALLS	[4]							[8]	
II	5	Mansion construction	Builder's trench interface for exterior wall in units with contiguous walls – early phase									
II	3	Early 17th C.	Dark brown sandy loam exterior deposit						9, 10	4	7c	6
II	2		Greyish red-brown layer overlying bedrock									
I	1	Pre-Settlement	Bedrock				9	5	11	5	?	7

APPENDIX 2: CERAMIC WARE AND
DECORATIVE TYPES FOR THE ENTIRE
ASSEMBLAGE FROM THE GROVE

Ware type	Decorative type	Total	
Coarse earthenware	Agate ware	14	
	Astbury-type	1	
	Biot jar	1	
	Brown glaze	1	
	Donyatt	2	
	Jackfield-type	3	
	Lead-glazed	190	
	Lead-glazed redware	261	
	North Devon	2	
	gravel-tempered		
	North Devon, gravel-free	4	
	Olive jar, Spanish	25	
	Unglazed	45	
	Unglazed redware	74	
Total coarse earthenware		623	
Colono ware	Plain	7	
Creamware	Annular banded slip	3	
	Annular banded slip, marbled	7	
	Feather-edged	3	
	Lustre	1	
	Painted, polychrome	3	
	Plain	386	
Royal pattern	5		
Total creamware		408	
Delftware	English or Dutch blue on white	405	
	Dutch, blue on white	41	
	Plain	271	
	Polychrome	64	
	Sponged	74	
Total delftware		855	
Faience	Brittany blue on white	12	
	Normandy blue on white	12	
	Normandy plain	26	
Total faience		50	
Ironstone	Annular banded slip	4	
	Gilded	1	
	Moulded	2	
	Plain	18	
	Transfer-printed	1	
Total ironstone		26	
Jackfield-type	Black-glazed	7	
Maiolica	Columbia green-dipped	1	
	Santo Domingo blue on white	1	
Total maiolica		2	
Pearlware	Annular banded slip	18	
	Blue-edged	32	
	Painted, blue	29	
	Painted, early polychrome	34	
	Plain	158	
	Sponged	4	
	Transfer-printed, black	1	
	Transfer-printed, blue	71	
	Transfer-printed, green	6	
	Transfer-printed, purple	4	
Total pearlware		357	
Porcelain	Bone china	3	
	Batavian ware	1	
	(brown-glazed)		
	Qing blue on white	21	
	Chinese Imari	10	
	Chinese blue on white	65	
	English soft paste	60	
	Ming blue on white	6	
	Plain	67	
	Total porcelain		233
	Refined white earthenware	Annular banded slip	17
		Cauliflower moulded	1
		'Chicken foot' (impressed)	3
Marbled		2	
Mocha ware		1	
Moulded		9	
Painted		4	
Painted, early polychrome		7	
Plain		119	
Scottish sponged ware		2	
Transfer-printed, black	3		
Transfer-printed, blue	75		
Transfer-printed, brown	2		
Transfer-printed, green	15		

Ware type	Decorative type	Total	Ware type	Decorative type	Total
	Transfer-printed, purple	4		Elers-type	5
	Transfer-printed, red	5		Fulham	2
Total refined white earthenware		269		Midlands purple	3
Slipware	Brown	3		North American stoneware	1
	Metropolitan	1		Nottingham	4
	Moravian	13		Red glaze	4
	North Italian marbled	6		Treacle-brown	3
	Saintonge slipware	11		Unknown	9
	Sgraffito	4		Westerwald	74
	Sgraffito, polychrome	4		White salt-glazed	92
	Slip-trailed redware	14		White salt-glazed, scratch blue	2
	Staffordshire	55	Total stoneware		286
Total slipware		111	Yellow ware	Plain	9
Stoneware	Beauvais	1		Slip-decorated	5
	Black basalt	1	Total yellow ware		14
	Brown salt-glazed Rhenish	29	Grand Total		3,248
	Brown salt-glazed, English	46			
	Dark black/red glaze	3			
	Dark mustard-colour glaze	2			
	Derbyshire	5			

