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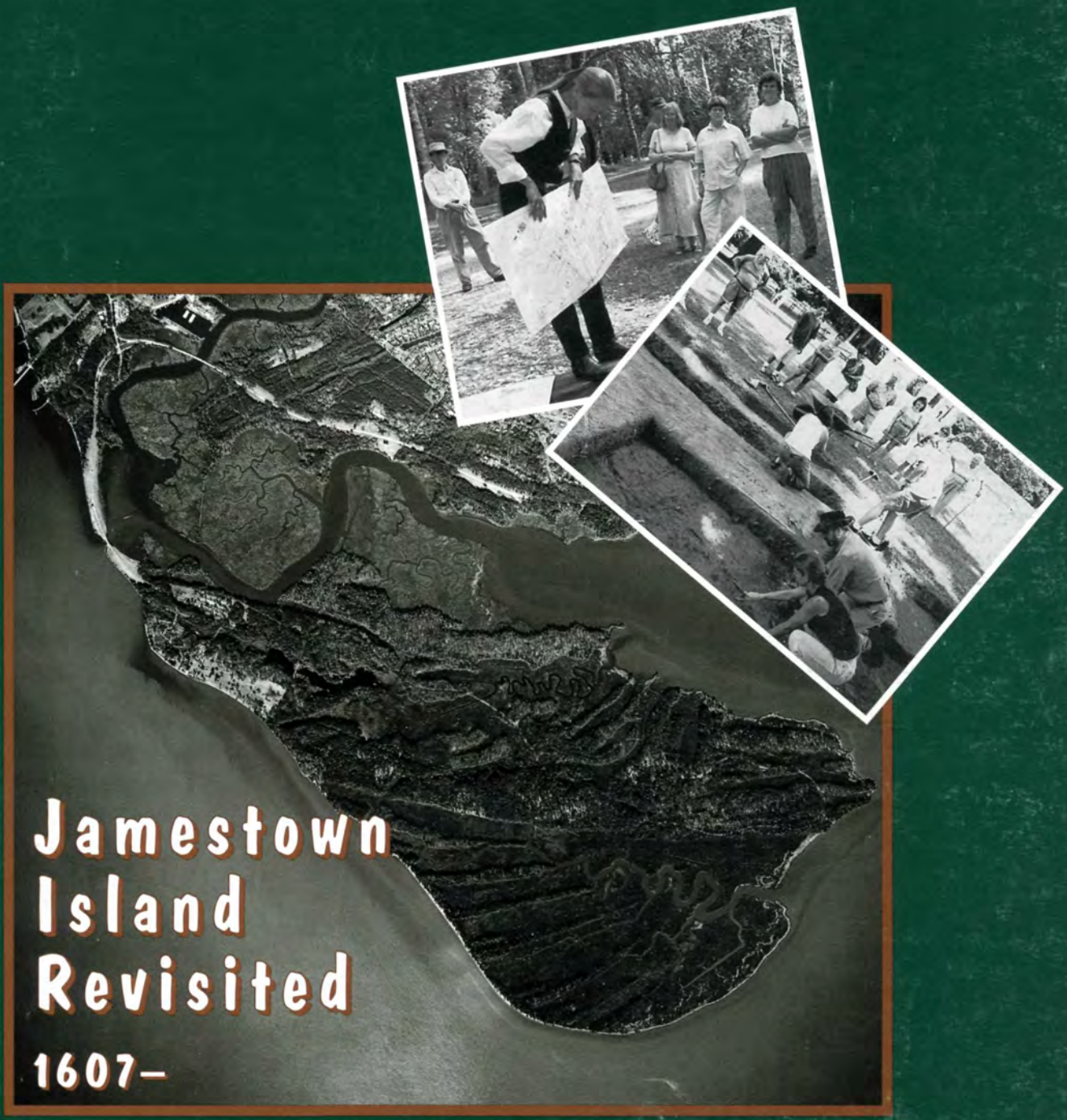

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An electronic version of this issue of *CRM* can be accessed through the *CRM* homepage at <http://www.cr.nps.gov/crm>. This site features a database of CRM articles from the past 21 years, and an online comment and subscription form. Submit your email address to be included on our electronic mailing list. You will receive notices of new issues and links to articles and supplementary information available only online.

Cover: The New Towne site is clearly discernible in a recent aerial photograph. This photograph was taken by Aerial Survey Corporation, digitized, and will be used for plotting archeological sites and land plat information and for monitoring shoreline erosion. Upper photo, Dr. Audrey Horning revealing the new discoveries and understandings of New Towne during one of the two Jamestown archeology weekends. Lower photo, Dr. Audrey Horning and the field school uncovering portions of New Towne. Photos by Tony Belcastro.

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Karen G. Rehm

Five Years of Jamestown

This issue of *CRM* focuses on the Jamestown Archeological Assessment that began in 1992. The articles represent the major aspects of this five-year project that focused on a holistic approach to taking a third look at an archeological site of international significance. Testing innovative methodologies and applying an analysis of the natural environment to the understanding of the historical events were primary objectives of the Assessment, as presented in the first article written by Marley Brown and David Orr. Although major archeology was conducted in the 1930s and 1950s, reopening the town sites and examining the historical documentation with the current knowledge of the time period, as discussed in Audrey Horning's article and Martha McCartney's essay, provide greater insight into a time period that is essential to understanding Jamestown and its role in establishing British North America.

Conducting a Phase I survey of the entire Jamestown Island was critical to this understanding. Dennis Blanton's article on this aspect of the survey emphasizes the need for all parks to take a comprehensive look at their history. The discovery of the Clovis points pushes back the timeline of human occupation to 10,500 BP. The tree ring study drastically alters the basic facts of those early years at Jamestown and enables us to understand the relationship between the English settlers and Powhatans in a different light. David Riggs' examination of the Civil War and its impact on Jamestown demonstrates the need to push the timeline forward as well.

Don Linebaugh (The College of William and Mary Center for Archaeological Research), Superintendent Alec Gould, and Greg Brown (Colonial Williamsburg Foundation) at the ground breaking ceremony for the survey, spring of 1993. Photo courtesy NPS.

The articles by Douglas Owsley and William Kelso look at other aspects of archeology and challenges federal policies and methodologies. Dr. Owsley presents the findings of re-examining skeletal remains discovered at Jamestown more than 40 years ago. Dr. Kelso provides a view of archeology as applied by the Association for the Preservation of Virginia Antiquities in rediscovering the very early years of Jamestown.

Finally, the application of these new findings and providing this information to the public is examined in the article by Karen Rehm and Diane Stallings. Americans are fascinated by the process of uncovering the past and how the new discoveries provide a fuller and maybe a different twist to what they learned so many years ago in school. Through this new appreciation, support for continued research and preservation will grow.

The establishment of Colonial National Historical Park in 1930* marked a turning point for the cultural resource management program in the National Park Service. Nearly 70 years later, it is still demonstrating the need for sound resource management guided by scholarly research and investigation. Colonial wishes to thank Kate Stevenson, Associate Director, Cultural Resource Stewardship and Partnerships, NPS, for her support of this project.

* Originally designated Colonial National Monument.

Karen G. Rehm is Chief Historian at Colonial National Historical Park. She is the guest editor of this issue of CRM.

John L. Cotter, Ph.D., was the Jamestown archeologist from 1953–1957. He developed a grid system for New Towne that identified all the known structural ruins, resulting in a historical base map that is still used today and was essential to the Jamestowm Archeological Assessment.

From time to time over the past half century or so, my late old friend Pinky Harrington and I have eyed the Jamestown archeological potential in the perspective of archeology accomplished and to come, and spoken of our hopes for future research and investigation. The theme has always been conservation, caution in ground investigation, employing state-of-the-art technology, recognizing that it will be infinitely improved in the future, and a comprehensive, holistic, interdisciplinary address to all research, above and below ground, archival and living history resources included.

The accomplished five-year investigations and studies have addressed these needs. The whole island has been surveyed, and the whole archeological potential has been conserved for future and more sophisticated and complete research resources. I personally thank all those who have participated in this effort, and welcome generations of future investigations that will continue to tell the story of Jamestown Island from the Paleoindian to the ever-arriving present.

