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# New World, Real World: Improvising English Culture in Seventeenth-Century Virginia

By CARY CARSON, JOANNE BOWEN, WILLIE GRAHAM,  
MARTHA MCCARTNEY, and LORENA WALSH

CULTURE IS INDIVISIBLE FROM PLACE. SOME BELIEFS, CUSTOMS, AND practices can be transplanted from one location to another and come through more or less intact. Others are significantly altered by the alien conditions they encounter in their new surroundings. The four-hundredth anniversary of the founding of Jamestown has renewed scholars' interest in the transfer of cultures from the Old World and their reception and transformation in the New. Those whose starting points are Africa, the Mediterranean, northern Europe, and the British Isles tend to emphasize how geopolitical realignments and social and economic upheavals in places where migrations began set in motion events that reshaped societies and restructured economies half a world away.<sup>1</sup> Those who see the transatlantic movement of peoples and cultures from the receiving end, from the colonies, are often most impressed by the circumstances that challenged the assumptions that settlers brought with them and that they began adjusting almost as soon as they unpacked their bags. The two viewpoints, taken together, produce no surprises when they inform us that successful overseas migrants were traditionalists by instinct and improvisers of necessity.

<sup>1</sup> This perspective was taken by most presenters at the conference at which an earlier version of this essay was first given, "The Atlantic World and Virginia, 1550–1624," Williamsburg, Virginia, March 4–7, 2004, sponsored by the Omohundro Institute of Early American History and Culture. Selected proceedings were published in Peter C. Mancall, ed., *The Atlantic World and Virginia, 1550–1624* (Chapel Hill, 2007).

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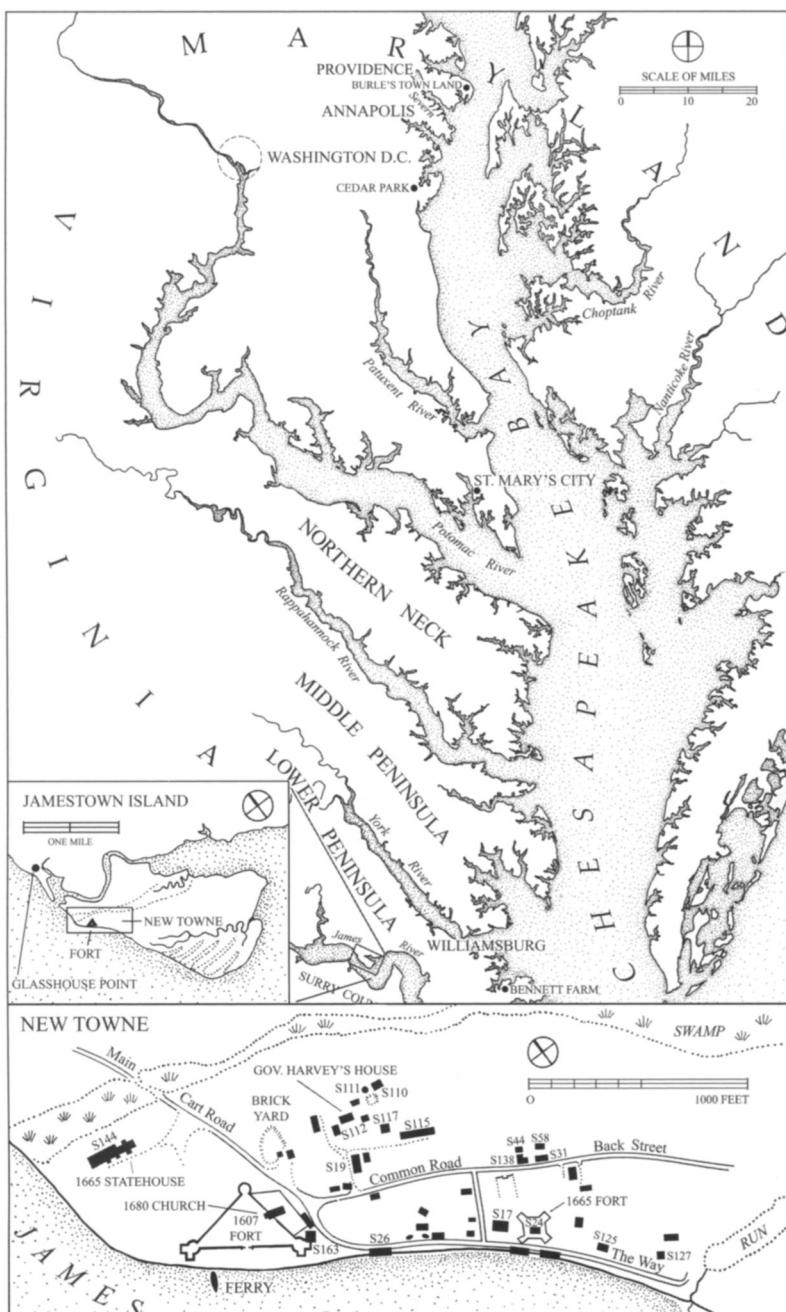


Figure 1. Map of Chesapeake Bay region and Jamestown Island, showing place-names mentioned in the text and the location of seventeenth-century structures excavated in New Towne. The National Park Service and the Association for the Preservation of Virginia Antiquities use a shared numbering system to identify archaeological features (e.g., S17 = Structure 17). The town plan is incomplete. Buildings known only from records and others that await discovery would fill in the streetscapes significantly. (Drawing by Cary Carson, Willie Graham, and Shearon Vaughn)

Where these analytical approaches break new ground is when they show how that balance was struck.

Students of material culture are place-bound more than most scholars. Because archaeological sites and vernacular buildings are rooted in the landscape, specialists who study them are best acquainted with the destinations where long-distance travelers to North America eventually settled. Archaeologists, zooarchaeologists (animal bone specialists), folklorists, and architectural historians collect physical evidence in those places that should help historians understand important cultural adjustments that otherwise are often poorly documented in written records. Nowhere is such information about the earliest settlements on the American mainland more plentiful than it is in Virginia and Maryland, where public and private research organizations have conducted archaeological excavations and architectural surveys for almost two generations (see Figure 1). Colonial Williamsburg and the National Park Service at Jamestown Island pioneered modern, systematic field research beginning in the 1930s; those institutions and others have extended the work to the rest of the Chesapeake Bay region since 1970.<sup>2</sup> The sheer volume of material evidence assembled by field-working historians is nothing less than staggering. The investment of time, talent, and funds in collecting this body of new information, not to mention the intellectual capital it represents, raises a reasonable expectation that scholars from various kindred disciplines were working together in anticipation of the Jamestown quatercentenary.

In reality, collaborations have been rare.<sup>3</sup> The quantity and

<sup>2</sup> Besides the National Park Service and Colonial Williamsburg, organizations in Virginia and Maryland that have carried out archaeological excavations and fielded survey teams since 1965 include Anne Arundel County (Maryland) Lost Towns Project, Association for the Preservation of Virginia Antiquities, College of William and Mary, Cultural Resources, Inc. (Fredericksburg, Virginia), Fairfield Foundation, Inc. (Gloucester County, Virginia), Flowerdew Hundred Foundation (Prince George County, Virginia), Historic St. Mary's City (Maryland), James River Institute for Archaeology, Inc. (Virginia), Louis Berger and Associates (Virginia), Jefferson Patterson Park and Museum (Calvert County, Maryland), Maryland Historical Trust, Thomas Jefferson Foundation, Inc. (Monticello), Southside Historical Sites, Inc. (Virginia), Virginia Center for Archaeology (Williamsburg), Virginia Commonwealth University, Virginia Department of Historic Resources, Virginia Foundation for Archaeological Research, Inc. (Spring Grove, Virginia), and Virginia Historic Landmarks Commission.

<sup>3</sup> The first published work to draw broadly on fieldwork across the region was Cary Carson, Norman F. Barka, William M. Kelso, Garry Wheeler Stone, and Dell Upton, "Impermanent Architecture in the Southern American Colonies," *Winterthur Portfolio*, 16 (Summer–Autumn 1981), 135–96. That collaboration has since been widened and extended in Julia A. King et al., *A Comparative Archaeological Study of Colonial Chesapeake Culture* [final report to the National Endowment for the Humanities for grant no. RZ-20896-02] (n.p., 2006); and recently in Willie Graham, Carter L. Hudgins, Carl L. Lounsbury, Fraser D. Neiman, and James P. Whittenburg, "Adaptation and Innovation: Archaeological and Architectural Perspectives on the Seventeenth-Century Chesapeake," *William and Mary Quarterly*, 3rd ser., 64 (July 2007), 451–522. An online resource titled "Database of Early Chesapeake Architecture," compiled by the Colonial Williamsburg Foundation and the College of William and Mary, is a comprehensive,

complexity of archaeological and vernacular building evidence are partly to blame. So are material culture specialists themselves. Seldom have they gone out of their way to help uninitiated colleagues zero in on historical problems that the physical record might usefully inform. Archaeological collections are vast archives of raw data. Artifacts numbering in the millions can be used to tell many different stories or (too often) no story at all, at least not stories that are sufficiently original to make notable contributions to a broader understanding of the past.

One promising exception is the interest that many scholars from different disciplines now share in the learning process that colonization set in motion. As surprising as it sounds, certain groups of artifacts recovered from seventeenth-century Chesapeake sites, when skillfully interpreted, throw light on some of the make-or-break choices that spelled the difference between success and failure for colonists. This essay brings to that larger conversation pertinent archaeological evidence of three kinds—animal bones, farm buildings, and the excavated remains of Jamestown. Each raises a historical topic that written records leave mostly unaddressed. Each tells us something different and something worth knowing about the improvising skills of European immigrants to the Chesapeake colonies. All three together reveal how the experience of place on the margins of empire soon overturned customs and practices that had long been central to Britons' homegrown way of life.

Some ideas ship well, and some do not. This essay uses selected case studies to look closely at three essential lifeways that colonists either had to accept as they found them in Virginia and Maryland or had to rebuild from scratch: first, a productive system of agriculture suited to the local Native American landscape; then the provision of housing for farm owners and their laborers and the farm buildings they needed to make a living; and finally the creation of a town where they gathered periodically to pass laws and manage commerce. Old World experience went only so far in providing newcomers with answers to basic questions—what food to grow and livestock to raise, what buildings to build first and how, and what manner of urban place to take as a model for their capital city. Trial and error replaced received wisdom

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open inventory of all known structures and sites in the region from 1607 to 1720; it is hosted on the college website at <http://deca.swem.wm.edu/>. An exhibition to which various regional organizations loaned artifacts was “1699: When Virginia Was the Wild West,” curated by Cary Carson, Jan Gilliam, William Pittman, and Jonathan Prown at the DeWitt Wallace Decorative Arts Museum, Colonial Williamsburg Foundation, 1999–2000.

when conventional problem solving proved inadequate. From the very beginning, English migrants to the Chesapeake learned to fly by the seat of their pants. Archaeologists find evidence of their improvisations within ten years of the Virginia colony's settlement in 1607. Choices made in that first critical decade played out across the seventeenth century in ways that shaped southern agricultural systems, plantation management practices, and the planning and building of Tidewater towns for decades to come.

Historians of early America have another reason to pay attention to what archaeology has to say about the makeshift inventions that newcomers patched together to replace their unrealized and unrealistic expectations. Much scholarship today takes pains to spell out differences that distinguished region from region, group from group, town from country, men from women, and Africans from Europeans from Native Americans. Our commendable eagerness to calibrate and celebrate the diversity of every people's experience has nevertheless cast suspicion on attempts to understand the no less powerful forces that began almost immediately to break down the many differences that Old World immigrants brought to North America and to colonies everywhere.

Our passion for pluralism has had some unintended consequences. First of all, it fails to anticipate or explain the capacity and aptitude for nation making that Americans developed in the course of the eighteenth century and demonstrated in founding the republic. As a result, much colonial history before the Revolution no longer provides a preamble to the national narrative. Second and more fundamentally, the luxuriant variety of later American cultures is hard to reconcile with the premise that British folkways transplanted to the colonies by first-generation immigrants set precedents and established patterns that were little affected by their on-the-ground experience or by later arrivals.<sup>4</sup> The notion of a founders' hegemony fits poorly with observations made by dirt archaeologists and social historians who study the cultures that settlers and servants from Britain and slaves from West Africa brought to the Chesapeake colonies in the seventeenth century. These field-working researchers do indeed see evidence that free and unfree migrants arrived laden with folk customs that they had learned

<sup>4</sup> *Albion's Seed: Four British Folkways in America* (New York, 1989) is David Hackett Fischer's ambitious attempt to rehabilitate and reassert the case for strong continuities in British and colonial cultures. The book and the argument became the subject of a forum titled "Albion's Seed: Four British Folkways in America—A Symposium," *William and Mary Quarterly*, 3rd ser., 48 (April 1991), 223–308.

at birth. Once on these shores, though, they encountered and coped with an unfamiliar environment, economy, social mix, and labor system among many other conspicuous differences. Success, even survival, in this school of hard knocks required choices, compromises, and, most of all, creativity. Sometimes choices had life-or-death consequences, and not just for bondmen and bondwomen. Habits patterned and ingrained by long practice in the old worlds from which they came were often quickly cast aside in a process of social learning that a school of evolutionary anthropologists believes makes better sense of the dynamics of cultural change than do the rigid models favored by archaeologists and folklorists who work in a structuralist tradition.<sup>5</sup> Today's field-working historians pay particular attention to those real-world experiences, which, though shared by displaced peoples in a variety of settings, nevertheless resulted in very different outcomes.

We will have more to say about social learning in our summing up. First, though, we need to see the social learning process at work in early Virginia. The first case study reveals how planters from England appropriated a landscape that Indians had managed for centuries and how they soon turned it to their own, quite different ends. A second describes how homesteaders built farmsteads on the cheap to make economical use of their limited start-up capital while getting a foothold in the fledgling colony. Finally, a third illustration shows how town planners designed and redesigned Jamestown to make the capital city a more successful urban place than history has usually acknowledged. In each case, the on-site realities of an unfamiliar physical world—a world made stranger still by the presence of Indians and, before long, Africans—soon pressured English settlers not only to jettison useless ideas while holding fast to some things tried and true but also, most of all, to extemporize solutions to problems that no one had foreseen.

Food shortages are episodes in the mythology of early Virginia that Jamestown's so-called starving time in the winter of 1609–1610 has

<sup>5</sup> Peter J. Richerson and Robert Boyd, *Not by Genes Alone: How Culture Transformed Human Evolution* (Chicago, 2005), chap. 4; Stephen Shennan, *Genes, Memes and Human History: Darwinian Archaeology and Cultural Evolution* (London, 2002); Fraser D. Neiman, "An Evolutionary Approach to Archaeological Inference: Aspects of Architectural Variation in the 17th-century Chesapeake" (Ph.D. dissertation, Yale University, 1990); Stephen Shennan, "Cultural Transmission and Cultural Change," in Sander E. van der Leeuw and Robin Torrence, eds., *What's New? A Closer Look at the Process of Innovation* (London, 1989), 330–46. A generation of historical archaeologists was greatly influenced by the structuralism of Henry Glassie, *Pattern in the Material Folk Culture of the Eastern United States* (Philadelphia, 1968); Glassie, *Folk Housing in Middle Virginia: A Structural Analysis of Historic Artifacts* (Knoxville, 1975); and James Deetz, *Invitation to Archaeology* (Garden City, N.Y., 1967).

made legendary. Less well known even to historians is another food story. Britons were not the only colonizers whose arrival on the Chesapeake scene soon altered the landscape they appropriated from the Indians. English farmers imported seeds and livestock in order to grow food crops and raise animals for milk and meat. The animals themselves were carriers of other aggressive immigrants, species of Old World grasses that over millennia had evolved symbiotically with Old World grazing animals. All four—farmers, food crops, livestock, and weed seeds—soon converted the regional ecology of the Chesapeake into a dynamic open-woodland agricultural system that was part English, part Indian, part raw nature, and part improvisation. This food story is best known to archaeologists.

Animal bones recovered and studied by archaeologists are called faunal remains. They contain information that tells zooarchaeologists how domesticated animals played a central part in transforming the Chesapeake environment from the moment of their introduction. While conventional written records address many important aspects of agriculture and animal husbandry, documents tend to reflect the agendas of their authors and thus are always subject to interpretation. Faunal remains are different. Being nothing more than leftover table scraps, they avoid a writer's biases. They simply record the diet and tastes of individual diners at the tables that produced the discarded material. Zooarchaeologists have assembled a broad dietary record pertaining to wealthy and middling planters and, frequently, enslaved Africans as well. The data provide an invaluable (but seldom used) independent source of information to test the truth of information from historical records. Furthermore, because faunal remains supply data of an altogether different kind, they extend our knowledge of early foodways to subjects and regions that otherwise remain undocumented.<sup>6</sup>

Zooarchaeological research carried out over the last thirty years by Historic St. Mary's City in Maryland and Colonial Williamsburg in Virginia has assembled data from more than a hundred sites. They date from 1607 through the early nineteenth century and include dozens of deposits from Jamestown Island and other lower Chesapeake locations.

<sup>6</sup> Examples of zooarchaeological studies from the Chesapeake include Henry M. Miller, "An Archaeological Perspective on the Evolution of Diet in the Colonial Chesapeake, 1620–1745," in Lois Green Carr, Philip D. Morgan, and Jean B. Russo, eds., *Colonial Chesapeake Society* (Chapel Hill, 1988), 176–99; Joanne Bowen, "Foodways in the 18th-Century Chesapeake," in Theodore R. Reinhart, ed., *The Archaeology of 18th-Century Virginia* (Richmond, 1996), 87–130; and Bowen, "Historical Ecology and the British Landscape," plenary talk presented to the Society for Historical Archaeology, Mobile, Alabama, 2002.

The faunal database is now sufficiently comprehensive to provide information essential to identifying regional trends and understanding long-term change. Where individual sites have produced insufficient numbers of bones to generate statistically reliable data, sites have been combined to form broader analytical groups: 1620–1660, 1660–1700, 1700–1750, and the third and fourth quarters of the eighteenth century.<sup>7</sup> Written records have not been ignored in this work. Documents speak to archaeologists in some ways that bones cannot. They deepen our understanding of the faunal evidence by stating or implying people's reasons for the behavior that created the archaeological record. The analysis offered here draws on the strengths of both kinds of evidence, letting each inform the other.

Data derived from faunal collections provide primary evidence for studies of the living landscape. For this work zooarchaeologists use two analytical tools principally. One, the so-called dietary estimate, uses mathematical equations to convert bone counts to estimated meat weights for wild and domesticated species. Analysts can thereby compare colonists' dependence on local fish and game as food sources with the domesticated animals they brought with them from home.<sup>8</sup> Measuring excavated assemblages of meat and fish bones consumed and thrown away by early settlers is one way to gauge their initial encounter with New World wildlife. Inferential information derived from the measurement of bones—the second useful analytical tool—reveals long-term changes in the environment in which domesticated animals were raised. Long bones (i.e., leg bones) are indicators of the size attained by mature cattle, horses, sheep, and swine.<sup>9</sup> Growth in the mammalian skeleton is affected by many factors, including breeding

<sup>7</sup> Bowen, "Foodways in the 18th-Century Chesapeake"; Lorena S. Walsh, Ann Smart Martin, and Joanne Bowen, *Provisioning Early American Towns. The Chesapeake: A Multidisciplinary Case Study* [final report to the National Endowment for the Humanities for grant no. RO-22643-93] (Williamsburg), 1997).

<sup>8</sup> Biomass measures the amount of flesh represented by the weight of the archaeological bone. See Elizabeth J. Reitz and Elizabeth S. Wing, *Zooarchaeology* (Cambridge, Eng., 1999), 225–31.

