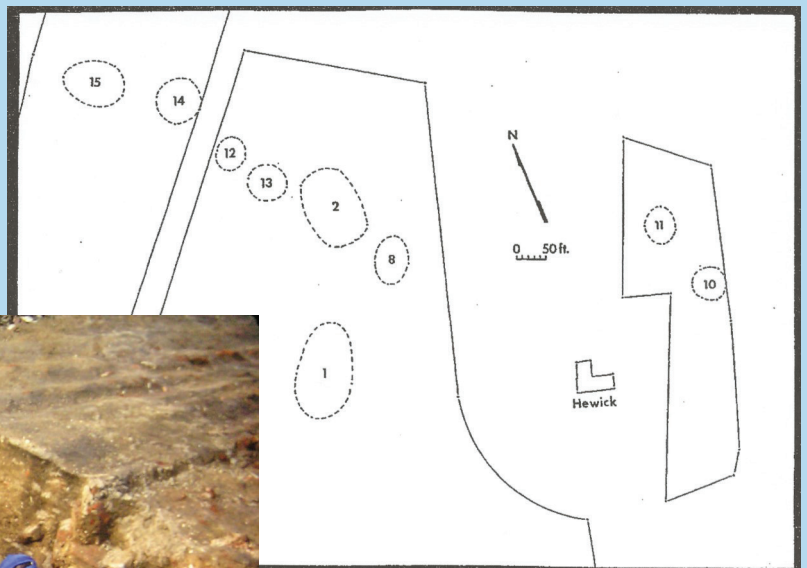


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BULLETIN



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BULLETIN EDITOR: Thane Harpole • Fairfield Foundation • P.O. Box 157, White Marsh VA 23183
thane@fairfieldfoundation.org • (804) 815-4467

NEWSLETTER EDITOR: Randy Turner (erturner48@cox.net)

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SOCIAL MEDIA TEAM Administrator: David Rotenizer (dirtman100@hotmail.com)

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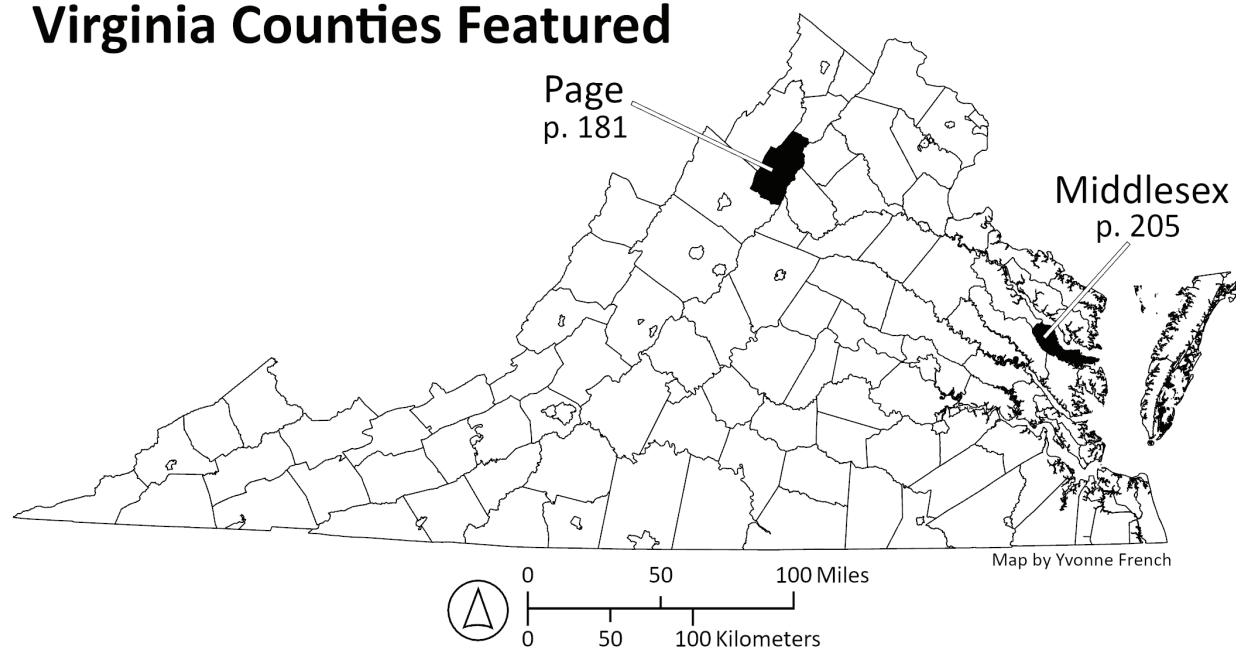
Editor's Note:

This issue rounds out the 2022 volume with abstracts from the wonderful annual meeting in Williamsburg last October, our first in person meeting in two years. It was refreshing to have such a plentiful crowd drawn together for several days to share ideas and discoveries about Virginia's archaeological resources. The abstracts are followed by two fascinating articles. The first by Dr. Michael Barber analyzes bone tools from the Keyser site and places them within a larger context of indigenous hunting and trading practices and the dynamic changes that occurred within this system both before and after the arrival of Europeans. The second article by Dr. Theodore Reinhart summarizes his research at Hewick Plantation in the 1990s, where he involved dozens of undergraduate and graduate students in the excavations. I certainly owe him a debt of gratitude for kindly letting me join the team for every Saturday that I was available. His article provides a synthesis about the site's archaeology, and incorporates multiple students' research. It is also a timely reminder to all of us that there is no expiration date on archaeological research. Many of us have old projects that we have been meaning to finish. It's time to dust them off, refine those conclusions, and send them in to the *QB*!

Thane Harpole

May 2023

Virginia Counties Featured



ARCHEOLOGICAL SOCIETY OF VIRGINIA

82ND ANNUAL MEETING, WILLIAMSBURG, OCTOBER 2022

PAPER AND POSTER ABSTRACTS

Welcome from ASV President

Dear ASV Members and Guests attending the 82nd Annual Meeting of the Archeological Society of Virginia:

It's hard to believe that our last in-person ASV annual meeting was two years ago. Although our zoom meetings were of high caliber, informative, and data packed, we all know that the fuel that powers the organization is the membership and being face-to-face with colleagues and friends is the key to what makes the ASV successful. The exchange of ideas, data, theory, and methodology in the paper presentations is wonderful but the handshakes, hugs, conversations, and general trash talk before, between, and after papers is just as important. It is at these meetings that we all follow the interest in our common goal – the reconstruction of past cultures through archaeology. Whether discussing the serrations on the blade of a Kirk point, the varied construction of 17th-century wells, the spacing between STPs for the best survey coverage, or how best to interpret plantation sites, the final outcome is a better understanding of the past of the Commonwealth. Beyond the thrill of unearthing an artifact which has not seen the light of day for hundreds, if not thousands of years, it is the contribution to the knowledge of the past which makes archaeology so meaningful. And the gathering of professionals and avocationalists together at our annual meetings is one of the things which make the ASV such a dynamic and successful organization. I welcome you to the 2022 Annual ASV Meeting.

Enjoy.

Michael B. Barber, Ph.D., RPA
ASV President

POSTERS

Birkett, Courtney (Fort Eustis Cultural Resources)

Maps and Dogs: Increasing Knowledge of Cemeteries at Fort Eustis

Fort Eustis contains a number of historic cemeteries. Some are completely unmarked and others minimally so, to the point that occasionally questions arose about whether anyone was buried there. Fort Eustis Cultural Resources is in the midst of ongoing efforts to determine at least a basic idea of the location and extent of these cemeteries, aided in part by human remains detection dogs.

PAPER ABSTRACTS

Barber, Michael B., Ph.D., RPA (Longwood Institute of Archaeology)

Keyser Farm (44PA0001), Page County, Virginia: Late Late Woodland Bone Tools and Their Implications

After the flood of 1924, the Keyser Farm Site on the South Fork of the Shenandoah River in Page County, Virginia, was buried under three to six feet of alluvium. It was returned to its original level during the flood of 1936. By 1939, the topsoil had been eroded away exposing numerous Indian features and burials on ground surface. Observing the negative effects on the archaeological resource, Carl Manson and Howard MacCord undertook excavations in that year (Manson et al. 1944). The site was re-opened in the spring of 2003 by USFS archaeologists due to threats of erosion and looting. This paper documents a study of the bone tools recovered during those excavations. This report expands the data on the bone tool assemblage over the 1944 publication while bringing more acuity to the collection. The analysis expanded the understanding of the site's significance in the pre-colonial deerskin trade and its central role in a regional perspective. Metatarsal

beamers, deer antler headdresses, and small disk shell beads are discussed. The study is not a comprehensive zooarchaeological analysis as only the tools manufactured from bone or antler were analyzed. No part of the analysis was destructive and no burials or grave goods were included in the study.

Bassett, Hayden and Madeleine Gunter-Bassett (Virginia Museum of Natural History)
Safeguarding Virginia's Archaeological Sites: A View from Space

The Cultural Heritage Monitoring Lab (CHML) is one of the Virginia Museum of Natural History's newest labs. The CHML is dedicated to monitoring cultural heritage sites around the world threatened by natural disaster and other forms of impact. The lab utilizes predictive modeling and high-resolution satellite imagery to rapidly identify destructive events and future threats to archaeological sites, cultural landscapes, historic buildings, museums, archives, and more. This paper will detail how the CHML is using satellites and predictive technology to model vulnerability and climate change-related impacts to over 45,000 archaeological sites in Virginia. In the study forming the basis of this talk, sites are assessed against new flood vulnerability models for Virginia's rivers, lakes, and coasts. The findings highlight the severe threat posed by expected levels and frequency of riverine flooding in years to come. The results of this state-wide analysis will be used to monitor the status of the Commonwealth's archaeological sites, identify site-level risk, and guide emergency measures to proactively document and/or focus finite resources for preservation.

Bell, Charles Evans (Colonial Williamsburg Foundation)
The Sawpits of Colonial Williamsburg

In the winter of 2022, a sawpit was discovered at the Custis Square archaeological dig in Colonial Williamsburg. Based on the artifacts found deposited in the sawpit, it is estimated to date to the 1710s-1720s, during the construction of either the house or the garden enclosure of John Custis IV. The discovery of this sawpit led us to take a closer look at other sawpits discovered in Colonial Williamsburg and allowed us to identify the morphological characteristics of 18th-century sawpits in the city. In this presentation I will examine five sawpits excavated in Colonial Williamsburg from 2002 to 2022: those at the James Wray site (2002), the Kendall Gardner site (2003), the James Anderson armory (2013), the Wren South Yard (2014), and at the Custis Square site (2022). This comparison should provide valuable information about the morphology of 18th-century sawpits and assist in the identification of future sawpits and their purposes.

Bender, T. Michael (Liberty University) and Randy Lichtenberger (Hurt & Proffitt)
Is it Useful? Orthophosphate Mapping of an Excavated Cellar of a mid-1700's Tavern in New London, Virginia

The partially backfilled cellar of Mead's Tavern (VDHR # 015-0120), a circa 1760's building in New London Virginia, was studied by orthophosphate (PO₄) mapping of the recently exposed, culturally sterile, subsoil floor. Prior studies of the cellar had exposed a hearth along with features that were speculated to be wall partitions for subdivision of the cellar. The full intended purpose for those exposed features is unknown. To further probe that exposed subsoil prior to a major engineering stabilization of the tavern's foundation, a chemical mapping of surface PO₄ levels in the cellar was done. The PO₄ mapping technique is less frequently applied to excavated, or disturbed, sites but is known to sometimes correlate with human habitation impact. The cellar was found to have (a) strong indications of human impact on the Lynchburg-Salem Turnpike side (north side) of the structure, (b) no significant signs of impact near the hearth, and (c) a region of modest impact near a suspected storage shelf location. The observations along the old turnpike side of the tavern potentially may occur due to many years of excreta from beasts of burden on the adjacent turnpike or perhaps be a trivial result due to chemical fertilization that may have been done on flowerbeds near that foundation wall. The low PO₄ levels in the cellar hearth region, plus a lack of food remains found there during the prior excavation, suggest that the fireplace was primarily used for heating and not for cooking.

Betti, Colleen (UNC Chapel Hill)
Preventing Smallpox and Screening for TB: Black Schools as Community Health Centers

In the late 19th and early 20th centuries, small one and two room schools did not have school nurses. However, despite this, medicinal artifacts are commonly found on schoolhouse sites. This paper uses artifacts

from three Black schools in Gloucester County, Virginia along with newspapers and oral histories to examine how schoolhouses functioned as centers of community health in rural areas, especially for the Black community whose access to doctors was often limited.

Borden, Matt (College of William and Mary)
Radiocarbon Chronology in the Late Woodland Potomac River Valley

During the Late Woodland Period (900-1600 CE), the Potomac River Valley of Virginia, Maryland, and West Virginia was home to several different cultural complexes, possibly coexisting with or succeeding each other. Despite scholarly interest, a lack of reliable radiocarbon dates has impeded our understanding of this eventful history. This paper combines new radiocarbon dates with Bayesian chronological modelling to determine the temporal position of representative sites from different complexes. The intersection of new data and methods produces an improved chronology, allowing for more nuanced interpretations of demography, population movement, and interaction beyond a mechanistic description of 'X Complex replaced Y Complex.'

Breen, Eleanor (Alexandria Archaeology)
Archaeology from River to Pond in Alexandria

Beginning in 2015, new development along Alexandria's historic riverfront triggered archaeological work in advance of construction. Through the implementation of Alexandria's Archaeological Protection Code, the remains of industrial activities, wharves, warehouses, dwellings and houses, wells and privies, and four ship hull remnants emerged from the waterlogged depths at the Potomac River's edge. The size and scale of the ship remnants required outside the box preservation problem solving involving input from a variety of experts. This talk will examine how the City of Alexandria addressed the unique challenge of curating over 1,000 historic ship timbers within a community archaeology framework.

Broadwater, John (Maritime Heritage Chapter)
Still on the Move After 234 Years: The Saga of the Schooner Esk

The three-masted schooner Esk was built in Bridgewater, Nova Scotia, in 1887. The following year Esk departed Maracaibo, Venezuela, bound to Providence, Rhode Island, with a cargo of fustic, a dyewood tree of the mulberry family. On the morning of September 7, 1888, Esk grounded on the coast of Parramore Island, Virginia, two miles south of the Coast Guard Beach Station. The crew was saved but the cargo was declared a total loss. In 2017 the Maritime Heritage Chapter of the Archeological Society of Virginia conducted two brief surveys of the remains, which had recently reappeared after years of burial in the surf zone. Since then, research has shown that Esk has periodically been uncovered and moved south by strong coastal storms and currents. Its latest exposure proved disastrous, resulting in severe destruction to the bow, which had been remarkably well preserved until that time. Research continues to uncover new details on the never-ending voyage of the Esk.

Brown, David A., Anna Rhodes and Thane Harpole (The Fairfield Foundation)
The 17th-Century Material Culture of Early Tenant Farmers and Enslaved Africans on the North Shore of the York River

Early European settlement along the north shore of the York River began in earnest during the 1630s. A new frontier for English expansion, this portion of the Chesapeake Bay experienced dramatic immigration through the second and third quarters of the 17th century, leading to Gloucester County's status as the most populous region in Virginia by the time of Bacon's Rebellion in 1676. Settlements included all socio-economic classes, but little is known about the quarters for enslaved Africans or the sites of tenant farmers. This paper addresses this inadequacy in our understanding through the focused analysis of two significant archaeology projects heretofore left uncatalogued and underreported. These include Site 44GL0037 at the historic Timberneck property within Machicomoco State Park and Site 44GL0319 at the nearby Shelly property. Both were initially interpreted as mid-to-late 17th-century tenant farmer or enslaved African quarter occupations associated with the ownership of the Minifie/Mann/Page families. This project confirmed the periods of occupation for both while finding distinct differences between them that might shed light on the status of the occupants prior to the abandoning of both sites prior to 1680. This project also resulted in the proper curation and conservation

assessment of the materials associated with each excavation, making the data associated with these excavations more accessible through this synthetic multi-site excavation analysis.

Browning, Lyle (Lyle Browning and Assoc.)
Is it Time to Revisit the Intent and the Procedures?

Section 106 fieldwork procedures have remained static and in some cases regressed since the last overhaul about 1980. This paper has a bit of history and a set of suggestions to enhance the results.

Burke, Brendan (VDHR)

Underway and Making Way: Results from the First Year of DHR's Renewed Underwater Archaeology Program

On July 11, 2022, the Underwater Archaeology Program at the Virginia Department of Historic Resources completed its first operational year in over three decades. During that inaugural period, the program established new partnerships, recorded and documented submerged sites, initiated outreach programming, and began meaningful stewardship of the Commonwealth's shared past. This presentation highlights the newly-established program through its programming and current research.