John L. Cotter

Marley R. Brown III and David Orr

The Jamestown Archeological Assessment

Jamestown and Williamsburg, the first and second capitals of the Colony of Virginia, are close rivals as the most excavated historic sites in the United States. But it was at Jamestown that modern historical archeology was born when J.C. Harrington was lured there in 1936 while still a graduate student in anthropology at the University of Chicago. Harrington, who died at the age of 96 in April 1998, reflected on his work at Jamestown in a reminiscence published a few years ago. He acknowledged that his and subsequent excavations of the town site emphasized architectural remains at the expense of other physical evidence, but he stressed that he did recognize the importance of archeology as a way of understanding how the early colonists lived. He remembered that "we even talked in such broad terms as attempting to show the adaptation of an English cultural tradition to a frontier existence." He goes on to note, however, "very little was done in this direction, just as so few true anthropological objectives, although much talked about, are realized today."

These 1930s aspirations of Harrington are the very same that created the scope of work for the Jamestown Archeological Assessment—truly anthropological objectives rendered in the broadest terms possible. Although the questions Harrington wanted to ask have changed little, the range of evidence that can be marshaled to answer them has greatly expanded. Another important change since his days at Jamestown is the emergence of cultural resources management as a recognized profession. Both developments are evident in the intellectual perspective guiding the current round of archeological study of the National Park Service property on Jamestown Island, a project that began officially in the fall of 1992 with the negotiation of a cooperative agreement between the National Park Service and the Colonial Williamsburg Foundation. This agreement was based on a scope of work distributed in June of that year which identified a number of interrelated studies needed to properly evaluate and manage the island's cultural resources. These included a detailed bibliographic survey of all sources—written, photographic, and drawn—that shed light on Jamestown's history, a series of interpretive studies based on these sources, notably a reconstruction of the island's physical development over the last 12,000 years, and a thorough inventory and evaluation of prehistoric and historic archeological sites located on the island.

Andrew Edwards, archeologist, The Colonial Williamsburg Foundation, and staff conducting magnetometry testing.

In its breadth, concern for new techniques, and commitment to the conservation ethic in American archeology, the scope of the Jamestown Archeological Assessment shares much in common with the Park Service's *Systemwide Archeological Inventory Program*, that was officially unveiled in October of 1992. This program represents a concerted effort on the part of the National Park Service to "locate, evaluate and document" archeological resources on park lands so that they can be appropriately "conserved, protected, preserved *in situ*, managed, and interpreted." The systemwide program requires "systematic inventory" of archeological resources using "efficient and effective advanced technologies" such as remote sensing, geophysical prospecting, and geographic information systems, that minimize the destruction of archeological sites. Funds made available through this program are not intended for large-scale excavation (data recovery) for this very reason. Inventory activities must also be conducted in light of a research design that considers problems and questions "relating to broad trends, patterns, or themes about an area's prehistory or history." The research design should be very flexible in order to "address the widest range of relevant research issues and historic contexts practicable."

The nature of the studies called for in the original scope of work for the Jamestown

Archeological Assessment and their management implications argued for a particular intellectual perspective, that of human ecology or environmental archeology and history. This approach offered several advantages for integrating Assessment research on Jamestown Island. By emphasizing the interdependence of natural and cultural factors in reconstructing the physical development of the island, it has been possible to break down the traditional barrier separating the natural and cultural programs at parks like Colonial. From the outset, the intention of Assessment projects has been to establish the groundwork for management and interpretive plans featuring the integration of the Island's natural resource attributes with those representative of important cultural developments.

In many ways the Jamestown Archeological Assessment has followed the advice given to the discipline of historical archeology by National Park Service archeologist John Cotter who published the results of his 1954-56 excavations in 1958. Cotter, who remains a very articulate critic of things archeological, commented in his Jamestown report:

Results of the Jamestown Archeological Assessment

- The first comprehensive archeological survey of Jamestown Island locating 58 sites representing 10,500 years of human presence.
- Clear evidence of the 17th-, 18th-, and 19th-century landscapes in the form of boundaries, ditches, roads, agricultural fields, and military earthworks.
- A study of environmental change on the Island, including the examination of cypress tree rings that identified 1606-1612 as the driest seven-year period in southeastern Virginia in nearly 800 years. Coinciding with the first years at Jamestown, the drought most likely contributed to the settlement's struggle to survive. The study made the front page of the *New York Times*.
- The use of geophysical prospecting techniques (ground penetrating radar, magnetometry and soil resistivity and conductivity meters) to determine the most effective and efficient remote-sensing instrument for future research on Jamestown.
- The use of limited excavations on the town site designed to address specific research questions concerning the preservation of botanical remains, the re-analysis of particular buildings, and the "ground-truthing" of documented economic activity areas.
- Archival and historical research, hampered by the destruction of county records during the Civil War, culled data from private family papers, English records, military data, personal narrative, and maps. This research in conjunction with computer mapping of the Island allowed for the first time a reliable association of known structures and properties with their owners.
- A new understanding of what Jamestown looked like in the 17th century. A re-evaluation of the 600,000 artifacts from previous excavations in conjunction with the interdisciplinary research revealed the haphazard nature of the town's development. New information on the age, use, and relationship of buildings and economic activity at specific periods provided data for a series of GIS generated and enhanced maps of Jamestown during specific decades in the 17th century.
- More than 30 papers were given at professional conferences and/or published in a variety of journals and magazines. New generations of archeologists were trained through archeological field schools. One Ph.D. dissertation and several academic papers were completed.
- The knowledge gained will be used to address the critical issue of erosion on the Island, the federal highway project to upgrade the tour roads, and development plans for 2007.
- Artifacts and elements of the project will be incorporated into Colonial Williamsburg's 300th anniversary exhibit at the prestigious DeWitt Wallace Decorative Arts Gallery in 1999.
- The establishment of a strong partnership with The Colonial Williamsburg Foundation and the College of William and Mary.

Jane Sundberg
CRM Specialist
Colonial National Historical Park

Martha McCartney, project Historian; Marley Brown; and Del Moore, bibliographer with The Colonial Williamsburg Foundation, reviewing pottery developed for the Artifact Assessment Results workshop.

Thus, the story of social and historical trends at Jamestown, evident in the records, is given fuller meaning by data derived from the earth at the site. Here, then, history tells about dates, events, and people; sociology, anthropology, and ethnology combine to throw light upon the acculturation of settlers and Indians alike in the filter of the frontier; archeology checks, tests, and illustrates them all.

Certainly the Jamestown Archeological Assessment has utilized archeology as the "check" for many disciplines. The Assessment has indeed given true meaning to the old sawhorse of "interdisciplinary research." The final products of the Assessment illuminate this by clearly illustrating the many intellectual avenues which lead to the interpretation of Jamestown Island.

In addition, the Assessment used the "new field techniques" that Cotter had argued should be employed at sites like Jamestown long before the 2007 celebrations. The Assessment tested a great variety of geophysical prospecting methodologies in order to evaluate the effectiveness of these techniques in site discovery at Jamestown. A combination of magnetometry and soil conductivity surveys emerged as a very useful adjunct to site survey at Jamestown. The National Park Service has been a leader in such geophysical survey dating back to the 1950s. The use of ground penetrating radar, for example, was successful in nearby Civil War parks such as Petersburg National Battlefield. The National Park Service invests in such methodologies because of its desire to conservatively conduct site discovery with a minimum of damage to subsurface features. Although the anomalies that result from such survey then need to be tested ("ground truthed"), ephemeral areas—such as small scale prehistoric sites—can be preserved more effectively when a specific site strategy is to obtain archeological data from larger historic components. The final objective here is to minimize archeological destruction in the quest for new sites.

Before the advent of the Jamestown Archeological Assessment it was decided that the Jamestown collection itself should be evaluated and that the objects should be cataloged according to the current NPS system. This had a most positive effect on the research generated by the Assessment since a good knowledge of the collection was a mandatory imperative for a proper interpretation of Jamestown. This work led to the Assessment's task of artifact evaluation and the reanalysis of the collection in the future interpretation of the Island.