<sup>9</sup> Since no faunal assemblage recovered from North American sites contains sufficient numbers of measurable long bones to estimate size changes occurring on a single site, all fused epiphyseal ends of long bones from every site were used to assess regional patterns. In all, twenty-six different measurements from a sample of seventeen hundred individuals were taken using standard values published in Angela von den Driesch, *A Guide to the Measurement of Animal Bones from Archaeological Sites* (Cambridge, Mass., 1976). See also Benjamin Arbuckle, "Interpretations of Size Change in Cattle in the Colonial Chesapeake" (senior research paper, College of William and Mary, 1999); and Richard H. Meadows, "The Use of Size Index Scaling Techniques for Research on Archaeozoological Collections from the Middle East," in Cornelia Becker, Henriette Manhart, Joris Peters, and Jörg Schibler, eds., *Historia Animalium ex Ossibus: Beiträge zur Paläoanatomie, Archäologie, Ägyptologie, Ethnologis und Geschichte der Tiermedizin* (Rahden, Germany, 1999), 285–300.

and to a large extent the environmental conditions in which animals grow up. Biologists agree that in circumstances where animals are turned loose to forage for food, as was the case in the Chesapeake colonies, nutrition trumps all other factors contributing to animal size. Those that eat well reproduce freely and achieve their full genetic potential. Alternatively, in situations where they are deprived of nutritious foods owing to inferior forage or competition from other animals, growth is stunted, particularly in the developmental stages of young mammals.<sup>10</sup> Together these two analytical techniques—consumption estimates and bone measurements—help archaeologists determine how early settlers from England tried to feed themselves on their first coming to the Chesapeake colonies and later how their successors learned to adjust English herding and horticultural practices to take better advantage of the region's natural resources.

The founders of Jamestown were astonished by the profusion of wildlife in America. Even so, their colony nearly starved to death. The reasons are many (and often recited), but the paradox owes much to the fact that the soldiers, artisans, and merchants sent over to garrison and operate a Virginia Company trading station expected others to supply them with provisions—either the investors back home or their intended Indian trading partners in the colony.<sup>11</sup> The colonists themselves were well qualified for the jobs they came to do, which meant that most were not experienced farmers and few had hunting skills. Little wonder that they dragged their feet when ordered to start growing their own corn. Likewise, traders and artisans were reluctant to venture into the surrounding forests to hunt game. To make matters worse, the entire mid-Atlantic seaboard was locked in the grip of a severe, decade-long drought when the English expedition reached Virginia.<sup>12</sup> A string of failed crops all but wiped out surplus food supplies, which the Powhatan Indians grudgingly traded to the English during the few interludes when the two were at peace. The terrible winter famine of 1609–1610 had been a disaster waiting to happen. The wretched survivors, indeed

<sup>10</sup> Robert M. Malina and Claude Bouchard, *Growth, Maturation, and Physical Activity* (Champaign, Ill., 1991), 405–11.

<sup>11</sup> Historical studies on commodity production include, among many, Edmund S. Morgan, *American Slavery, American Freedom: The Ordeal of Colonial Virginia* (New York, 1975), 92–114; Kenneth R. Andrews, *Trade, Plunder and Settlement: Maritime Enterprise and the Genesis of the British Empire, 1480–1630* (Cambridge, Eng., 1984), 312–25; James Horn, *A Land As God Made It: Jamestown and the Birth of America* (New York, 2005), 127–29, 164–89, 208–11; and Karen Ordahl Kupperman, *The Jamestown Project* (Cambridge, Mass., 2007), 210–40.

<sup>12</sup> David W. Stahle et al., “The Lost Colony and Jamestown Droughts,” *Science*, April 24, 1998, pp. 564–67.

the settlement itself, were rescued only when reinforcements arrived in the spring.<sup>13</sup> The infamous starving time proceeded from a huge tactical miscalculation involving the supply of essential foodstuffs.

Faunal remains recovered from the Jamestown Fort site put hard numbers to the story that survivors told of their dependency on easy-to-catch wildlife and dwindling food supplies imported from home (see Figure 2).<sup>14</sup> Various fish, wild fowl, turtles, and small mammals counted for half of all meat remains in the fort assemblage and clearly were the mainstay of the colonists' diet. In the winter of 1609, when they could not or dared not leave the fort, they literally ate anything that moved. Faunal remains from those months include creatures seldom if ever eaten by Europeans, including vipers, black rats, musk turtles, dogs, cats, and most poignantly horses. Normally horse bones are not found in garbage dumps; horse meat, usually taboo to all but very poor people, was eaten by others only in extremis. Furthermore, horses were too scarce and too valuable to put into a stew pot in ordinary times.<sup>15</sup> The fact that heavily butchered horse bones taken from heads, feet, and carcasses account for 12.2 percent of the total biomass recovered from early deposits within the fort bears witness to the colonists' desperate straits. Apparently horses were the only large animals they had brought from England. Although Thomas Gates reputedly imported livestock in 1608, the faunal evidence strongly implies that the animals he transported included no cows or steers. Cattle bones do number among the bone assemblages from the fort, fully 14 percent of the biomass, but significantly they include no heads or feet. So, beef must have come from barreled provisions—as long as they lasted, which was not long enough.<sup>16</sup>

Virginians overcame the food shortage crisis only when they recognized that the time and energy spent producing commodities for sale had to be balanced with food production. The trading station model was hard to scrap. After it became clear that the Powhatan Indians had no intention of keeping Jamestown's common store replenished, Sir

<sup>13</sup> Discussion of the initial failure can be found in Martha McCartney, *Documentary History of Jamestown Island* (3 vols.; Williamsburg, 2000), I, 15–80; William M. Kelso and Beverly A. Straube, *Jamestown Rediscovery, 1994–2004* (Richmond, 2004), 155–92; Morgan, *American Slavery, American Freedom*, 71–91; and Horn, *Land As God Made It*, 73–130.

<sup>14</sup> The parameters that date these assemblages so precisely to 1609–1611 are explained in Joanne Bowen and Susan Trevarthen Andrews, *The Starving Time at Jamestown: Faunal Analysis of Pit 1, Pit 3, the Bulwark Ditch, Ditch 6, Ditch 7, and Midden 1* (n.p., 2000), 1–28.

<sup>15</sup> Frederick J. Simoons, *Eat Not This Flesh: Food Avoidances from Prehistory to the Present* (2nd ed.; Madison, Wis., 1994), 177–80.

<sup>16</sup> McCartney, *Documentary History of Jamestown Island*, I, 25; Bowen and Andrews, *Starving Time at Jamestown*, 74, 98–107, 115.

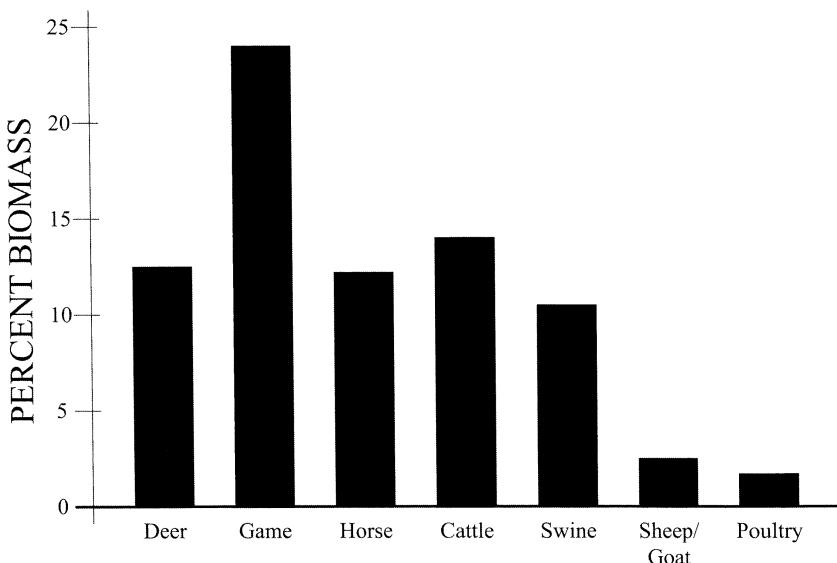


Figure 2. Dietary estimate: Meat consumed at Jamestown Fort, ca. 1610.

Thomas Dale first tried to turn his artisans and agents into farmers by martial law and, when that did not work, by assigning each man a three-acre garden allotment.<sup>17</sup> Although some settlers claimed that they could grow as much food as they needed by 1616, the turnaround came a few years later when Governor George Yeardley finally acknowledged that agriculture was the colony's main chance. He set Virginia on a new course by granting headrights to investors who were willing to transport farmworkers to Virginia as indentured servants. Immediately planter-entrepreneurs set up independently owned and operated farmsteads where they began growing foodstuffs for themselves and a strain of tobacco popular on the European market. Only then was the colony able to provision itself.<sup>18</sup>

But the colonists' methods were not what immigrant English farmers had been accustomed to at home. To their eyes the landscape that greeted their arrival in Virginia in 1607 appeared to mimic nature itself despite the obvious presence of native cultivators. The resemblance was owing to the fact that Indian farmers were horticulturalists in the sense that anthropologists use that term, that is, agriculturalists who

<sup>17</sup> McCartney, *Documentary History of Jamestown Island*, I, 33–34; Ralph Hamor, *A True Discourse of the Present State of Virginia* (1615; reprint, Richmond, 1957), 17–18.

<sup>18</sup> McCartney, *Documentary History of Jamestown Island*, I, 46–56.

raise several crops simultaneously on a single patch of ground, using a canopy of taller plants to provide shade, conserve water, and inhibit the growth of weeds. Powhatan farmers cleared the forests by girdling trees and burning the undergrowth. They planted multiple crops on hills hoed up among the dying trees and decaying stumps—tall corn stalks shading lower-growing beans and squash. Slash-and-burn horticulture enriched the soil with ash for the first few years before its fertility began to decline. The Powhatan eventually abandoned the worn-out fields and cleared more forestland. Over time this practice created a mixed yet natural-looking landscape composed of hardwood and pine forests alternating with a patchwork of villages, fields under cultivation, and older ones abandoned.<sup>19</sup>

Colonists were unacquainted with slash-and-burn agriculture. For millennia British farmers had mixed cultivation of plants with raising stock. They used plows to till fields and pastured livestock on grasslands and harvested fields in order to manure the ground.<sup>20</sup> Neither practice was immediately practical in the Chesapeake colonies, a region without fences or natural barriers to corral grazing animals. So, making do, the earliest English farmers simply inserted themselves and their livestock into the native landscape. Slashing and burning in Indian fashion, they converted forestland into stump-studded fields to grow tobacco for the market and corn for themselves. Also like the Indians, they abandoned exhausted fields after yields declined and repeated the cycle by clearing more uncultivated land.

Cattle were introduced into this new landscape as early as 1611. At first, planters built palisades across peninsulas from river to river to protect their herds from wolves and Indians. As the threat from predators gradually diminished, the English colonists discovered that it was more efficient to fence animals out, not in. Laws passed in 1632 and 1646 required farmers to enclose fields and orchards against livestock that otherwise was left to forage freely in abandoned fields, woodlands, and marshes.<sup>21</sup> Immigrant settlers remembered herding methods

<sup>19</sup> For discussion on this topic see Helen C. Rountree, *The Powhatan Indians of Virginia: Their Traditional Culture* (Norman, Okla., 1989), 17–78; and Helen C. Rountree and Thomas E. Davidson, *Eastern Shore Indians of Virginia and Maryland* (Charlottesville, 1997). Anthropological studies of this process include Daniel Hillel, *Out of the Earth: Civilization and the Life of the Soil* (Berkeley, 1991), 69–75; and Ernest L. Schusky, *Culture and Agriculture: An Ecological Introduction to Traditional and Modern Farming Systems* (New York, 1989).

<sup>20</sup> For archaeological studies that describe the evolution of this agricultural system, see Andrew Sherratt, *Economy and Society in Prehistoric Europe: Changing Perspectives* (Princeton, 1997); and Robert J. Wenke, *Patterns in Prehistory: Humankind's First Three Million Years* (3rd ed.; New York, 1990).

<sup>21</sup> Katharine L. Brown and Nancy T. Sorrells, *Virginia's Cattle Story: The First Four Centuries* (Staunton, Va., 2004), 20, 27.

still practiced in wood-pasture regions of the British Isles.<sup>22</sup> Some historians have supposed that this sensible solution transferred to the Chesapeake colonies amounted to no system at all, with the only control seeming to be the exclusion of animals from cultivated fields and orchards. Biologists suspect not. They know that farmers must have controlled foraging animals some other way, for when animals are allowed to run totally free, they turn feral.<sup>23</sup> References to “heards of wilde cattle” tell us that feral animals were recognizably different and regarded as a nuisance when they kept “Company with their tame Cattle.”<sup>24</sup> But Chesapeake stockmen had practical ways of dealing with the problem and maintaining control over their foraging herds. They understood animal behavior from long experience.

Domesticated animals are social by nature. Because, like humans, they live in hierarchical groups, they easily accept humans as their herd leaders. Early records leave no doubt that colonists understood the instinctive social behavior of both swine and cattle and used that knowledge to develop a herding system that protected and nourished their animals. When left on their own, cattle live in herds composed of females and their young.<sup>25</sup> Colonists knew from experience that groups of cows and calves could be found and fairly easily rounded up if they prevented the animals from wandering too far afield by palisading necks of land. A traveler through the region in 1687 observed that

<sup>22</sup> Christopher Dyer, “Woodlands and Wood-Pasture in Western England,” in Joan Thirsk, ed., *The English Rural Landscape* (Oxford, Eng., 2000), 97–121; Brian Short, “Forests and Wood-Pasture in Lowland England,” *ibid.*, 122–49. On the variations and similarities of British practice across ecological regions, see Henry M. Miller, “Colonization and Subsistence Change on the 17th-Century Chesapeake Frontier” (Ph.D. dissertation, Michigan State University, 1984), 54–72; and Nat Alcock and Cary Carson, *West Country Farms: House-and-Estate Surveys, 1598–1764* (Oxford, Eng., 2007), chaps. 1 and 4.

<sup>23</sup> Studies of cattle husbandry in Virginia include Wesley Newton Laing, “Cattle in Early Virginia” (Ph.D. dissertation, University of Virginia, 1954); Brown and Sorrells, *Virginia’s Cattle Story*; and Virginia DeJohn Anderson, *Creatures of Empire: How Domestic Animals Transformed Early America* (New York, 2004). A biological perspective on the subject can be found in Juliet Clutton-Brock, “The Unnatural World: Behavioural Aspects of Humans and Animals in the Process of Domestication,” in Aubrey Manning and James Serpell, eds., *Animals and Human Society: Changing Perspectives* (London, 1994), 23–35. For anthropological perspectives see Howard M. Hecker, “Domestication Revisited: Its Implications for Faunal Analysis,” *Journal of Field Archaeology*, 9 (Summer 1982), 217–36; and Tim Ingold, “From Trust to Domination: An Alternative History of Human-Animal Relations,” in Manning and Serpell, eds., *Animals and Human Society*, 1–22.

<sup>24</sup> William Hand Browne, ed., *Archives of Maryland*. Vol. I: *Proceedings and Acts of the General Assembly of Maryland, January 1637/8–September 1664* (Baltimore, 1883), 418–19 (quotations on p. 419).

<sup>25</sup> What is known about the instinctive social behavior of the domestic cow comes from feral herds, since the wild progenitor, *Bos primigenius* (Aurochs), became extinct in the seventeenth century. See Viktor Reinhardt and Annie Reinhardt, “Cohesive Relationships in a Cattle Herd (*Bos indicus*).” *Behaviour: An International Journal of Comparative Ethology*, 77 (No. 3, 1981), 121–51; and Viktor Reinhardt, “Movement Orders and Leadership in a Semi-Wild Cattle Herd,” *ibid.*, 83 (Nos. 3–4, 1983), 251–64.

planters' cattle grazed behind these barriers "in the woods or on the untilled portions of their plantations, where they seek shelter nightly rather by instinct than from any care given them."<sup>26</sup>

Pigs are social animals no less than cows. Turned loose, they too live in herds of sows and piglets. Only adult boars roam solo (except during rut season).<sup>27</sup> Chesapeake planters allowed swine to run in the woods more than any other species. They could be protected fairly easily from animal predators and Native American hunters by confining them on islands or corralling them on narrow peninsulas. There they swarmed "like Vermine upon the Earth." But they never strayed very far. Robert Beverley acknowledged this essential herd instinct when he remarked in 1705 that, if "the Proprietor can find and catch the Pigs, or any part of a Farrow," then he could claim ownership of all that ran together, because, Beverley noted, "they are bred in Company, so they continue to the End."<sup>28</sup> Furthermore, because swine are sedentary as long as there are ample food supplies nearby, colonists could rest assured that their sows and yearlings were unlikely to wander long distances through the forest.<sup>29</sup> The herding system based on these expectations closely resembled an older form of pig raising, known in England as pannage husbandry, where pigs were birthed at home, weaned, and then pastured in forests.<sup>30</sup>

During the first few years of settlement, the Virginia Company periodically augmented the small inventory of cattle in the colony with additional animals transported from England. Those shipments ceased after 1624. From then on, herds grew by natural reproduction alone. A census taken in 1619 counted five hundred head of cattle and already more pigs than anyone could reckon. Thirty years later cattle had increased forty-fold, to twenty thousand, and other livestock flourished proportionately: five thousand goats, three thousand sheep, two hun-

<sup>26</sup> Durand de Dauphine, *A Huguenot in Exile in Virginia; or, Voyages of a Frenchman Exiled for His Religion with a Description of Virginia and Maryland*, ed. and trans. by Gilbert Chinard (1687; New York, 1934), 122.

<sup>27</sup> Hans Frädrich, "A Comparison of Behaviour in the Suidae," in Valerius Geist and Fritz R. Walther, eds., *The Behaviour of Ungulates and Its Relation to Management . . .* (2 vols.; Morges, Switzerland, 1974), I, 133–43.

<sup>28</sup> Robert Beverley, *The History and Present State of Virginia*, ed. by Louis B. Wright (1705; new ed., Chapel Hill, 1947), 37, 318 (quotations).

<sup>29</sup> Caroline Grigson, "Porridge and Pannage: Pig Husbandry in Neolithic England," in Martin Bell and Susan Limbrey, eds., *Archaeological Aspects of Woodland Ecology* (Oxford, Eng., 1982), 297–314.

<sup>30</sup> Robert Trow-Smith, *A History of British Livestock Husbandry to 1700* (London, 1957), 50–55; Kathleen Biddick, *The Other Economy: Pastoral Husbandry on a Medieval Estate* (Berkeley, 1989), 23–45.

dred horses, fifty asses, “innumerable” swine, and poultry “without number.”<sup>31</sup> Faunal remains corroborate the documentary evidence that the herd system that developed in the Chesapeake lessened planters’ dependence on fish and game. Relative dietary estimates show that the consumption of meat from domesticated animals increased rapidly in the period 1620–1660 (see Figure 3). Beef consumption rose from 14 percent to as much as 58 percent by the third quarter of the century, followed by pork and mutton.<sup>32</sup> Englishmen returned to meat eating as soon as circumstances allowed.

The landscape on which European immigrants settled in the Tidewater region provided rich feeding grounds for livestock. Woodlands were the original hog heaven, full of longleaf mast, tender roots, and carrion; pigs found roots and oysters in the salt marshes. Cattle gathered along streams and shorelines where marsh grasses flourished, especially in springtime when animals were undernourished.<sup>33</sup> Woodlands, wetlands, and abandoned fields provided vines, broad-leaved trees, and the young shoots of hardwood trees. Cattle thrived in this environment. Unusually long leg bones recovered from archaeological sites located on the Lower Peninsula between the James and York Rivers prove that adult animals were routinely growing to larger sizes by the last quarter of the seventeenth century (see Figure 4). More abandoned fields in the longer-settled parts of the region meant more forage with high nutritive value. Whether farmers recognized the benefits or not, the horticultural cycle they followed in the region—from tobacco to corn to fallow fields—created near-perfect foraging conditions for cattle.<sup>34</sup> And vice versa. Cattle were colonizers in their own

<sup>31</sup> Anonymous, *A Perfect Description of Virginia . . .* [1649], in Peter Force, comp., *Tracts and Other Papers, Relating Principally to the Origin, Settlement, and Progress of the Colonies in North America . . .* (4 vols.; Washington, D.C., 1836–1846), II, document no. 8, p. 3 (quotations); Susan M. Kingsbury, ed., *The Records of the Virginia Company of London* (4 vols.; Washington, D.C., 1906–1935), III, 118.

<sup>32</sup> Miller, “Archaeological Perspective on the Evolution of Diet,” 188–94; Bowen, “Foodways in the 18th-Century Chesapeake,” 94–95, 106–15; Walsh, Martin, and Bowen, *Provisioning Early American Towns*, 29, 69–73, 349–52.

<sup>33</sup> Timothy Silver, “A Useful Arcadia: European Colonists as Biotic Factors in Chesapeake Forests,” in Philip D. Curtin, Grace S. Brush, and George W. Fisher, eds., *Discovering the Chesapeake: The History of an Ecosystem* (Baltimore, 2001), 149–66; Beverley, *History and Present State of Virginia*, 125; Hugh Jones, *The Present State of Virginia . . .*, ed. by Richard L. Morton (1724; new ed., Chapel Hill, 1956), 78; “A Letter from Mr. John Clayton,” in Force, comp., *Tracts and Other Papers*, III, document no. 12, pp. 25–26.