Coffey, Emma (University of Lynchburg)
Material Memory of the Enslaved: Looking at Material Culture of the Enslaved at Historic Sandusky

I intend to explore the contributions of the enslaved people of Historic Sandusky, a plantation in Lynchburg, to the material record during the mid-19th century. A common occurrence throughout history is the active exclusion of minority voices, particularly those of enslaved people because of their objectified status. In the case of Historic Sandusky, little to no written records exist of these enslaved people. However, recent archaeological excavations of the kitchen and smokehouse have revealed an assemblage of artifacts associated with these spaces and people. Based on the archaeological record and the methods used, I will attempt to piece together what objects were associated with enslaved people. Questions I am asking include how did they use these objects? How did these objects allow enslaved people to contribute to Sandusky and its function as a plantation? Are there any objects that would have been seen as a form of resistance or taking agency? These are questions that are extremely important and need to be answered. This is an active part of Sandusky and Lynchburg's history that has not yet been explored or pieced together.

Daniel, Joshua A. (Maritime Heritage Chapter)
York River Maritime Heritage Project

Between 2019 and 2021, both professional and avocational archaeologists conducted a series of field projects in the York River in the vicinity of Yorktown, Virginia in order to locate previously unidentified Revolutionary War shipwrecks and conduct assessments on those that were previously identified. The first part of the project utilized underwater remote-sensing equipment to survey the 10 previously identified Revolutionary War shipwrecks and locate another which was known from historical accounts to have been set afire by the HMS Charon. Once the unidentified vessel was discovered, a week was spent documenting the exposed portions of that site as well as probing the extents of the wreck and excavating one test unit. Additionally, three of the shipwrecks on the southern side of the river were investigated for their potential for excavation in the future. This paper discusses the results of those three field seasons.

Fredrickson, Kurt (Northern Virginia Chapter)
Reflectance Transformation Imaging Use in Grave Marker Examination

Items such as grave markers and petroglyphs pose a problem for researchers attempting to collect detailed data in the field. While artifacts such as these often contain a large amount of valuable information, they are highly immobile and often affected by erosion, surface debris and remote locations. This limits data collection to on-site interpretation, rubbings, or 2D photography. The purpose of this paper is to explore the application of reflectance transformation imaging (RTI) on in-situ artifacts for the purpose of extracting high quality data for interpretation. RTI is a relatively new technology that basically gives virtual or 3D quality to the artifact

through a series of images from a 180-degree sphere around the object being examined. The main components of a RTI system are a digital camera, a small single board computer, lights fixed at various angles, and a lot of wiring. As the computer sequentially turns on the lights, it simultaneously triggers the camera and captures an image from directly above the object. Open-source software then enables the combination of these images to create a representation of the surface that can be manipulated to accentuate details unseen in a single image, or by the human eye. A process that once required complex and expensive systems can now be constructed and executed by a determined professional who is willing to invest the time in building the system by hand and learn the necessary operational skills. Here I present a case study using mobile RTI on two grave markers from two remote unrecorded late 18th- and early 19th-century cemeteries in Prince George County, Virginia. Findings indicate portable RTI is a viable means of high detail non-destructive data collection in the field.

Gloor, James and Carol Reynolds (Middle Peninsula Chapter)

Toddsbury Plantation (44GL0264): Investigation of an early Gloucester County Historical Site

We present the results of an investigation of Toddsbury, a 17th-18th-century plantation located on the North River in Gloucester County, Virginia. In October 2017 volunteers and staff of Fairfield Foundation began a multi-year project to study Toddsbury, with funding partially provided by a grant from the Archeological Society of Virginia. The project consisted of analyzing a shovel test pit survey of a lawn lying between the manor house and the North River performed in 2015, and sequentially excavating five brick foundations discovered prior to and at the time of that survey. Between 2017 and 2020 we excavated four of the five foundations, and we have reported the results of these excavations at prior ASV annual meetings. In 2021 we excavated the foundation of Building 5, measuring 31 x 17 feet, located 50 feet east of the manor house, at the western end of the series of five foundations. Eleven five foot square and two 2.5 x 10 foot test units were excavated over the foundation. These excavations revealed a series of brick walls, paved areas, and robber's trenches suggesting that the site of Building 5 contains three separate and overlapping foundations. No defining physical characteristics identifying the specific use of these structures were found. While the complexity of the physical relationships between these foundations prevented accurately assigning artifacts to specific structures, analysis of the dateable artifacts recovered from the site places the period of use of the buildings to the late 18th-early 19th centuries. This is consistent with the findings of our previous investigations of Buildings 1-4 and suggests that the five buildings in the series were likely contemporary with each other.

Gough, Jessica (Alexandria Archaeology)

Taking a Closer Look: Comparative Analysis of Two Privy Features on Alexandria's Waterfront

Urban landscapes hold extensive records of the people who once inhabited them. While these records may be impossible to fully untangle, urban archaeology provides innumerable opportunities to reconstruct and interpret elements of the past. I focus my attention on two late 18th- to early 19th-century privies located on the Alexandria waterfront— with the goal of refining their spatial, temporal, and cultural contexts. Detailed analysis of each privy's ceramic assemblage generates a deeper understanding of the feature itself, as well as its place within the broader historical narrative of the city's waterfront. The two privy features were discovered during archaeological excavations conducted ahead of a waterfront development project located at 220 S. Union St. During the 18th century, Union Street grew into a commercial corridor featuring a wide variety of businesses and economic endeavors. Taverns, stores, warehouses, blacksmiths, carpenters and more thrived in the growing city, using their proximity to the waterfront and trade along the Potomac River to their advantage. But intermixed between these economic establishments were residents, people living in houses and in apartments above the stores and businesses. Like the rest of Union Street, 220 S. Union was a mixed-use city block with residents and businesses existing side by side. Although the privies are spatially located quite close to each other, there is a great deal of variance between the two ceramic assemblages. Through the analysis of these differences, the dynamic nature of urban life is exemplified, and new information is gleaned about what it was like to live and work in Alexandria during the 18th and 19th centuries.

Guercin, Richard J. and Jonathan Mayes (USDA – Forest Service)

Utilizing LiDAR to Locate Collier Pits

In the 15 years since Forest Service archaeologists surveyed portions of William Weaver's Bath Ironworks in Rockbridge County technological advances have improved site identification. One such advancement is the

availability of quality LiDAR data to create hillshades. With these hillshades archaeologists can locate difficult to identify landscape modification. This paper will demonstrate the benefits of this tool by comparing 15-year-old survey data of collier pits at Bath Ironworks and the LiDAR guided survey results on the Elizabeth Furnace Lands in Augusta County.

Hayes, Robert (Maritime Heritage Chapter-ASV)

Foreshore Survey of a late-19th Century Nine-Log Constructed Bugeye Hull, Accomack County, Virginia

During April and May of 2022 members of the Mid-Atlantic Logboat Registry (MALR) teamed with the Virginia Department of Historic Resources (VDHR) to investigate and survey the hull remnants of a wooden vessel embedded in the sand and surf of Bull Cove located in Accomack County. Low tide events, coupled with mostly clear water conditions, revealed it was a 9-log constructed boat hull. Initial probing and measurements indicated a possible hull length of 47 feet, 11 inches and an estimated beam of 11 feet, 6 inches. Log sizes ranged from 15 to 18 inches wide, and at least 4 inches thick. Wood analysis of the logs determined the wood type to be a *Pinus* sp. of the hard-pine group, which includes loblolly and longleaf pine. A centerboard casing (with centerboard remnant) measuring over 12 feet in length was prominent, along with remnants of what appear to be structural wooden knees and possible iron/wood trunnels. A barnacle-encrusted mast rigging block was found lying on top of hull logs and may be an artifact associated with the vessel. Beach probing revealed a hull of double-end design, characteristic of the oystering bugeye vessels which were dominant along the Chesapeake Bay and tributaries during the late 1890s. VDHR has logged the vessel hull as Site 44AC0782. MALR has logged the vessel as VA-012 in the MALR spreadsheet. VDHR team members have attached tags to various portions of the hull as part of the VDHR Shipwreck Tagging Initiative.

Jones, Avery and Aileen Kelly (Colonial Williamsburg Foundation)

Rounds from the Octagon: An Analysis of the Military Munitions Recovered at Colonial Williamsburg's Powder Magazine

During recent excavations at the original 18th-century Powder Magazine, set in the heart of Colonial Williamsburg's historic area, it is unsurprising that a significant number of military munitions were recovered. The Magazine was built in 1715 and served as the sole military storehouse for Williamsburg until 1780; when, in its post- Revolutionary War state, it was repurposed for use as a meat market, meeting house, dance academy, and more. While its unsurprising munitions from the Revolutionary War era were recovered during the excavations, the large number of munitions dating to the 19th century and American Civil War period was an unexpected and delightful discovery, most notably the Merrill Carbine rounds used only by a select number of Union regiments. This paper will briefly explore the different types of munitions recovered during the Magazine excavations with a more specific focus on the Merrill Carbine rounds. This paper will also act as an introduction to a more extensive research project that will benefit the military interpreters at Colonial Williamsburg's Powder Magazine.

Lovejoy, Aaron (Colonial Williamsburg Foundation)

New Territory from Old Maps: Creating Functional Landscape Models from Historic Topographic Lines with GIS

Archaeological site analysis often requires interpretation of landforms which have been radically altered from their historic state. Commonly, this is done by overlaying early maps onto modern aerial imagery, a method which lends itself to a basic visual analysis of landscape variation. This presentation will discuss the application of GIS tools which transform historic topographic maps into operational digital elevation models, recreating past landscapes for use in spatial analysis. Generation of modeled surfaces promotes a deeper understanding of landform development and site taphonomy. Also, this presentation demonstrates how these tools have been employed to reconstruct hydrologically accurate historic ground surface and subsurface models for Colonial Williamsburg's Department of Archaeology.

Magoon, Dane (University of Leicester)

Driving the Wedge: An Exploratory Study of Marine Dietary Effects, Water Salinity Zones, and Palaeomobility in the Coastal Portion of the James River Drainage

Strontium ($^{87}\text{Sr}/^{86}\text{Sr}$) stable isotope studies focused on palaeomobility and isoscape development have tended to emphasize plant-based pathways for strontium uptake and local geological sources for establishing provenience, with some consideration provided to water and sediment mixing models. The initial use of strontium data in bioarchaeological research, however, was for palaeodietary reconstruction, which indicates that localized differences in diet, as well as differences in dietary focus, may affect the $^{87}\text{Sr}/^{86}\text{Sr}$ values obtained from archaeofaunal materials, which would have significant implications for the study of human mobility with regards to both archaeological and forensic applications. While marine seaspray effects have been given consideration in recent strontium isotope studies, the potential effects associated with the actual consumption of marine food resources, which represents a much greater potential issue, have been mostly overlooked. To explore the presence and range of marine dietary effects in Virginia, $^{87}\text{Sr}/^{86}\text{Sr}$ data obtained from terrestrial herbivore and omnivore dental enamel, primarily deer and raccoon, was analyzed from a series of archaeological sites located in different water salinity zones throughout the Coastal Plain physiographic province, focused upon the James River drainage.

Mayes, Jonathan (USDA – Forest Service)

Publicly Accessible LiDAR for Feature Detection at Catherine Furnace

Heavily forested and topographically varied landscapes make archaeological feature detection and mapping difficult, especially for large sites. Light Detection and Ranging (LiDAR) technologies provide useful imagery tools for mitigating such issues. Formerly, LiDAR platforms and data were often unattainable for funding-limited archaeologists. Now, high-resolution LiDAR data is publicly accessible through programs like the USGS 3D Elevation Program (3DEP) and the Virginia Geographic Information Network (VGIN). The goal of this research was to assess the usability of USGS 3DEP LiDAR data for identifying and mapping archaeological landscape features and related attributes, using the 19th-century Catherine Furnace complex, in Page County, Virginia, as a case study. Using LiDAR hillshade analysis in conjunction with field work, initial results of this project indicate that 3DEP LiDAR can assist archaeologists in identifying feature components, e.g., presence, aspect, and dimensions, as well as in mapping and interpretation of site extent and geographical feature relationships. This work also found that, for features with small surface area or those with extremely low relief, hillshade analysis was a less accurate method for feature identification. Additionally, conducting hillshade analysis did not provide insight into the physical makeup of features, e.g., whether features were stone or earthen constructed. Ultimately, this research determined that publicly accessible, high-resolution LiDAR data can assist archaeologists with feature detection, site recordation, analysis, and overall management of Virginia's cultural resources.

McCuiston, Ashley (Colonial Williamsburg Foundation)

Slate Pencils, Clay Marbles, and Brass Rulers: New Investigations and Interpretations at the Williamsburg Bray School

Established in 1760 with support from a London-based philanthropy called The Associates of Dr. Bray, the Williamsburg Bray School was one of the earliest institutions dedicated to the education of free and enslaved African American children in America. The small building that housed the school from 1760 to 1765 still stands and is currently undergoing restoration by the Colonial Williamsburg Foundation. Colonial Williamsburg archaeologists have conducted extensive excavations at the original site of the school to determine how the landscape surrounding the building was organized and utilized. This paper discusses how archaeologists, architectural historians, and historians at Colonial Williamsburg and the College of William and Mary are working together to use material culture and historic records to illuminate the stories of African American children in colonial Virginia.

Mihich, Martha (Roanoke Area/ George Washington/Jefferson National Forests)

Polishing Old Shoes: A guide to leather artifact care and conservation

Leather artifacts are rare; however, they can be present on archaeological sites given the right circumstances. As these artifacts are uncommon, it can be a challenge to determine how to approach them. Archaeologists unfamiliar with leather conservation might choose to wait, anxious their action might harm the artifact. Leather, like many organic artifacts, often requires quick intervention to prevent permanent damage. While there are some unique challenges to leather conservation, there are some useful guidelines that can clarify this

process. Proper conservation and examination of leather artifacts can provide information inaccessible from other artifacts. This paper will present an introduction to leather artifacts and their conservation.

Nash, Carole (James Madison University)

Landscape of Diaspora: Interior Indigenous Communities and the Deerskin Trade

The Chesapeake deerskin trade of the Colonial period is documented in historic monographs and primary records, beginning in the 1620s. These describe global economic networks based on shifting alliances between Indigenous communities and European traders. The rapidity with which the colonials established trading networks in the Potomac watershed and the familiarity of their Indigenous partners with the interior indicates already established relationships between coastal and interior Indigenous communities. Archaeological evidence from Keyser culture sites (late 15th-16th centuries) supports the hypothesis of surplus deerskin production as a basis of coastal trading relationships, confirmed with marine shell. By the mid-17th century, the European invasion and an ever-increasing demand for deerskins fomented contested relationships between local and non-local tribes attempting to control both the deerskin trade and the Indigenous slave trade, creating a landscape of diaspora.

Nusbaum, Charles "Mike", and William "Bill" Waldrop (Maritime Heritage Chapter)

2022 Maritime Survey of the Wreck of the CSS Richmond (Site 44CF0744) Using a New Method to Establish a Grid System that will Work in a Challenging Environment

In 2010, Mike Nusbaum along with several volunteers began conducting environmental site surveys of several Civil War sites at Drewry's Bluff and Chaffin's Bluff. Since that time the focus of this survey has shifted to the site of the Confederate Ironclad Steam Ram, CSS Richmond, located in the vicinity of Chaffin's Bluff. In the early years of this survey, the team focused on trying to measure exposed features and attempting to photograph and video these features in a very challenging environment. In 2020, one of our mentors, Bruce Terrell, encouraged us to establish a site plan and explained the benefits of doing so. Given the site environment, we needed a new way of setting up a durable system of datums. During the winter of 2021, a new method was devised to define the perimeter of the wreck using removable poles that served as control points from which all objects and features can be accurately measured and plotted.

O'Connor, Crystal (Thomas Jefferson's Monticello)

Preliminary Analysis of Excavations at Monticello's Site 30

This past summer field school students and ASV volunteers helped Monticello archaeologists begin the exploration of Site 30, located about a third of a mile east of Monticello mansion on what was the working farm. A 2005 shovel test pit survey indicated the presence of a domestic site likely occupied by enslaved agricultural laborers during the 1770s and 1780s when tobacco was still the sole cash crop at Monticello. Our major research goals this past summer were basic: to recover larger samples of artifacts that will allow us to date the occupation with greater confidence; explore spatial patterning in the density of artifacts across the site; measure spatial patterns in artifact size that can tell us about the length and intensity of household occupations; discover whether households were able to maintain economies independent of the plantation's basic food provisioning system and explore variation in the means, motive, and opportunity that households may have had to participate in the local consumer economy. Using a stratified random sample, we excavated one five-by-five in every 20-foot block across the site. This paper summarizes these early research questions.

O'Neill, Patrick L. (Northern Virginia Chapter)

The Brick Clamp and Hand Made Bricks

Do you know what a brick clamp is; how to locate them, how to excavate them? Do you know what type of soils most hand-made bricks were actually made with (note, I did not say made the best bricks)? This gripping analysis will discuss most levels of hand-made brick production from quarrying the soil, clamp construction, and the molding, drying, firing, and utilizing of bricks from clamps found in Delaware, Maryland, Kentucky, and Virginia.