The Jamestown Archeological Assessment has provided the Park and all who study the full long-range cultural history of tidewater Virginia with a thoroughly researched grounding in the "local history" of Jamestown Island. It is a long-held maxim in archeology that all archeological endeavor is originally only local history; it is only our carefully wrought inferences which make it anything else. The many volumes of data produced by this cooperative agreement will fuel and fan the fires of such investigation for decades to come.

The past five years of active research have produced important results along these lines. Some of the most significant of these are briefly described in this issue of *CRM*. Notable among these are the results of the Island-wide survey and climatological reconstruction using cypress tree rings, the detailed reconstruction of historic property holdings, and the synthesis of previously excavated archeological material—both architectural and artifactual—with the results of very selective new test excavations. In the latter, especially, may be seen some of the most convincing answers to the questions posed so long ago by a young anthropologist, whose expectations for what could be learned through archeology at Jamestown could not fully be realized during his tenure on the Island. Harrington wanted to know more about how the English adapted themselves to a brand new environment. And he wanted to know how the colonists really lived. If he could review the results of the Assessment today, he would hopefully conclude that some of his "true anthropological objectives" have, indeed, been realized by today's generation of historical archeologists.

Marley R. Brown III, Ph.D., is the Director of Archaeological Research, The Colonial Williamsburg Foundation.

David Orr, Ph.D., is Chief, Division of Archeology and Historic Architecture, Valley Forge National Historical Park.

Photos by Tony Belcastro.

Audrey J. Horning

Finding the Town in Jamestown
Archeology of the 17th-Century Capital

Whereas his sacred majestie by his instructions hath enjoyned us to build a town...

Act for Towns, 1662

Archeological and documentary research carried out through the Jamestown Archeological Assessment has provided a revised understanding of the 17th-century town and its sporadic development, which has squarely addressed the time-honored question, "why did Jamestown fail?" This re-evaluation has been achieved through selective excavation, documentary research, architectural analysis, environmental sampling, geophysical prospecting, integration with geological and hydrological data, and a thorough review of artifacts and documents in the collections of Colonial National Historical Park. Rather than searching for "new" archeological sites, the hallmark of previous archeology at Jamestown, the Assessment embraced the restrained approach outlined in the Systemwide Archeological Inventory Program *(SAIP)* in place at the start of the cooperative agreement. Employing a generally non-intrusive policy, our aim was to obtain an overall understanding of the town's physical appearance and how it functioned and grew in order to guide future interpretation and research.

Geophysical prospecting has been intensively employed, in one case pinpointing a previously-undiscovered cluster of brick kilns. Excavations have been limited in extent, designed to address specific research concerns. To quantify previous recovery biases, samples of backfilled archeological soils have been re-excavated, screened, and analyzed. The detailed reconstruction of properties, discussed by Martha McCartney in this issue, has allowed us to place individuals on the map—the keystone which has structured our analysis of the town's attempted development and eventual failure. Predictive modeling based upon these property reconstructions can now be employed to guide archeological research.

Spatial analysis of the multitude of artifacts unearthed in the past has similarly been crucial to understanding Jamestown's growth. In 1993, dates of pipestems from archeological features across the

Aerial view of the townsite by Aerial Survey Corporation, courtesy NPS.

Excavation in Refuse Pit 1 in Governor Harvey's manufacturing zone.

townsite were re-examined and plotted spatially. Immediately evident was the haphazard nature of town development. The pipestem data revealed three peak periods of activity, each followed by abandonment, which correspond to three periods of officially-sanctioned building schemes in the 1630s, 1660s, and 1680s. The spatial analysis also revealed that development occurred in discrete areas of the townsite, suggesting a lack of continuity in occupation. The overall history of the town further divides itself into five distinctive periods: initial town establishment in the teens and twenties, officially sanctioned mercantile and manufacturing in the 1630s, a period of stagnation until the 1660s, building activity following the 1662 Act for Towns, and two decades of post-Bacon's Rebellion (1676) rebuilding, all winding down to the 1699 transfer of the capital to Williamsburg.

Only two archeological sites are known from the earliest period of town settlement, but property research suggests much activity along the waterfront. Corollary material evidence presumably escaped previous discovery because of the ephemeral archeological trace cast by earthfast construction, the predominant technique employed in the early Chesapeake. Examination of sites from this period promises to illuminate our knowledge not only about domestic life in early Jamestown, but also about mercantile and waterfront activities.

One early structure was investigated in 1998. First uncovered but barely recorded in 1934, Structure 24 represents a small, brick-nogged timber structure situated near the river on the east end of town. Artifacts found in a nearby well and refuse pit in the 1950s suggested an early domestic complex. Subsequent research traced the property to a gunsmith named John Jackson, who lived in Jamestown in the 1620s. Findings from the recent re-excavation of Structure 24 suggests occupation of the building by the Jackson family. Quantities of lead casting waste and fragmentary gun parts support the presence of a smithy. Beyond corroborating the documents, the excavation provided a material basis for addressing the daily life of an artisan, shifting the spotlight which has traditionally played only upon Jamestown's elite.

The following period, under the leadership of Governor John Harvey in the 1630s, was perhaps the most active in Jamestown's history. Concerned with economic diversification and town growth, Harvey passed laws designating Jamestown sole port of entry and requiring artisans to settle in towns. Incentives were offered to those building in the capital. Secretary Richard Kemp collected on one such incentive when he erected Jamestown's first all-brick house (recently identified as Structure 44, unearthed in 1935 and re-excavated in 1994) in 1638-39. Kemp soon left Jamestown and built a better house on his Rich Neck plantation, illustrating the insurmountable difficulties faced by Harvey in combating the dispersed settlement pattern necessitated by the emergent tobacco economy.

Harvey's ownership of a piece of property where a brewhouse and apothecary, a series of kilns, and an iron manufactory were situated (uncovered in the 1950s) illustrates how the governor backed up his beliefs about economic diversification with his own speculative investments. This manufacturing zone in the northwestern part of the town was subjected to an intense case study, with a thorough re-examination of all field drawings, notes, and artifacts, combined with limited archeological sampling designed to retrieve environmental data. Reputedly an autocrat, Governor Harvey was forced out of office and subsequently bankrupted in 1639. Examination of artifacts and the micro-stratigraphic analysis of a soil thin-section from a refuse-filled clay borrow pit in the manufacturing enclave indicate that activity ceased by the 1640s.

That the craft production ended shortly after Harvey's ouster from office illustrates the extent to which development in Jamestown was reliant upon individual action. Speculators like Harvey hoped to not only reduce reliance upon imports but also aspired to export finished goods. Within England, a number of towns were being successfully expanded and developed upon specialized manufacturing predicated upon speculative investing. Harvey promoted the similar development of Jamestown in anticipation of the same profits. Unlike England, however, there was no influx of labor. Immigrants to the colony were attracted by

land and tobacco, not manufacturing work in towns.

Although Governor William Berkeley, in office from 1642 to 1650 (and again 1660-1677) also sought to develop Jamestown, the political realities of the Commonwealth (1650-60) hindered his attempts, leading Berkeley to confine his enterprises to nearby Green Spring, where he experimented with rice cultivation and numerous industries. Jamestown itself served mainly as a watering hole during this period, richly illustrated in the complaint of one visitor in 1660 that there were "scarce but a dozen families in residence, all of them keeping ordinaries [taverns] at extraordinary rates."

The restoration of Berkeley and the passage of the 1662 Act for Towns prompted a flurry of speculative building. With instructions to erect 32 brick houses backed by government subsidies, investors built rowhouses. The Act was soon revoked by the Crown, perhaps fearful of encouraging urban growth and diversification to the detriment of the profitable tobacco economy, and the required number of houses was never achieved. Excavation in 1993 at one set of rowhouses, Structure 17, uncovered an incomplete foundation for an additional unit. The image of a gaping, garbage-filled cellar hole called into question accepted perceptions of tidy brick rows housing fashionable elites. Similar instances of failed speculation dot the town and the documents. Houses which *were* finished did not always serve as dwellings. Shortly after the construction of the four-unit Structure 115, one unit became the public jail, clearly proof that lessees were difficult to attract. Destroyed during Bacon's Rebellion in 1676, only the eastern end of Structure 115 was ever rebuilt.