<sup>34</sup> For an introduction to the science of feeding practices and herd management, see Peter J. Van Soest, *Nutritional Ecology of the Ruminant* (2nd ed.; Ithaca, N.Y., 1994), 36–38, 93–99, 188; and Harold F. Heady and R. Dennis Child, *Rangeland Ecology and Management* (Boulder, Colo., 1994).

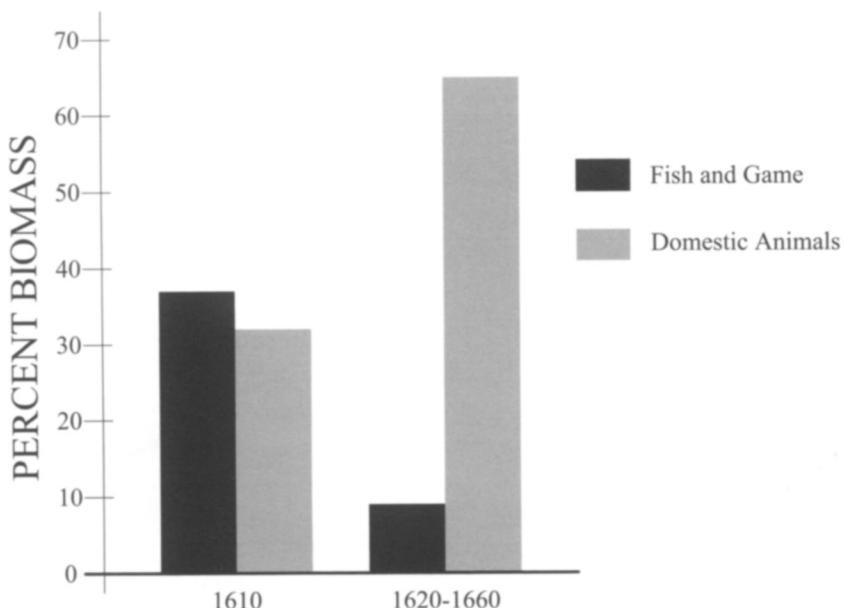


Figure 3. Dietary estimate: Consumption of fish and game compared with domestic animals, 1610 and 1620–1660.

right before their importation ceased after 1624.<sup>35</sup> Old World grass seeds stowed away on their hooves and in their stomachs had co-evolved with herbivores for thousands of years. When imported, European-born cattle dropped manure, they inadvertently spread the Old World grasses that contained certain essential proteins that New World grasses lacked.<sup>36</sup> Little by little, herbivores and grazing-resistant plants restarted the process of coevolving in the New World.

This balance did not last. Something began to happen to the agricultural environment in the region along the James River in the first half of the eighteenth century that stunted the growth of cattle. Excavated cow bones from this later period are smaller, indicating to zooarchaeologists that adult animals attained significantly smaller sizes than they had during the first half of the seventeenth century. The explanation is complicated. Growing populations of both people and animals in the regions settled longest put pressure on land resources; tobacco and corn production diminished soil fertility; and unused fields where

<sup>35</sup> Alfred W. Crosby, *Ecological Imperialism: The Biological Expansion of Europe, 900–1900* (Cambridge, Eng., 1986), 177–82.

<sup>36</sup> Van Soest, *Nutritional Ecology*, 78; Alfred W. Crosby, *Germs, Seeds, and Animals: Studies in Ecological History* (Armonk, N.Y., 1994), 37–41, 66–69.



Figure 4. Bone measurements: Size of Chesapeake cattle, 1620–1800. Zooarchaeologists use the Log Standard Index to measure archaeological specimens against a standard museum individual (= zero). Values less than zero indicate specimen animals that were smaller than the standard.

livestock had fed at will became scarcer as land-starved planters began cropping scrub fields and shortened fallow periods on their best soils. Other events further limited what had been the exceptionally plentiful and nutritious diet for cattle. A sustained fall in tobacco prices after 1680 first encouraged planters to expand production, but, as the resulting glut of inferior tobacco depressed prices still further, many growers diversified, adding small grains and expanding corn production. As a market crop, corn required plowing, and plowed fields could be planted over and over again with wheat after corn yields diminished.<sup>37</sup> Faunal evidence demonstrates that cows and steers no longer waxed fat on second-growth fallow fields by the middle of the eighteenth century in the neighborhood around Williamsburg. That matches inventory evidence that farmers in York County had begun

<sup>37</sup> Historians have written extensively on this subject. See Avery Odelle Craven, *Soil Exhaustion as a Factor in the Agricultural History of Virginia and Maryland, 1606–1860* (Urbana, 1926), 25–72; Lorena S. Walsh, “Land Use, Settlement Patterns, and the Impact of European Agriculture, 1620–1820,” in Curtin, Brush, and Fisher, eds., *Discovering the Chesapeake*, 220–48, esp. p. 239; Lois Green Carr and Russell R. Menard, “Land, Labor, and Economies of Scale in Early Maryland: Some Limits to Growth in the Chesapeake System of Husbandry,” *Journal of Economic History*, 49 (June 1989), 407–18; Lois Green Carr, “Diversification in the Colonial Chesapeake: Somerset County, Maryland, in Comparative Perspective,” in Carr, Morgan, and Russo, eds., *Colonial Chesapeake Society*, 342–88; and Harold B. Gill Jr., “Wheat Culture in Colonial Virginia,” *Agricultural History*, 52 (July 1978), 380–93, esp. p. 382.

feeding corn shucks to free-ranging livestock as a fodder supplement from the 1690s onward.<sup>38</sup>

Once planters began plowing fields and growing grains, the stubble fields that reapers left behind after each harvest produced an ideal environment for a relative newcomer to the Chesapeake scene—sheep. Again, planters adjusted their stock mix accordingly. Among his observations on Virginians' farming practices in 1687, Durand de Dauphine noted that they had recently begun running flocks of sheep on harvested wheat fields along with horses and cattle.<sup>39</sup> Simultaneously, bounty hunters mounted an all-out attack on sheep-killing wolves.<sup>40</sup> While mixed-species grazing can benefit pastures as well as animals in the short run, the presence of too many animals, or overgrazing by a few, reduces the hardiness of plants and can lead eventually to their disappearance. The introduction of sheep, coming on top of growing populations of other grazing animals, hastened the wear and tear on pasturage on the Lower Peninsula, thereby reducing soil fertility and, with that, the health and weight gain of cattle.<sup>41</sup>

Planters saw for themselves that overgrazing degraded their livestock even if they did not fully understand how it happened. Robert Beverley blamed careless farm management for the sickly condition of herds in Virginia as early as 1705: "by which means," he wrote, "they starve their young Cattle, or at least stint their growth; so that they seldom or never grow so large as they would do, if they were well manag'd." Landon Carter made the same connection between poorly managed rangeland and undernourished animals after inspecting his land and livestock in 1770: "I ha[ve] seen every patch but the meadow . . . But nothing grows and creatures are yet poor. The lambs not filled, the Ewes very spindly, and the Cows with young calves [are pitifully] thin."<sup>42</sup> Over time, mixed-species grazing intensified the damage to woodlands and marshland no less than it did to fallow fields. Cattle in large numbers could effectively defoliate hardwood forests

<sup>38</sup> York County Deeds, Wills, and Inventories, vol. XII, fols. 59–65 (York County Clerk's Office, Yorktown, Virginia).

<sup>39</sup> Durand, *Huguenot in Exile*, 119. York County probate records from 1620 to 1660 show no sheep; from 1660 to 1700 sheep made up 9 percent of all livestock; from 1700 to 1750 sheep composed 17 percent; and from 1775 to 1800 sheep made up 20 percent. See Walsh, Martin, and Bowen, *Provisioning Early American Towns*, 72.

<sup>40</sup> Samuel Taylor Elswick, "Predator Management and Colonial Culture, 1600–1741: A Study in Historical Ecology" (M.A. thesis, College of William and Mary, 2005).

<sup>41</sup> Heady and Child, *Rangeland Ecology*, 163–64; Hillel, *Out of the Earth*, 69–76.

<sup>42</sup> Beverley, *History and Present State of Virginia*, 291 (first and second quotations), 318; Jack P. Greene, ed., *The Diary of Colonel Landon Carter of Sabine Hall, 1752–1778* (2 vols.; Charlottesville, 1965), I, 401 (third quotation).

during the summer months, and in wintertime, it was observed, they “delight much to feed” in the luxuriant salt marshes.<sup>43</sup> Pigs wreaked another kind of havoc. A single animal could consume thirteen hundred pounds of acorns in just six months. Feeding like rototillers, pigs destroyed tree roots, seedlings, and underground tubers. Hungry swine stripped bark from trees in search of insects.<sup>44</sup> Little by little, a herding system that had flourished as long as planters maintained a balance between animals and resources began breaking down as that equilibrium was upset.

The faunal evidence leaves no room for doubt: the era of freewheeling innovation was nearing an end, and the transformation of the Chesapeake landscape was entering a new age. By 1700 horticultural practices that immigrant farmers had adopted to cope with the frontier environment had so altered the condition of the soil that their descendants had no choice but to make further adjustments. Pigs still roamed freely through the woodlands, as did many cattle and horses, but in ever-smaller numbers. Planters’ use of plows carved up the older, informal, tobacco landscape into well-defined fields for grain crops, which stood separate from enclosed pastures where herds of horses and cattle and flocks of sheep grazed together, no longer free to forage abroad. In the matter of food production, the learning curve had gradually spiraled back on itself over the course of a hundred years. In the next case study, it did not.

Crops, animals, and the labor to grow and care for them were more or less fixed expenses for a start-up planter in Virginia, but not so his farm buildings and his farmhouse. Back home, the necessary structures to store crops, shelter livestock, quarter servants and farmhands, and house a husbandman’s family often passed from generation to generation by inheritance. In the colonies, every new settler on every new frontier had to start from scratch. Fencing, housing, and barn raising required significant out-of-pocket expenditures, but there were shortcuts that beginners could take to hold these discretionary costs down and so save precious resources for land, labor, and other necessities. Beginning with a knowledge of various temporary and simplified carpentry methods that immigrants brought with them from whatever

<sup>43</sup> Timothy Silver, *A New Face on the Countryside: Indians, Colonists, and Slaves in South Atlantic Forests, 1500–1800* (New York, 1990), 180.

<sup>44</sup> Susan Power Bratton, “The Effect of the European Wild Boar, *Sus scrofa*, on Gray Beech Forest in the Great Smoky Mountains,” *Ecology*, 56 (Autumn 1975), 1,356–66; David M. Schwartz, “Hog Havoc,” *National Wildlife*, 26 (June–July 1988), 14–17, esp. p. 16.

region had been home, newcomers replicated those, borrowed new ideas from each other, or learned to use the country's prodigious timber supplies to invent still other half-measures, always to the same purpose—to save time and money until they got their plantations up and running. Eventually most farmhouses and work buildings were rebuilt using longer-lasting materials and more workmanlike construction techniques. By then, though, the much improvised "Virginia house" had so thoroughly altered prevailing carpentry practices in the region that vernacular buildings never again resembled their British progenitors or functioned in quite the same way. Architectural historians have pieced together this lost account of Virginia's earliest homesteads largely from evidence supplied by archaeologists.

Excavators have recovered information about more than three hundred structures from seventeenth-century sites in Maryland and Virginia. Historians can now use this large dataset to ask how and when Britons adapted imported technologies to the unfamiliar circumstances they encountered in the Chesapeake colonies and how they eventually solved their everyday needs for serviceable, affordable dwellings and farm buildings.<sup>45</sup>

Excavations still in progress at the original 1607 fort on Jamestown Island have brought to light structures that literally open the story of building technology in British North America. Three buildings constructed on skimpy frames encased inside earthen walls were erected in the first one or two years following the initial landing; a fourth building, a rowhouse, also timber framed but standing on light masonry footings, was very likely one of the new houses built "in and about James Town" in 1610–1611 (see Figure 5).<sup>46</sup> These four present-at-the-creation buildings establish beyond reasonable doubt that the technology used in their making represents contemporary English practice transplanted directly to the New World. Too little time had passed for experimentation to produce new forms.<sup>47</sup> Yet, easy as it is to assume that these earliest of all structures were English born and bred,

<sup>45</sup> See the online "Database of Early Chesapeake Architecture."

<sup>46</sup> The three similar buildings are designated Structures 160, 165, and 166; the fourth is Structure 172/75. See J. Eric Deetz, "Architecture of Early Virginia: An Analysis of the Origins of the Earth Fast Tradition" (M.A. thesis, University of Leicester, 2002); Kelso and Straube, *Jamestown Rediscovery, 1994–2004*, pp. 49–61; and "A Brief Declaration of the Plantation of Virginia during the First Twelve Years . . ." in Edward Wright Haile, ed., *Jamestown Narratives: Eyewitness Accounts of the Virginia Colony. The First Decade: 1607–1617* (Champlain, Va., 1998), 893–911 (quotation on p. 901).

<sup>47</sup> Carson et al., "Impermanent Architecture," 136–38, advanced the hypothesis that the oldest buildings known to archaeologists in Maryland and Virginia in the early 1980s—those discovered at Flowerdew Hundred and dated circa 1619—had been built too early to reflect the process of

their antecedents have been hard to locate. Generally speaking, their ancestry appears to claim kinship to the lightly framed dwellings that were common to medieval peasants' dwellings, structures frequently raised on slight frames sandwiched inside clay or earthen walls.<sup>48</sup> No less an authority than Captain John Smith recorded that the first semi-permanent church at Jamestown, built in 1608, was "a homely thing like a barne, set upon Cratchets [forked poles], covered with raft[ers], sedge [reeds], and earth; so was also the walls."<sup>49</sup> Smith's description applies just as accurately to the three buildings along the outer walls, buildings whose structural posts were so haphazardly aligned that they could not have been covered with boards. Instead, as excavated lumps of clay suggest, they too were earth walled.<sup>50</sup>

The salient feature of the three earliest structures inside James Fort is the subsurface remains that archaeologists find when they excavate the sites of such buildings: soil stains left by upright posts that were set into postholes to give the frame rigidity. Post-in-the-ground or "earthfast" buildings (as they have come to be called) have been discovered throughout the Chesapeake region. Variations on this economical construction technique remained in common use into the eighteenth century. Over the course of the seventeenth century, newcomers and seasoned colonists alike relied on one or another earthfast construction method for houses, barns, and frequently even public buildings.<sup>51</sup> The earliest buildings resembled those that immigrant carpenters remembered from home. Later a process of trial and error produced brand-new variations inspired by the abundance of American timber.

Archaeologists working in Maryland and Virginia have recorded evidence of both types—both the trials and the hybrids. Often it is difficult to tell which methods carried over from traditional practice and which were experiments. Excavators have found examples of pit houses, houses with earthfast wall posts standing on subsurface floors, clay-walled structures with no supporting framework below the eaves,

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New World invention. The fort buildings at Jamestown, dating a decade earlier, now turn an educated guess into solid fact.

<sup>48</sup> J. G. Hurst, "A Review of Archaeological Research (to 1968)," in Maurice Beresford and John G. Hurst, eds., *Deserted Medieval Villages: Studies* (London, 1971), 76–144.

<sup>49</sup> Philip L. Barbour, ed., *The Complete Works of Captain John Smith (1580–1631)* (3 vols.; Chapel Hill, 1986), III, 295.

<sup>50</sup> Documentary evidence for clay-walled buildings, a continuation of the practice of nogging walls with clay, and the haphazard alignment of posts inside clay walls suggest a hardy regional practice throughout the first half of the seventeenth century. See Willie Graham, *A Report on the Nature of the Kirbye House Frame and Wall System* (Williamsburg, 2004).

<sup>51</sup> Carson et al., "Impermanent Architecture," 135–96.

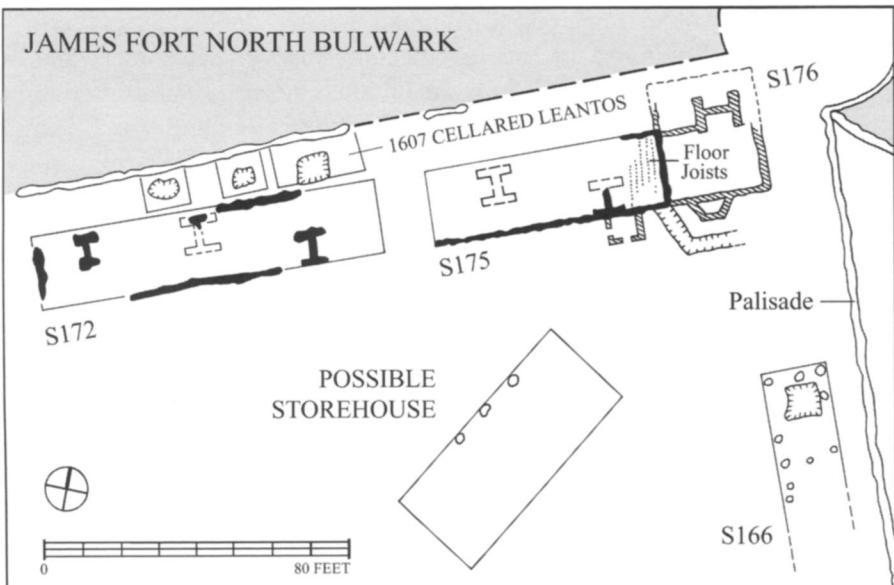
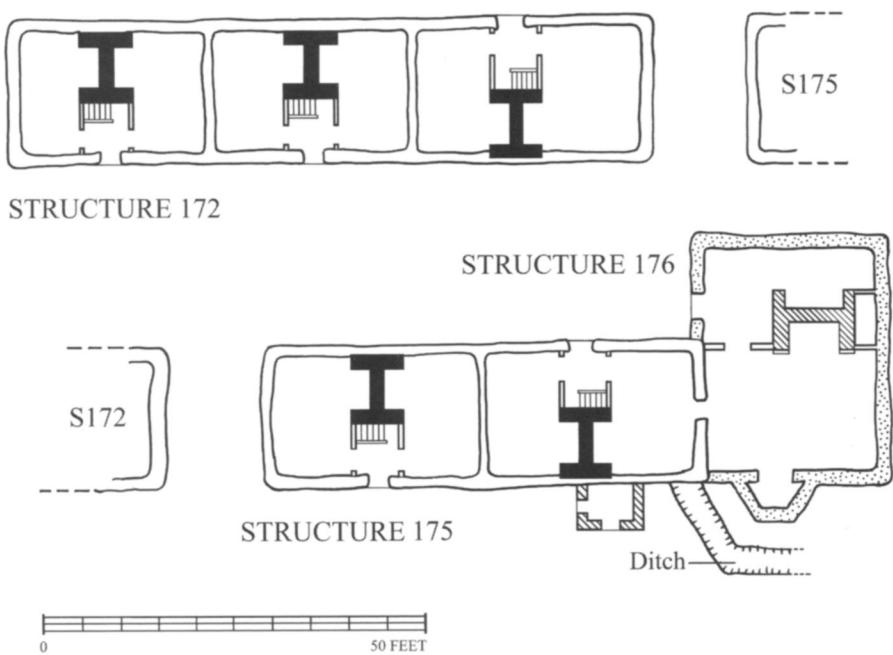


Figure 5. Barracks, storehouses, and workshops inside James Fort, 1608–18. Structures 160, 165, and 166 were raised on mud-and-stud walls; rowhouses 172 and 175, both probably earth-walled structures, stood on shallow foundations of cobbles, ballast stones, and poorly fired bricks. An addition to the east end of Structure 175 included a small bulwark and perhaps a forward defensive ditch. The addition thus resembles a *court of guard* or fortified retreat for protection against sudden assaults by mutinous colonists or Indians admitted into the trading post. (Drawing by Cary Carson and Willie Graham)