SUMMARY IN FRENCH, GERMAN, ITALIAN AND SPANISH

RÉSUMÉ**“Une maison en cèdre”: archéologie du paysage à la Maison Overplus et au Bosquet**

De 2004 à 2007, des recherches archéologiques ont été menées sur la résidence de la famille Tucker connue au XVII^e siècle comme la Maison Overplus et au XVIII^e siècle comme le Bosquet. Au cours des quatre saisons de fouilles, plus de 30 000 artefacts ont été mis au jour à partir d'une séquence stratigraphique complexe. Pour tenter de comprendre le rôle joué par les personnes qui ont créé, modifié et expérimenté les transformations du paysage sur le site, une approche de l'archéologie du paysage a été adoptée. Celle-ci examine l'interaction entre de nombreuses séries d'indices : des données archéologiques et environnementales, des sources documentaires et l'histoire orale. Les études des artefacts ont fourni des résultats essentiels pour permettre des comparaisons avec d'autres sites des Bermudes.

ZUSAMMENFASSUNG**„Ein tapferes Zedernhaus”: Landschaftsarchäologie am Overplus-Haus und dem Hain**

Von 2004–2007 wurden archäologische Untersuchungen am Hause der Familie Tucker durch-

geführt, die im 17. Jahrhundert unter dem Namen *Overplus Haus*, und im 18. Jahrhundert als der *Hain* bekannt war. Während der vier jährlichen Ausgrabungsperioden wurden mehr als 30.000 Artefakte aus einer komplizierten stratigraphischen Sequenz geborgen. In einem Versuch, die Rolle der Bewohner, die diese Sequenz produzierten, verändert und erlebt hatten zu verstehen, wurde eine archäologische Annäherung vom Landschaftsaspekt aus angewandt. Hierin wird das Zusammenspiel verschiedener Linien von Anhaltspunkten untersucht: die archäologischen und Umweltdaten; historische Dokumente; und mündliche Überlieferung. Die Artefakte liefern stichhaltige Resultate bei dem Vergleich mit anderen Fundstellen der Bermudas.

RIASSUNTO**“Una coraggiosa casa in legno di cedro”: archeologia del paesaggio a ‘Overplus House’ e ‘Grove’**

Dal 2004 al 2007 furono condotte ricerche archeologiche nella residenza della famiglia Tucker, conosciuta nel XVII secolo come ‘Overplus House’ e durante il XVIII come ‘Grove’. Nel corso di quattro campagne furono recuperati più di 30.000 manufatti da una complessa sequenza stratigrafica.

Nel tentativo di comprendere il ruolo giocato dalle persone che crearono, modificarono e vissero la trasformazione paesistica del sito, fu adottato un approccio di archeologia del paesaggio che prende in considerazione le interazioni fra dati di natura diversa: dati archeologici e ambientali, fonti documentarie e storia orale. Lo studio dei manufatti ha fornito risultati sostanziali per un confronto con altri siti delle Bermude.

RESUMEN

“Una valiente Cedar House”: arqueología del paisaje en la Overplus House y Grove

Entre 2004 y 2007 se realizó una investigación arqueológica en la residencia de la familia Tucker,

mejor conocida en el siglo XVII como la Overplus House y en el XVIII como el Grove. Durante el trabajo de campo se recuperaron más de 30.000 objetos procedentes de una compleja secuencia estratigráfica. En un intento de comprender el papel desempeñado por las personas que crearon, modificaron y experimentaron las transformaciones del paisaje en este yacimiento, se adoptó para su estudio el enfoque de la arqueología del paisaje. Ésta examina la interacción entre las diversas líneas de evidencia: datos arqueológicos y medioambientales, fuentes documentales e historia oral. El estudio de los objetos arqueológicos ha producido resultados considerables para comparar con otros yacimientos de las Bermudas.

*Department of Archaeology and Classical Studies, Wilfrid Laurier University, Waterloo, ON,
Canada N2L 3C5
[jtriggs@wlu.ca]*