Overall view of the 1993 excavation at Structure 17.

The damage inflicted by the disgruntled rebel Nathaniel Bacon that fateful September night in 1676 is readily detected in the archeological record. Most notorious was the destruction of the statehouse, recently identified as Structure 112, a sizable brick building which began its life as the frame dwelling of Governor Harvey. Another town act, also disallowed by the Crown, was passed in 1680 to encourage rebuilding and several impressive brick houses were constructed. Artifacts from nearly 30 structures show activity during this period. Despite this apparent growth, Jamestown's rowhouses would be described as "decayed and ruinous" by the time a devastating fire in 1698 wiped out the rebuilt statehouse. The agitation of several key political figures who owned land in Middle Plantation soon prompted the transfer of the capital to that locale, renamed Williamsburg.

Despite the move of the capital to a more salubrious location, it would be another half century before Virginia saw any urban development. By then, economic dependency upon Britain had lessened enough to not only allow town growth in the Chesapeake, but to soon permit the emergence of an independent United States. The tobacco economy and Crown opposition may have eventually doomed Jamestown, but it was not for lack of trying. Jamestown's archeology encapsulates the speculative dreams of investors throughout the century, dreams fueled not by a New World frontier experience, but by a keen awareness of the nature of town building and profit making in England.

The challenge of employing a non-intrusive, interdisciplinary approach to understanding the 17th-century town has paid dividends. A holistic understanding of the town has been achieved which serves as a powerful management tool, not only guiding public interpretation, but providing the framework to direct future research detailing myriad human dramas acted out on the stage of the ill-fated 17th-century capital.

Audrey J. Horning, Ph.D., is an archeologist with The Colonial Williamsburg Foundation.

Photos courtesy Andrew C. Edwards, The Colonial Williamsburg Foundation.

Martha W. McCartney

Jamestown Island's Documentary History

Clues to the Past

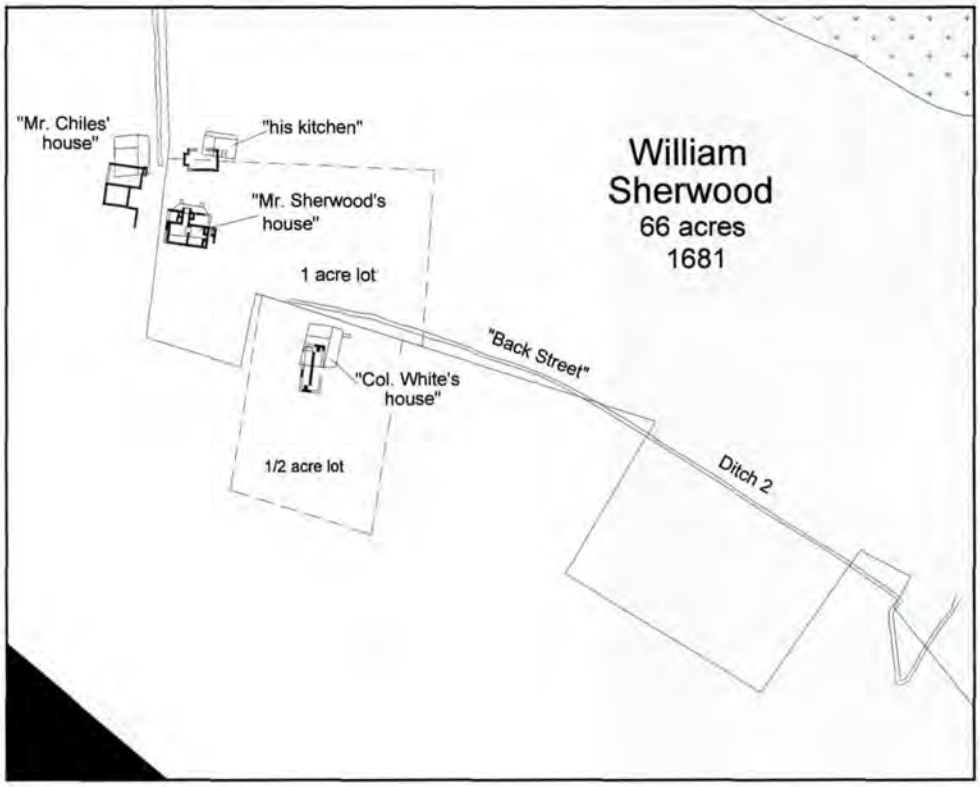
Historical studies of Jamestown traditionally have focused on its very early history and events that impacted the western end of the island. However, the documentary research conducted in support of the Jamestown Archeological Assessment explored the island's historical continuum and cultural landscape holistically. This comprehensive and methodical approach was used because important clues to the past, objectified in the archeological record, often lie buried within documents only peripherally related to the human activity in question. Throughout the research process, historical data were provided to two teams of archeologists: one conducting limited tests in New Towne and the other performing a Phase I survey of the outlying National Park Service property.

One of our principal goals was to determine how land ownership patterns on Jamestown Island evolved over nearly four centuries of historic occupation. This was an exacting task because the bulk of James City County's antebellum court records was destroyed during the Civil War and Virginia's pre-1683 land patents are copies of originals, some of which were fragmentary when transcription occurred. Moreover, very early patents sometimes lack critical details, such as dimensions or the directional orientation of specific boundary lines. These limitations quite rightly have confounded successive generations of scholars.

More recently, electronic mapping techniques, which allow simple shape manipulation, re-dimensioning, and geo-referencing of images, have been used in combination with traditional research methods. This approach was of inestimable value in reconstructing chains of title for Jamestown Island properties and in identifying boundary lines, often defined by ditches. Our study also has revealed how certain properties were used and where particular people were living.

The Data Collection Process

Initially, data were compiled from a broad variety of commonly used written records, such as land patents, local court documents, and manuscript collections. These sources, as an aggregate, shed a considerable amount of light on the placement and configuration of specific tracts and their inter-relationship over time. However, references to Jamestown Island landholders and their properties' traditions also were discovered in several Tidewater Virginia counties and in the records of the overarching branches of government; in historic newspapers, diaries and narratives; and in official documents and correspondence from England, Ireland, Bermuda, Newfoundland, and several North American colonies. Iconographic materials and historical maps from foreign and domestic repositories were examined closely for insight into the progression of cultural and geological changes known to have occurred on Jamestown Island. Data culled from all of these sources were synthesized, analyzed, and then used in combination with digital mapping techniques. The accu-



Boundary lines and buildings drawn on William Sherwood's 1681 plat electronically overlaid on a portion of John Cotter's base map showing archeologically excavated features (darker lines represent foundations; "Ditch 2" is a ditch feature excavated in the 1950s). Digitized base map courtesy Colonial National Historical Park.