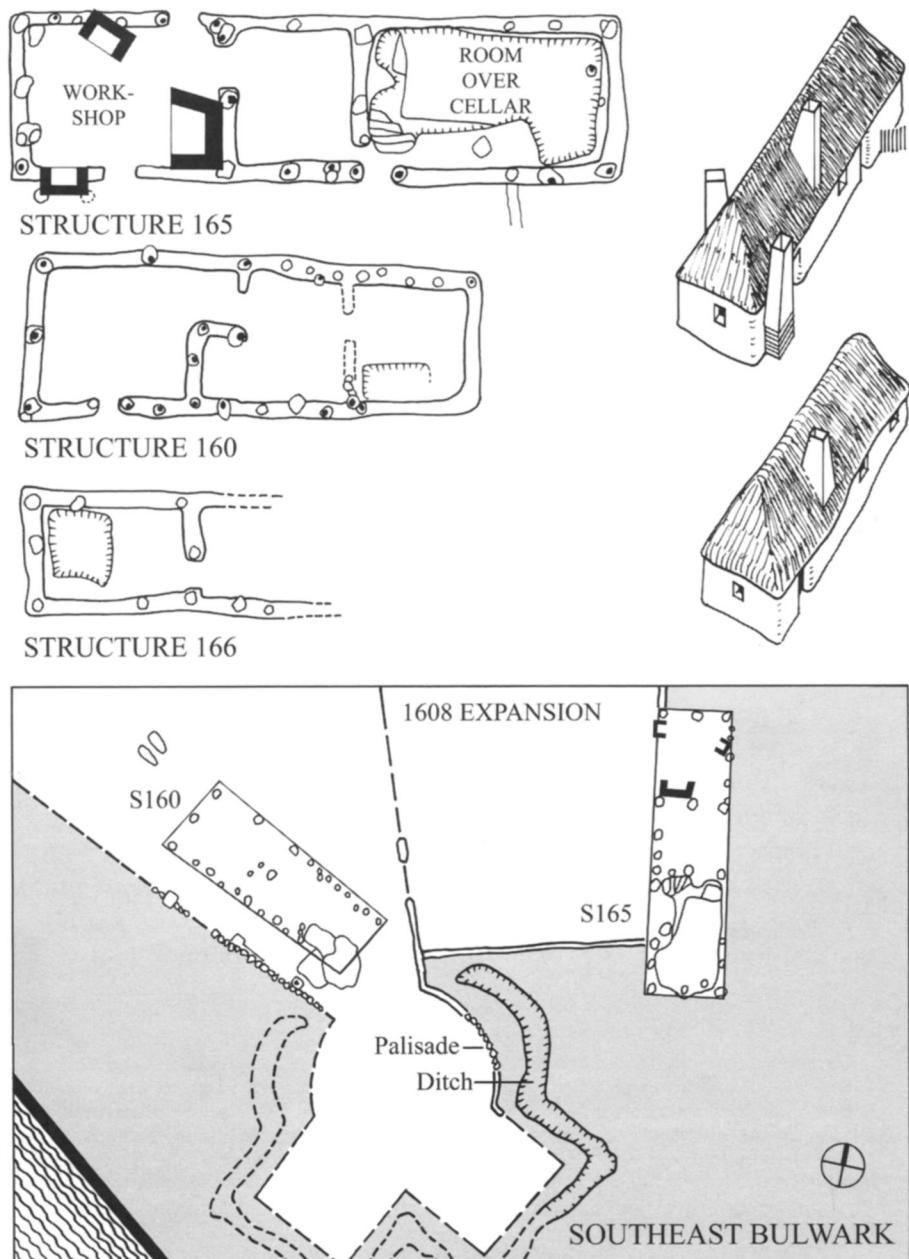


Figure 5 (Continued)

raftered buildings that were literally all roof and no walls, mud-clad cottages variously infilled with wattle-and-daub applied to wickerwork panels or a mixture of clay and plaster laid up on vertical staves mud-and-stud style, and, at the other extreme, carefully carpentered, timber-frame structures with sills laid directly on the ground or even with masonry footings used in combination with earthfast posts.<sup>52</sup> After preparing the timbers on the ground, some builders raised a post-in-the-ground house or barn frame starting at one end and working to the other, pairs of posts set up in sequence one after another; others preferred to assemble an entire side wall lying flat and then lift it into place all at once. Each of these techniques left traces in the ground that skilled excavators can recognize and differentiate three centuries later (see Figure 6). While none was to become the perfect answer to every Chesapeake builder's needs, the sheer number and variety of techniques employed in the first fifty years testify to homesteaders' determination to learn by trial and error which methods and materials worked better than others.<sup>53</sup>

On occasion newly arrived colonists bypassed the usual shortcuts in favor of a proper "English framed house" with full masonry foundations, continuous sills, and an expensively carpentered timber frame. Thomas Cornwaleys, a prominent leader in the Maryland colony, had such a house in mind when he explained in 1638 that "*I am building of A house toe put my head in, of sawn Timber framed A story and half hygh, with A sellar and Chimnies of brick, toe Encourage others toe follow my Example, for hithertoe wee Liue in Cottages.*"<sup>54</sup> Almost no one constructed dwellings or public buildings entirely of brick until the

<sup>52</sup> Norman F. Barka, *The Archaeology of Flowerdew Hundred Plantation: The Stone House Foundation Site* (Williamsburg, 1976); Garry Wheeler Stone, "Society, Housing, and Architecture in Early Maryland: John Lewger's St. John's" (Ph.D. dissertation, University of Pennsylvania, 1982); Nicholas Luccketti, "The Road to James Fort," in William M. Kelso, Nicholas M. Luccketti, and Beverly A. Straube, *Jamestown Rediscovery V* (Richmond, 1999), 27–29. For the mud-and-stud method, common to the Lincolnshire fens, see Deetz, "Architecture of Early Virginia"; and Rodney Cousins, *Lincolnshire Buildings in the Mud and Stud Tradition* (Sleaford, Eng., 2000).

<sup>53</sup> Garry Wheeler Stone, "The Roof Leaked, But the Price Was Right: The Virginia House Reconsidered," *Maryland Historical Magazine*, 99 (Fall 2004), 313–28; Julia A. King and Douglas H. Ubelaker, eds., *Living and Dying on the 17th Century Patuxent Frontier* (Crownsville, Md., 1996).

<sup>54</sup> William Fitzhugh to Nicholas Hayward, January 30, 1686/7, in Richard Beale Davis, ed., *William Fitzhugh and His Chesapeake World, 1676–1701: The Fitzhugh Letters and Other Documents* (Chapel Hill, 1963), 202 (first quotation); Thomas Cornwaleys to Lord Baltimore, April 16, 1638, in *The Calvert Papers: Number One* (Baltimore, 1889), 174 (second quotation). The passage by Cornwaleys is also quoted in Stone, "Society, Housing, and Architecture in Early Maryland," 153.

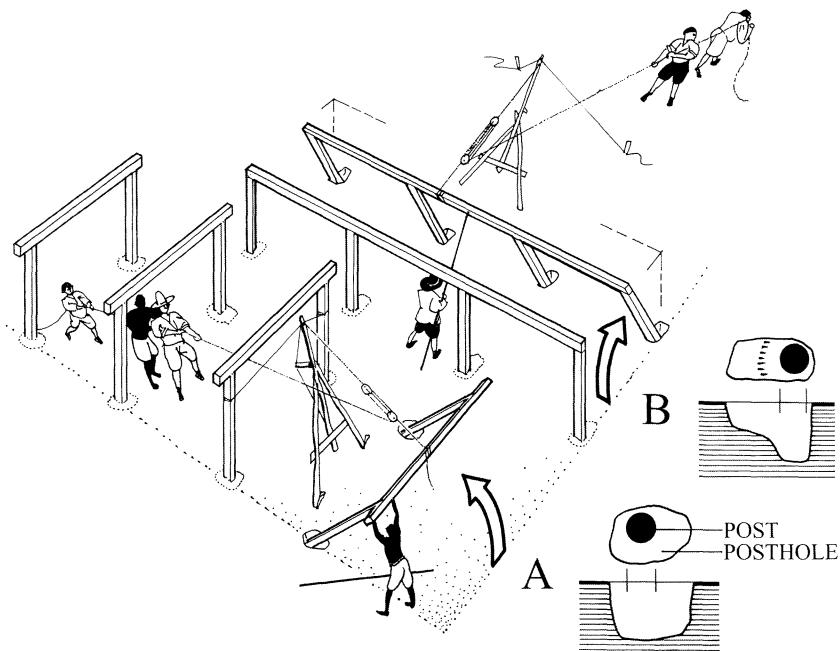


Figure 6. Methods of rearing earthfast frames: (A) Assembly by bents, and (B) side wall assembly, showing archaeological evidence of both. (Drawing by Cary Carson)

1660s despite its widespread use in Britain.<sup>55</sup> Making bricks in quantity made no practical sense in a place where the forests held inexhaustible supplies of framing timbers and rivable clapboards. Raw materials were cheap. It was the skilled labor—to burn bricks, saw planks, dress timbers, fashion sophisticated carpentry joints, raise chimneys—that was so dear. “[T]he building of a good house, to you there will seem insupportable,” one unhappy Virginian wrote back to England, “notwithstanding [here] we have timber for nothing, but felling & getting in place.” He reckoned that labor costs ran three times

<sup>55</sup> For Richard Kemp’s house at Middle Plantation (ca. 1643), a very early brick dwelling in Virginia, see David Muraca, Philip Levy, and Leslie McFaden, *The Archaeology of Rich Neck Plantation (44WB52): Description of the Features* (Williamsburg, 2003), chap. 3, esp. pp. 31–32. Also see Julia A. King and Edward E. Chaney, “Lord Baltimore and the Meaning of Brick Architecture in Seventeenth-Century Maryland,” in Geoff Egan and R. L. Michael, eds., *Old and New Worlds* (Oxford, Eng., 1999), 51–60; and Dwayne W. Pickett, “The John Page House Site: An Example of the Increase in Domestic Brick Architecture in Seventeenth-Century Tidewater Virginia” (M.A. thesis, College of William and Mary, 1996). As for early public buildings built of brick, see Cary Carson, Willie Graham, Carl Lounsbury, and Martha McCartney, *Description and Analysis of Structure 144, Jamestown, Virginia* (Williamsburg, 2002), 2.1–2.29; and Carl Lounsbury, Willie Graham, Darin Ostrom, and Billie Graham, *The Early Church at Jamestown, Virginia: A History and Precedents for Its Design and Reconstruction* (Williamsburg, 2004).

higher in Virginia.<sup>56</sup> To most newcomers, therefore, it stood to reason to build as inexpensively as possible at first, until they could get their feet on the ground. Anything more lavish, even by those who could afford more, was deemed “sillie” and “vnecessarye.” Those were the carefully chosen words that John Smith used to describe a “pallas in the woodes” that no less a person than John Ratcliffe, president of the Council of Virginia, set about building at Jamestown—“to fulfill his follies,” Smith added—after having squandered the colony’s precious stores.<sup>57</sup> Smith’s reproach went to the heart of the lesson that every new arrival needed to learn: that extravagance, particularly extravagant building, put an entire enterprise at risk, be it a brand-new plantation or, as at Jamestown in 1608, the colony itself. A later pamphleteer distilled the wisdom of what was by then long experience: “ordinary beginners,” he wrote, are strongly advised that “a mean way of Building” is “sufficient and safest” at the start.<sup>58</sup>

What mean ways of building eventually proved to be sufficient for beginners? Archaeologists and architectural historians have concluded that Chesapeake carpenters ultimately selected for further development two strands from the many English building traditions they tested in the first three or four decades of settlement. They combined them to create what thereafter became known as the *Virginia house*, a shorthand term for a highly successful, hybrid building system that spread throughout the region (see Figure 7).

The two starting points were the close-studded box frame and a system of ephemeral timberwork that British architectural historians now call “slight framing.” The English box frame was a construction of vertical and horizontal timbers—posts, sills, plates, and beams—jointed and pegged together and often braced at the corners. This self-supporting structure, usually raised high and dry on a masonry foundation, was strong enough to hold up a framework of roof trusses that rested on top of it but that was not integral to the house frame underneath. There were many ways to assemble a box-frame building. One—close-studding—seems to have developed as the standard way of structuring buildings in those parts of Britain where the practice of

<sup>56</sup> William Fitzhugh to Nicholas Hayward, January 30, 1686/7, in Davis, ed., *William Fitzhugh and His Chesapeake World*, 202–3.

<sup>57</sup> Edward Arber and A. G. Bradley, eds., *Travels and Works of Captain John Smith, President of Virginia, and Admiral of New England, 1580–1631* (2 vols.; Edinburgh, 1910), I, 114 (quotations), 121.

<sup>58</sup> *Information and Direction to Such Persons as are Inclined to America, More Especially Those Related to the Province of Pensilvania* ([London?], 1686), 4. Although intended for settlers bound for Pennsylvania, this tract included instructions needed to build what was essentially a vernacular house in Virginia.

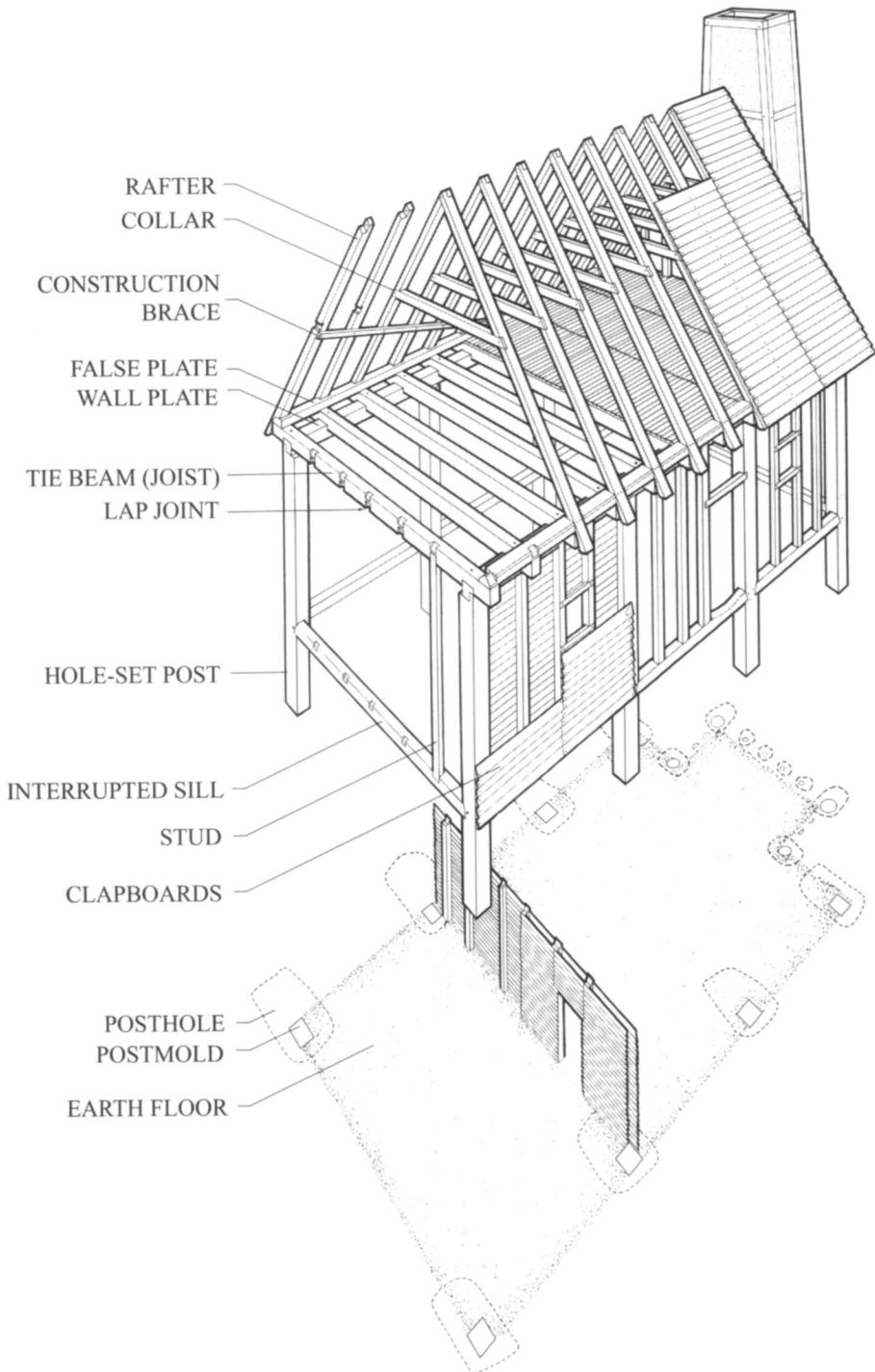


Figure 7. Framing of a “Virginia house.” Conjectural reconstruction based on Bennett Farm, York County, Virginia, built 1640–1650. (Drawing by Cary Carson, Willie Graham, and Chinh Hoang)

timber framing remained dominant into the seventeenth century. Close-studding began as a conspicuously expensive way to embellish a half-timbered house by installing closely spaced (and structurally redundant) vertical studs between heavier wall posts. By the seventeenth century, carpenters tended to spread the studs farther apart, use smaller scantling, beef up the corner bracing, and increasingly hide the building's skeleton underneath cladding of one kind or another.<sup>59</sup>

The box-frame model with secondary studs offered Chesapeake builders two advantages. First, it was made to order for a region rich in timber; and, second, by treating the carcass and the roof separately, one frame placed on top of the other, it was ripe for further developments that soon followed from this abundant wood supply. That said, box frames also came with two disadvantages: their many pieces required complicated joinery to put them together and were therefore time-consuming and expensive. Furthermore, heavily carpentered frames had to be raised off the ground, usually on masonry footings, to prevent rotting. Brickmason-work was never cheap. That is where the second technology—slight framing—came into play. Builders of wattle-and-daub and mud-clad cottages (such as those at James Fort) treated light scantling more as a scaffold than as a load-bearing frame. Uprights embedded inside clay walls acted as fasteners for the wattles or staves to which the wall covering itself, mud or plaster, was then applied. Additionally, the uprights in slight-frame buildings were often earthfast and, therefore, required no foundation.<sup>60</sup>

Colonists soon learned that slight framing, besides being quick and easy, saved money, especially if, by borrowing and adding elements from the box-frame tradition, they could replace clay walls with a substitute wall covering made of wooden boards. By midcentury, Chesapeake carpenters merged the two technologies into an amalgamated system that combined simplified joinery, earthfast construction, and cladding for roofs and walls made from short lengths of split oak or chestnut clapboards, sometimes weatherproofed with a coating of pine tar. The resulting Virginia house answered most colonists'

<sup>59</sup> Eric Mercer, *English Vernacular Houses: A Study of Traditional Farmhouses and Cottages* (London, 1975), 125–26 (quotation on p. 125); Richard Harris, *Discovering Timber-Framed Buildings* (Aylesbury, Eng., 1978), 23–24; Dell T. Upton, "Early Vernacular Architecture in Southeastern Virginia" (2 vols.; Ph.D. dissertation, Brown University, 1979), I, 58–59. Note that other ornamental framing styles often relied on middle rails to break the lengths of studs, in part because timbers of long lengths were increasingly becoming difficult to obtain. Conventional close-studding did not. Common seventeenth-century framing of the type that inspired that in the Chesapeake omitted horizontal rails as principal framing members.

<sup>60</sup> Mercer, *English Vernacular Houses*, 125; Nina Jennings, *Clay Dabbins: Vernacular Buildings of the Solway Plain* (Kendal, Eng., 2003), 61–66, 143–47.

requirements for dwellings, outbuildings, tobacco barns, warehouses, courthouses, and even churches. Its design was a masterful solution to the typical homesteader's—the "ordinary beginner's"—need to manage his risks. It was indeed "a mean way" to fabricate and assemble the parts of a timber frame, skin the skeleton quickly and cheaply, and provide hearth and heat for a dwelling house at considerably less expense than making and burning a kiln-load of bricks for a chimney. Chimneys, too, were wooden affairs—timber framed, parged with clay for fireproofing, and weatherized with the same riven boards used to cover walls and roofs. Clay became a vestigial material relegated to chimney linings and floor surfaces and occasionally packed into walls behind clapboards and under eaves, crannies that needed protection from the weather. The framing timbers in the Virginia house were minimally prepared, either by hewing or splitting or by simply peeling the bark off logs. Box-frame joinery was reduced to basics. Simple lap joints, secured with nails, saved time and money compared with mortise-and-tenon joints, which required laying out, prefabrication, and careful fitting together. Raising frames in sidewall units became the preferred assembly method because it helped simplify joints at plate level (see Figure 6B).<sup>61</sup> With no bricks to fire or boards to saw and less effort required to dress a timber frame and split clapboards to sheathe it, a Virginia house could be erected in a matter of weeks, leaving sodbuster-planters more time and resources to spend on other pressing needs.