Phaup, Nancy (Virginia Commonwealth University)
Archival Research 101 for Archaeological Investigations in Virginia

The approach of an archaeological researcher to engaging with historical archives is one that is necessarily different from that of someone whose sole interest is family genealogy. This paper will focus on presenting concrete tips for persons conducting archaeological research with the kinds of materials that are available in Virginia. It will include sharing the various ways, online and in person, that these sources may be accessed. Specific examples will include discussing use of records associated with vital statistics (birth, death and marriage), court records (order books), “Free Negro” and slave records within Virginia, and tax records.

Roark, Sierra (UNC Chapel Hill)
Seeds, Beads, and Archives: Preliminary Findings of Plant Use in the Colonial Chesapeake

Plants played an integral role in North America's colonization and the well-being of its diverse population. The relationships between plants and humans were, and still are, deep, complex, and asymmetrical as plant use extends into health, ritual, physical protection, ecology, landscape design, and economic systems. In this talk, I will outline the framework, collections, and progress on my ongoing dissertation that funding from the ASV Sandra Speiden Scholarship has helped facilitate. I will share some compelling evidence and encountered challenges from my endeavor to better understand plant use among the inhabitants of the 17th- and 18th-century Tidewater.

Sabolcik, Haley (University of Lynchburg)
Ceramics as Wealth in 19th-Century Central Virginia

Historic Sandusky was once a plantation in Lynchburg of almost 1600 acres with up to 12 enslaved individuals working on it. As such, it is an example of an upper-middle- or upper-class home in the 19th century in central Virginia. In the Summer of 2021, a miraculous discovery was made under the house. Hundreds of artifacts had been dumped underneath the floor of the archaeology lab. Current work is being done to attempt to tie the assemblage found under the house with the outdoor kitchen on the property, which is nearby and the most intact archaeological site so far on the property. The goal of this research is to utilize the sizeable collection from Sandusky to better understand materialism, class, and culture in Lynchburg and among Central Virginia's elite in a way that was not possible previously with other collections. This will give us valuable information about the way that the Hutter family conducted their lives, and how the upper class conducted themselves in the market economy in relation to the lower class.

Schweickart, Eric, and Megan Veness (Colonial Williamsburg Foundation)
“Inferior to Few”: An Archaeological Reconstruction of the First Garden Enclosure at John Custis' Manor in Williamsburg

Over the last three years, ongoing archaeological investigations at Custis Square in Colonial Williamsburg have revealed a significant amount of evidence about the modifications made to the property during John Custis IV's occupation from 1717 to 1749. The majority of our excavations up to this point have focused on the portion of the garden located within an approximately 200' by 160' fenced enclosure located directly south of Custis' manor house. In this presentation we draw upon soil chemistry, pollen and phytolith datasets, as well as the size, shape and location of garden-related features within the enclosure, to interpret the layout and planting arrangements in this portion of Custis' Garden.

Stevenson, Christopher (Virginia Commonwealth University), Madeleine Gunter-Bassett (Virginia Museum of Natural History) and Laure Dussubieux (Field Museum of Natural History)
Copper in late 16th- and early 17th-Century Virginia: Results of an LA-ICP-MS Analysis of European Copper from James Fort and Fort San Juan

When English colonists arrived in present-day Virginia in 1607, they brought with them large quantities of scrap copper to trade with the Virginia Indians of the lower Chesapeake Bay. Thousands of scraps of this “trade copper” have been recovered from archaeological contexts associated with James Fort. Scholars have long hypothesized that James Fort was the primary source of the European copper artifacts that have been

found at Virginia Indian sites further inland. LA-ICP-MS analysis of copper artifacts from sites in central and western Virginia determined that some of the artifacts are compositionally similar to the European smelted copper found at James Fort. However, the analysis also revealed that some of the artifacts are compositionally similar to European copper-alloy found at Fort San Juan (Joara), a 16th-century Spanish frontier fort in North Carolina. These findings suggest that interior Virginia Indian communities participated in multiple interaction spheres during the late 16th and early 17th centuries.

Smith, Kirby (Colonel Howard MacCord Chapter)

The Rock Castle Farmsite: An Archaeological Journey through Time from Prehistory to the 19th Century

The Rock Castle farm site in Hanover County, Virginia, was owned by French protestant Episcopal Peter Fontaine, Junior, from 1750 to 1780. There were three buildings based on maps in Official Records of the Civil War. The stone foundation main river cottage was in the tongue of land out from the woods with a possible kitchen north, an English basement structure west and a possible slave quarter east. The cottage was first a log cabin with stone fireplace and was expanded to clapboard with a rotated fireplace and an English basement with east entry when Fontaine married Elizabeth Winston to live there and have six children. The kitchen north was then added. They had slaves and one may have lived in the earthfast "slave quarter" east. Soil features identified the structures and a slot-fenced garden area south where Peter, Junior, and two smallpox children were traditionally buried based on a black and white photograph note. They used Westerwald saltglazed stoneware, delftware, white salt-glazed stoneware, Chinese export porcelain, wine bottles and white pipe stems dating the site to the 18th century. After Peter, Jr., died in 1780, the family moved to Beaverdam Farm a few miles west until 1840 when grandson William returned to build Rock Castle two, extant, to the south. The Civil War came to the land in 1864 to use the river cottage as a hospital and then it was abandoned until in 1915 the land passed through 6 ownerships to be purchased by C. G. McKinney family until recently and then was sold to the Civil War Trust and the old home site came under the NPS.

Wagner, Katie (Colonial Williamsburg Foundation)

From Buildings to Burials: Updates on the Excavations of the First Baptist Church

The First Baptist Church is a historic Black church dating to the early 19th century found in Colonial Williamsburg. After almost two years of excavation, the project is nearing completion in preparation for construction to begin on the reconstruction of the early church. During this time, archaeologists have made several discoveries related to the church building and how the land was used around it. In the summer of 2022, archaeologists with the full support of the current First Baptist Church also began a test study of three of the burials on the property to assess the preservation and age of the burials. Through these discoveries, archaeologists have found new insights into the people and places that formed the First Baptist Church.

Webster, Rebecca (University of Tennessee Knoxville)

A Preliminary Analysis of 17th-Century Indigenous Community Formation along the Potomac and Rappahannock River Valleys

In recent years, Chesapeake archaeologists have placed more emphasis on the unique cultural landscape of the Potomac and Rappahannock River Valleys, including studies on sub-regional British community formation. However, one area that has been undertheorized in the sub-region is Indigenous community formation during the colonial period. In this paper, I compare attributes associated with Indigenous-manufactured ceramics from the Coan Hall (44NB11), Boathouse Pond (44NB111), Baylor (44RX5), Nanzatico (44KG6), and Camden (44CE3) sites in order to identify possible communities of practice throughout the Potomac and Rappahannock River Valleys. Identifying these communities of practice may highlight evidence of coalescence of Indigenous populations thought to have disappeared. Identifying instances of coalescence has the potential to assist archaeologists in understanding Eastern Algonquian persistence during and after the colonial period.

KEYSER FARM (SITE 44PA0001), PAGE COUNTY, VIRGINIA: LATE LATE WOODLAND BONE TOOLS AND THEIR IMPLICATIONS¹

By Michael B. Barber, Ph.D., RPA

Abstract

After the flood of 1924, the Keyser Farm Site on the South Fork of the Shenandoah River in Page County, Virginia, was buried under three to six feet of alluvium. It was returned to its original level during the flood of 1936. By 1939, the topsoil had been eroded away exposing numerous Indian features and burials on ground surface. Observing the negative effects on the archaeological resource, Carl Manson and Howard MacCord undertook excavations in that year (Manson et al. 1944). The site was re-opened in the spring of 2003 by USFS archaeologists due to threats of erosion and looting. This paper documents a study of the bone tools recovered during those excavations. This report expands the data on the bone tool assemblage over the 1944 publication while bringing more acuity to the collection. The analysis expanded the understanding of the site's significance in the pre-colonial deerskin trade and its central role in a regional perspective. Metatarsal beamers, deer antler headdresses, and small disk shell beads are discussed. The study is not a comprehensive zooarchaeological analysis as only the tools manufactured from bone or antler were analyzed. No part of the analysis was destructive and no burials or grave goods were included in the study.

Introduction

One quote by Captain John Smith provides much ethnohistoric information on the use of bone tools (Barbour 1986:I:163):

For fishing and hunting and warres they use much their bowes and arrows. They bring their bowes to the forme of ours by the scraping of a shell. Their arrowes are made some of straight young sprigs which they head with bone, some 2 or 3 inches long. These they use to shoot squirrels on trees. An other sort of arrowes they use made of reeds. These are peeced with wood, headed with splinters // of christall or some sharpe stone, the spurres of turkey, or the bill of some bird..... To make the noch of his arrow hee hath the tooth of a bever, set in a sticke, wherewith he grateth it by degrees. His arrowhead he quickly maketh with a little bone, which he ever weareth at his bracer, of any splint of a stone, or glasse in the forme of a hart and these they glew to the end of their arrowes. With the sinews of the Deare, and the tops of Deares horns boiled to a jelly, they make a glew that will not dissolve in cold .

Although beyond the purview of this paper, the first faunal element mentioned was the shell being used to shape the wooden bow. Next was the arrows tipped with "bone," some two to three inches long. This most assuredly is a reference to antler arrowheads, not bone. Of interest is that these arrows were described as used to shoot down squirrels from trees. The earlier excavation recovered forty antler projectile points. Stone arrowheads are mentioned for reed shafts where the notches are made with the "tooth" of a beaver secured to a wooden handle, the tooth being the incisor, with one listed in Manson et al. (1944) and this report. For sharpening stone points, a bone pressure flaker is referred to which is worn on the "bracer," a leather piece protecting the wrist. These chippers or flakers were likely fastened through a drilled hole or ringed for suspension. Manson et al. (1944) lists 18 "chippers" in all with eight perforated and one grooved. Finally, there is the reference to the sinew and antler tops boiled to make glue. Hence, Smith's paragraph references antler for points, beaver incisors for notching wood, turkey spurs for arrow tips, and bone pressure flakers as well as the boiling of deer parts for making glue. It is my belief that this quote alone underscores the importance of animal harvesting beyond that of biomass production.

¹ This article has been peer reviewed.

The Keyser Farm Site (44PA0001)

Found in Virginia's Ridge and Valley Province, the Keyser Farm site (44PA0001) is located in Page County on the South Fork of the Shenandoah River in the environs of Rileyville (Figures 1 and 2). The site is separated from the river by a low slough and is located on a high secondary terrace of sandy alluvium. Covered with c. 1.0' thick deposit of recent alluvium, the village midden exceeds 2.0' in depth in some places. The site was first noted in 1939 after a devastating flood in 1936 exposed Native American features and burials. The site was partially excavated in 1940 by Manson et al. (1944). Pits were found to be hemispherical, straight-sided, or bell-shaped and most were refuse-filled and burials were flexed. Projectile points were small and triangular arrow points, and ceramics were shell-tempered Keyser cord-marked, limestone-tempered Page cord-marked, or crushed rock-tempered Potomac Creek cord-impressed.



Figure 1. Location of Keyser Farm Site (44PA0001), Page County, Virginia (after Egghart 2022).



Figure 2. Location of Keyser Farm Site (44PA0001), Page County, Virginia (USGS Shenforks Quadrangle).

In the interim between the original excavations and the more recent efforts, the USDA-Forest Service purchased the tract. Due to continued threats of flood damage and looting, excavations were undertaken in the spring of 2003 by archaeologists with the George Washington and Jefferson National Forests and Virginia Department of Historic Resources, volunteers from the Archeological Society of Virginia, and professors and students from Radford University and James Madison University. In summary, the 2003-2007 results mirrored the earlier Manson et al. (1944) excavations in pit form and recovered artifacts with the exception that no human burials were excavated. While several studies and presentations have discussed various aspects of the more recent Keyser Farm excavations (Barber 2004, 2006, 2008; Barber et al. 2005; Guercin et al. 2007; Tolley et al. 2003, 2005), the bone tools have only been discussed in terms of the relationship of *Odocoileus virginianus* (white-tailed deer) to the deerskin trade (Barber 2020a). The recovered artifacts suggest an Algonkian connection through a migration originating in the Ohio region (Keyser Culture) with earlier influences and possible population mixing with the still extant Iroquoian speakers (Page Culture) (Nash 2021, 2022). AMS radiocarbon dates place the site's occupation at A.D. 1550 – 1600 (Means and McKnight 2010). The total lack of any European trade goods underscores this pre-contact chronology.

Keyser Farm Bone Tool Analysis

The material culture recovered from the most recent excavations at Keyser Farm is housed at the Virginia Department of Historic Resources (DHR) at their Richmond curation facility. A proposal was submitted to the DHR Collection Committee asking for permission to examine the collection's faunal material and isolate bone tools for study. After committee approval, much of the zooarchaeological sample was examined in Richmond, but five Hollinger boxes were placed on loan to the Longwood Institute of Archaeology. The animal bones were removed from plastic bags and each bone was examined for known tool types, wear polish, micro-flaking, and bone alterations. Butchering patterns are not included in this study.

In all, 231 functional bone tools, four visual tools, and four pieces of bone residue from tool making were identified (Table 1). Six different taxa beyond class were identified: *Ursus americanus* (black bear), *Procyon lotor* (raccoon), *Castor canadensis* (beaver), *Odocoileus virginianus* (white-tailed deer), *Meleagris gallopavo* (wild turkey), *Terrapene carolina* (Eastern box turtle), and *Chrysemys* sp. (slider/cooter). As with most cases in the Middle Atlantic Region, white-tailed deer dominated with 133 of the 231 tools identified or 57.83% of the total.

The overall relationship of bone tool use is problematic due to the high frequency of hollowed-out deer antler fragments (N = 50; 21.01% of the total) and those of Eastern box turtle carapace cup fragments (N = 41; 17.23% of the total) (Figures 3 and 4). Although these frequencies point to a heavy use of deer antler and turtle cups, it remains impossible to determine the number of antler tools or turtle cups involved as the minimum number of individuals (MNI) cannot be determined. However, if one assumes that all the antler fragments recovered from one feature or isolated unit are from a single fragmented hollowed antler and all the carapace cup fragments were likewise from a single cup, this reduces the number of hollowed antlers to twelve and cups to seventeen, a more likely but still speculative number. As no complete headdresses were recovered, these calculations would reduce their number to five. Using these numbers, Table 2 was formulated. Table 2 probably represents a more balanced view of the interplay of bone tools on-site. White-tailed deer bone tools are now calculated at 84 of 163 or 51.53% of the total, still over half.

Several aspects of the distribution of bone tool types stand out. First is the overall use of antler in the manufacture of tools with 48 noted or 29.37% of the total. Antler projectile points, a common Middle Atlantic tool type, were well represented with nine recovered, 5.52% of the total (Figure 5). In all cases, they were manufactured from cut off tines and the tip was either broken off or shattered on impact. The base of each was hollowed out for hafting. None were tanged and none were fluted (Barber 2003) or scored longitudinally as were some earlier Middle Woodland II antler points (Barber 2020b). Six antler drifts (3.68%) and four antler flakers (2.45%) were identified in the sample (Figure 3). Drifts are cylindrical sections of antler, oval in cross-section with flat or rounded ends assumed to be used as gaming pieces used in hand games or dice games



Figure 3. Keyser Farm Site (44PA0001): Hollowed-out antler fragments (top row, left to right – hollowed antler fragment, hollowed-out antler tine, four hollowed-out antler fragments, hollowed-out antler fragment; bottom row, left to right – hollowed-out antler fragment, two antler drifts, hollowed-out antler flaker.



Figure 4. Keyser Farm Site (44PA0001): *Terrapene carolina* (Eastern Box Turtle) carapace fragments.

Tool Type	Taxon	Number	%
Functional Tools			
ulnar beamer	<i>Ursus americanus</i>	1	0.43
ulnar awl	<i>Procyon lotor</i>	3	1.30
chisel incisor	<i>Castor canadensis</i>	1	0.43
headdress, antler	<i>Odocoileus virginianus</i>	11	4.76
antler drift	<i>Odocoileus virginianus</i>	6	2.60
antler flaker	<i>Odocoileus virginianus</i>	4	1.73
antler projectile point	<i>Odocoileus virginianus</i>	9	3.90
antler handle	<i>Odocoileus virginianus</i>	1	0.43
hollowed antler fragments	<i>Odocoileus virginianus</i>	50	21.64
antler awl	<i>Odocoileus virginianus</i>	6	2.60
ulnar awl	<i>Odocoileus virginianus</i>	7	3.03
metatarsal beamer	<i>Odocoileus virginianus</i>	18	7.79
metacarpal beamer	<i>Odocoileus virginianus</i>	2	0.87
radial beamer	<i>Odocoileus virginianus</i>	1	0.43
rib weaving tool	<i>Odocoileus virginianus</i>	6	2.60
metatarsal splinter awl	<i>Odocoileus virginianus</i>	3	1.30
metapodial splinter awl	<i>Odocoileus virginianus</i>	1	0.43
tibial splinter awl	<i>Odocoileus virginianus</i>	1	0.43
split 2 nd phalange fishhook blank	<i>Odocoileus virginianus</i>	2	0.87
gouge	mammal	2	0.87
spatulate	mammal	8	3.46
spatulate	bird	2	0.87
splinter awl	mammal	21	9.09
splinter awl	bird	5	2.16
splinter awl	unknown	5	2.16
eyed needle	mammal	1	0.43
eyed needle	bird	3	1.30
eyed needle	unknown	1	0.43
fishhook	mammal	1	0.43
fishhook	bird	1	0.43
fishhook	unk	2	0.87
tarsometatarsal awl	<i>Meleagris gallopavo</i>	2	0.87
Spur	<i>Meleagris gallopavo</i>	1	0.43
whole carapace cup	<i>Terrapene carolina</i>	1	0.43
carapace cup fragments	<i>Terrapene carolina</i>	41	17.75
plastron platter fragment	<i>Chrysemys</i> sp.	1	0.43
	Total	231	100.00

Table 1. Keyser Farm Site (44PA0001): Bone tools recovered from 2003-2008 excavations.