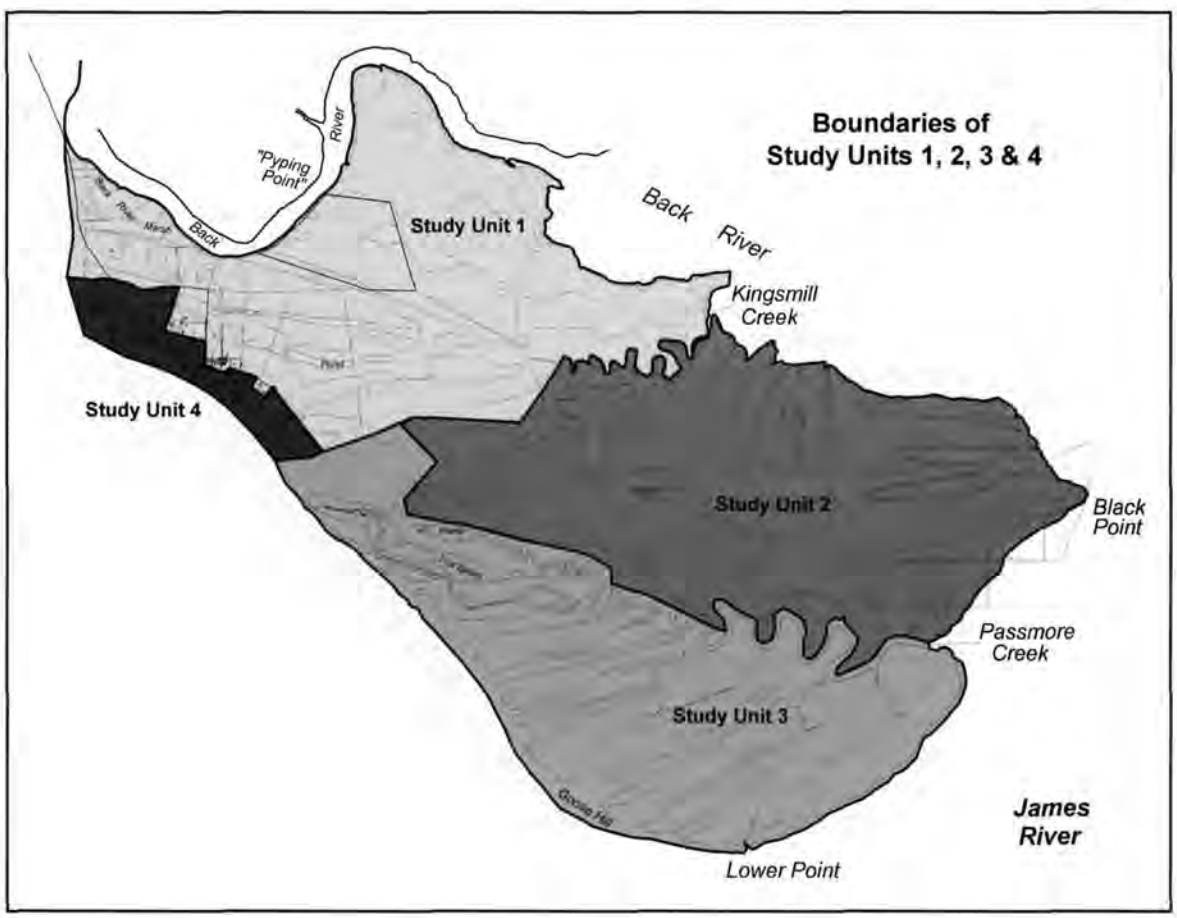
mulated data also were employed in determining land use and site function.

Reconstructing Boundaries Electronically

During the data collection process, four major Jamestown Island plats were identified. These drawn documents and a dozen or more historical maps were digitized at "real" scale in AutoCAD, a popular architectural and mechanical drawing software. Then they were electronically layered or "stacked" (superimposed upon one another) so that common reference points could be reconciled. This electronic template was created for comparison with a digitized version of the master archeological site plan (or "base map") created by John Cotter during the 1950s. The length and angle of specific boundary lines shown on the multi-component electronic template were compared visually with the ditches shown on the digitized base map. As numerous "matches" or common reference points were identified, it was feasible to associate certain boundary lines and landscape features shown on both maps. This simple exercise proved extremely useful, for cultural features discovered by archeologists earlier in the century were sequestered within the boundaries of specific properties. Moreover, several sites excavated during the 1930s and '50s were found to correspond with the locations of buildings depicted on two 17th-century plats.

Taking the process a step further, excerpts from patents, local court records, deeds, wills, and legal documents included in private papers were examined closely and sometimes compared word by word. Whenever detailed property descriptions were available, survey data (such as the length of specific boundary lines and compass declinations) were converted mathematically from now-obsolete measuring schemes into their modern equivalents. Often, patent boundaries were sketched by hand and then reconstructed to scale electronically by Christina A. Kiddle and Gregory J. Brown of Colonial Williamsburg. Again, attention was focused upon the identification of common boundary lines. This was done so that particular pieces of what essentially was a gigantic jigsaw puzzle could be joined together, one by one, synchronously. In many instances, individual patents whose boundaries had been reconstructed to scale electronically could be appended to each other and then linked to the electronic template we had created. Sometimes, the size and shape of isolated properties were found to match ditch patterns or distinctive topographic features. This was true in both rural and urbanized portions of Jamestown Island.

Ultimately, the creation of an electronic tract map made it feasible to link numerous archeological sites with specific landowners' holdings. Moreover, it became possible to associate cultural



Boundaries of Study Units overlaid on tract map showing reconstructed land holdings. New Towne and the original landing site on APVA property are in Study Unit 4. Drawings on maps prepared by Christina Kiddle and Heather Harvey, The Colonial Williamsburg Foundation.

features mentioned in documentary sources (but which await discovery by archeologists) with specific properties on Jamestown Island. This provides the National Park Service with a planning tool useful in the identification and protection of culturally sensitive areas.

The pastiche of historical records marshaled for use in the Jamestown Archeological Assessment has helped us determine how land ownership patterns on Jamestown Island evolved over time. Documentary sources also have enhanced our knowledge of how specific tracts were used during any one period. Throughout the analytical process, historical archeologists, historians, architectural historians, prehistorians, and other members of the project's multi-disciplinary research team worked together closely in a free-wheeling exchange of information.

Organizing the Evidence

To provide a spatial frame of reference for the final tract maps, Jamestown Island was subdivided into four geographically distinct components, or "Study Units," largely defined by natural physical boundaries. Subsidiary parcels within each Study Unit were designated "Tracts." As certain Tracts had been parceled into lots, especially within urbanized areas, they too were treated as subunits. This geographically-based, hierarchical organizational scheme enables us to link property histories with Jamestown Island's topography. It also permits us to discuss human activities and events in terms of their impact upon specific portions of the island.

To establish a historical context or temporal frame of reference, the nearly 400 years that have elapsed since the first settlers arrived were apportioned into four time periods. The parameters of each were delimited by broad developmental trends identified through documentary research. During Period I (1607-1745), Jamestown Island was fragmented into more than a hundred parcels, some of which contained a tiny fraction of an acre. Throughout Period II (1746-1831), Jamestown Island accommodated two large plantations and a handful of urban lots. Within Period III (1832 to 1892), the island as a whole (with the exception of the churchyard) was owned by a succession of private individuals. Finally, during Period IV (1893-1998), the island came into the possession of the National Park Service and the Association for the Preservation of Virginia Antiquities.

The End Product

Through documentary research and the use of digital mapping techniques we have significantly enhanced our knowledge of land use patterns and the sequencing of development throughout Jamestown Island. Moreover, new links have been forged between the archeological record and the histories of numerous Jamestown Island properties, findings that will enhance the National Park Service's interpretive program. Culturally sensitive areas have been identified that warrant future investigation.

Historical data have been synthesized in succinct property histories, which have been cross-referenced to biographical sketches of the approximately 1,900 people known to have played a role in Jamestown Island's history. Maps and charts have been created that summarize land ownership patterns during each period of historic occupation. A narrative provides an overview of the island's development over time, offering insight into critical issues that influenced the course of its history.

New Insights

Although Jamestown Island's very early history awaits intense documentary investigation, some interesting discoveries have come to light. For example, we have learned that during the first quarter of the 17th century, the eastern end of Jamestown Island was carved into numerous 12-acre farmsteads, many of which were allocated to "ancient planters," people who immigrated to Virginia prior to 1616. Miraculously, very early archeological features survive within certain "ancient planter" properties, some of which are defined by extant boundary ditches.

We also have learned that from 1649 on, urban Jamestown embraced the entire western end of Jamestown Island and that areas outside of the "New Town" (laid out around 1621) were parceled into tiny lots where development was purposeful. Urban Jamestown also accommodated the generously proportioned estates of two titled noblemen and the home lots of at least two men actively involved in the slave trade.