More than anything else, the use of riven clapboards triggered the rapid development of building technology in the Chesapeake colonies. The clapboard was a strong, lightweight, tapered slat, which was split (rived) quickly and easily from straight-grained white oak or chestnut timbers that had been precut into standard lengths (see Figure 8). The board's thin upper edge and feathered ends (cut with two strokes of a drawknife) made it easy to overlap with adjoining clapboards to form a tight, light, durable surface, which was nailed to the framing members underneath. The costs for imported nails and semiskilled American labor were not negligible, but clapboards—like plywood today—opened carpenters' eyes to other economizing innovations. Clapboard work superseded mud walls, half-timbering, and other traditional walling materials used to enclose and weatherproof buildings

<sup>61</sup> Willie Graham, "Preindustrial Framing in the Chesapeake," in Alison K. Hoagland and Kenneth A. Breisch, eds., *Constructing Image, Identity, and Place* (Knoxville, 2003), 179–96; *Information and Direction to Such Persons as are Inclined to America*, 4 (quotations).

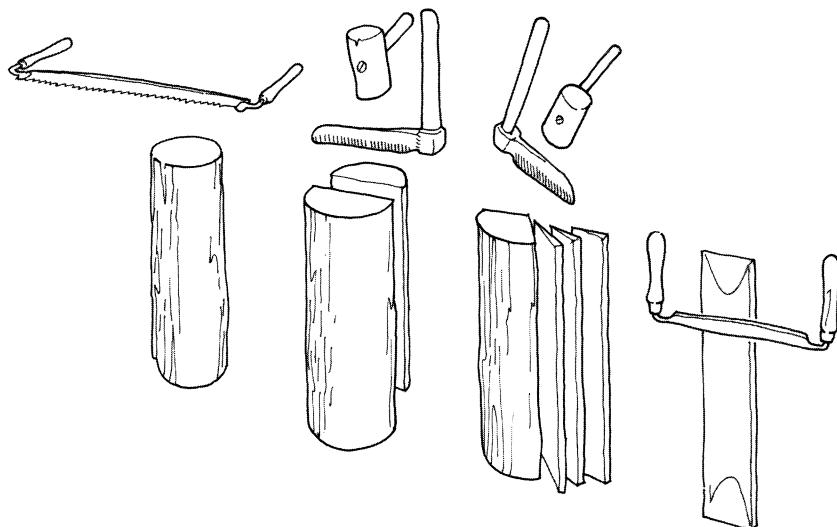


Figure 8. Method of splitting clapboards from a five-foot oak or chestnut log. A carpenter needed only four basic tools: a crosscut saw to cut timbers to length, a froe and mallet to halve the log and split out individual clapboards, and a drawknife to dress the face and feather the ends of each stave. (Drawing by Cary Carson)

on the exterior, and it also became the preferred alternative to thatch and tiles as an economical roof covering. The full potential of clapboards took several decades to recognize and develop. Eventually planters also used them to sheathe interior partitions, lay attic floors, encase wooden chimney frames, and nail up as fence pales. Documents mention them frequently only after midcentury, although archaeological evidence of ever more regular building frames in the 1640s and 1650s suggests a growing acceptance that appears to coincide with the emergence of the Virginia house.

Indeed, the two more than just coincide. Clapboards were the component that defined the Virginia house and made it affordable. The standard five-foot clapboard was the inspiration for a modular framing system that builders could expand or contract to suit their needs. Regardless of the intended function, buildings were generally laid out in a series of ten-foot bays, each two boards long. Ranks of overlapping clapboards were nailed to lightweight riven studs (borrowed from the slight-frame tradition), which were set out on two-and-a-half-foot centers between heavier, load-bearing posts (from box-frame work) that formed each bay. The secondary studs were, in essence, scaffold needed simply to carry the clapboard sheathing.

As a matter of fact, clapboards gave buildings more rigidity than the studs did. That function is seen most clearly in the Chesapeake roof frame, specifically the development of a distinctive truss design. Roofs in England were variously raised on a framework of principal and secondary rafters, heavy, lengthwise-running, connecting beams called purlins, and braces—all fitted together often using complex and sophisticated carpentry joints. Roof coverings of clay tiles, stone and slate shingles, and even thatch were tremendously heavy and thus required strongly built roof trusses for support. By contrast, lightweight clapboards made the problem go away. They freed Chesapeake builders to invent an inexpensive roof frame constructed entirely of common rafters, paired into trusses and joined by a collar beam that was simply lapped and nailed in place. The rafters themselves could be very small dimensioned timbers, sometimes no more than two inches square in cross section. Still they adequately spanned buildings sixteen or eighteen feet wide. Without braces or connecting purlins, such rafter pairs were not stable enough to stand upright by themselves. Only the clapboard covering provided the diaphragm action that gave a finished roof frame its structural rigidity. In other words, clapboards did double duty both as the roof covering and as the bracing system that held the roof aloft, all at a fraction of the cost of roofs in England that relied on heavy timbers, complex joints, and sawn lumber applied as underlayment on which to hang tiles or slates. Clapboard work in the southern colonies was the ingenious matchmaker that arranged a marriage between earthfast slight framing and box construction, a union so close that the terms *Virginia house* and *clapboard work* were soon used synonymously.<sup>62</sup>

Chesapeake builders borrowed one more element—the false plate—from English carpentry practice to round out their invention. Carpenters working in the box-frame tradition, the one that required sophisticated joinery, had to perfectly align the heavy, load-bearing, principal rafters with the associated tie-beams (the spanning timbers that held the front and back walls together) in order to mortise-and-tenon the one to the other. Typically, then, the major wall posts

<sup>62</sup> Dell Upton, "Board Roofing in Tidewater Virginia," *Bulletin of the Association for Preservation Technology*, 8 (No. 4, 1976), 22–43; Cary Carson, "The 'Virginia House' in Maryland," *Maryland Historical Magazine*, 69 (Summer 1974), 185–96. Justices in Essex County "agree[d] with a workman to build a house to hold court in, of common clapboard work thirty foot long and twenty foot wide." See Essex County, Virginia, Court Order Book 1726–1729, fol. 84 (Essex County Clerk's Office, Tappahannock, Virginia).

underpinned these rafter pairs in an orderly transfer of loads from roof to foundation. Builders of slight frames, by contrast, employed a variety of clever methods to stand roofs on top of walls without regard to the structure underneath, thereby greatly simplifying the assembly process yet again. Every building must have cross-beams that span the distance between the front and back walls for the purpose of holding them together against the outward thrusting pressure exerted by the weight of the roof. Builders of slight frames knew that these tie-beams, or “joists” as they came to be called in common work, could be extended a few inches beyond the wall line, front and back, and could carry along the upper ends of these extensions a horizontal timber called a false plate (“false” because, suspended in midair, it was not strictly a wall plate). The false plate, not the walls, became the seat for the rafter feet (see Figure 7). Carpenters from the West of England packed a false-plate prototype in the bag of tricks they brought to the Chesapeake. There they developed it further as a complement to the common rafter roof. Throughout the second half of the seventeenth century, the plate was a thick board, typically lapped across and secured to the joist ends with wooden pegs. Its upper face was notched to receive the feet of the rafters, thereby eliminating any need for complicated tenon joinery. The labor-saving false plate became a hallmark of Chesapeake framing. It continued in use in various forms until the early twentieth century.

Many factors conspired to perpetuate building, repairing, and rebuilding inexpensive and short-lived structures in the Tidewater South—the relentless demands of a volatile tobacco market, a high male-to-female sex ratio that forestalled normal family formation, a disease environment that broke up families prematurely and frustrated the orderly transfer of wealth and property from one generation to the next, and the influx of immigrants who continually renewed English customs and practices, to name a few. Toward the end of the seventeenth century, Chesapeake society grew more stable and predictable as the trade in African slaves increased, the flow of indentured servants declined, and the economy became more diversified. Planters responded by investing in better-built, longer-lasting structures. Across the region the earliest surviving dwellings and farm buildings consistently date from the decades when farmers began growing and marketing grains as well as tobacco.<sup>63</sup> By then, though, the incessant repair

<sup>63</sup> Carson et al., “Impermanent Architecture,” 160–78.

and replacement of impermanent buildings going back two or three generations had turned what once had been experiments and novelties into standard building practices everywhere from the upper Chesapeake Bay to the Albemarle Sound. No longer was slight framing always synonymous with poverty. A party of nonconformist Virginians who founded a settlement at Providence on the Severn River in Maryland built frontier houses with the homesteader's conventional mud walls, but they were not without the means to glaze the windows, tile the roofs, cover the floors with green and yellow pavers, and decorate the best rooms with fireplace tiles of blue-and-white delftware (see Figure 9).<sup>64</sup> Eventually even earthfast technologies passed into mainstream carpentry culture. Two very wealthy and well-established Maryland planters built substantial timber-frame dwellings as late as 1702 and 1703. Notwithstanding, Cedar Park (see Figure 10) and Sotterley originally employed post-in-the-ground construction, with both houses surviving 300 years only because later owners retrofitted them with brick foundations.<sup>65</sup> These examples are merely the most extreme holdovers. Everywhere throughout the region the legacy of a clapboard-inspired framing system held sway for another 150 years or more. Behind the sawn and painted weatherboard siding that dressed up the appearance of merchants' houses in prim and proper Williamsburg, and underneath the round-butt shingles that roofed pretty plantation houses in the countryside, were the descendants of the box frame, the slight frame, and the common rafter roof. Generations of experimenting carpenters had learned lessons that Chesapeake builders never forgot. Building successful towns, our next case study, depended less on individual innovators than on lessons learned mutually by a group of risk takers.

While archaeologists in modern times have mainly investigated plantation sites, they have also made important discoveries at Wolstenholme Town in Virginia; St. Mary's City, the seventeenth-century capital of Maryland; Providence Town on the upper Chesapeake Bay; and, recently with much fanfare, the earliest fort site at Jamestown, which conventional wisdom had written off as lost to

<sup>64</sup> Al Luckenbach, *Providence 1649: The History and Archaeology of Anne Arundel County Maryland's First European Settlement* (Crownsville, Md., 1995).

<sup>65</sup> For description and dating of Cedar Park, see Donna M. Ware, *Anne Arundel's Legacy: The Historic Properties of Anne Arundel County* (Annapolis, Md., 1990), 28–30. D. W. H. Miles and M. J. Worthington report on a dendrochronology study of Sotterley in "The Tree-Ring Dating of Sotterley Mansion, Hollywood, Maryland—Interim Report 2005/06" (Oxford Dendrochronology Laboratory, Mapledurham, England, 2006).

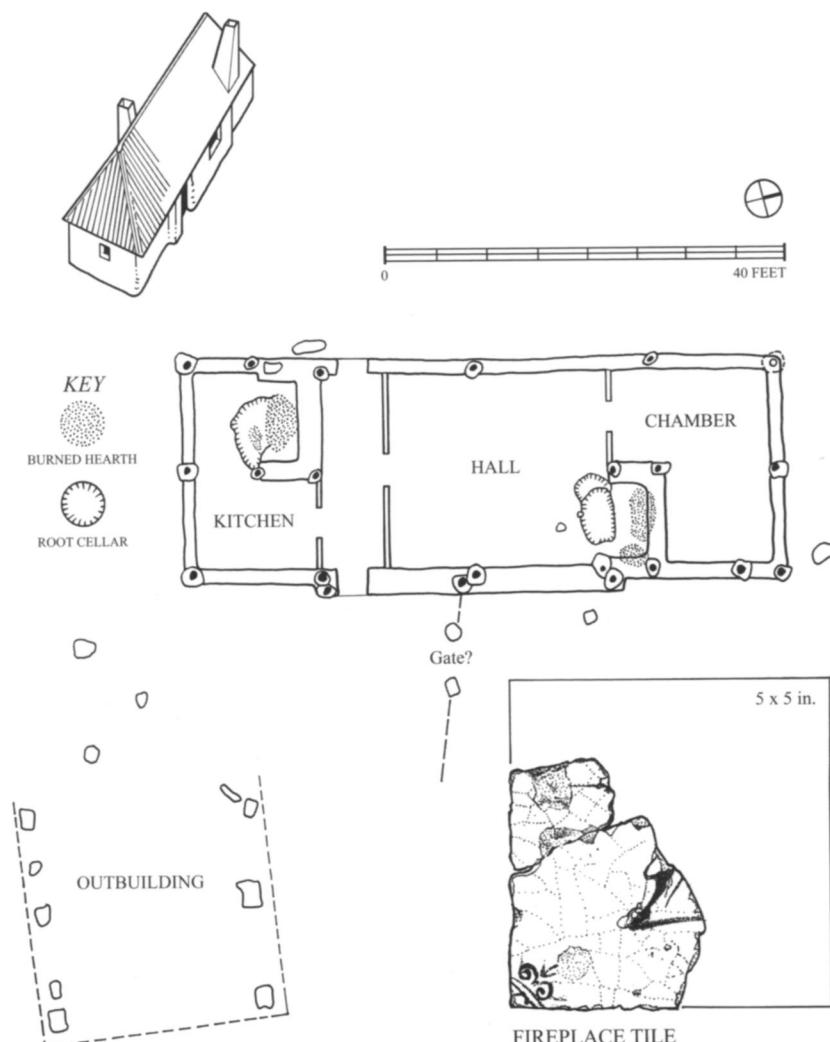


Figure 9. House on Robert Burle's Town Land, Providence, Maryland, built early 1650s. Dated window leads may indicate that Burle refenestrated the house during his occupancy, 1662–1676. In addition to glazed windows, the mud-walled house was roofed with pantiles, a hearth laid with glazed pavers (alternating green and yellow), and the hall fireplace set with tinglazed tiles painted with the figures of pikemen. (Drawing by Cary Carson, Willie Graham, and Al Luckenbach)

erosion.<sup>66</sup> Less heralded, but no less informative, has been a comprehensive reassessment of all earlier archaeological work in

<sup>66</sup> Ivor Noël Hume and Audrey Noël Hume, *The Archaeology of Martin's Hundred* (2 vols.; Philadelphia, 2001); Silas D. Hurry, Martin E. Sullivan, Timothy B. Riordan, and Henry M. Miller, "Once the Metropolis of Maryland": *The History and Archaeology of Maryland's First Capital* (St. Mary's City, Md., 2001); Henry M. Miller, "Lord Baltimore's Colony of Maryland

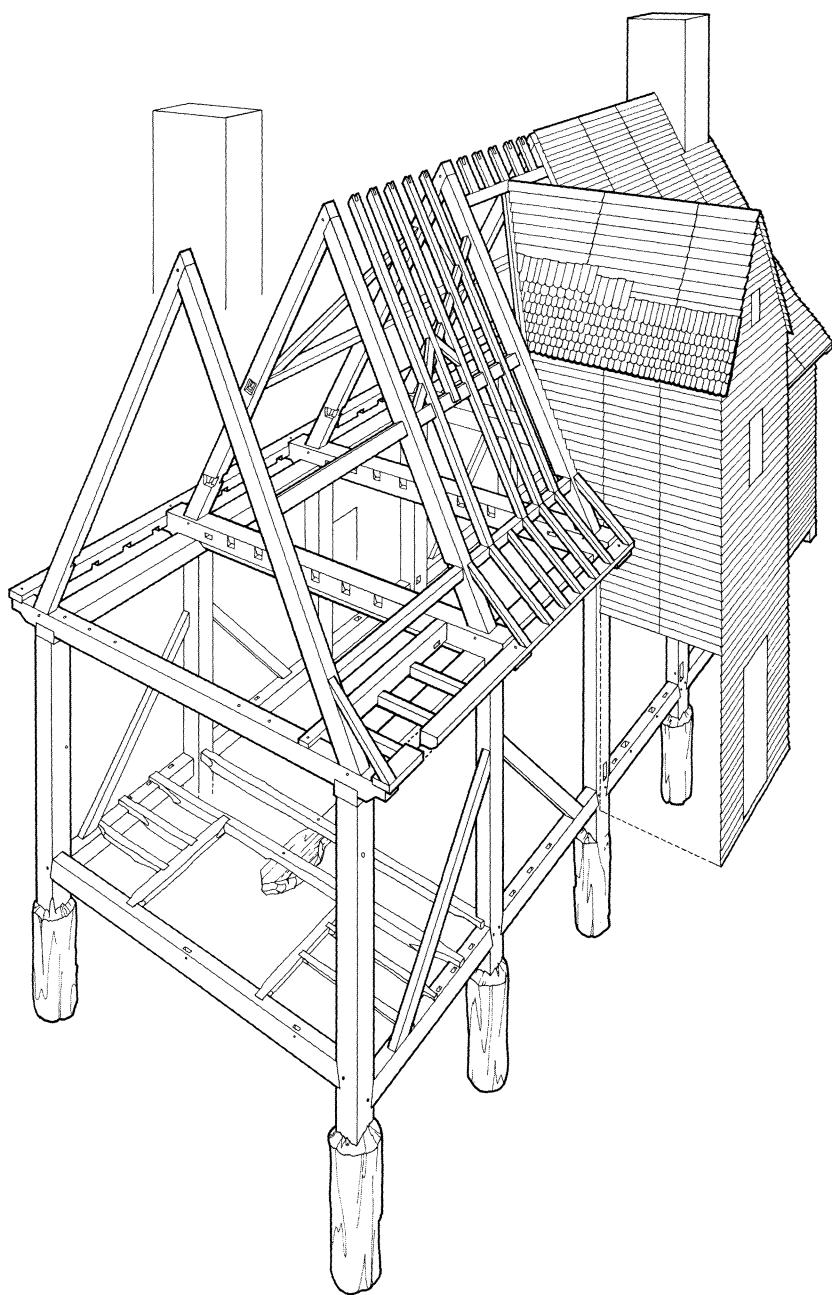


Figure 10. Cedar Park, Anne Arundel County, Maryland, built 1702, an improved earthfast frame. (Drawing by Cary Carson and Chinh Hoang)

Colonial National Historical Park at Jamestown, principally that portion of the island that came to be known as “New Towne” when settlers began leaving James Fort in the 1610s. This reanalysis of previous work was done in the 1990s by Colonial Williamsburg and the College of William and Mary on contract for the National Park Service.<sup>67</sup> Strictly speaking, the project archaeologists undertook no new excavations, limiting themselves to testing earlier features that had been left unfinished or poorly recorded by excavators in the 1930s, 1940s, and 1950s. The reassessment made its most original contribution to scholarship in two other ways: first, by reinterpreting the New Towne collections in light of everything that archaeologists and students of material culture had learned in the intervening fifty years and, second, by creating a tract map as complete as the island’s fragmentary land records would allow (see Figure 11). The map puts identified owners and tenants on plotted properties at known times in the seventeenth century. When the tracts are overlaid on the archaeological site plan, Jamestown jumps off the page.<sup>68</sup> It emerges for the first time as a real place inhabited by people who were busy trying to find a winning combination of urban activities befitting their idea of a capital city.

Jamestown’s flops are famous.<sup>69</sup> Even at the time, its failure to live up to boosters’ expectations was taken as proof that towns and urban culture had no future in a region dominated by a market crop that growers raised on remote plantations and traded directly from convenient landings. There is no denying that Jamestown developed by fits and starts. All the same, the town’s many misadventures can be better understood as a series of experiments. Each was a deliberate attempt to create an urban settlement that would accomplish something

and Its Capital of St. Mary’s City 1634–1695,” *Avalon Chronicles*, 8 (2003), 225–60; Luckenbach, *Providence 1649*; Kelso and Straube, *Jamestown Rediscovery, 1994–2004*; William M. Kelso, *Jamestown, the Buried Truth* (Charlottesville, 2006).

<sup>67</sup> The eleven volumes of the Jamestown Archaeological Assessment, 1992–1996, series were published in Williamsburg by the Colonial Williamsburg Foundation for Colonial National Historical Park, National Park Service, between 2000 and 2006. Marley R. Brown III was the principal investigator, and Cary Carson was the senior principal investigator. Scholarship based on assessment findings includes Martha W. McCartney, *Jamestown: An American Legacy* (n.p., 2001); and Audrey J. Hornung, “‘A Verie Fit Place to Erect a Great Cittie’: Comparative Contextual Analysis of Archaeological Jamestown” (Ph.D. dissertation, University of Pennsylvania, 1995).

<sup>68</sup> McCartney, *Documentary History of Jamestown Island*, vols. II and III.

<sup>69</sup> Warren M. Billings, *Jamestown and the Founding of the Nation* (Gettysburg, Pa., 1990), 31–54, 99–104; Carl Bridenbaugh, *Jamestown, 1544–1699* (New York, 1980), 107–17; John W. Reps, *Tidewater Towns: City Planning in Colonial Virginia and Maryland* (Williamsburg, 1972), 46–55; Wesley Frank Craven, *Dissolution of the Virginia Company: The Failure of a Colonial Experiment* (New York, 1932).