Visual Tools			
cylindrical bead	bird	4	100.00
	Total	4	100.00
Tool Making Residue			
second phalange	<i>Odocoileus virginianus</i>	1	25.00
fishhook	bird	1	25.00
tibiotarsal cylindrical bead	<i>Meleagris gallopavo</i>	1	25.00
cylindrical bead	bird	1	25.00
	Total	4	100.00

Table 1. continued: Keyser Farm Site (44PA0001): Bone tools recovered from 2003-2008 excavations.



Figure 5. Keyser Farm Site (44PA0001): *Odocoileus virginianus* (White-tailed Deer) antler projectile points.

Tool Type	Taxon	Number	%
Functional Tools			
ulnar beamer	<i>Ursus americanus</i>	1	0.61
ulnar awl	<i>Procyon lotor</i>	3	1.84
chisel incisor	<i>Castor canadensis</i>	1	0.61
antler headdress estimate*	<i>Odocoileus virginianus</i>	5*	3.07
antler drift	<i>Odocoileus virginianus</i>	6	3.68
antler flaker	<i>Odocoileus virginianus</i>	4	2.45
antler projectile point	<i>Odocoileus virginianus</i>	9	5.52
antler handle	<i>Odocoileus virginianus</i>	1	0.61
hollowed antler fragment estimate*	<i>Odocoileus virginianus</i>	12*	7.36
antler awl	<i>Odocoileus virginianus</i>	6	3.68
ulnar awl	<i>Odocoileus virginianus</i>	7	4.29
metatarsal beamer	<i>Odocoileus virginianus</i>	18	11.04
metacarpal beamer	<i>Odocoileus virginianus</i>	2	1.23
radial beamer	<i>Odocoileus virginianus</i>	1	0.61
rib weaving tool	<i>Odocoileus virginianus</i>	6	3.68
metatarsal splinter awl	<i>Odocoileus virginianus</i>	3	1.84
metapodial splinter awl	<i>Odocoileus virginianus</i>	1	0.61
tibial splinter awl	<i>Odocoileus virginianus</i>	1	0.61
split 2 nd phalange fishhook blank	<i>Odocoileus virginianus</i>	2	1.23
Gouge	Mammal	2	1.23
Spatulate	Mammal	8	4.91
Spatulate	Bird	2	1.23
splinter awl	Mammal	21	12.88
splinter awl	Bird	5	3.07
splinter awl	Unknown	5	3.07
eyed needle	Mammal	1	0.61
eyed needle	Bird	3	1.84
eyed needle	Unknown	1	0.61
Fishhook	Mammal	1	0.61
Fishhook	Bird	1	0.61
Fishhook	Unknown	2	1.23
tarsometatarsal awl	<i>Meleagris gallopavo</i>	2	1.23
Spur	<i>Meleagris gallopavo</i>	1	0.61
whole carapace cup	<i>Terrapene carolina</i>	1	0.61
carapace cup fragments estimate*	<i>Terrapene carolina</i>	17	10.43
plastron platter fragment	<i>Chrysemys</i> sp.	1	0.61
	Total	163	100.00

Table 2. Keyser Farm Site (44PA0001): Bone tools recovered from 2003-2008 excavations revised by provenience distribution.

Visual Tools			
cylindrical bead	Bird	4	100.00
	Total	4	100.00
Tool Making Residue			
second phalange	<i>Odocoileus virginianus</i>	1	25.00
fishhook	Bird	1	25.00
tibiotarsal cylindrical bead	<i>Meleagris gallopavo</i>	1	25.00
cylindrical bead	bird	1	25.00
	Total	4	100.00

* modified as per provenience distribution

Table 2. continued.....

(Culin 1992). None showed any wear. Flakers were of two types. One was a cylindrical antler section, much like a drift but demonstrated wear at one end, the result of pressure flaking along stone tool edges (Figure 3). The remaining three were sections of antler beam or tine with some shaft intact with wear at the point tip.

The 50 fragments of hollowed-out antler were recovered from 12 different proveniences and may have come from several different objects and tool types, but likely from either shattered projectile points or antler headdresses. Headdress fragments numbered 11 but, due to distribution in features, may have represented only five headdresses (3.07%) (Figure 6). Antler headdresses had been recovered in the earlier Keyser Farm excavations. Headdresses were identified by large antler beams which were hollowed-out, or portions of the cranium with hollowed antlers intact. Six antler awls were recorded showing extensive wear at the tip and one handle which was hollowed out for insertion (Figure 7). Hence, the use of antler was extensive at Site 44PA0001 which may be related to the over-harvesting of white-tailed deer for trade.

Along those lines, 22 beamers (13.50% of the total bone tools) were recovered from the more recent excavation: 21 were manufactured from *Odocoileus virginianus* (white-tailed deer) elements, including 18 metatarsals, two metacarpals, and one radius (Figures 8-11). The final beamer noted was made from an *Ursus americanus* (black bear) ulna (Figure 12). Three deer metatarsal beamers were intact, with the remaining beamers broken at the shaft mid-point where it becomes thin through wear and finally diminished to the point of breakage. Beamers were recovered with a frequency of 13.50% of the identified tools which is relatively high, and coupled with the earlier excavations, their presence is impressive.



Figure 6. Keyser Farm Site (44PA0001): Antler headdress fragment.



Figure 7. Keyser Farm Site (44PA0001): Antler handle.



Figure 8. Keyser Farm Site (44PA0001): *Odocoileus virginianus* (White-tailed Deer) whole metatarsal beamers.



Figure 9. Keyser Farm Site (44PA0001): *Odocoileus virginianus* (White-tailed Deer) metatarsal beamer fragments.



Figure 10. Keyser Farm Site (44PA0001): *Odocoileus virginianus* (White-tailed Deer) proximal metacarpal beamer fragment.



Figure 11. Keyser Farm Site (44PA0001): *Odocoileus virginianus* (White-tailed Deer) proximal radial beamer fragment.



Figure 12. Keyser Farm Site (44PA0001): *Ursus americanus* (Black Bear) proximal ulnar beamer fragment.

Another tool recovered at Keyser Farm which is common throughout the Middle Atlantic and beyond is the *Odocoileus virginianus* (white-tailed deer) ulnar awl (Barber 2019), of which seven were recovered (4.29%) (Figure 13). The deer ulnar awl was quickly and easily made by grinding down the distal end to a point. The proximal end acts as a natural handle. Breakage occurs at mid-shaft when under extreme tension. In the majority of cases, the awl was broken perpendicular to the shaft. Six *Odocoileus virginianus* ribs were recovered which showed bone polish (3.68%). These are assumed to have been used in weaving bags or baskets and are broken at the end points (Figure 14).



Figure 13. Keyser Farm Site (44PA0001): *Odocoileus virginianus* (White-tailed Deer) ulnar awls.

A total of 36 (22.08% of total) splinter awls were recovered (Figure 15). These tools were manufactured from fragments of bones probably broken for marrow extraction, which had naturally pointed ends, and sometimes further ground to make them sharper. Most were from shattered mammal long bones (N = 26), most likely white-tailed deer: five were obviously so with three made from shattered metatarsals, one from a metapodial, and one from a tibial fragment, while the other 21 were less identifiable. Of the remaining 10, five from bird bone, and five which could not be identified even to class.



Figure 14. Keyser Farm Site (44PA0001): *Odocoileus virginianus* (White-tailed Deer) rib weaving tools.



Figure 15. Keyser Farm Site (44PA0001): selected splinter awls.



Figure 16. Keyser Farm Site (44PA0001): *Meleagris gallopavo* (Wild Turkey) tarsometatarsal awls.

Two other awls were recovered, both manufactured from the tarsometatarsal of *Meleagris gallopavo* (wild turkey) (Figure 16). The tarsometatarsal bone is the lower leg bone in birds which articulate with the foot. These awls are common to the south (Barber 2003) but perhaps not to the north (e.g. Stearns 1940). One wild turkey spur was found which had been cut from the tarsometatarsal of the male but showed no use wear. Potentially it could be used in scoring softer objects.

Five eyed needles were recovered from the more recent excavations: one made from mammal bone, three from bird, and one unknown (Figure 17). Two were double eye and all were broken at the eye, the most fragile point. Whether for nets or bags, the needles became highly polished. Two gouges and 10 spatulates were collected. Similar in form with an unprepared handle and rounded working end, gouges are thicker in cross-section and used on tougher material than spatulates which are thinner and show higher polish (Figure 18). Only four fishhooks were recovered, all broken. Two split deer second phalanges were recovered which may have been blanks for fishhook manufacture (Figure 17).



Figure 17. Keyser Farm Site (44PA0001): Eyed needles and fishhooks (left to right – three eyed needles, two fishhooks).



Figure 18. Keyser Farm Site (44PA0001): Selected spatulates.

In addition to *Odocoileus virginianus* (white-tailed deer) and *Ursus americanus* (black bear), only two other mammalian species were identified in the production of bone tools: *Procyon lotor* (raccoon) and *Castor canadensis* (beaver). Three ulnae from the raccoon were used as awls with the distal end sharpened, and a beaver incisor was likely utilized as a chisel.

The use of turtle shell is of note, particularly the high number of *Terrapene carolina* (Eastern box turtle) carapace cup or container fragments recovered. Although 41 fragments were noted, isolated to provenience the number of cups was probably more in the range of 17 with an 18 whole (Figure 19). Identified by the smoothing of the interior and removal of remnant vertebrae, the shells were natural containers. As none were perforated, their use as rattles or other noise makers was not a function. One plastron fragment from *Chrysemys* sp. (slider or cooter) was recovered which showed scratch marks indicative of use as a platter.



Figure 19. Keyser Farm Site (44PA0001): *Terrapene carolina* (Eastern Box Turtle) carapace cup/container.

Visual tools have been defined by Barber (2003:197) as those bone artifacts which visually denote status, wealth, clan affiliation, or other social nuance and are often dismissed as ornamentation, jewelry, or bangles. Visual tools at Keyser Farm in the more recent excavations were limited to cylindrical bead fragments. All were manufactured from bird bone, and the residue from a *Meleagris gallopavo* (wild turkey) tibiotarsus suggests that they were from that species (Figure 20). As many of the visual tools are included as grave goods, the lack of burial excavation had a direct influence on the dearth of such artifacts. It is also of note that many small disk shell beads were recovered in the general excavations which may have replaced other visual tools.

The overall bone tool assemblage does not vary a great deal in configuration from other bone tools identified elsewhere at the regional level. The emphasis on a few types (e.g. antler tools, antler headdresses, beamers), however, sets the site apart from most others and underscores the site's involvement with the harvests and processing of deer skins and the use of byproducts such as antler.

Keyser Farm: Previous Bone Tool Research

In their list of cultural traits, along with other categories including lithics, ceramics, and shell, Manson et al. (1944:400-401) list 286 bone tools or fragments (Table 3). American archaeology, at that time, used type lists as strategies for comparing different sites and cultural regions and placing them in relative timeframes. This is described by Willey and Sabloff (1974:42-88) as the Classificatory-Historical: The Concern for Chronology Period. Within the list only five species are mentioned: *Odocoileus virginianus* (white-tailed deer), *Procyon lotor* (raccoon), *Castor canadensis* (beaver), *Meleagris gallopavo* (wild turkey), and *Terrapene carolina* (Eastern box turtle). A total of 153 (53.50%) of the bone tools recovered were manufactured from white-tailed deer making it the dominant bone tool source.



Figure 20. Keyser Farm Site (44PA0001): *Meleagris gallopavo* (Wild Turkey) tibiotarsal bead manufacturing residue and broken cylindrical bead.

Tool Type	Taxon	Number	%
headaddresses, antler	<i>Odocoileus virginianus</i>	4	1.40
pike-like tools, antler	<i>Odocoileus virginianus</i>	3	1.05
celt, antler	<i>Odocoileus virginianus</i>	2	0.70
drift, antler	<i>Odocoileus virginianus</i>	13	4.55
arrowpoint, antler	<i>Odocoileus virginianus</i>	37	12.94
arrowpoint, antler, tanged	<i>Odocoileus virginianus</i>	1	0.35
spearpoint, antler	<i>Odocoileus virginianus</i>	2	0.70
pottery smoother, antler	<i>Odocoileus virginianus</i>	3	1.05
bead, bone, decorated	bird	1	0.35
handle, socked, bone	<i>Odocoileus virginianus</i>	1	0.35
fishhook, bone, center cut out	unknown	1	0.35
whistle, bone, 3 holes	bird	1	0.35
chipping tool, bone	unknown	9	3.15
chipping tool, perforated	unknown	8	2.80
chipping tool, grooved	unknown	1	0.35
hairpins, bone	unknown	2	0.70
pins, bone, double-pointed	unknown	2	0.70
chisel, bone	unknown	2	0.70
tube, bone	unknown	2	0.70
bodkin, bone	unknown	8	2.80
beamer, metatarsal	<i>Odocoileus virginianus</i>	84	29.37
baculum, perforated	<i>Procyon lotor</i>	1	0.35
chisel, incisor	<i>Castor canadensis</i>	1	0.35
scoop, turtle shell, near rim	<i>Terrapene carolina</i>	33	11.54
scoop, turtle shell, plain	<i>Terrapene carolina</i>	46	16.08
awl, whole bone	unknown	3	1.05
awl, splintered bone	unknown	9	3.15
awl, perforated	unknown	1	0.35
awl, scapula	<i>Odocoileus virginianus</i>	3	1.05
awl, metatarsal, notched	<i>Meleagris gallopavo</i>	2	0.70
	Total	286	100.00

Table 3. Keyser Farm Site (44PA0001): List of bone tools recovered during the Manson et al. (1944) excavations.

It should be noted that the identification methodology for bone tools during the 1940s excavation was quite different from present techniques. In the 1940s, following the lead of Col. Howard MacCord, bone tools were identified in the field and the remaining bones not collected. Hence, the sample was biased towards larger bone tools and known types and against smaller and/or broken tools, those with subtle wear, and rare types.

From the original report, several cultural nuances stand out. The first is the extensive use of deer antler for the production of tools including eight different tool types making up 22.73% of the overall sample. With almost a quarter of the tools made from antler, this is a very high percentage when compared to other sites (see Barber 2003). The antler tools are dominated by 40 antler projectile points with two being identified as spear points presumably based on size. Thirteen (4.55%) were antler drifts or gaming pieces with ethnohistoric analogies suggesting gambling behavior in a dice or hand game (Culin 1902-1903: 227-267). The most noteworthy antler artifact was the headdress, of which four were recovered (Figure 21). Made up of the upper calvarium of the white-tailed deer above the eyes, the posterior of the antlers were chiseled out to reduce weight (Manson et al. 1944:393). One of the headdresses was dyed red with ocher. The abundant use of antler in tool making may reflect the abundance of deer harvested.

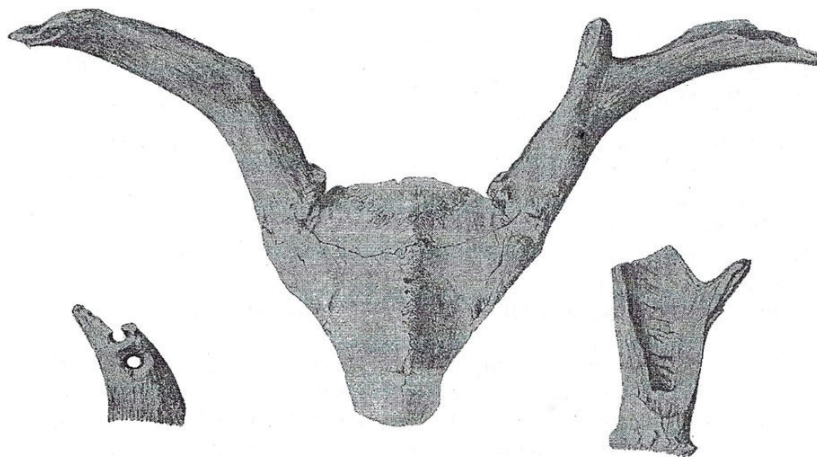


FIG. 3. Antler headdress artifacts (drawing by Dr. Doris Cochran)

Figure 21. Keyser Farm Site (44PA0001): *Odocoileus virginianus* (White-tailed Deer) antler headdress from Manson et al. (1944) excavations.