By the mid-18th century, much of Jamestown Island had been absorbed into two major plantations. Documentary records associated with the Ambler plantation, which enveloped the western end of Jamestown Island and almost all of the frontage on the James River, are among the most complete in Tidewater Virginia. Meanwhile, the Travises, who owned a plantation in the eastern end of the island, had a townstead in urban Jamestown. These are but a few of the findings that have resulted from the documentary research conducted on behalf of the Jamestown Archeological Assessment. Future research can be expected to fill other gaps in our knowledge.

Martha W. McCartney is the Project Historian with The Colonial Williamsburg Foundation.

Dennis B. Blanton

Looking Beyond the Town

Archeological Survey at Jamestown Island

I still find it hard to believe that Jamestown Island beyond the colonial town site was *terra incognita*, archeologically-speaking, when we began our survey for the National Park Service in 1994. The comprehensive, systematic survey was the first of its kind there and central to the archeological assessment project. When our William and Mary team started Shovel Test 1 that October day, only three sites were officially recorded on the island; when Shovel Test 5709 was back-filled almost a year later, 58 additional sites were on the map. Moreover, our team had documented evidence of human activity there over the full span of our species' existence in eastern North America, and showed that virtually every part of the now-dry upland areas were utilized at one time or another.

The fundamental goal of the survey was simple: find all the sites that survive in the uplands and assess the potential of today's wetlands for additional cultural resources. Because Jamestown Island is now entirely vegetated, we resorted to systematic shovel testing to locate the evidence. Tests were excavated every 20 meters as we marched across the area generally east to west. It took about six months of fieldwork to complete the task, which was broken into two stages, in part to take advantage of the winter seasons. At this time of year underbrush and the hordes of ticks are less troublesome. Our systematic testing was confined to present day uplands, representing about 600 acres, for the simple reason that the sediments there are not waterlogged. The remaining two-thirds of the island are wetlands, most of which are fringing tidal marshes. These conditions have not been constant over the last 12 millennia.

Field school conducting shovel testing in the densely wooded portion of Jamestown Island.

Punctuating the basic goal of site inventory were a number of specific problems or topics we hoped to address with the survey results. One was to establish the duration of human occupation at Jamestown Island which began well before the first load of Englishmen arrived in 1607. We found that people have made use of the island for about as long as is possible. I will never forget discovering the first of two fluted, Clovis-like points on a beach exposure. Both are made of fine, non-local stone and represent variants typical of about 10,500 BP.

Another issue was to get some sense of human adjustments to the changing local environment. Geologists tell us that the landscape has evolved according to three basic stages. These represent the shift from a well-watered, dissected upland peninsula between 12,000 and 6000 BP, to the transitional emergence of an estuarine environment from 6000 to 3000 BP, to the fully estuarine setting we see now. This progression transformed the island from a virtual Eden to a place less attractive to native inhabitants. Over time, the extent of well-drained uplands was reduced and freshwater became very scarce.

The heyday of prehistoric settlement occurred before 3000 BP. Archaic projectile points occur at many sites, and even Paleoindian evidence is present. These encampments were relatively frequent and coincide with an interval when the island was a well-watered, dissected peninsula. After this time, during what we call the Early and Middle Woodland periods, the island was virtually abandoned. This is in stark contrast to what was occurring within sight of the island on the mainland. The uplands there became the focus of intensive settlement by 2000 BP, potentially because places like Jamestown Island were rapidly losing the margins of their uplands and their reliable freshwater sources to inundation as the sea level rose. Sea level rise has also submerged many Archaic sites offshore or beneath marsh deposits. In essence, the unprecedented transformation of the lower James River was requiring an adjustment among local groups.

A Clovis point dating to c. 10,500 BP which greatly altered the time frame of man's presence at Jamestown.

We also wanted to understand why local Native Americans were not utilizing the island intensively when those three ships sailed up the James River nearly four centuries ago. They had, indeed, begun to use the place again after the Early-Middle Woodland hiatus, but in more specific ways. It was during the Late Woodland period that native Algonquians adopted a more sedentary, horticultural lifestyle. Small nucleated villages and dispersed communities were established at key locations, while peripheral areas were utilized selectively. Jamestown became one such latter locale. We know that a permanent Indian community was never established on the island, although many small habitations were located by the survey. These are indicative of short-term, perhaps winter-season residences, for small, task-oriented parties intent on hunting and fishing. Down-river, even within view of Jamestown, more intensively utilized sites are known where oyster reefs begin, and the closest village site is not far upstream at the strategic confluence of the James and the Chickahominy rivers. In fact, it is from this village that many of the smaller parties using Jamestown Island probably came. Paramount chief Powhatan's remark that the island was "a piece of waste ground" the English were welcome to may have been a slight overstatement, but clearly it was not regarded as a pivotal location.

Associated with the survey was an attempt to improve knowledge of environmental conditions in the colony's earliest years. Certainly it was described at times by the English as inhospitable. We resorted to a bald cypress tree ring study for precise answers, in collaboration with David Stahle at the University of Arkansas. The findings were startling: tree rings document that the worst regional drought in the last 770 years occurred between 1606-1612. This revelation helps us comprehend complaints about corn and fresh water shortages and, by extension, the alarming mortality rate and intercultural tensions.

Discovering several of the first English farmsteads in this country was also an exciting outcome of the survey. By the second decade of the 17th century the tiny colonial enclave at Jamestown was celebrating successes. Rising confidence led to establishment of a few small plantations outside the confines of the fortified settlement, and some of the earliest were scattered across the island. A cluster of them has been identified by our work at the eastern end of the island, which is relatively remote from the fort and town at the western end. Their archeological traces are not impressive as viewed from shovel test samples, consisting at best of tiny brick nubs and occasional pipe, ceramic, glass, or nail fragments. Sometimes, however, substantial features like cellars were encountered and these, along with knowledge of similar sites studied nearby, tells us that they are information-rich. In fact, the island appears to boast some of the best preserved 17th-century farm complexes, as they are unplowed and virtually pristine time capsules.

By the 18th century, the island's many farms were consolidated into two typical, expansive Tidewater plantations. One occupying the eastern half belonged to the Travis family. The precise location of their well-appointed plantation home had been lost to recent generations and was a place we sought to pinpoint. Near the still-marked family cemetery, not surprisingly, ample evidence of a substantial structure and smaller "dependency" buildings were identified, along with the requisite array of colonial debris.

A closing chapter of historical use of Jamestown Island occurred during the Civil War. No less than five impressive earthen redoubts were placed at strategic points by Confederates anticipating Union advances. Some were connected by a new road which can be traced even now. U.S. troops swarmed the James-York peninsula, to be sure, but the island's redoubts saw little or none of the action.

Jamestown has been pivotal in the annals of archeology as it has been in the nation's history. Here we can chart advances in historical archeology from the more particularistic early excavations to today's more expansive, interdisciplinary effort. With our systematic survey and the complementary studies of the assessment, the island's archeology has entered the contemporary period. The results provide much-needed local context for fully comprehending the early colonial experience. Along with the research contributions, new information is available to guide management of the cultural resources. The Park Service has effectively established an archeological preserve at Jamestown where sites can be relatively safe. Some, however, are still threatened by things like shoreline erosion and the survey findings are helping to set priorities for protection. This work has set the stage for future cultural resource management and planning for the anniversary celebration in 2007.

Dennis B. Blanton is the Director of The College of William and Mary Center for Archaeological Research.

Photos by Tony Belcastro.