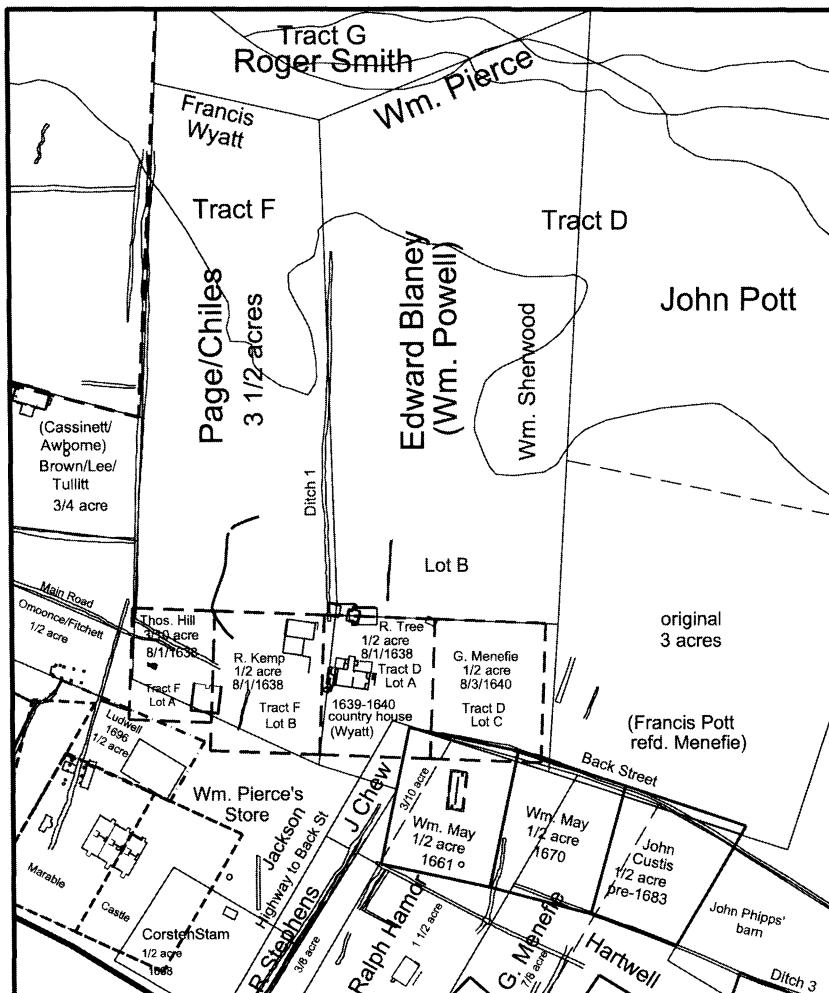


Figure 11. Tract map overlaid on plotted archaeological sites, Back Street, New Towne, Jamestown Island, Virginia. (After Martha McCartney)

that Englishmen expected colonial towns to do. When the initial experiments did not pan out, managers of the Virginia Company first and Crown officials later persistently tried something else.

The tract map makes one thing clear: "James Cittie" was never a paper town. Despite its false starts, sickly environment, siege and destruction during Bacon's Rebellion, and string of calamitous state-housefires, we see now that it was finally on the way to becoming a successful capital city when a handful of political wheelers and dealers from down the road at Middle Plantation hijacked the seat of govern-

ment to a place they renamed Williamsburg. By a process of trial and error, residents of Jamestown had finally discovered—alas, too late!—an urban formula that promised to work as well there on the island as it did later at Williamsburg and other urban places throughout the South.

Together the archaeological and historical evidence documents three Jamestown incarnations. The first two were mistakes, but instructive nevertheless, as failed experiments often are. Urban planners learned valuable lessons that eventually led to the promising redevelopment of the town after 1662.

The first trial took the form and function of a trading post. The expeditionary force that sailed up the James River in 1607 was searching for a defensible site on which to build a trade castle similar to those run by the Portuguese in West Africa and Mombasa.<sup>70</sup> The earliest English entrepreneurs came to North America as middlemen, not settlers; they counted on meeting native peoples willing to supply them with gold, furs, and skins from the interior just as Africans supplied the Portuguese with gold, slaves, and ivory. The island fastness the English built at Jamestown enclosed warehouses, barracks, and workshops for the small staff of merchants, soldiers, and artisans who were expected to manage the Indian trade and prospect for valuable mineral resources. Archaeologists have begun finding these long, multipurpose buildings lined up inside the triangular fort and enclosed in a somewhat later extension to the palisade (see Figure 5). They have unearthed furnaces, crucibles, and imported scrap metal used to assay minerals needed for making brass. The excavations have also turned up caches of Indian trade goods—“truckinge stuffs”—such as tubular beads, coins, jettons, and other prestige goods, including scraps of the red copper that Ralph Lane said were especially prized by the Indians.<sup>71</sup>

They were prized, yes, but not enough to induce the natives to play

<sup>70</sup> Christopher R. DeCorse, *An Archaeology of Elmina: Africans and Europeans on the Gold Coast, 1400–1900* (Washington, D.C., 2001); Graham Connah, *African Civilizations: Precolonial Cities and States in Tropical Africa: An Archaeological Perspective* (Cambridge, Eng., 1987); A. W. Lawrence, *Trade Castles and Forts of West Africa* (London, 1963). For English knowledge of the Portuguese African trade, see Kupperman, *Jamestown Project*, 25–32.

<sup>71</sup> Kelso, *Jamestown, the Buried Truth*; Carter C. Hudgins, “Articles of Exchange or Ingredients of New World Metallurgy? An Examination of the Industrial Origins and Metallurgical Functions of Scrap Copper at Early Jamestown (c. 1607–1617),” *Early American Studies*, 3 (Spring 2005), 32–64; Seth Mallios, *The Deadly Politics of Giving: Exchange and Violence at Ajacan, Roanoke, and Jamestown* (Tuscaloosa, 2006); Richard Hakluyt, *Virginia Voyages from Hakluyt*, ed. by David B. Quinn and Alison M. Quinn (London, 1973), 22–23; Charles E. Hatch Jr., “Glassmaking in Virginia, 1607–1625,” *William and Mary Quarterly*, 2nd ser., 21 (April 1941), 119–38 (quotation on p. 127). The quotation “truckinge stuffs” will also appear in Lorena S. Walsh, “Motives of Honour, Pleasure and Profit”: *Plantation Management in the Colonial Chesapeake, 1607–1763* (Chapel Hill, forthcoming).

the part scripted for them. The Powhatan Indians had their own agenda, namely, to tolerate the newcomers but subordinate them to their chiefdoms.<sup>72</sup> The directors of the Virginia Company, once informed of their miscalculation by Captain John Smith, cast about for alternative schemes to repay their investment.<sup>73</sup> Those led to the second experiment in urbanizing Jamestown, its redevelopment as a base of operations for extractive industries and commercial agriculture. Both capitalized on the colony's natural resources. Henceforth, Virginia would pay back the company's investors by exporting raw materials, by processing commodities that required large amounts of fuel, and by recruiting settlers and servants (and eventually importing Africans) to grow cash crops, notably, high-yield Orinoco tobacco after 1619. Reenvisioned as the capital of a territorial settlement, Jamestown would become a commercial, manufacturing, and transshipment center. A larger population of settlers engaged in those activities soon outgrew the confines of the fort and spilled into a "New Towne" outside the gates.

Where first? Distribution maps of datable artifacts collected over the entire site show that occupation in the late 1610s and 1620s was concentrated along the waterfront and on three industrial sites. One lay along Back River behind the fort, another at the far eastern end of the town lands, and the third at Glasshouse Point across the tidal isthmus (see Figure 1). Merchants built warehouses on the riverbank, and venture capitalists, encouraged by several governors, launched numerous speculative "projects," as such ventures were called in England.<sup>74</sup> At Jamestown they were aimed at setting up glassblowers, potters, pipe-makers, brewers, distillers, apothecaries, vintners, sawmillers, silk-worm breeders, fish driers, shipwrights, and mining prospectors (searching less for gold than for zinc for brass making)—all eager to tap Virginia's natural resources and harness its abundant fuel supplies. The tract map reveals further that the government officials who were needed to staff the growing colony preferred to live at Jamestown even though many built country estates off the island as well.

<sup>72</sup> Helen C. Rountree, *Pocahontas, Powhatan, Opechancanough: Three Indian Lives Changed by Jamestown* (Charlottesville, 2005); Martin D. Gallivan, *James River Chiefdoms: The Rise of Social Inequality in the Chesapeake* (Lincoln, Neb., 2003); Karen Ordahl Kupperman, *Indians and English: Facing Off in Early America* (Ithaca, N.Y., 2000); Frederic W. Gleach, *Powhatan's World and Colonial Virginia: A Conflict of Cultures* (Lincoln, Neb., 1997); James Axtell, *The Rise and Fall of the Powhatan Empire: Indians in Seventeenth-Century Virginia* (Williamsburg, 1995).

<sup>73</sup> Barbour, ed., *Complete Works of Captain John Smith*, II, 187–90.

<sup>74</sup> Kupperman, *Jamestown Project*, 183–277; Joan Thirsk, *Economic Policy and Projects: The Development of a Consumer Society in Early Modern England* (Oxford, Eng., 1978).

The great London merchants who founded the Virginia Company and had followed the planners' original playbook for the first ten years had not waxed as rich as they expected. Their failure, especially when compared with the success enjoyed by private investors in the Bermuda Company, led to the first major overhaul that drew practical lessons from real-world experience. Gentlemen, rather than merchants, became the colony's prime investors going forward. Being "greived to see this great Action fall to nothinge," they offered "to take the matter a new in hand and at their pryuate charges (ioyninge themselvs into Societys) to sett vpp divers pticularl Plantacons" that would be free of debts and unencumbered by restrictions that hobbled the parent company.<sup>75</sup> More than thirty particular plantations registered land grants between 1617 and 1623. The stay-at-home gentry investors had learned by then to stake their hopes on two fairly reliable moneymakers, tobacco and rents. The exploitation of other commodities—pitch, tar, clapboards, potash, and the like—was useful to defray start-up costs, but the joint-stock company investors already understood that agriculture, not mining or manufacturing, was the principal way to wealth in Virginia.<sup>76</sup> "Tobacco onely was the business," it was plain to see. "[E]very man madded [went crazy] upon that, and [gave] lyttle thought or looked for any thinge else."<sup>77</sup>

That choice pushed Jamestown to the sidelines. The "chief seat," as it came to be known, was left to develop as a conventional company town—a headquarters for Virginia Company agents and later Crown officials, a garrison for their soldiers, and a so-called factory for resident merchants who managed the tobacco trade. To funnel commerce through the warehouses they built along the riverfront, repeated attempts were made from 1624 until the 1660s to make Jamestown the exclusive port of entry to the colony and require freighters to break cargo there before proceeding to other landings.<sup>78</sup> The ruling was hard

<sup>75</sup> Kingsbury, ed., *Records of the Virginia Company*, I, 350.

<sup>76</sup> Francis Bacon, "Of Plantations," in Alexander Brown, ed., *The Genesis of the United States . . .* (2 vols.; Boston, 1890), II, 799–801; Irene W. D. Hecht, "The Virginia Colony, 1607–1640: A Study in Frontier Growth" (Ph.D. dissertation, University of Washington, 1969), chaps. 6 and 7, appendix 4C; Charles E. Hatch Jr., *The First Seventeen Years: Virginia, 1607–1624* (Williamsburg, 1957). For the most recent discussion of the date of settlement and location of particular plantations, see Martha W. McCartney, *Virginia Immigrants and Adventurers, 1607–1635: A Biographical Dictionary* (Baltimore, 2007), 33–74.

<sup>77</sup> So said Captain Nathaniel Butler after passing through Virginia in 1622–1623. See "The Virginia Planters' Answer to Captain Butler, 1623," in Lyon Gardiner Tyler, ed., *Narratives of Early Virginia, 1606–1625* (New York, 1907), 416.

<sup>78</sup> William Waller Hening, ed., *The Statutes at Large; Being a Collection of All the Laws of Virginia* (13 vols.; Richmond, 1809–1823), I, 126, 166, 245–46.

to enforce; furthermore, it was countermanded more than once by officials in London who considered it a hindrance to trade and an annoyance to planters. Even so, conventional wisdom persisted among many traders who believed that anyone doing business in Virginia “must keep a house here [at Jamestown] and continue all the year [in order] that he may be prepared, when the tobacco comes from the field, to seize it.”<sup>79</sup> Some did. On one hand, the reconstructed tract map confirms Governor John Harvey’s claim in 1638 that “[t]here was not one foote of ground for half a mile together by the Rivers syde in James Towne but was taken up and undertaken to be built” on.<sup>80</sup> On the other hand, archaeological investigations along the same shore prove that many patented lots were never improved, at least not until later. Well into the 1640s and 1650s wharves, warehouses, stores, and merchants’ dwellings—many already neglected—shared waterfront locations with workshops, kilns, rubbish tips, and stockpiled oyster shells, lime, and charcoal.<sup>81</sup> The marketplace—such as it was—was still located inside the dilapidated palisade as late as 1627 or later.<sup>82</sup> The town’s economy followed the planters’ calendar. The place boomed when the tobacco fleet lay at anchor, sometimes thirty ships at once.<sup>83</sup> Most other times, though, the reputed metropolis fulfilled its reputation as “this unhappy Town.”<sup>84</sup>

That had not been anyone’s intention. Several governors prevailed on the colony’s legislators to pass bills “for laying out ground for merchants, handicraftsmen and tradesmen . . . whereby the Towne may be peopled.”<sup>85</sup> For a few years in the 1630s and 1640s the fledgling

<sup>79</sup> David de Vries, *Voyages from Holland to America, A.D. 1632 to 1644*, trans. by Henry C. Murphy (1655; translated ed., New York, 1853), 112.

<sup>80</sup> W. Noel Sainsbury et al., eds., *Calendar of State Papers, Colonial Series* (45 vols. to date; London, 1860–), I, 287–88; “Virginia under Governor Harvey,” *Virginia Magazine of History and Biography*, 3 (July 1895), 21–34 (quotation on p. 30).

<sup>81</sup> On Structure 26 (ca. 1638), a warehouse on a lot patented by import-export merchant William Parry, see Cary Carson, Audrey J. Horning, Beverly A. Straube, and Ronald W. Fuchs II, *Evaluation of Previous Archaeology* (Williamsburg, 2006), 48–49. On Structure 163 (ca. 1644), a warehouse belonging to merchant John White, see Nicholas Luccketti and Beverly Straube, *1998 Interim Report on the APVA Excavations at Jamestown, Virginia* (Richmond, 1999), 10–12; and Kelso, Luccketti, and Straube, *Jamestown Rediscovery V*, 15–20.

<sup>82</sup> H. R. McIlwaine, ed., *Minutes of the Council and General Court of Colonial Virginia, 1622–1632, 1670–1676, with Notes and Excerpts from Original Council and General Court Records, into 1683, Now Lost* (Richmond, 1924), 14–15, 93, 149–50.

<sup>83</sup> De Vries, *Voyages*, 53, 183.

<sup>84</sup> Beverley, *History and Present State of Virginia*, 86.

<sup>85</sup> “A Review of the Old Acts of Assembly . . .,” in Colonial Office, America and West Indies, Class 1, Volume 9, folio 98 (National Archives, Kew, England; hereinafter records from the colonial office will be documented as CO with the appropriate class, volume, and folio numbers following). Also see Sainsbury et al., eds., *Calendar of State Papers, Colonial Series*, I, 268–69.

town seemed destined to fulfill that promise. A Back Street opened up behind warehouse row. Platted lots became building sites.<sup>86</sup> On one the colony's secretary, Richard Kemp, built the first brick dwelling in town in 1638, "the fairest that ever was knownen in this countrye for substance and uniformity."<sup>87</sup> A few others followed his example.<sup>88</sup> The growing town provided good livings for skilled artisans whom three governors—Sir John Harvey, Sir Francis Wyatt, and Sir William Berkeley—had been instructed to settle in newly founded towns.<sup>89</sup> Archaeological excavations confirm that the market for most of the trades known to have been practiced at Jamestown was mainly local—brick and tile making, lime burning, coarse pottery making, brewing, blacksmithing, repairing guns, and casting shot.<sup>90</sup>

More ambitious projects aimed at overseas markets—glassmaking, for instance, and possibly pharmaceutical production—had little chance of success.<sup>91</sup> Specialized labor was always scarce, and already Virginians had learned that their energies and resources were better spent growing tobacco for export and importing whatever manufactured goods they needed. Jamestown's growth and development reflected those choices by midcentury. While opportunities for various light industries won praise from a foreigner who wintered over at Jamestown in 1649, he and others were impressed most of all by the tobacco fleet riding at anchor and the seven hundred to eight hundred

<sup>86</sup> Summarized and plotted in McCartney, *Documentary History of Jamestown Island*, I, 65–68, 90–93.

<sup>87</sup> On Structure 44 (1638), see Carson et al., *Evaluation of Previous Archaeology*, 63–67.

<sup>88</sup> Sainsbury et al., eds., *Calendar of State Papers, Colonial Series*, I, 287–88.

<sup>89</sup> Instructions for Sir William Berkeley, Governor of Virginia, August ?, 1641, CO 5/1,354, fols. 219–36; "Instructions to Berkeley, 1642," *Virginia Magazine of History and Biography*, 2 (January 1895), 281–88, esp. p. 287; "Instructions to Sir Francis Wyatt," *ibid.*, 11 (July 1903), 54–57, esp. p. 56; Sainsbury et al., eds., *Calendar of State Papers, Colonial Series*, I, 286, 321; "A Review of the Old Acts of Assembly . . . , CO 1/9, fol. 98; "Instructions to Governor Wyatt," in Hening, ed., *Statutes at Large*, I, 114–18, esp. p. 116.

<sup>90</sup> On Structure 24 and Refuse Pit 5, John Jackson's house and workshop (ca. 1620–1638); Structure 111 and Refuse Pit 1, kilns for lime, brick, pottery, and maybe grain and associated barrow pit (after 1623 to ca. 1640); and Structure 127, brick kiln (after 1628 to ca. 1650–1660), see Carson et al., *Evaluation of Previous Archaeology*, 45–47, 92–95, 135–37; Audrey J. Hornung and Andrew C. Edwards, *Archaeology in New Towne, 1993–1995* (Williamsburg, 2000); and Audrey J. Hornung and Karen B. Wehner, *Archaeological Investigations at Jamestown's Structure 24* (Williamsburg, 2001). Also see Worth Bailey, "Lime Preparation at Jamestown in the Seventeenth Century," *William and Mary Quarterly*, 2nd ser., 18 (January 1938), 1–12; and J. C. Harrington, "Seventeenth Century Brickmaking and Tilemaking at Jamestown, Virginia," *Virginia Magazine of History and Biography*, 58 (January 1950), 16–39.

<sup>91</sup> J. C. Harrington, *A Tryal of Glasse* (Richmond, 1972); Hornung and Edwards, *Archaeology in New Towne*, 75–87, 119–42. On Structure 110, brewhouse and apothecary (after 1623 to ca. 1650), and Structure 117, dwelling or storehouse (ca. 1620–1650), see Carson et al., *Evaluation of Previous Archaeology*, 88–91, 120–23.

mariners who came ashore annually to carouse at no fewer than six “publike Brewhouses.”<sup>92</sup>

Jamestown’s bubble—such as it was—burst the very next year. Parliament beheaded Charles I, passed the Navigation Act in 1651, and went to war with Holland the year after that. The prohibition against all non-British shipping and England’s preoccupation with affairs at home during the decade of Commonwealth rule brought Jamestown to its knees. Three of the six brewhouses went bankrupt immediately.<sup>93</sup> Warehouses handled fewer and fewer goods. And all attempts at industry withered to extinction if the silence of written records and the absence of archaeological evidence bear witness to their failure. The second coming of Jamestown had run its course in less than twenty-five years.

The trading post experiment had failed for want of gold and silver and too little cooperation from native inhabitants “unaccustom’d to barter.”<sup>94</sup> Opposition from planters in Virginia, merchants in London, and officials at Whitehall eventually defeated the attempt to reinvent Jamestown as a trade center and a workshop to the empire. The third experiment came to terms with these powerful interest groups and, in so doing, arrived at an urban formula that would be successfully replicated throughout the Chesapeake region for the next 150 years.