The second noteworthy occurrence was the high frequency of white-tailed deer metatarsal beamers with 84 whole or fragments recovered (29.37% of total). While MacCord (2003 personal communication) suggested that the inhabitants were just “sloppy” in their use of beamers, Barber (2020a) pointed to an exchange system with the Patawomeck to the east with deer skins traded for small shell disk beads and Potomac Creek pots. As beamers were used to process hides, the large number recovered at Keyser Farm underscores the manufacture of cured hides for the trading network.

The third unexpected result was the absence of the *Odocoileus virginianus* (white-tailed deer) ulnar awl. Present on most Virginia Woodland sites, it is completely absent in the Manson et al. (1944) sample. As examples were recovered from the later excavation, this relates to sampling error.

Combined Keyser Farm Components

The major conclusions relating to subsistence, bones used for tool making, and overall species utilization patterns proposed from the 1940s excavations and those of the 21st-century excavations hold true, although the collection methodologies lead to different percentages of the total. The overall use of antler is high in both samples and led by tine projectile points with 38 recovered in the earlier excavations (13.29%) and nine in the more recent sample (3.90%). Headdresses and/or fragments were recovered from both with many fragmented hollowed-out antler fragments noted in the more recent sample (N = 50) and none collected in the 1940s. The heavy use of antler relates to the site’s involvement in the deer skin trade where antler, even as a secondary resource, was more widely used than on other Late Woodland sites not involved in the trade.

The true hallmark of the deerskin trade was the abundance of beamers, primarily deer metatarsal beamers (Barber 2003, Lapham 2005). Between the two excavations at Keyser Farm, 102 metatarsal beamers or fragments were recovered plus two deer metacarpal beamers, one deer radial beamer, and one manufactured from a black bear ulna. Under normal circumstances with deer hide production for domestic use only, beamers were recovered in low numbers. Although it has been suggested that an average family would need 25 - 30 skins per year to satisfy these needs (Krech 1999:155), the production tool numbers remain low.

The extensive use of *Terrapene carolina* (Eastern box turtle) cups or containers is interesting as well. Although difficult to calculate the number of containers, the number of fragments remains high when compared to other sites (Barber 2003). Use beyond container, cup, or scoop of these carapaces, for rattles or noise makers for example, was not evident in the tool assemblage.

Overall Discussion

According to Nash (2021), Keyser Farm is one of a complex of similar sites known as the Keyser Culture (or Keyser Complex). It has been suggested that the Mason Island complex of the middle Potomac and Shenandoah Rivers was replaced by the Keyser Complex (Luray Focus) (Means and Moore 2020:162, 168-169). These sites are large semi-permanent settlements within a defensive palisade, with rounded house patterns, a relatively large population, the use of primarily shell-tempered Keyser ceramics, slash and burn maize horticulture, a remaining focus on hunting and gathering with emphasis on white-tailed deer for meat and skins, and small triangular arrow points (Means and Moore 2020:169; Nash 2021). Other nearby Keyser Culture sites include the Miley Site (44SH0002) (MacCord and Lanier 1966), the Cabin Run Site (44WR0003) (Otter 1989), the Bowman Site (44SH0001) (MacCord 1964), the Quicksburg Site (44SH0003) (MacCord 1973), the Sours Site (44WR0002) (MacCord 1969) and the Hughes Site (18MO1) (Jirikovic 1995, Stearns 1940). Only the Hughes Site has a comprehensive list of bone tools collected (Stearns 1940) (Table 4). Of the

Tool Type	Taxon	Element	No.	Comments
Beamer	<i>Odocoileus virginianus</i>	metatarsal	63	80% of beamers from hindleg metatarsal
	<i>Odocoileus virginianus</i>	metacarpal	16	20% of beamers from foreleg metacarpal
Splinter awl	<i>Odocoileus virginianus</i>	Unknown	2	made from deer leg bone
Projectile point	<i>Odocoileus virginianus</i>	antler tine	10±	many more plus fragments
Splinter awl	unknown		150 - 200	most numerous of implements made from deer leg bones, and from bird and other animal bone
Awl	bird bone	unknown	3	
Awl	<i>Odocoileus virginianus</i>	scapula	2	broken, pierced for suspension
Polished bone	unknown	unknown	1	polished surface at beveled working end
Small punch	unknown	unknown	1	blunt at both ends, drift?
Small tool	unknown	unknown	1	blunt at one end, other end cut off
Chisel	<i>Castor canadensis</i>	incisor	2	
Fishhook	unknown	unknown	8	6 complete, two unfinished
Awl	<i>Odocoileus virginianus</i>	ulna	2	one blunt and polished, second cut off, no polish; rare at Hughes although many unworked deer ulnae recovered
Pendant	<i>Procyon lotor</i>	baculum	2	with two holes for suspension
Cup/container	<i>Terrapene carolina</i>	carapace	several	pierced near the edges; plates removed
Bone bead	unknown	unknown	1	Probably <i>Meleagris gallopavo</i>
Bone bead	unknown	unknown	1	solid bone, drilled
		Total	265+	

Table 4. Hughes Site (18MO1), Montgomery County, Maryland: Bone tools listed in site report (Richard E. Stearns 1940).

Site	# of Bone Tools	# of Beamers	% of Bone Tools
Hughes (18MO1)	265+	79	29.81*
Keyser Farm (44PA0001)	449	106	23.60
Trigg (44MY0003)	543	85	15.65
Jenerette (31OR231a)	24	8	33.33
Perkins Point (44BA0003)	7	5	71.34

*percentage based on estimated number of splinter awls.

Table 5. Sites bearing high percentage of beamers per bone tool assemblage.

265+ bone tools recovered, 79 or 29.81% were deer metapodial (63 metatarsal, 16 metacarpal) beamers. Moore (1994) determined that the deer harvested were in the mature, older and larger category; hence, most likely better hides. This places the Hughes Site within the deerskin trade as a provider of hides. Keyser Culture occupation at the Hughes Site dates to the 15th Century, and Dent and Jirikowic (1990:119) suggest that it was abandoned due to both inter- and intra-group pressure and with population movement into the Shenandoah Valley. While the Miley, Bowman, and Quicksburg Sites mention beaming tools as among those bone tools recovered, no numbers of tool types were given and the overall bone assemblage was low (Table 5 and 6). At the Cabin Run Site (44WR0003) on the South Fork of the Shenandoah, no beamers were recovered (MacCord 1969).

So, if the remaining Keyser Culture sites were not actively producing processed deer skins, what was their role within the social and economic system? Once again, the quote by John Lawson (Lefler 1967:216-218) in discussing Native American over-production in the Piedmont of North Carolina comes into play:

In these quarters, at Spare-hours, the Women make Baskets and Mats to lie upon, and those that are not extraordinary Hunters, make Bowls, Dishes, and Spoons, of Gum-wood, and the Tulip-Tree; others where they find a Vein of white Clay, fit for their purpose, make Tobacco-pipes, all which are often transported to other *Indians*, that perhaps have greater Plenty of Deer and other Game; so they buy (with these Manufactures) their raw Skins, with the Hair on which our neighboring *Indians* bring to their Towns, and, in the Summer-time, make the Slaves and sorry Hunters dress them, the Winter-Sun being not strong enough to dry them; and those that are dry'd in the Cabins are black and nasty with the Lightwood Smoke, which they commonly burn. Their way of dressing their Skins is by soaking them in Water, so they get the Hair off, with an Instrument made of the Bone of a Deer's Foot; yet some use a sort of Iron Drawing-Knife, which they purchase of the *English*....

While the *Odocoileus virginianus* (white-tailed deer) metatarsal beamer is obviously Lawson's "Instrument made of the Bone of a Deer's Foot," the reference to the over-production of goods for trade is important in defining the deerskin trade on the periphery. The interior Indians traded surplus goods for deerskins with which to engage in the trade. In addition, to further convert their labor into higher wealth, they traded for lower value, uncured skins, thus maximizing their return. In this scenario, the occupants at Keyser Farm and the Hughes Site acted as interior middlemen in the deerskin trade (although Hughes in an earlier time period). The geographical trading system acted with Keyser Farm as the manufacturing and trading hub with Miley, Bowman, Cabin Run, and Quicksburg providing the raw material (i.e. – uncured skins) (Figure 22). While surely not the central place theory as proposed by Christaller (1933) for the market town system in urban Germany, the concept of central place does have some validity here. It might be defined as a three tiered system. At the base level are the sites which are providing deerskins through over-hunting and trading the seconds to mid-level, central hubs. Here, at the second level (i.e. - Keyser Farm and Hughes), raw skins are processed and cured for the long-distance trading system. Keyser formed the hub for the southern group of sites in Virginia with Hughes likely acting in that capacity for sites further to the north until its abandonment and its population moving south into the Shenandoah Valley. In essence, the Hughes Site may have become Keyser Farm. Finally, the skins wend their way to the third level of the system- the villages of the chiefs at the chiefdom level of social organization. In the case of Keyser Farm, they moved to the outer coastal plain to the

Patawomecks and down the line to the Powhatan. In exchange for the hides, small shell disk beads and pots flowed westward into the mountains.

In addition to Keyser Farm, the high frequency of bone drawknives has been noted at the Trigg Site (44MY0003) on the New River in Virginia (Barber 2019, Buchanan 1984), the Hughes Site (18MO1) on the Potomac in Maryland (Jirikowic 1995, Stearns 1940), and, less convincingly due to sample size, at the Perkins Point Site (44BA0003) on the Jackson River in Virginia (Table 7) and at the Jenrette Site (31OR231a) on the Eno River in North Carolina (Ward and Davis 1993) (Tables 8). The Trigg Site (A.D. 1620-1660) and Jenrette (A.D. 1600-1680) as characterized by the presence of European trade goods, were trading partners in the colonial deerskin trade. Keyser Farm (A.D. 1550-1600) (Barber 2020a, Nash 2011) and Hughes (A.D. 1400-1500) (Dent and Jirikowic 1990) were occupied in an earlier context and were likely providing deer skins for tribute to Native American groups at the Chiefdom level of social organization. Comparing the age of deer harvested at Keyser Farm as representative of the pre-contact component and the Trigg Site as representative of the contact trade, there were differences in the selection process. At Keyser Farm, although prime age deer (2.5- 4.5 years old) were present, many yearlings were taken as well. At the Trigg Site, the emphasis rested with the prime age deer. As hypothesized earlier, the trade in support of chiefdoms may have been more in terms of quantity whereas the colonial trade focused more on quality. The historic focus on more mature skins may relate to the grading of deer hides where the older age categories (as well as sex) weighed in the range of two

Site	Bone Tool
Miley Site (44SH0002)*	splinter awl
(MacCord and Rogers 1966)	fox ulnar awl
	turkey leg awl
	flaker
	antler projectile point
	antler handle
	antler headdress
	beaming tool
	bone bead
Cabin Run (44WR0300)	1 bone awl
(Otter 1989)	1 bone snare trigger
	1 antler projectile point
	1 hollowed-out deer phalange
	5 tubular beads
	1 bone pendent
	1 elk ulnar awl
Bowman (44SH0001)	splinter awls
(MacCord 1964)	1 perforated needle
	1 metapodial beamer fragment
	1 fishhook
	2 antler projectile points
	<i>Terrapene carolina</i> carapace cup frags
	1 bird bone cylindrical bead
Quicksburg (44SH0003)	1 metapodial splinter awl
(MacCord 1973)	3 mammal long bone splinter awl
	1 metapodial beamer fragment
	1 antler flaker
	1 antler projectile point
	7 <i>Terrapene carolina</i> carapace cup frags
	1 bone bead

* not quantified

Table 6. Keyser culture sites bone tool assemblages without substantial beamers present.

pounds, with does and immature deer at one pound. As the fiscal return was based on weight, heavier skins demanded higher prices (Braund 1993:89, Hudson 1975:266-267)

The harvesting of yearlings at Keyser Farm is noteworthy. This strategy argues for an immediate taking of 1.5-year-old animals, as opposed to allowing their survival and banking on larger meat yields and better quality hides in the future. This in turn argues for a healthy deer population in a productive environment as hypothesized by Nash (2022), who maintains that such an environment flourished during the Little Ice Age with periods of extensive dryness producing a savannah-like environment.

Conclusion

In part due to the temperature fluctuations due to the Little Ice Age as well as patchiness brought on by horticultural field-clearing, and both natural and human-caused forest fires, the environment within the Shenandoah River Valley provided the edge, grasslands, and hardwood forest required by a substantial white-tailed deer population. Coupled with the hostilities to the north during the 15th century, the Algonkian populations on the middle

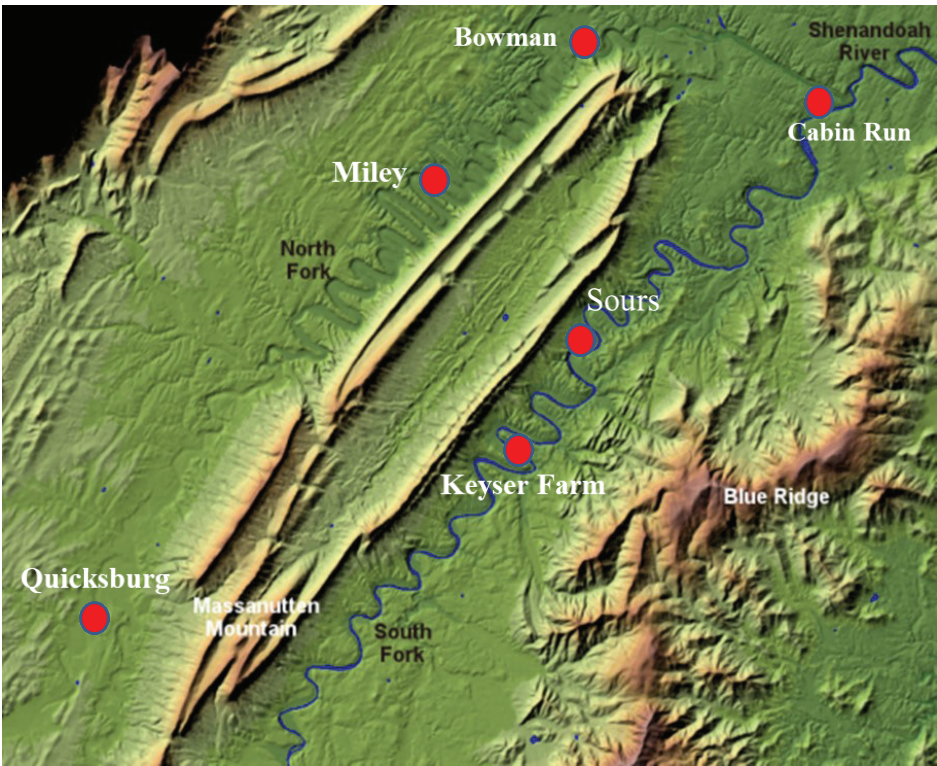


Figure 22. Location of Keyser Culture Sites in Virginia (Map from USGS n.d.).

Tool Type	Taxon	Element	No.	%
Splinter awl	mammal	unknown	1	14.29
Beamer	<i>Odocoileus virginianus</i>	metatarsal	5	71.43
Container	<i>Terrapene carolina</i>	carapace fragment	1	14.29
		Total	7	100.00

Table 7. Perkins Point Site (44BA0003), Bath County, Virginia: Recovered bone tools.

Tool Type	Taxon	Element	No.	%
modified antler	<i>Odocoileus virginianus</i>	unk	6	25.00
antler projectile point	<i>Odocoileus virginianus</i>	tine	3	12.50
antler handle	<i>Odocoileus virginianus</i>	beam	1	4.17
beamer	<i>Odocoileus virginianus</i>	metapodial	8	33.33
splinter awl	mammal	unk	4	16.67
drilled carapace	testudine	carapace	1	4.17
drilled tooth	mammal	tooth	1	4.17
		Total	24	100.00

Table 8. Jenrette Site (31OR231a), Orange County, North Carolina: Recovered bone tools.

Potomac moved to the south and into the Great Valley of Virginia. First established at the Hughes Site to the north, the prehistoric deerskin trade moved south as well, possibly to the Keyser Farm Site. Here, the skin trade continued with Keyser Farm acting as the hub for surrounding satellite sites. These hinterland sites provided raw skins which were processed at Keyser Farm and then passed on to the Patawomecks to the east and finally to the Powhatan Chiefdom as tribute. For whatever reason, as the colonial deer skin trade developed, Keyser Farm was abandoned and the skin trade moved elsewhere.

Appendix A: *Odocoileus virginianus* Mandibular Analysis

In his seminal work *The Ecological Indian*, Krech (1999) underscored the fact that the aboriginals of North America were not one with nature but were often the purveyor of environmental change and degradation. He points to the southern deerskin trade as one example. And while this is true, Krech (1999:151-173) ties the over-harvesting of white-tailed deer to European colonization and the need for skins in Europe. In looking at the archaeological record for the Keyser Farm site in particular, the over-exploitation of deer actually began more than 50 years prior to the settlement at Jamestown in 1607 with skins making up chiefly tribute going first to the Patawomeck and then to the Powhatan (Barber 2020a). The recovered deer metapodial beamers points to the engagement of Keyser Farm in the skin trade. The deer mandibles recovered at Site 44PA0001 were aged in order to determine the quality of the skins tied to a prime age category or a more generalized harvesting.