David F. Riggs

Continuing Jamestown's Military Tradition

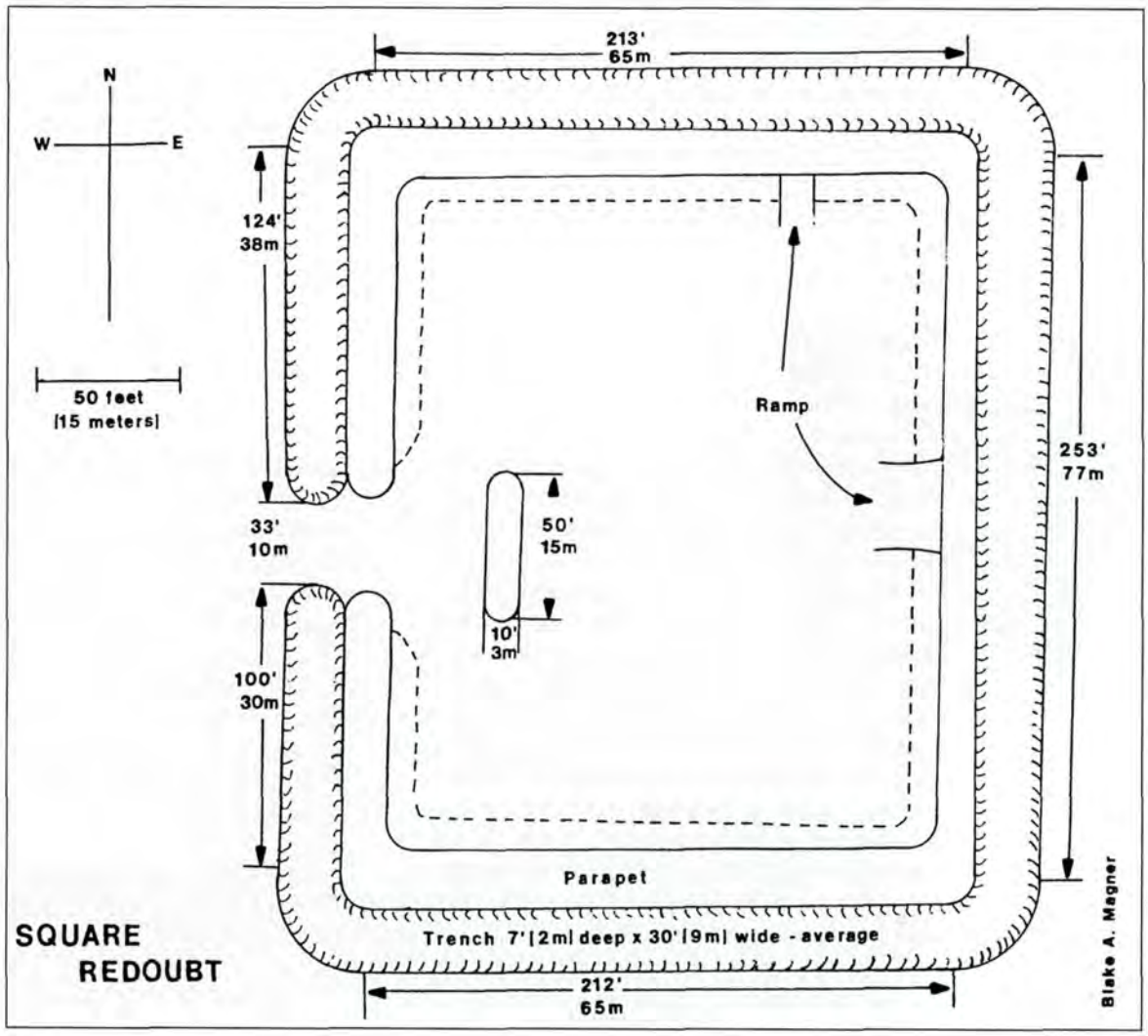
The Civil War Years

Jamestown's strategic location was important to English colonists in 1607, and there was renewed military interest in the island during the American Civil War. In 1861 Confederates initially regarded it as the best defensive point along the James River for defending Richmond, the South's capital and industrial center.

William Allen was a wealthy Virginian whose properties included Jamestown. He occupied the island that April with troops he raised at his own expense. Allen soon was joined by Catesby ap Roger Jones, a naval lieutenant, who was directed to construct and command artillery batteries. Before the year ended, Jamestown had five earthworks that controlled river traffic and protected the island. During the summer two infantry units boosted Confederate strength to its maximum of more than 1,200 men. Additional fortifications soon were erected below Jamestown and many of these troops were transferred to them. As the island's military might declined, Jones conducted vital ordnance and armor tests for the CSS *Virginia* (formerly *Merrimack)* prior to his November reassignment to Richmond.

Jones's successor was Maj. John R. C. Coxe, who was joined by local militia. Allen bolstered Jamestown's dwindling numbers during spring 1862 by raising an artillery battalion. When Maj. Gen. George B. McClellan launched his Peninsula

Drawing courtesy Blake A. Magner.



Ft. Pocahontas. Photo by the author.

campaign and besieged Yorktown in April, the Confederates responded by evacuating the middle Virginia Peninsula, including Jamestown, on the night of May 3. With Jamestown safely behind Union lines, the large Federal transport fleet anchored there throughout the summer. Telegraph wires were run from Jamestown to Fort Monroe, which was connected to Washington, thereby improving communications between McClellan and the War Department. After McClellan's withdrawal from the Peninsula in late August, the navy continued to patrol the river.

While under Federal occupation, Jamestown was a rendezvous point for escaped slaves, many of whom were evacuated by the navy. When the army vacated the island, William Allen's slaves burned the 18th-century mansion there, known as the Ambler house. That October, Allen had five men visit Jamestown to assess its condition, and three were killed by the rebellious blacks.

Jamestown was virtually ignored until 1863 when it became part of a Confederate diversionary movement during the Suffolk campaign. It played a comparable role for Federals in their feint against Richmond during the Gettysburg campaign.

In August 1863, Jamestown assumed a new role as an army outpost for Williamsburg, which was the most advanced Union position along the Peninsula. Companies from all service branches and U. S. Colored Troops were rotated to observe the river and Confederate guerrillas. The pace livened during the Bermuda Hundred campaign when the telegraph was reinstalled. The Petersburg campaign required improvements in June 1864. Accordingly, Lt. Gen. Ulysses S. Grant extended telegraph communications with a mile-long underwater cable from Jamestown to Swann's Point and then ran wires to Fort Powhatan which was linked to his headquarters at City Point. When guerrillas cut wires, Grant thwarted them by running an underwater cable 22 miles from Jamestown to Fort Powhatan. As the Petersburg campaign wore into the autumn and winter months, Union troops whose terms of enlistment had expired were sent to Jamestown to guard the island and await transportation north. Guerrilla activity occasionally ruptured the tranquillity early in 1865. After Gen. Robert E. Lee's army surrendered at Appomattox, Jamestown was a location for administering the Oath of Allegiance to former Confederates.

Today most of the sites associated with the Civil War have blended into the natural and colonial landscape. The 18th-century Ambler house that serviced Confederate officers was rebuilt but burned again three decades later. Its ruins stand in New Towne. Only the wooden T-shaped outline remains from the busy wharf that received Southern supplies, and the bridge that connected the island to the mainland has totally vanished.

Of the five Confederate earthworks on Jamestown Island, only two are substantially intact and accessible to visitors. Fort Pocahontas, which stands adjacent to the 17th-century church tower, was the first and most significant one for defending Richmond during the early months of the war. Toward the center of the island is the Square Redoubt. Located along the modern auto tour, it once guarded the military road and protected Jamestown's interior against boat attack via Passmore Creek, just opposite the fort. Earthworks near Goose Hill and Black Point were erected to strengthen the river defenses, while a fifth one guarded the bridge and was supported by an infantry lunette. These latter fortifications no longer are extant or are hidden by marshy terrain, much as Jamestown's Civil War history has been overshadowed by the dynamic role it played in founding a nation.

David F Riggs is the Jamestown museum curator at the Colonial NHP and author of the book Embattled Shrine: Jamestown in the Civil War.