The restoration of royal government did not herald a new policy toward Virginia so much as it renewed Britain’s attention to the colony’s economy. Governor Berkeley resumed his post in 1660, and the next year the burgesses dispatched him to London to lobby for free trade, curbs on runaway tobacco production, incentives to encourage agricultural and industrial diversification, and a royal mandate to revitalize Jamestown and found other urban centers throughout the region. They were not new ideas, but now, Berkeley discovered, the context had changed dramatically. The measures he advocated folded into a much larger conversation about managing Britain’s overseas colonies to finance a growing empire, rebuild the navy, and wage

<sup>92</sup> Anonymous, *Perfect Description of Virginia*, 3–9 (quotation on p. 3). The annual number of ships, thirty to forty, is confirmed in de Vries, *Voyages*, 53; and John Stirrup to John Ferrar, January 26, 1649/50, Ferrar Papers, ms. 1,152 (Pepys Library, Magdalene College, Cambridge University, Cambridge, England). Martha McCartney consulted this letter on microfilm no. 1953.6 at the John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation.

<sup>93</sup> Their customers defaulted on their debts (see John Stirrup to John Ferrar, January 26, 1649/50, Ferrar Papers). Another beer maker, Captain John Moon, instructed his executors to sell his “brewhouse and land at Jamestown” to pay his debts in 1655. See Isle of Wight County, Deeds, Wills, Conveyances, Book A, fol. 81 (Library of Virginia, Richmond).

<sup>94</sup> Beverley, *History and Present State of Virginia*, 29.

foreign wars.<sup>95</sup> Industrious towns were key, at least in Virginia. Or so argued Berkeley's most powerful allies in London. Pragmatism was their watchword: if the government settled skilled artisans in a few port towns located on the principal rivers in the region and restricted trade to those places, commerce would expand, tobacco would loosen its stranglehold on the economy, a multiplicity of exports would increase revenues, and the need to ban foreign shippers would simply go away.<sup>96</sup>

In the end, the Council for Foreign Plantations neither repealed the Navigation Acts nor restored Jamestown's exclusive trading privileges, Berkeley's two fallback positions. But the king did not send the governor home empty-handed. His orders authorized two measures that Berkeley could pursue on his own initiative.<sup>97</sup> One—rejuvenating Jamestown—was a priority for the Crown; the other was Berkeley's—supplementing tobacco cultivation with the production of flax, hemp, silk, potash, pitch and tar, and pig iron. Berkeley envisioned a day when colony and capital together might become “the Fortresse; Mart and Magazin of all the *West Indies*.<sup>98</sup> It was the old dream, now revived and writ large.

And for a while a thorough makeover seemed achievable. Within weeks of the governor's return, the burgesses passed “An act for building a towne,” the capital city first but afterward additional settlements on the principal rivers that flowed into the bay. The act mandated that no new wooden houses be erected within the city limits of Jamestown. Further, it called for thirty-two new, two-story, brick houses, all with fireproof roofs of tile or slate. A special head tax was levied to pay for seventeen government-built units, and the legislation authorized each county court to impress the artisans and building materials it needed. Berkeley's instructions from the king anticipated that councillors and other big men in the colony would set “good Examples” by building the remaining fifteen houses with private funds. The bill gave the

<sup>95</sup> Warren M. Billings, *Sir William Berkeley and the Forging of Colonial Virginia* (Baton Rouge, 2004), 136–62; Billings, “Sir William Berkeley and the Diversification of the Virginia Economy,” *Virginia Magazine of History and Biography*, 104 (Autumn 1996), 433–54; Sister Joan de Lourdes Leonard, “Operation Checkmate: The Life and Death of a Virginia Blueprint for Progress, 1660–1676,” *William and Mary Quarterly*, 3rd ser., 24 (January 1967), 44–74.

<sup>96</sup> Berkeley's own pamphlet presented to the Council for Foreign Plantations, *A Discourse and View of Virginia* (1662; reprint, Norwalk, Conn., 1914), must be read alongside London merchant John Bland's “Humble Remonstrance” and merchant-adventurer Martin Noell's “Proposalls concerning building of Towns” (see Billings, *Sir William Berkeley*, 146–47).

<sup>97</sup> Sir William Berkeley to Council for Foreign Plantations, July 21, 1662, CO 1/16, fols. 183–84.

<sup>98</sup> Berkeley, *Discourse and View of Virginia*, 4.

governor broad powers as chief city planner to select a site, hire a surveyor, and direct that all new buildings be “regularly placed one by another in a square or such other forme” as he thought best. It was a typical government crash program. Even the due date was prescribed by law—March 1665, two years from start to finish.<sup>99</sup>

Berkeley threw himself into the task with great energy at first, and indeed his self-styled “brave Towne” made a brave start.<sup>100</sup> As the deadline drew near, and despite inevitable slippage, the colony’s secretary could report to Whitehall that “we have begun a town of brick and have allreddy built enough to accommodate both the publique affairs of ye country and to begin a factory for merchants.”<sup>101</sup> True it was. Excavations in New Towne since the 1930s have discovered numerous brick structures, public and private, that the recent reassessment verifies were constructed in response to the town building act of 1662. Most unexpected were three rows of party-wall houses, as up-to-the-minute as any speculative terrace housing to be found in the sprawling suburbs of London (see Figure 12). The smallest of them incorporated two units, soon expanded to three; the two largest comprised four units each, one of them later doubled to eight. All conformed to dimensions set out in the legislation: two ground-floor rooms, in essence a hall and a parlor, dividing a 20 by 40 foot floor plan, shared chimney stacks in each house, brick walls two stories high, and a roof covered with pantiles or slates. A purpose-built state-house was to be attached to the largest row, extending its length to 158 feet. An abandoned cellar hole facing the backside of the three-house row was probably intended for its twin. It is the most suggestive evidence of a civic square produced so far, although many parts of New Towne remain unexcavated and unexplored. An extensive brickyard on the outskirts of town produced hundreds of thousands of bricks and tiles as the work got underway in the spring of 1663 (see Figure 1).<sup>102</sup>

All this—the urban squares, terrace housing, standardized plans, and

<sup>99</sup> Hening, ed., *Statutes at Large*, II, 172–76 (first and third quotations on p. 172); Billings, *Sir William Berkeley*, 175 (second quotation).

<sup>100</sup> Sir William Berkeley to Edward Hyde, Earl of Clarendon, March 30, 1663, Egerton MSS. 2,395, fol. 362 (British Library, London). Warren Billings generously shared a transcript of this letter with the authors prior to its publication in Warren M. Billings, ed., *The Papers of Sir William Berkeley, 1605–1677* (Richmond, 2007), 199.

<sup>101</sup> Thomas Ludwell to [Privy Council?], April 10, 1665, CO 1/19, fols. 75–76. The letter is endorsed, “have begun a towne, capable at present for ye civil administration, and an introduction to a factorie.” The letter is available at the Rockefeller Library on microfilm no. 304.

<sup>102</sup> Carson et al., *Evaluation of Previous Archaeology*, 22–31 (Structures 17 and 105), 83–87 (Structure 102), 111–16 (Structure 115); Carson, Graham, Lounsbury, and McCartney, *Description and Analysis of Structure 144*, pp. 1.1–1.15.

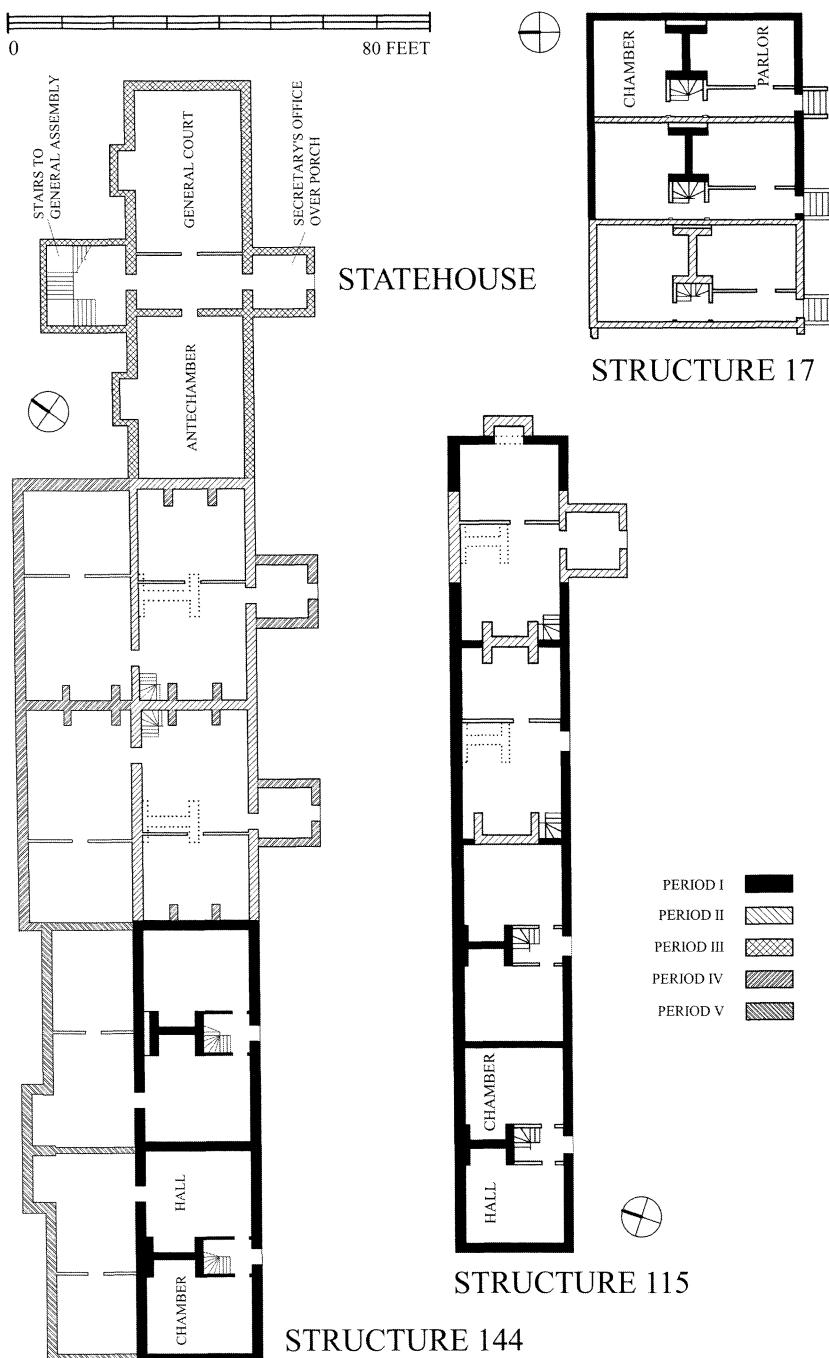


Figure 12. Jamestown rowhouses: Structure 17, built and enlarged 1663–1676; Structure 115, built 1663, partially reconditioned ca. 1681; Structure 144, built, enlarged, and rebuilt 1663–ca. 1694. Statehouse added to east end 1664/1665. (Drawing by Cary Carson and Willie Graham)

fire-resistant building materials—represented conventional top-down planning by fiat from London, rubber-stamped by the General Assembly in Virginia. The stipulated formalities of the new program combined at Jamestown the image and expectations of the metropolis with local boosters' own English-born cultural ambitions. To appreciate the strictly homegrown element in this legislated town—the improvised part—we must learn from archaeology what functions the new buildings served and from the tract map who owned and occupied them or leased them to tenants.

Jamestown had, of course, long been a seasonal meeting place for the courts, council, and assembly. Always previously they had convened in taverns and rented rooms, much to the disgrace of the justices and lawmakers. Berkeley and the burgesses set out to create a dignified capital. The centerpiece was a custom-made statehouse, completed by 1665 (see Figure 12).<sup>103</sup> In addition, the seventeen brick dwellings erected at public expense were supposed to provide comfortable lodgings for burgesses and officials, while the fifteen privately financed townhouses were owned or leased by wealthy councillors, judges, and merchants. Thus would the orderly, newly made capital accommodate both the civic and the commercial needs of the colony. That was the plan, but, even as the first buildings began to take shape in the spring following passage of the bill, Berkeley watched the work proceed in a manner that he had not foreseen. Most of the councillors—the “rich men,” he called them—hung back. They “expend no more,” he complained, “than what is usefull to them in order to [hasten] their return for England.” The merchants were even stingier, offering Berkeley mere “Alms,” which he spurned. The strongest supporters of his rebuilding program were, he said, “the poorer sort [who] see that want and misery will sooner Come upon them for want of a Town then on the rich men; and that makes them more willing to Contribute for their further good.”<sup>104</sup> Yet even that was not the whole truth. The head tax was widely resented by ordinary planters in the countryside, who bitterly complained that rebuilding Jamestown held nothing for them.<sup>105</sup>

<sup>103</sup> Presumed to be Structure 144, Unit 5 (formerly known as the Ludwell-Statehouse Group), as explained in Carson, Graham, Lounsbury, and McCartney, *Description and Analysis of Structure 144*, pp. 3.1–3.11. A less-convincing alternative is Structure 112, Period 3 (ca. 1665–1676), a rebuilding of the governor’s mansion that the burgesses had tried to buy in 1656 for use as the colony’s statehouse. See Carson et al., *Evaluation of Previous Archaeology*, 96–108.

<sup>104</sup> Berkeley to Hyde, March 30, 1663, Egerton MSS. 2,395.

<sup>105</sup> “Grievances of the Inhabitants of Surrey County,” in Sainsbury et al., eds., *Calendar of State Papers, Colonial Series*, X, 45.

So who did gain? Who were “the poorer sort” who invested their own money in the new rows of terrace houses and the upscale taverns? Whose involvement in the redevelopment of Jamestown transformed a monarch’s instructions and a governor’s dreams into the first durable urban experiment in Virginia? The archaeological reassessment team found that the developers were generally locals; many were longtime residents of the colony; and not a few owned property, married wives, or sued neighbors in Surry County across the river. When their backgrounds can be checked at all, they appear to have dabbled in real estate on the island and elsewhere for many years prior to 1662. The Jamestown project came as a bolt out of the blue. The town act opened a honeypot that small-time entrepreneurs could not resist.<sup>106</sup>

Thomas Woodhouse was one. Although he resided in Surry County for a number of years, he speculated in properties as far away as the Potomac River. He moved to Jamestown by 1655 to play the rental market by buying one of three units in a row of houses that Berkeley had built ten years earlier. Woodhouse promptly leased it as meeting rooms for the Governor’s Council, the Quarter Sessions Court, and the General Assembly.<sup>107</sup> Under the counter he may also have operated a tavern, for this was the time when the burgesses bemoaned “the dis-honour of our Lawes being made and Judgments given in Ale-houses.”<sup>108</sup> Woodhouse picked up other parcels on the island. Some he turned over quickly, for example a prime lot along the shore that he probably unloaded too quickly in February 1662, for the two developers (also with Surry County connections) who owned the property ten months later when the assembly passed the town bill seized that golden opportunity to build an impressive rowhouse facing the harbor, Structure 17. No matter. Woodhouse put his money into another terrace project going up on Back Street, two houses in the Structure 115 row that shared a party wall with a pair of so-called country houses built at public expense.

<sup>106</sup> Carson et al., *Evaluation of Previous Archaeology*, 26–29, 38–40, 113–16; and Carson, Graham, Lounsbury, and McCartney, *Description and Analysis of Structure 144*, appendix 3D, summarize the known history of ownership for Structures 17, 19, and 115 and the “Berkeley Row.” See also individual entries in volume III of McCartney, *Documentary History of Jamestown Island*.

<sup>107</sup> See the entries for Thomas Woodhouse and Thomas Woodhurst in McCartney, *Documentary History of Jamestown Island*, III, 401–2. Kelso, *Jamestown, the Buried Truth*, 194, 197–202, confuses the “Berkeley Row” with Structure 17. For the correct title chain, date, and sequence of building activity, see Carson et al., *Evaluation of Previous Archaeology*, 26–31.

<sup>108</sup> H. R. McIlwaine, ed., *Journals of the House of Burgesses, 1659/60–1693* (Richmond, 1914), 27.

Careful study of speculators like Thomas Woodhouse and their activities immediately following Berkeley's return from London identifies these months as the turning point in Jamestown's development as an urban place and the real starting point for the town-building model that afterward spread throughout the region. "The act for building a towne," unexpected as it was, produced an overnight windfall for a number of canny local capitalists who did not hesitate to jump in with both feet. Not all were small-time operators. Two Berkeley confidants, Francis Moryson and Thomas Ludwell, stood apart from the otherwise "universall backwardness of the Councill." Both lent "their Councill, Encouragements, and Purses" to the effort.<sup>109</sup> As did Colonel Thomas Swann—another councillor, Surryman, and publican. He clearly saw opportunity beckoning and accordingly built a fine brick tavern positioned on the high street halfway between the statehouse and the lawmakers' smart new lodgings.

Swann's entrepreneurship illustrates the larger point: A few councillors and many more petty capitalists saw the rebuilding of Jamestown as a personal investment opportunity, not the first step in creating the seat of a mighty West Indian empire. The Ludwells and Swanns no less than the Woodhouses bought and sold real estate with no loftier aim than an ambition to rent lodgings during court season, lease office space, hire out meeting rooms, collect compensation for boarding the colony's official guests (frequently including delegations of Indians), and always and everywhere supply their patrons with food and drink. Their endeavors built no fewer than twelve brick houses in the town by the mid-1670s and, despite the prohibition, a number of frame dwellings as well. Some observers put the total nearer twenty.<sup>110</sup> That part was according to plan, more or less. The use these structures were put to was not, for as Robert Beverley ruefully observed many years later, "most of the Buildings were soon converted into Houses of Entertainment."<sup>111</sup> That was the homegrown dimension to Jamestown's redevelopment, that and the general failure to rebuild the town's commercial center. Rickety wharves were not repaired, old warehouses not replaced, and, behind it all, the town's trading monopoly not restored. Planters agitated against the "Inconvenient and

<sup>109</sup> Berkeley to Hyde, March 30, 1663, Egerton MSS. 2,395.

<sup>110</sup> "A True Narrative of the Late Rebellion in Virginia, by the Royal Commissioners, 1677," in Charles M. Andrews, ed., *Narratives of the Insurrections, 1675–1690* (New York, 1915), 136; Sainsbury et al., eds., *Calendar of State Papers, Colonial Series*, V, 533.

<sup>111</sup> Beverley, *History and Present State of Virginia*, 68.

prejudicall” requirement that their tobacco be collected at Jamestown for shipment overseas.<sup>112</sup> Rather than accept this key element in Berkeley’s renovation plan, they argued that their interests were better served “by every man keepinge his owne commodity and deliveringe it from his [own] howse.” “By this Means,” the top-down planners fumed, “the Design of Towns was totally baulk’d.”<sup>113</sup>

Idealized towns, yes, but, short-lived as Jamestown’s boom time proved to be, the rudiments of an indigenous approach to urban development put down hardy roots that flourished even after Berkeley’s interest in the town’s renewal flagged in the 1670s.<sup>114</sup> They withstood a greater test in 1676 when the rebel Nathaniel Bacon stormed the town and burned many public buildings and private residences to the ground, including the almost-new statehouse. The calamity was a huge setback to official Jamestown. Six years later the British government’s Colonial Office was still issuing instructions to rebuild the town “as soon as possible.” Regardless, the General Assembly took almost ten years to replace its meetinghouse. Playing politics, the “Gentlemen of the Country” deftly blunted the Crown’s efforts to levy new taxes to rebuild the seat of empire.<sup>115</sup> In contrast, the ashes were barely cold before local profiteers swarmed in to fill the void. Some bought and renovated damaged properties; others built new ones from the ground up, sometimes more splendidly than the capital had seen previously; and all raced to provide interim accommodations for the officials and branches of government desperate for office space and meeting rooms.<sup>116</sup>

This second rebuilding of Jamestown brought forward a younger generation of developers, men like William Sherwood. An attorney, merchant, slave trader, and speculator, Sherwood had settled in Virginia (first in Surry County) just as the last urban renewal program was winding down. A young man in his twenties, he married a Jamestown property owner, acquired half-interests in other parcels through partnerships, and bought still other tracts outright.<sup>117</sup> Two of

<sup>112</sup> “From the House of Burgesses,” in Billings, ed., *Papers of Sir William Berkeley*, 282–83.