During the most recent excavations at Keyser Farm (Site 44PA0001) in Page County, Virginia, several white-tailed deer mandibles were recovered. During the analysis of bone tools (this publication), these bones were removed from the zooarchaeological assemblage and later analyzed for age at death. The comparative data was provided by Severinghaus (1949) and, more recently, by Guynn et al. (2020). Aging was determined by tooth eruption and attrition of mandibular molars and premolars. In some cases, the number and placement of teeth made aging impossible; these mandibles were not included in the analysis.

A total of 36 white-tailed deer mandibles were recovered from the 2003-2007 excavations for which age at death could be determined (Figure 23). Only two were harvested younger than 1.5 years of age, while yearling (1.5 years old) mandibles numbered seven, or 19.14% of the sample (Figure 24). The prime age for the harvesting of deer hides is between 2.5 years and 4.5 years old (Lapham 2005) (Figures 25-26). These numbered 17, equating to 47.22% of the total killed. Nine deer were in the older range of 5.5 and 7.5 years old, or 25% of the sample (Figure 27). The recovery of a high number of metatarsal beamers is indicative of involvement in the deerskin trade- the focus on prime age deer

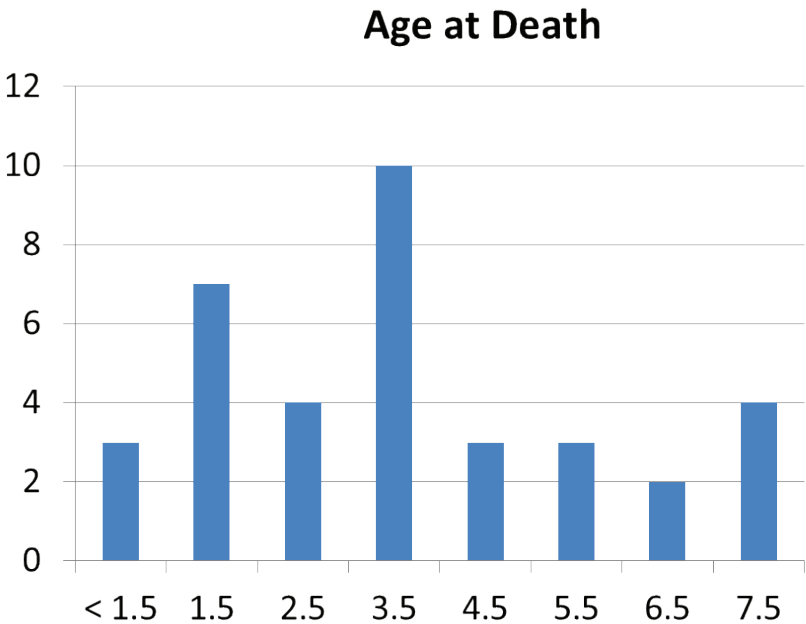


Figure 23. Keyser Farm Site (44PA0001): Graph of distribution of *Odocoileus virginianus* (White-tailed Deer) age at death based on mandibular eruption and attrition of teeth.



Figure 24. Keyser Farm Site (44PA0001): Recovered *Odocoileus virginianus* (White-tailed Deer) yearling mandible (1.5 years old) (07-6-16.9).



Figure 25. Keyser Farm Site (44PA0001): Recovered *Odocoileus virginianus* (White-tailed Deer) mandible (2.5 years old) (03-6-2).



Figure 26. Keyser Farm Site (44PA0001): Recovered *Odocoileus virginianus* (White-tailed Deer) mandibles (4.5 years old) (07-6-13.2, 05-3.1-2).

for skins reinforces that hypothesis. While the distribution for 2.5- through 4.5-year-old deer at Keyser Farm mirrors the distribution for deerskin processing at the Trigg Site (Barber 2003:175-177; Lapham 2005:77-82), the substantial harvesting of yearlings at Keyser does not. It should be remembered that the clients for the two trade systems were different. For Trigg, the exchange was with the Europeans in need of leather; for Keyser Farm, it was for a chiefdom in need of tribute. In the former perhaps emphasis was qualitative, in the latter quantitative. In both cases, the conservation of fawns for future harvesting seems to be in play, at least until the age of 1.5 years.

Henry Spelman accompanied Captain John Smith on his James River expeditions. As pointed out by Holland (1979), Turner (2022), and Waselkov (1978), Spelman (1910:cvii) described the fire hunt with this observation:

ther maner of ther Huntinge is thiss [*where*] they meet sum 2 or 300 together and hauinge ther bowes and arrows and euery one with a fier sticke in ther hand they besette a great thicket round about, which dunn euery one sett fier on the ranke grass which ye Deare seinge fleeth from ye fier, and the men cumminge in by a litell and litle encloseth ther game in a narrow roome, so as with ther Bowes and arrowes they kill them at ther pleasuer takeing ther skinns which is the greatest thinge they desier, and sume flesh for ther prouision.

Holland (1979) also quotes William Beverly (1947:154-155):

...a Company of them (Indians) wou'd go together back into the Woods, any Time in the Winter, when the Leaves were fallen and so dry, that they wou'd burn; and being come to the Place design'd, they wou'd Fire the Woods, in a Circle of Five or Six Miles Compass, and when they had completed the first Round, they retreated inward, each at his due Distance, and put Fier to the Leaves and Grass afresh. To accelerate the Work, which ought to be finished with the Day. This they rep. till the Circle be so contracted, that they can see their Game herded all together in the Middle, panting and almost stifled with Heat and Smoak; for the poor Creatures being frighten'd at the Flame, keep running continually round, thinking to run from it, and dare not pass through the Fire; by which means they are brought at last not a very narrow Compass. Then the Indians let flie their arrows at them, and (which is strange) tho' they stand all round quite clouded by Smoak, yet they rarely shoot each other. By this means they destroy all the Beasts, collected within the circle. They make this slaughter only for the sake of the Skins, leaving the Carcasses to perish in the Woods.

Michel (1916:41-42), again quoted by Holland (1979) also indicated that the fire hunt resulted in "shooting down everything. They take only the skins and as much meat as they need. The rest they leave to decay." These descriptions of the fire hunt underscore the importance of skins over biomass when the social

organization is at the chiefdom level. The annual fall movement towards the headwaters of the rivers by the hunters marks the need for tribute hides at the cost of sacrificing meat resources. It is also of note that, in addition to the increased ease of hunting during the fall/winter hunts due to male rut, the quality of hides is also the best during this time.

It should be noted that the massive taking of deer began prior to the colonial export of skins to Europe. As Waselkov (1978) pointed out, Thomas Hariot (Quinn and Quinn 1973:52), a member of the first colony on Roanoke Island, stated:

Deer skins dressed after the maner of Chamoos or undressed are to be had of the natural inhabitants thousands yeerly by way of traffique for trifles, and no more waste or spoile of Deere than is and hath beene ordinarily in time before.

This indicates that large numbers of white-tailed deer were harvested prior to the colonial trade in hides. Granted, the above reference is to what is now North Carolina, many miles from the Keyser Farm site on the South Fork of the Shenandoah, but the Native American hunting methods appear to be same – individual stalking, water driving, and the fire hunt (Waslkov 1978). Although as the European hide trade in the 18th and early 19th century pushed the deer population to its reproductive limits, with an estimate one million deer harvested per annum (Braund 1993:70-72), the earlier exchange system between Native American groups was sustainable with lower yields and lack of firearms.

Contact:

Michael B. Barber is the former Virginia State Archaeologist with the Department of Historic Resources, and is currently a Research Fellow with the Longwood University Institute of Archaeology. He can be contacted at archaeova@gmail.com.

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Figure 27. Keyser Farm Site (44PA0001): Recovered *Odocoileus virginianus* (White-tailed Deer) mandible (7.5 years old) (04-13.4-9).

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ARCHAEOLOGICAL SURVEY AND EXCAVATIONS AT HEWICK PLANTATION, MIDDLESEX COUNTY, VIRGINIA, 1989--1996

By Theodore R. Reinhart, Ph.D.

Abstract

The author and his students at the College of William and Mary undertook an archaeological survey and excavations at Hewick Plantation in Middlesex County, Virginia, between 1989 and 1996. County records indicate that the property was occupied in the late 17th century by Christopher Robinson, who became the county clerk and whose colonial descendants played important roles in Middlesex County and in the history of Virginia. Today the 18th-century house on the property is a county landmark. Our long-term archaeological investigations there have provided information that has complemented the historical records, but also have changed some of the long-held ideas about the house and the history of the Robinson family.

Introduction

In 1989 I was invited to Hewick, near the town of Urbanna in Middlesex County, by its new owners Ed and Helen Battleson. Their distant ancestor, Christopher Robinson, had owned the property in the late 17th century and had supposedly built the brick house now standing there. In addition to serving in several public offices in the county and in the colony, he was a trustee of the College of William and Mary; so the Battlesons felt that he and the house had a connection to the College that possibly would interest me to do archaeological work there. More important to me was their enthusiasm and support for an archaeological project and that Middlesex County was virtually unknown archaeologically and still had extant colonial records.



Figure 1. The location of Middlesex County in Virginia.

Hewick is today one of the most prominent landmarks in Middlesex County, a small, rural, east-central Virginia county that borders on the Chesapeake Bay (Figure 1). The house is located less than a mile west of the town of Urbanna on, but set back from, a main road (Old Virginia Street; Virginia Route 602), and away from nearby Robinson Creek and the Rappahannock River (Figure 2). It is a modest brick house that majestically sits at the end of a lane lined with large trees, amid agricultural fields (Figure 3). It can be described as a two-story, "L-shaped structure consisting of a five-bay front section and...[a] two-bay ell.... Both sections are built of brick laid in Flemish bond with glazed headers" (Upton n.d.) (Figure 4). The front or main section has a clipped gable roof; the ell, a gambrel roof. Two rooms flank a central passage in the main section, while the ell consists of a single room separated from the main section by a passage. Only the main section has a cellar; the ell has only a crawl space beneath it (Figure 5).

Popular history states that the house was constructed in 1678 by Christopher Robinson, who came to the colony from England about 1666 (Jarvis 1967:51; Gray *et al.* 1978:1). However, the style of the house argues, according to Dell Upton (n.d.), "for a date in the middle of the 18th century." In addition, the bonding of the ell to the main section led Upton to believe that both sections were built at the same time, not separately as "popularly believed." Upton later used Hewick as an example of the mid-18th-century response of

vernacular architecture to the context of Virginia society, with the use of a passage to control access to living and service spaces inside the house. The ell section, in the case of Hewick, was the kitchen; and it and the servants working there were separated from the family living area in the main section by a passage (Upton 1979, 1982).

Although Upton dismisses the popular history of the house, he does acknowledge it was "built in the mid-18th century by the renowned Robinson family" (Upton n.d.). He attributes it to the grandson of Christopher Robinson, who also was named Christopher Robinson and is known as Christopher Robinson III (1705-1768). Furthermore, he believes, on the basis of a search of Middlesex County records, that "the house was built on land which had been owned and occupied by the Robinson family since the last quarter of the 17th century" (Upton n.d.).



Figure 2. Map of the Urbanna area showing the location of Hewick in Middlesex County, Virginia. Robinson Creek is a tributary of the Rappahannock River.



Figure 3. The Hewick House, Urbanna, Virginia (All photos by the author, unless noted).

The Robinsons

Middlesex County retains its records from the colonial period. From these records Darrett and Anita Rutman wrote *A Place in Time* (1984), their much-acclaimed community study and reconstruction of social life of the county between 1650 and 1750. These records also provided us with a considerable background on the Robinsons and their activities and property in the county (see Spyrison 1989; Whitesell 1990).

Our first Christopher Robinson was born in Yorkshire, England, in 1645 and arrived in Virginia before 1675, when he was appointed County Clerk for Middlesex County. As mentioned above, family lore places his arrival in Virginia in 1666, but this date has not been confirmed by documentation. Christopher Robinson I is mentioned in county land transactions as early as 1678, but he cannot be specifically tied to the land that today includes Hewick until 1683. However, this land (that included 773 acres) had originally belonged to his wife's family (Obert); and it is possible that he and his wife occupied the land before actually holding title to it. Christopher Robinson I, through two marriages, several public offices, and his success in farming and numerous land transactions, amassed almost 4000 acres of land before his death in 1693. At the time of his death, he was involved with others in the initial planning and founding of Urbanna, where he started building a frame house, which was never completed (Rutman and Rutman 1984:216-217).

His son, the second Christopher Robinson, was 12 years old when his father died. He was educated in England and at the College of William and Mary. He was his father's primary heir and even more successful than his father in the acquisition of land and public offices. He also was instrumental in the founding of Urbanna and built a house there in the first decade of the 18th century. What existed at Hewick at the time, and how much time he spent there is not known, as no mention is made of a family seat or of the residence there. When Christopher Robinson II died in 1727, his son Christopher Robinson III, born 22 years earlier, was his principal heir.

This third Christopher Robinson, although well-educated and a holder of several public offices, was less successful than his father or grandfather in business and other



Figure 4. The west sides of the Hewick House (right) and the Ell (left).

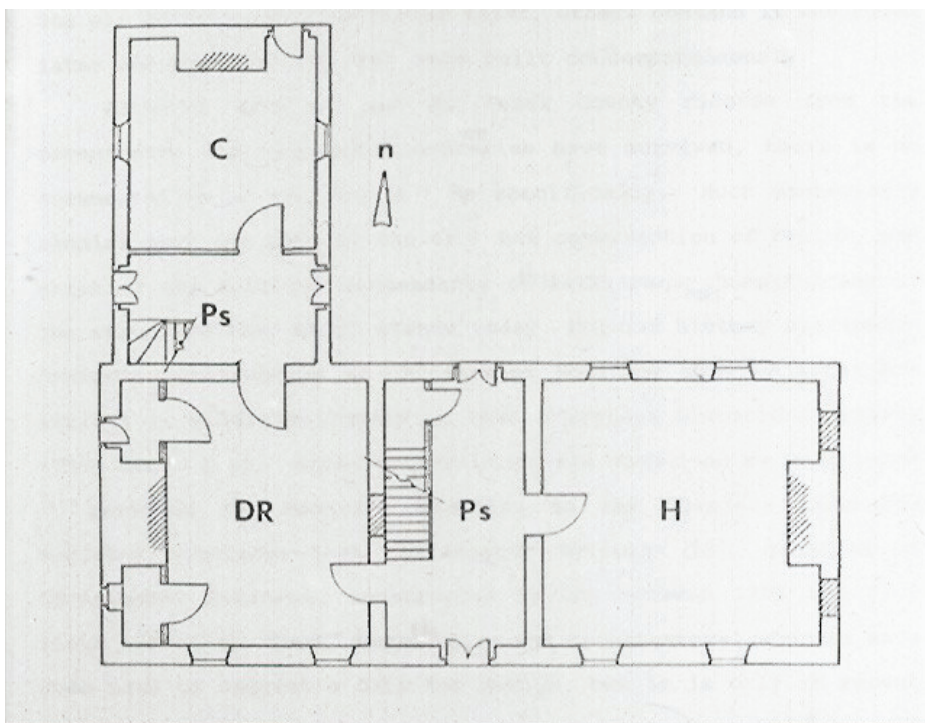


Figure 5. Architectural plan of the Hewick House, Middlesex County, Virginia (Upton 1982:114). Key: C – Chamber; Ps – Passage; DR – Dining Room; H – Hall.

financial ventures; and when he died in 1768, he was in considerable debt. Although he was involved in many Middlesex County land transactions during his life, these did not bring him prosperity and his debts increased. Perhaps to pay some of them, he even tried to sell the family estate in Yorkshire, England, inherited by his father, called Hewick. This estate was finally sold eight years after his death in 1776. Upton (n.d.) attributes the construction of the Virginia Hewick, which was named after the Yorkshire estate, to the third Christopher Robinson. However, this is based on the architectural style of the building, not to any documentation.

The fourth and last Christopher Robinson was 14 years old when his father died. He was sickly and lived only a few years beyond his father's death. The fourth Christopher Robinson's youngest sister Elizabeth was his only heir. She married William Steptoe while still a minor in 1782 and lived at the estate in Middlesex County we now call Hewick (Blake 1993, 1994). This name, however, is not used in documents until the early 19th century. It was probably given to the estate by Elizabeth and her husband, who had fought without success to obtain the 16,000 pounds for which the English estate had been sold. In 1784 this money was awarded by the court to the "nearest male heir" of Christopher Robinson III, who was his brother John, not to his daughter Elizabeth. Nevertheless, it was her estate in Middlesex County that came to be called Hewick, possibly to influence the court's decision or in reaction to perceived unfairness of the decision, or merely to commemorate the family's seat in England. Whether it also originally was applied to the building that is there now is not known.

Elizabeth's husband died in 1803, and she remained a widow until she herself died in 1832. Financial difficulties plagued her after his death, but she managed to raise her children and to hold on to her estate. The single piece of documentation pertaining to the house's construction dates from this time. It is a letter written by Elizabeth in 1811 that mentions hiring a bricklayer "to run up the Wall" and that she expected "in a very few weeks to have the Roof on my poor old House" (Gray et al. 1978:2). This has been most commonly interpreted as meaning that the house had been built earlier and was being altered or repaired in 1811. The question is: How much earlier?

Considering the family fortunes, Christopher Robinson III, before his death in 1768, and his granddaughter Elizabeth, while married to William Steptoe, between 1782 and 1803, are the best candidates for overseeing its construction. It also is possible that the house was not yet completed by the time William Steptoe died and that in 1811 Elizabeth was still looking forward to its completion.

When Elizabeth Robinson Steptoe died in 1832 she left Hewick, and considerable debt, to her son-in-law Richard Allen Christian. Christian, a medical doctor, had married her eldest daughter, Elizabeth. When he died in 1864, his wife, Elizabeth Steptoe Christian, inherited the property (see Whitesell 1990:44-45 for Hewick's later owners).

Archaeological Research

Our research at Hewick began in fall 1989. This work was done on a casual basis, that is, without funding and whenever schedules permitted. It included both archaeological and documentary research, and it involved numerous students who participated in all facets of the project. Many term papers, several senior theses, and two master's theses resulted from this work. They are cited in this article and appear in the References Cited at its end. In addition, the author has presented two papers and written one article on this excavation prior to its completion (Reinhart 1991, 1992, 1993).

The archaeological research at Hewick began with an archaeological survey of the present 68-acre estate that included both shovel testing using a 25-foot interval in the unplowed area immediately around the house and a systematic surface search in the plowed fields making up the remaining estate. This survey located 17 historical sites, as well as several features near the standing house. The earliest of these are two 17th-century sites in the field northeast of the house. These are small (about 60 feet in diameter), domestic sites and have associated pipe stem dates of 1676 and 1696 (Site 44MX26 and 44MX27 respectively) (Blake 1994:118-119). If Christopher Robinson I did live on the Hewick lands, these most likely are the remains of his house or houses.

The other archaeological sites or features are later in date. In the field west and northwest of the house are a number of domestic and possible plantation-related sites from the 18th century (Figure 6). A large

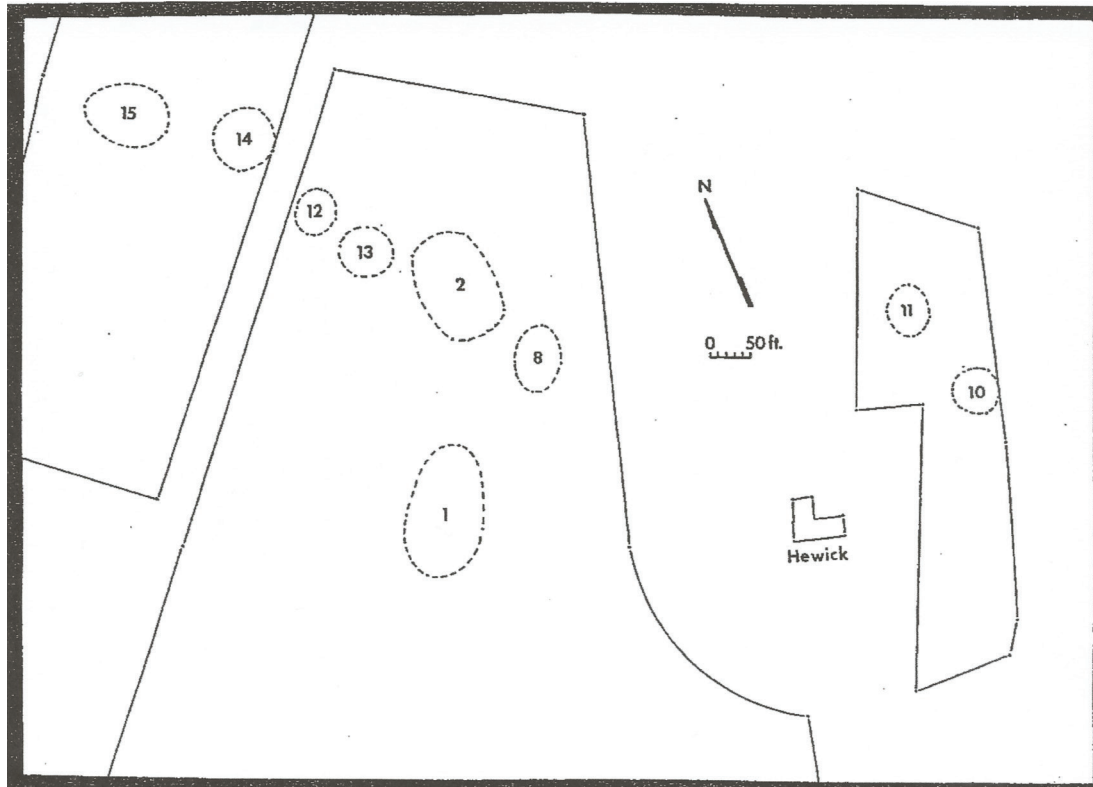


Figure 6. Partial map of the Hewick tract showing the location of the Hewick House, adjacent agricultural field outlines, and the sites discovered by our archaeological survey. The sites are listed here with their site designation and mean ceramic date: 1 – 44MX24 (1771); 2 – 44MX25 (1743-1784); 8 – 44MX30 (1743-1784); 10 – 44MX26 (1676); 11 – 44MX27 (1696); 12 – 44MX32 (1743-1784); 13 – 44MX33 (1743-1784); 14 – 44MX34 (1743-1784); and 15 – 44MX35 (1743-1784) (Blake 1994:118-119).

domestic site (44MX24) almost directly west of the Hewick house has a mean ceramic date of 1771 (Blake 1994:118)). It is a large oval (150 feet long and 100 feet wide) of dark soil containing a variety of ceramic, glass, and other artifacts on its surface. Painted plaster and a few brick fragments have been recovered from its surface. This was not tested, but I suspect that below the plowzone is the remains of a brick foundation of a substantial house probably built by Christopher Robinson III, who was known to have focused most of his interest in farming and managing the plantation (Whitesell 1990:25). Behind this site (north) are six smaller sites that appear to represent the outbuildings of the plantation. They are situated in a line running to the northwest, as if they were on a road to Robinson Creek or "The Grange," another of the Robinson's plantations in that direction. ("The Grange," which is often confused with Hewick itself, was located north of Robinson Creek and was sold by Elizabeth Robinson Steptoe to relieve her debts.) They have a ceramic date of 1743-1784 (Blake 1994:118).

Just behind the Hewick house, to the northwest, is the foundation of still another 18th-century structure (Site 44MX28). Although this was thought at first to be a kitchen for the Hewick house, our excavations found it to be a domestic structure older than the house. This was this site that we later decided to focus our attention on, and its excavation will be discussed below. Interestingly, our shovel tests around this foundation and that of the nearby Hewick house all show the presence of a plowzone, indicating that this area was an agricultural field before Site 44MX28 and the Hewick house were built.

A spring house west of Hewick house and a nearby family graveyard of marked graves northeast of it possibly date to the 18th century, as do a distant graveyard of unmarked, but with periwinkle covered, discernable individual graves (most probably a slave graveyard) and the remains of an icehouse north of the house and an agricultural field (Figure 7). The other sites and features discovered belong to the 19th and 20th centuries.

During the winter of 1990, several small excavation tests were made in the dirt cellar floor of the main section of Hewick house itself. Soil buildup in the cellar appears to result primarily from soil washing in through a now-sealed bulkhead entrance during flooding. At the time of our excavation, the dirt floor was less than five feet below the first-floor beams and as much as 1.5 feet above the original cellar floor. Directly above this original floor, in each of the seven test squares excavated, there was a destruction layer of brick, mortar, and plaster fragments, containing only nails and a chisel blade, but no other artifacts. Above this layer was a domestic midden deposit, containing a variety of artifacts, including ceramics. The ceramics from the midden were similar to those recovered from shovel tests around the outside of the house and consisted of whitewares and some pearlwares. Earlier wares that would indicate a mid- to late-18th-century occupation were found only in silt washed into the bulkhead entrance facing the earlier structure northwest of the house (Durfee 1992:28).



Figure 7. Periwinkle-covered slave cemetery north of the Hewick House. The individual unmarked graves are discernable by the undulating ground surface caused by the collapse of deteriorated wooden coffins. Although now beyond the current Hewick property, this cemetery was within the land holdings of the 17th- and 18th-century plantation.

These cellar tests indicate that Hewick house dates from the late 18th or early 19th century and that its construction was accomplished in at least two, interrupted stages. The second stage of construction began with modifications to the first stage, resulting in the destruction layer. In addition, the house does not seem to have been lived in until it was completed by the second stage. Therefore, considering the archaeological evidence, Elizabeth Robinson Steptoe's 1811 reference to her "poor old House" could be interpreted as a reference to what was actually her new house, begun when her husband was still living, whose construction had been considerably delayed and that was finally being completed some eight years after his death.

On November 7, 1989, Mark Wenger, an architectural historian from Colonial Williamsburg's Architectural Research Department, and I explored the cellar, climbed through the attic, and crawled under the kitchen ell through a vent on its east side. Because the walls of the kitchen ell abut against the house (above the cellar), Wenger believed the ell was added to the house. Although the outside courses of bricks on the two sections are integrated, the remaining inside part of the kitchen wall, as viewed from the crawl space, is abutted. The exterior of the house also is finished in that area, indicating that it was originally intended to be an outside wall. Wenger thought the house dated from the 18th century, basing this on its plan, brickwork, and kitchen woodwork and fireplace frame. The woodwork in the main part of the house, he continued, including the stairway, is 19th century; but that in the kitchen (out of the public area in the ell) is earlier. The house has had several roof changes, and a roof shadow lower than the present-day roof can be seen in the attic on the kitchen chimney. In addition, the three brick types seen on the outside of the building possibly indicate changes from a one story to two stories and/or from a gambrel to a gable roof. The inside stairway also blocks a closed door to the west room in the center of the hallway. The door was moved to the front of the hallway. There also is evidence of a small porch in the front (roof shadow on the bricks about the door) and possibly of the small addition to the kitchen that was removed (a door at the end of the ell to the east of the end fireplace). Finally, he said, cut nails with hammered heads and points are in the attic in the main house, indicating an early 19th-century date for that roof construction.

Although Wenger believed the ell was added to the house, he notes that the woodwork in the ell is older than that of the main house. In his architectural analysis of Hewick house, Rose (1994:7) suggests that the ell possibly was completed before the main house when the Steptoes ran out of money. The ell shares the same brickwork as the house has to its first-floor window lintels. Work on the house was stopped at that point, as the brickwork above the lintels is different. However, the small ell may have been completed separate from the house. The Steptoes, and later Elizabeth Steptoe after her husband died, may have live in the ell as the house was being built. When Elizabeth Steptoe wrote the letter in 1811 about the workmen finally finishing her house, she could have been living in the ell. When the house was finished, the ell was then incorporated into it. This means that what Upton (1979, 1982) interpreted as a passage to separate the servants working there from the family living area in the main section was just a passage from the old house to the new. That also would explain the door next to the ell's fireplace and the lower roof shadow on the ell's chimney noted by Wenger. The former was the entrance to the earlier structure, and the latter would have resulted from roof changes necessary for the later incorporation of the ell into the finished house. If this was the case, the house could be said to have been added to the ell.

The Testing of Site 44MX28

The structure behind Hewick house (Site 44MX28) became the focus of our excavation. It was found by shovel testing, as no part of the structure showed above the lawn and no extant documentation had pointed to its existence. A wide area was cleared of its top layer of soil by hand to define the foundations and its limits. This was only partially successful, as only parts of a brick foundation wall were found. The full west wall, with both its southwest and its northwest corners, could be defined (Figures 8 and 9), but no wall was found at this level on the south side, except at the southwest corner, or on most of the east side. This led us to concentrate our excavation in those areas, as the size of the structure and our time limitations precluded its full excavation, or more than a superficial search for more of the north wall. The north wall was known only from its northeast and northwest corners.



Figure 8. The southwest corner of Site 44MX28 during excavation by Jerry Blake. Most of the below-ground wall on the south side of the structure was bog iron blocks, which were robbed to build the present Hewick House. This is the only surviving section of brick wall found on its south side. The west wall is complete to the northwest corner.

Several five-foot test squares were eventually excavated in the southwest, the southeast, and the northeast corners of the structure. These were taken down in natural levels to the floor of the structure inside of it or sterile soil outside of it. The size of the foundation was determined to be 30 feet east-west and 24 feet north-south. The cellar it enclosed was about 3.5 feet less in each direction and extended 4.5 feet below the present ground surface. The size of the remaining 2.5-brick-wide, English-bond brick wall indicates that the structure was a brick building of possibly two stories. The fill, which contained a large amount of brick fragments, with few whole bricks, also supports this conclusion. A burnt level above the floor indicates that the structure was torn down after a fire. Brick fragments were found throughout the fill, and some of the heaviest concentrations were just below the ground surface in some squares, indicating that the burned structure was not completely torn down immediately after the fire, but after some sediment and trash had washed in and were thrown into it.

Dug into this brick, sediment, and trash-filled cellar fill were robbers' trenches where the south and part of the east wall should have been. Evidence of a bog iron wall was found in the bottom of these trenches. When the structure was built, the bog iron, which is found naturally, was cut into blocks and formed the below-ground foundation wall in these parts of the structure. Why were these bog iron blocks removed after the structure burned and was razed? The answer would seem to be that they were reused. Unaffected by the fire and easily removed, they were used in the nearby Hewick house, where bog iron blocks now form sections of the north and south below-ground foundation walls. The corners and the east and south ends of the main-house foundation, which have chimney bases for the upstairs fireplaces, are completely of brick. The robbers' trench and upper parts the foundation fill of Site 44MX28, before the foundation hole was later completely refilled, have ceramic dates from the late 18th and early 19th centuries (Brown 1996:89), which matches the architectural dates for the Hewick house.

It is interesting to note that the robbers' trenches and trash deposits indicate that the ruins of this structure were still visible when the Hewick house was built. The robbers' trench removed bog iron and brick for the new house, and the ruin continued to be filled with trash from the new house in the early 19th century. Probably only later in the 19th century was it completely covered and erased from memory.



Figure 9. The remains of the west wall of Site 44MX28 facing south



Figure 10. The bulkhead entrance and the northeast corner of Site 44MX28 during excavation by David Brown and Massi Behbahani. Bog iron blocks line the side of the bulkhead entrance, and the northeast corner of brick foundation is exposed.

A bulkhead entrance was discovered and excavated along the east wall of Site 44MX28, about 5 feet from the northeast corner. Its outside entrance, which was framed on the sides with blocks of bog iron, extended to 5 feet east of the foundation (Figure 10). The wooden steps had disappeared, although their brick supports were still present, and it had fill like that of the foundation. A rubble layer on the floor in the area around the bulkhead entrance indicates a part of the foundation wall was removed to create the entrance. Pipestems and ceramics in the rubble layer suggest a *terminus post quem* of 1700 for this alteration (Figure 11).

No chimney was found in or around the exposed brick walls of the Site 44MX28 foundation. Attempts to locate chimneys or fireplaces in the center of the structure and along the west wall were unsuccessful. A fireplace and chimney construction that did not penetrate the cellar foundation, sitting on the ground surface, possibly explains this lack of evidence. Finally, a builders' trench was encountered outside the foundation wall in the southwest corner, both on its west and south sides. Its contribution to our dating of the structure is not significant, however, as the *terminus post quem* is before Christopher Robinson I arrived in Virginia (1668) (Brown 1996:62).

David Brown (1996) studied the ceramics from Site 44MX28, and the ceramic dates in Tables 1 and 2 have been derived from his detailed analysis. These dates place the construction of Site 44MX28 to the end of the 17th and the beginning of the 18th century. Since Christopher Robinson I died in 1693 and his son was only twelve when he died, the father possibly began the construction, and the son completed it. Christopher Robinson II, the son, was 22 in 1703 when he married Judith Wormeley, daughter of the prominent Col. Christopher Wormeley of Middlesex County. In the early years of the 18th century, Robinson successfully enlarged his land holdings and followed his father in promoting the new town of Urbanna, where documents indicate that he built a house between 1704 and 1707 (Whitesell 1990:19-20). Did he build Site 44MX28? Or did he finish what his father began?

There was surprising little found on the floor of the structure. For example, of the 4,018 diagnostic sherds recovered from the site, only 12 came from the floor of the structure. One diagnostic artifact that was found on the floor was a wine bottle seal with the name Ralph Wormely/Wormeley written in cursive style, still



Figure 11. The bulkhead entrance of Site 44MX28. The cellar fill above the floor, the floor feature, and the burnt layer, consists of rubble in the lower portions with trash and oyster shell near the surface. This part of the brick foundation is the closest to the Hewick House and was the most convenient place for its occupants to deposit household trash.