<sup>113</sup> Billings, *Sir William Berkeley*, 183 (first quotation); Beverley, *History and Present State of Virginia*, 67 (second and third quotations).

<sup>114</sup> Billings, *Sir William Berkeley*, 184.

<sup>115</sup> Billings, *Jamestown and the Founding of the Nation*, 101–4.

<sup>116</sup> Carson et al., *Evaluation of Previous Archaeology*, 5–10 (Structure 1/2), 22–31 (Structures 17 and 105), 35–40 (Structure 19), 111–16 (Structure 115), and 129–34 (Structure 125); Carson, Graham, Lounsbury, and McCartney, *Description and Analysis of Structure 144*, pp. 1.1–1.15.

<sup>117</sup> For Sherwood’s career, marriage, business partners, and other connections, see McCartney, *Documentary History of Jamestown Island*, III, 319–23.

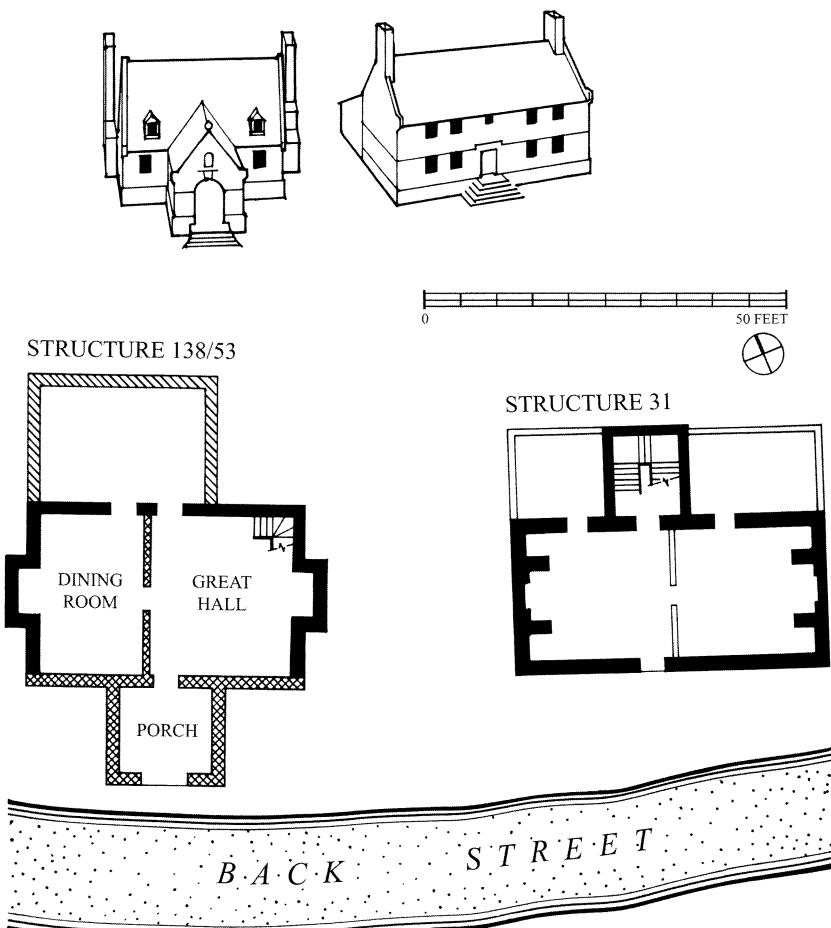


Figure 13. William Sherwood's development along Back Street, Jamestown, after 1676 and before 1682. Sherwood probably refurbished Structure 138/53 as a government building while residing in Structure 31 with its kitchen, Structure 58 (not shown), both built new ca. 1677. (Drawing by Cary Carson)

his holdings suffered damage at the hands of the rebels, but he managed to scrape together reparations and enough cold cash to begin fulfilling a promise "to rebuild in James City" only weeks or months after the uprising collapsed.<sup>118</sup> At first he concentrated on Back Street (see Figure 13). There he rebuilt Governor Francis Wyatt's old "country house" into a handsome brick residence and kitchen for himself and

<sup>118</sup> Petition of William Sherwood to the King, July 12, 1677, CO 1/41, fol. 32.

turned a burned-out shell of a house next door into a blue-chip rental property.<sup>119</sup>

This last building, a rebuilt, refaced, one- or two-story, brick structure, deserves a closer look. It, more than several haphazardly repaired rowhouses or even the new statehouse, exemplifies the manner in which Jamestown became a successful urban place in the final decades of the century and a true precursor to Williamsburg and many eighteenth-century courthouse towns across Virginia. Bacon's Rebellion had come as a wake-up call to the Lords of Trade and Plantations, the Crown's group of ministers giving advice on colonial issues. In its aftermath, they resolved to bring Virginia under much tighter control. Berkeley was replaced by a series of governors-general who were issued orders to force the wayward colony back into Britain's imperial fold. None was more resolute than Francis Howard, fifth baron Howard of Effingham.<sup>120</sup> He took up the post in 1684 fully cognizant that, despite his sovereign's oft-repeated opinion that Jamestown was the "most convenient place for the Metropolis of Our said Colony," there had not "till now of late been Any Great Advance therein."<sup>121</sup> Effingham meant to change that. William Sherwood was happy to oblige. Even after the half-finished statehouse opened for occupancy in December 1685, the governor asked the burgesses to lease from Sherwood "his Hall, small back room, and Cellar, for ye use of his Majesties Governor and Council." His reason was partly convenience, "his Excellency having lodgings in ye same house," and owed partly to a spat with the assembly over office space in the new building.<sup>122</sup> He may also have been pulling rank. According to Robert Beverley, a

<sup>119</sup> See Carson et al., *Evaluation of Previous Archaeology*, 52–62 (quotation on p. 61), 138–43, for entries for Structures 31, 38, 138/53; and Andrew S. Veech, *Archaeological Investigation at Structure #138, New Towne, Jamestown Island: An Architectural Reassessment* (n.p., 2007). For Sherwood's other Jamestown properties, see Carson et al., *Evaluation of Previous Archaeology*, 5–10 (Structure 1/2) and 129–34 (Structure 125).

<sup>120</sup> Warren M. Billings, *Virginia's Viceroy. Their Majesties' Governor General: Francis Howard, Baron Howard of Effingham* (Fairfax, Va., 1991).

<sup>121</sup> Instructions to Lord Culpeper, January 27, 1682, CO 5/1,356, fol. 141 (first quotation; available on microfilm no. 227 at Rockefeller Library); Samuel H. Yonge, *The Site of Old "James Towne," 1607–1698: A Brief Historical and Topographical Sketch of the First American Metropolis* (Richmond, 1904), 27 (second quotation).

<sup>122</sup> H. R. McIlwaine, ed., *Legislative Journals of the Council of Colonial Virginia* (3 vols.; Richmond, 1918–1919), I, 93–94 (quotations on p. 93); Warren M. Billings, *A Little Parliament: The Virginia General Assembly in the Seventeenth Century* (Richmond, 2004), 148. Effingham also resided at nearby Green Spring plantation and sometimes at the home of Colonel Thomas Pate in Gloucester County. His poor health may explain the decision to lease in-town rooms as well. In 1688 the king granted him a housing allowance when the General Assembly refused to appropriate authorized funds for an official residence. H. R. McIlwaine, ed., *Executive Journals of the Council of Colonial Virginia* (6 vols.; Richmond, 1925–1966), I, 517; Billings, *Little Parliament*, 146.

fierce critic of the viceroy's attempt to use the council as a powerful, chancery-like court of equity, the governor had "erected himself into a Lord Chancellor" and set out to find a suitable meeting place for that use, "a private House" that "might have more the Air of a new Court." His Excellency would not deign, Beverley sneered, to "so much as sit in the State-House, where all the other publick Business was dispatch'd."<sup>123</sup> Sherwood, however, consummate government contractor that he was, fully understood the premium Effingham attached to his "privacy and dignity."<sup>124</sup> Sherwood was eager to offer his humble service. As it so happened he had recently remodeled a property that would, he begged leave to suggest, answer his lordship's every expectation. Until National Park Service archaeologists excavated the site of Structure 138/53, the best description of Effingham's elegant meeting rooms was Beverley's report that the governor "took the Dining-Room" in a house that also contained a "great Hall" and other rooms besides.<sup>125</sup> Rental property though it was, its amenities included a specifically designated dining room, marking it as an exceptionally fashionable accommodation for the 1680s. How exceptional was only revealed when archaeologists unearthed thousands of fragments of ornamental plasterwork. Some had formed a chimneypiece sculpted with three-dimensional, half-size animals and human figures flanking an official coat of arms; others came from one or more ceilings framed round with heavy classical cornices and richly decorated with rosettes, volutes, and acanthus leaf sprays in a high-style Baroque composition not even seen in English interiors before the 1670s. In other words, Sherwood had somehow found the men and the means to rehabilitate a fire-sale wreck into a high-end executive boardroom for the councillors sitting in chancery and a posh pied-à-terre for the governor when affairs of state or ill health kept him in town overnight.

The juxtaposition of sophisticated accommodations alongside others described as "rotten & decayed" is a clue to understanding the dynamics that finally led to a successful formula for urban development in the tobacco South. It makes perfect sense of Governor Thomas Culpeper's offhand observation that, while building townhouses had "been once attempted in vaine," in the real world of seventeenth-century Virginia, "nothing but profit and advantage can doe it, and then there will be

<sup>123</sup> Beverley, *History and Present State of Virginia*, 97.

<sup>124</sup> McIlwaine, ed., *Legislative Journals of the Council of Colonial Virginia*, I, 93–94 (quotation on p. 93).

<sup>125</sup> Beverley, *History and Present State of Virginia*, 97 (first quotation); McIlwaine, ed., *Legislative Journals of the Council of Colonial Virginia*, I, 93–94 (second quotation on p. 93).

noe need of Anything else.”<sup>126</sup> The rebirth of Jamestown after 1662 did not revive the busy port that it was promising to become by the end of the 1640s, nor did it rekindle any serious attempt to make the town a production center. The purely local response to Berkeley’s town act and then to the devastation that Bacon’s army left behind produced a peculiar on-and-off sort of place by the 1670s and 1680s. Half the year the capital appeared abandoned and neglected. One eyewitness counted approximately eighteen brick houses, all “faire and large; and in them about a dozen Familles (for all the howses are not inhabited),” but, when they were, they got their “liveings by keepeing of ordnaries, at exstreordinary rates.” Exactly. During court season Jamestown filled up to overflowing. The uninhabited houses came to life as rented lodgings; year-round residents sublet back rooms and upstairs chambers; clerks and secretaries squeezed into makeshift office space; courts and committees doubled up in great rooms and dining chambers; and store-keepers and alehouse operators made up in a few short weeks what they did not sell during the off-season doldrums.<sup>127</sup> Not only did complaints about “the excessive rates set by ordinary keepers about James City at Assembly times” go unheeded, but the burgesses also took care to exempt Jamestown’s tavern-keepers from restrictive legislation that might discourage business. Furthermore, the lawmakers allowed publicans to extend credit to anyone visiting the capital while the assembly or General Court was in session.<sup>128</sup>

In their own un-English way, “publick times” in the Virginia capital came to resemble the social seasons that had begun to attract country gentlemen to pleasure towns in provincial Britain.<sup>129</sup> Only in its execution and use was this newfangled urban ideal transformed by reality in North America. The combination of public buildings, boarding-houses, taverns, and retail stores first came together successfully on Jamestown Island. Eventually it became the standard mix of facilities

<sup>126</sup> Instructions to Lord Culpeper, January 27, 1682, CO 5/1,356, fols. 141–42; McIlwaine, ed., *Legislative Journals of the Council of Colonial Virginia*, I, 206–8 (first quotation on p. 208); Yonge, *Site of Old “James Towne,”* 27 (second and third quotations).

<sup>127</sup> “The History of Bacon’s and Ingram’s Rebellion, 1676,” in Andrews, ed., *Narratives of the Insurrections*, 70. Another Jamestown resident with a weather eye for business opportunities, Henry Hartwell, built the town’s first purpose-made retail store, Structure 123, ca. 1692–1695. See Carson et al., *Evaluation of Previous Archaeology*, 124–28.

<sup>128</sup> Sainsbury et al., eds., *Calendar of State Papers, Colonial Series*, X, 25–26 (quotation on p. 26); Hening, ed., *Statutes at Large*, III, 45–46.

<sup>129</sup> Peter Borsay, *The English Urban Renaissance: Culture and Society in the Provincial Town, 1660–1770* (Oxford, Eng., 1989). Hugh Jones’s use of “publick times” as early as 1724 reflects the growing social and cultural importance of court season over the preceding generation. See Jones, *Present State of Virginia*, 70.

and activities found at every courthouse crossroads in the colony. All too soon, upstart Williamsburg absconded with Jamestown's capitol, commerce, and even its culture. The justification given was the old town's manifest failures. In truth, archaeologists now tell us, the Jamestown formula was worth kidnapping to Williamsburg because it finally had proved to be a prescription that worked.

The farmers, carpenters, and townspeople who migrated to the southern American colonies came from different regions in the British Isles and from different backgrounds. Why, then, does their New World experience appear so uniform in the three case studies we have just considered? Granted, here and there a few affluent individuals stand out from the rest—for instance, Sir Thomas Cornwaleys, who skipped the efficiencies of homesteading and built an expensive English framed house right away, or, to take an example from Jamestown, the “rich men” among William Berkeley’s councillors who chose not to hazard their fortunes on urban renewal. These individuals were exceptions. Different, too, must have been the lives of unfree settlers in the region, servants and slaves who had no say in the choices that freeholders made. Other than these, though, and try as we might, we have found in the archaeological evidence few deviations from the more or less common experience described in these case studies, departures that we might have attributed to known differences in people’s social standing, wealth, or place of origin. Immigration and colonization leveled the playing field for almost everybody.

Some of the reasons are obvious and predictable. Emigrants from England necessarily left behind fixed assets that had given advantages to some that were denied to others, assets such as inherited farms and agricultural improvements, well-established herds and flocks, and access to affordable labor. In the colonies every newcomer was a freshman. Almost always that meant that settlers focused first on setting themselves up to earn a living as quickly and cheaply as possible. They grasped at shortcuts, went for the easy money, and made plans for the here and now rather than for some faraway future. No matter who they were, their choices were tempered by conditions that applied to all—expensive labor, cheap land, plentiful natural resources, scattered settlements along navigable waterways, and for many years a killer disease environment. No wonder the planters, craftsmen, and urban boosters who feature in the foregoing studies all seem to have behaved in much the same way.

That much is fairly unremarkable. But we can learn a little more

from the archaeological evidence assembled in these studies. Not only have excavators explored enough sites in the region to chart long-term changes in husbandry practices, building traditions, and the development of Jamestown over the entire seventeenth century, but they also have documented false starts, dead ends, and experiments that went nowhere. Archaeological evidence lets us see people's trials and errors up close. At that range we become aware of a learning process that almost all new arrivals to Virginia and Maryland underwent, as did newcomers to any colony. Abandoned experiments are a fossil record of older customs and practices that colonists tested against the unfamiliar circumstances they encountered in their new homes or against the no less unfamiliar solutions that earlier colonists had devised in their own attempts to cope with life's new imperatives.

Archaeologists sometimes find it is useful to think about culture as a continually evolving system of transmitting knowledge from one generation or one individual to another. Cultural change occurs slowly where the future seems more or less predictable and when know-how that passes from parents to children or from masters to apprentices appears to be as serviceable to the young as it has been to the old. But when people find themselves in stressful situations where their cultural inheritance does them no good, learning takes place quickly and follows two very different paths. At first, people try anything, hit or miss. Certain eccentric carpentry practices detected by Chesapeake archaeologists may represent just such stabs in the dark. Soon, though, experimenters hit upon alternatives that strike a promising balance between the costs and the perceived benefits. These apparent solutions quickly turn into a form of social learning as imitators copy the innovators—the second learning strategy.<sup>130</sup> As we saw in the first study, early Chesapeake farmers, unaccustomed to slash-and-burn agriculture, nevertheless soon discovered the wisdom of adopting Indian farming methods as a way to put crops in the ground immediately. The radically different environment of Virginia and Maryland did not invalidate all inherited knowledge by any means. Generations of English farmers had learned from their elders about the herding instincts of cows and pigs, just as generations of carpenters had passed along building techniques that became useful starting points for experiments with earthfast technologies in the colonies.

Objects are a physical record of people's choices. Whether bones, tools, buildings, or entire towns, these three-dimensional things left

<sup>130</sup> Shennan, *Genes, Memes and Human History*, 35–65.

evidence that measures how well they performed their intended tasks in the Chesapeake colonies. The successful ones persisted—for example, the seasonal seat of government that Jamestown became after 1662. Unsuccessful artifacts, having no lasting consequences, fizzled out as surely as had Jamestown the trading post or Jamestown the transshipment center. Thus, by tracking the evolution of artifacts in much the same way that geneticists trace the lineage of genes, archaeologists can show how the process of inheritance through social learning worked as the mechanism that created new cultural traditions. Social learning—essentially learning from successful neighbors—had the practical effect of narrowing the selection of alternatives.<sup>131</sup> Little by little, repeated practice produced new vocabularies (“the Virginia house”), a new knowledge of materials (oak and chestnut clapboards), new skills (splitting and riving), new recipes (“clapboard work”), new trades (“the art and science of [the] clap board carpenter”), and eventually entirely new traditions.<sup>132</sup> At first, innovations moved very quickly and directly to workmates, new arrivals, and neighbors but then went mainly sideways from one individual to another. Later, as new practices proved their worth, inheritance gradually became generational, as it had been back home. Parents began teaching accepted innovations to children as objective truth; masters presented them to journeymen as the ancient mysteries of their trade; and in due course they simply became the new subjective reality for everyone.

This description of the social learning path by which Old World cultures assumed new dimensions in overseas colonies sounds more streamlined in the telling than it ever was in fact. Colonizers always included a fair share of “old sticks,” people wedded to inherited traditions no matter what. Furthermore, the continuing flow of immigrants to the southern colonies repeatedly reintroduced older customs and practices even after people longer settled in the region had altered or discarded them. Now and then, archaeologists discover traces of these throwbacks, particularly in house plans where domestic habits were deeply ingrained. All the same, they remain outliers. They remind us that cultural change was a complex, messy, back-and-forth process. Yet, because they occur as ever-rarer exceptions to an ever-larger body of normative evidence that archaeologists continue to assemble, the anomalies testify even more strongly to the steady formation of a new

<sup>131</sup> Richerson and Boyd, *Not by Genes Alone*, 99–147.

<sup>132</sup> Carl R. Lounsbury, *An Illustrated Glossary of Early Southern Architecture and Landscape* (New York, 1994), 81–82.

dominant cultural inheritance as the seventeenth century drew to a close. One thing is certain. Understanding the dynamics of learned culture overturns any notion that the earliest English settlers implanted their own particular regional lifeways on virgin ground, as it were, and that their “seed,” being first to germinate, left little or no room for later transplants to take root. Not only does that view not square with the preponderance of archaeological evidence, but it also fails to take account of the fact that the FFV—the legendary First Families of Virginia, like first-generation newcomers anywhere—experienced the full force of prevailing conditions in their strange new world. They responded with the same inventiveness that is the natural reaction of any people who find they must accept change or fail.

That experience, common to colonists everywhere, is one answer to historians who ask, how can we “make sense of America” if every region developed differently? On one hand, while recent scholarship has deepened our appreciation for the tangled circumstances that produced a gaudy patchwork of sectional cultures throughout the colonies, it reduces our ability to explain or even to believe in the possibility of a coherent nation.<sup>133</sup> On the other hand, all peoples, without exception, share the two-way experience of receiving and transmitting ideas, customs, and practices to and from others in their group. Cultural inheritance through social learning in settled societies follows rules that tend to reinforce tradition. Uprooted peoples experience something very different. Is it too much to suppose that a nation of migrants—colonists, servants, and slaves in the beginning and, after them, newcomers to many expanding frontiers, including America’s rapidly growing cities in the eighteenth century—all shared four things in common at the very least? Shattered expectations came first. Then coping. Then mimicking the success of people with whom the imitators often had nothing else in common except present necessity. And finally, by making a virtue of those necessities, creating a heritage better suited to their newly adopted home.

As we began by saying, culture is indivisible from place. To which we now can add that circumstances born of place give cultural change a hefty push.

<sup>133</sup> Michael Zuckerman, “Regionalism,” in Daniel Vickers, ed., *A Companion to Colonial America* (Malden, Mass., 2003), 317–19 (quotation on p. 319).