Context	Number of Diagnostic Sherds	Mean Ceramic Date	TPQ*
Sediment and Trash	2475	1770.36	1795
Upper Destruction Level	204	1743.03	1780
Lower Destruction Level	253	1746.39	1765
Burnt Layer	23	1738.36	1715
Floor	12	1732.25	1700
Builders' Trench	9	1659.78	1660

**terminus post quem*, a date after which the layer was deposited.

Table 1. Mean ceramic sherd dates from Site 44MX28 (after Brown 1996:59-60).

connected to the full neck and partial side of the bottle (Brown 1996:108) (Figure 12). Ralph Wormeley of Rosegill was the father of Col. Christopher Wormeley, who was born at Rosegill and the grandfather of Christopher Robinson II's wife Judith. Ivor Noël Hume (1969:63) dates this form of wine bottle between 1690 and 1710. It would seem to convincingly connect Christopher Robinson II to the structure and probably to its construction. But, why the lack of evidence for daily living or other use below the burn layer? Did the structure remain empty while the family lived a mile down the road in Urbanna? When it burned, and possibly from the time it was built, it seemed to have been almost unused.

It is difficult to be sure what the structure looked like aboveground. No evidence for interior support walls or fireplaces was found in the structure's cellar that would help us determine its interior configuration. Rutman and Rutman (1984:67-68) describe the Middlesex County glebe house, built in the 1690s, as having two rooms on the first floor: a larger hall or common room for cooking, eating, and entertaining and a smaller inner room for sleeping and study (Figure 13). It had fireplaces at each end and a front porch, which led into the hall. There was a windowless sleeping and storage area on the second story, accessed by stairs in the hall. The glebe house was 40 by 20 feet and had a frame construction, while Site 44MX28 was a two-story brick pile, measuring 30 by 24 feet. The former was built by the county for a salaried minister; the

Context	Minimum	
	Number of Vessels	Mean Ceramic Date
Sediment and Trash	187	1755.25
Upper Destruction Level	42	1756.67
Lower Destruction Level	52	1743.32
Burn Layer	12	1746.44
Floor	3	1692.67

Table 2. Mean ceramic vessel dates from Site 44MX28 (after Brown 1996:90-91).



Figure 12. Wine bottle neck with “Ralph Wormeley” seal from Site 44MX28 (Photograph courtesy of David Brown).

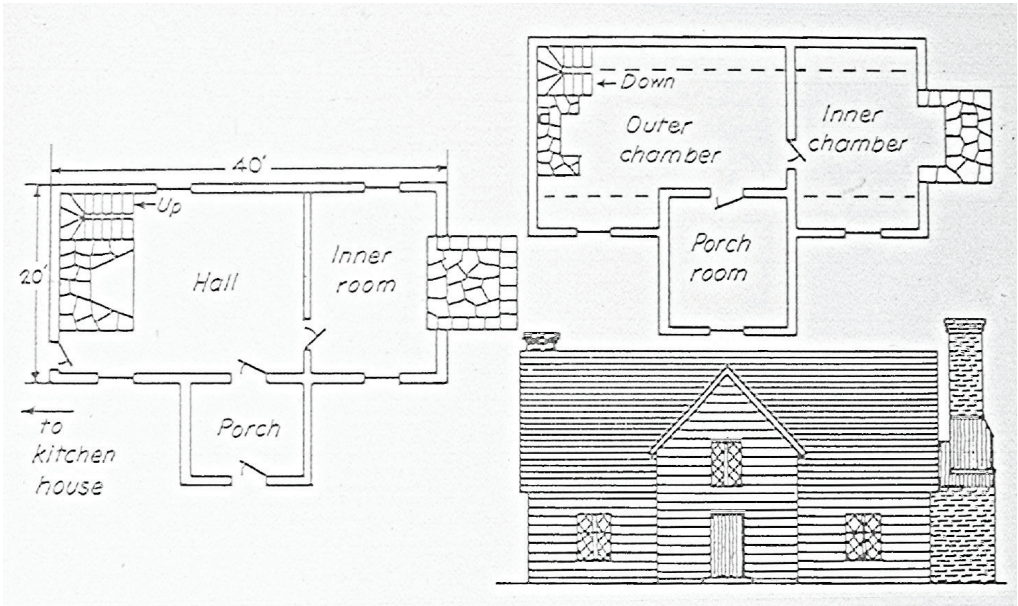


Figure 13. Late 17th-century Middlesex glebe house (Rutman and Rutman 1984:68).

latter, by the second-most wealthy family (after the Wormeleys) in the county. This wealth is also evident in the variety of ceramics recovered from the fill of Site 44MX28: at least 11 different earthenwares, seven different stonewares, and Chinese export porcelain (Brown 1996:31).

Unmentioned so far is a construction discovered south of the Site 44MX28 structure. This was found outside the bog iron lower section of the south wall that had been robbed after the structure was destroyed by fire. At first this was thought to be an earlier or later construction than the brick foundation, or at least it represented a separate earthfast construction that possibly was a slave quarter or an office placed adjacent to Site 44MX28. Its archaeological signature consisted of two rows of three postholes, with postmolds, running parallel to the larger structure's wall. One row was about 2.5 feet from the wall shadow; and the other, 15 feet. Attached to Site 44MX28's brick wall, it probably measured 20 feet east-west and 15 feet north-south. The postholes, which would have been dug at the time of its construction, are early 18th-century, indicated by a *terminus post quem* ceramic date of 1720 (Brown 1996:110) (Figure 14). It is the author's belief that this structure was a porch or porch room at the entrance of the brick structure. Rutman and Rutman (1984:68) show common house forms of Middlesex County, and a common feature of the "best" houses is a porch entrance. Like the bulkhead entrance, this porch was added after Site 44MX48 was constructed. The entrance before this porch was constructed possibly consisted of bricks or brick-supported steps like the bulkhead entrance. This would explain the confusing brick construction and holes discovered under the porch (Figure 15). Finally, flecks of charcoal in the postmolds indicate that the porch was destroyed by fire, probably at the same time the house burned.

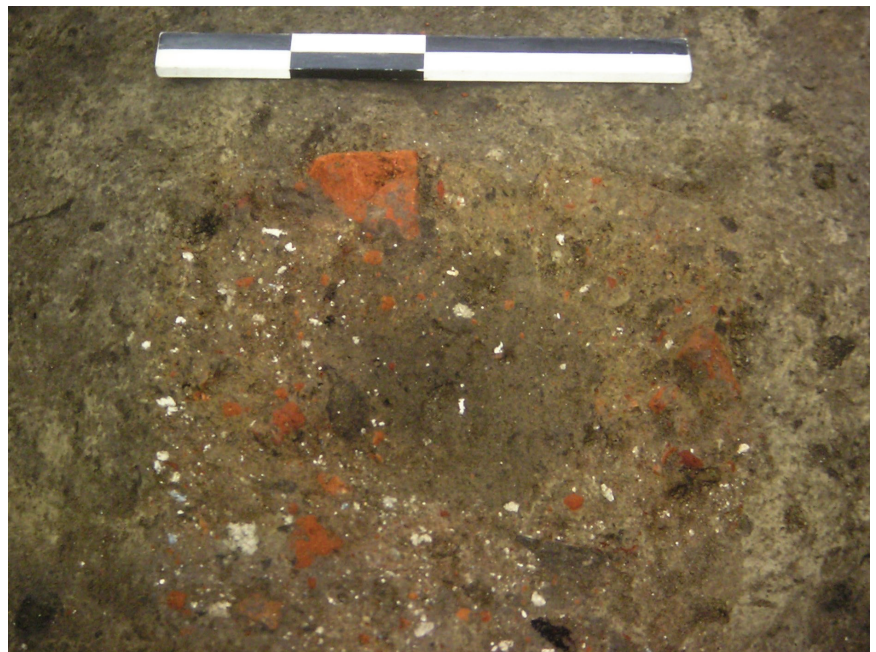


Figure 14. A posthole and a postmold of the earthfast porch or porch room south of the brick foundation of Site 44MX28. The dark-colored, circular postmold in the center of the photograph dates from the post's destruction, while the fill of the hole around it was put there when the post was placed in the hole during construction. Note that the fill of the posthole contains brick and mortar, indicating the modification of the brick wall of Site 44MX28 next to it, or the earlier entryway to accommodate the new porch or porch room.

Unfortunately, neither documentation nor our limited archaeological work has convincingly revealed who built the early brick house at Hewick Plantation, although we can be sure it was either Christopher Robinson I or II (Figure 16). Site 44MX28 still has much to contribute to the understanding of this problem, should anyone in the future want to tackle it, as most of the site is untouched. This site and the other sites our survey discovered also have the potential to answer a plethora of even more important questions scholars might ask about rural late 17th- and 18th-century life in Middlesex County and, by extension, in Virginia and Colonial America. The survival of county records, as well as the preparatory work already done (Lichtenberger 1995; Rutman and Rutman 1984), will allow historians and archaeologists to work towards a more complete understanding of that life.

Unfortunately, neither documentation nor our limited archaeological work has convincingly revealed who built the early brick house at Hewick Plantation, although we can be sure it was either Christopher Robinson I or II (Figure 16). Site 44MX28 still has much to contribute to the understanding of this problem, should anyone in the future want to tackle it, as most of the site is untouched. This site and the other sites our survey discovered also have the potential to answer a plethora of even more important questions scholars might ask about rural late 17th- and 18th-century life in Middlesex County and, by extension, in Virginia and Colonial America. The survival of county records, as well as the preparatory work already done (Lichtenberger 1995; Rutman and Rutman 1984), will allow historians and archaeologists to work towards a more complete understanding of that life.

Finally, it is my hope that knowledge of the existence of these sites and of their potential to provide a window into late 17th- and 18th-century life will help preserve them. This thought, possibly more than the archaeological responsibility for publishing and a responsibility to our Hewick hosts, which also weighed on my conscience, has pushed me at this late date to write this report. The 17th-century sites in the field east of the present house and the large 18th-century site in the large field west of the house are especially worthy of protection. The former will provide more information about the earliest settlement of the plantation, while the

latter will provide more information about the 18th-century plantation under Christopher Roberson III and about the early life of his daughter Elizabeth Robinson Steptoe, to whom, with her husband, we now can definitely attribute the construction of the standing Hewick house.

Acknowledgements

I take full responsibility for the tardiness of this report. Our excavations began in September 1989 and ended in April 1996—a period of seven years. Twenty-eight years later there is this final report. I must admit that I thought about the interpretation of the archaeology of Site 44MX28 often during those 28 years and that I only made up my mind about the interpretation of the earthfast structure south of the foundation after recently rereading Rutman and Rutman (1984). Not that I had never thought about it being a porch or porch room before, but it became obvious after that rereading.

To write this I have leaned heavily on the writings of my former students. Three of these deserve special recognition. David A. Brown (1996) wrote an outstanding paper on the ceramics. I have referred to it often in this article, and I could not have written it without that paper. Tracy E. Whitesell (1990) researched and wrote an excellent history of the Robinsons to which I also constantly referred. Finally, Marie E. Blake (1994) wrote a fascinating master's thesis on Elizabeth Robinson Steptoe and the position of women in 18th-century society. They are all well worth reading to supplement what I have written here. Other student papers generated by this archaeological research focused on architecture (Durfee 1992; Flaherty 1995; Rose 1994; Wiecke 1996), artifacts (Bartow 1993; Blosser 1997; Freese 1994; Harpole 1994; Hays 1994), and faunal analysis (Davis 1995). The two W&M anthropology master theses that I mention in this article can be accessed and downloaded by the public. The address is: <https://scholarworks.wm.edu/anthropologyetd/index.3.html>. I read all that I had access to before starting this report, and they all contributed to the finished product. As a result, in its successes they can all take pride; in its failures and mistakes I alone am to blame.

Contact:

Theodore R. Reinhart is a Professor of Anthropology Emeritus at the College of William and Mary. He can be contacted at trrein@wm.edu. He sends his regards to all those who remember him before he became a “retired archaeologist.”

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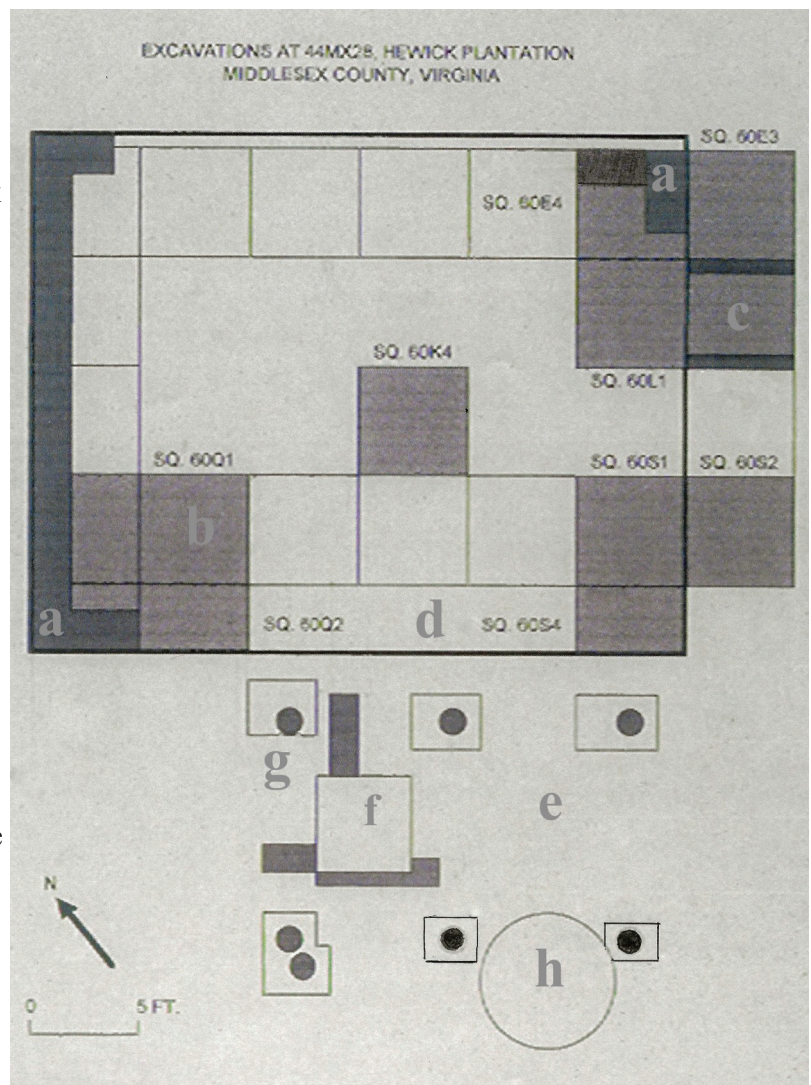


Figure 15. Excavations at Site 44MX28, Hewick Plantation, Middlesex County, Virginia. Key: a- surviving walls; b- squares excavated to floor or subsoil; c- bulkhead entrance (flanked by bog iron blocks); d- robbed walls; e- earthfast porch or porch room; f- remains of earlier entrance before porch was constructed; g- posthole with postmold; h- late 18th-century intrusive feature.

Landowner		Site Status
Christopher Robinson I in Virginia	1670	Patented land in 1678 44MX26 built 1681?
Christopher Robinson II born	1681	
Christopher Robinson I dies	1693	44MX27 built 1696? 44MX28 built 1700 44MX26 and 27 abandoned?
Christopher Robinson III born	1705	44MX28 bulkhead and porch entrances
built		
Christopher Robinson II dies	1727	44MX28 destroyed by fire 1740 44MX24 built?
Christopher Robinson IV born	1754	
Elizabeth Robinson Steptoe born?	1768	
Christopher Robinson III dies	1768	
Christopher Robinson IV dies	1775	44MX24 destroyed by fire? Hewick house construction begun 1785 44MX28 robbed of bog iron and bricks
Richard Allen Christian born	1793	Hewick house finished 1811 Ell added to Hewick house
Elizabeth Robinson Steptoe dies	1832	
Richard Allen Christian dies	1864	
Edward and Helen Battleson	1988	Purchased land in 1988 Archaeological work begins 1989 Extension to Hewick house ell built 1991 Archaeological work ends 1996

Figure 16. A timeline for the landowners and sites at Hewick Plantation. Question marks indicate that the date or the landowner association is tentative. The sequence in the left column is based on historical research. The sequence in the right column is based on historical, pipestem, and ceramic data.

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THE ARCHEOLOGICAL SOCIETY OF VIRGINIA

Contents

Archeological Society of Virginia, 82nd Annual Meeting, Williamsburg, October 2022

Paper and Poster Abstracts.....171

Keyser Farm (Site 44PA0001), Page County, Virginia: Late Late Woodland Bone Tools
and Their Implications

Michael B. Barber, Ph.D., RPA..... 181

Archaeological Survey and Excavations at Hewick Plantation, Middlesex County, Virginia,
1989--1996

Theodore R. Reinhart, Ph.D.....205