Douglas W. Owsley

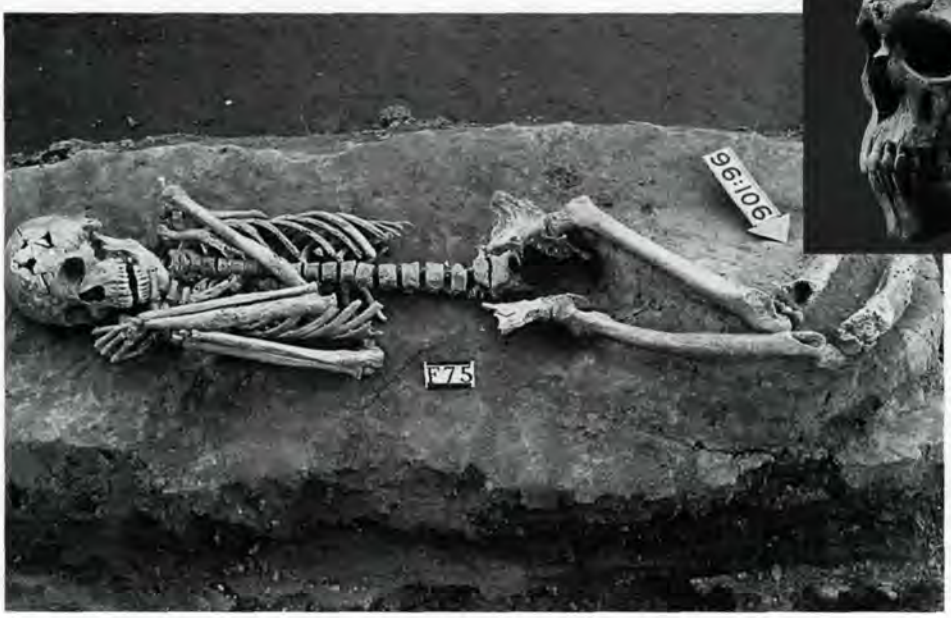
Lessons from the Past

The ancient adage "The past is prologue" is obviously true in the history of mankind as evidenced by the multitude of historic studies completed over the years. This often-used phrase is equally true and applicable to other scientific disciplines. Significant contributions have been made in the study of the physical man—his skeleton—since World War II. Scientific methods for determining a person's ancestral lineage have been developed and are readily available. Huge databases of human characteristics addressing many facets of cultures and ethnic origins have been accumulated and validated. These marvelous developments have been used to answer questions that were unanswerable in the past and to solve riddles and puzzles that add considerably to the enrichment of the knowledge of our past.

The advent of these techniques are prologue to new ones not yet developed and not even envisioned today. Key to the success of recent studies is the availability of reference skeletal collections in some museums and government and private institutions. Time-consuming and labor-intensive efforts have been directed toward examining, analyzing, and recording physical manifestations of the lives of representatives of past societies. Synthesis of the collected data enables us to understand more about the health, diet, activities, interhuman conflicts, and other aspects of the daily existence of the individuals represented by these remains.

Not all of the human skeletons collected by such institutions are available for scientific study. Many skeletons from North America are being repatriated and buried in accordance with interpretations of recent laws, principally the Native American Graves Protection and Repatriation Act (NAGPRA). Unfortunately, some prehistoric period remains proffered and returned under the terms of this act were not fully documented using the latest techniques and systems. Consequently, valuable information about the groups represented by these remains are forever lost to science—the ultimate denial of their place in history. Equally disturbing is the probability that some have been erroneously offered as a member of a tribe or cultural group, after being misidentified by inadequate review or reliance on inappropriate criteria. These unfortunate determinations are unfair to both the receiving group and to the person whose remains were repatriated.

Several recent studies of historic period collections reveal what could have transpired if the analyses had not been conducted. The author was invited to study and report on collections of remains from Jamestown Island held by the Colonial National Historical Park (CNHP) and by the Association for the Preservation of



Field photograph taken during the excavation of HR10 in 1940. Analysis proved this man was of African descent. Photo courtesy Colonial National Historical Park.

Oblique view of the skull showing syphilitic necrosis of the frontal bone. The circular opening with radiating fractures provide evidence of a gunshot wound. Putty was applied during conservation and early restoration. Photo by Chip Clark, National Museum of Natural History.

Virginia Antiquities (APVA).[1,2] This study was initiated in conjunction with the recent discovery of two early-17th-century burials inside the perimeter of James Fort. Our studies were sponsored by the holding organizations as a supplement to an earlier NAGPRA inventory.[3] Each set of remains was re-examined and re-inventoried on site to determine the number of bones present, age, sex, ancestry, and evidence of skeletal and dental pathology. The osteological data were incorporated into a computerized database. This bioarcheological database is being developed for comparative research dealing with historic populations.

The CNHP collection illustrates the benefit of comprehensive analysis using modern techniques. Our re-analysis of the 15 sets of remains provided considerably more information about the demographic composition of the series. The sex of 12 individuals was identified and age assessments were revised for 10. Furthermore, the commingled remains of four individuals were separated and isolated components of two skeletons were re-associated.

Seven individuals had been previously identified as Native American, and the remainder were unidentified. More extensive analysis using modern classification procedures and comparative databases recognized the additional presence of Europeans and Africans. Only three Native Americans were affirmed. Five individuals were reclassified as having African ancestry. These remains dating to the 17th century provide tangible evidence of the first Africans in the English colonies.

Of particular interest was the nearly complete skeleton of a man aged 23 to 27 years with changes indicative of advanced tertiary syphilis (Burial HR10). This semi-flexed burial was professionally excavated in 1940 and the fractured cranium was carefully restored. Field and conservation documentation, including photographs, is extensive. Studies completed in 1958,[3] 1984,[4] and 1995[5] identified the person as Native American. Our analysis involved detailed physical and radiographic examinations and the use of the Fordisc 2.0 System,[6] a craniometric discriminate function program designed with known reference series. Our analysis proved that this man was not Native American as previously believed, but was of African descent. Equally interesting was the evidence, verified by computer enhancement of original photographs, that this person had not died from his disease, but from a gunshot wound to the head. The frontal bone of the skull shows a circular defect with radiating wedge-shaped fractures depicting the entry point of the projectile. Radiographs show metallic fragments around the entry wound. The exiting bullet produced several additional fractures to the skull. These bullet fractures were not detected during earlier examinations, probably due to partial concealment by past reconstruction efforts and the unavailability of more modern techniques.

The application of modern techniques to studies of colonial burials is well underway. This survey has identified the remains of Africans; future research has the potential of determining the location of their homeland.

Not only would new information concerning these individuals have been denied to current and future studies, but had the holding organizations not sponsored new analyses, additional mistaken offerings, under federal law, would have taken place. What new and exciting scientific processes will be developed in the future? Often, not even small test samples are allowed to be taken from the collections before reburial. These skeletons of representatives of past Americans will not be available for examination under advanced future ideas, and the resulting knowledge will never be accumulated for use and education of coming generations of all Americans.

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The author thanks the administrators of the Colonial National Historical Park and the Association for the Preservation of Virginia Antiquities for the opportunity to examine the collection from Jamestown Island. Editorial guidance for this article was provided by Malcolm Richardson.

William M. Kelso

Jamestown Rediscovery

Archeological Cultural Resources Management for the New Millennium

The Association for the Preservation of Virginia Antiquities (APVA) could be considered the nation's oldest archeological cultural resources manager. In 1893, the APVA acquired 22.5 acres at the western end of Jamestown Island, the site of the oldest permanent English settlement in America, in order to stop both river erosion of the site and vandalism of an original church tower and graveyard. At that time most people felt the actual site of the 1607 fort settlement had already eroded into the James River. Nonetheless, it seemed like a good idea for the APVA to mothball an area surrounding the one remaining aboveground remnant of the 17th-century town, a brick church, by building a protective concrete seawall to stop erosion and a grass covered park to stop agricultural cultivation. As Virginia began laying plans to observe the 400th anniversary of the founding of James Fort, the Association decided to take an archeological look at just what it was that it had been preserving for a century in the hopes that it could make a major contribution to the nation's birthday. In the spring of 1994, the APVA began *Jamestown Rediscovery*, a 10-year comprehensive archeological research and public education program. The excavations were intended to seek a better understanding of the extent, if any, of the survival of the first fortification, the remains of the first church, storehouse, and settlers' "cabins." They were also to seek signs of craftsmen's activities within and surrounding the early fort and evidence of the native Algonquin influence on colonial crafts, buildings, life style, and foodways. The research also hoped to gain insight into the lifestyles of rich, poor, and non-English among the first colonists and the nature and growth of world trade reflected by the buried artifacts of the settlement.

Five seasons of archeological excavation by the Association for the Preservation of Virginia Antiquities' Jamestown Rediscovery *uncovered the lines of decayed posts that proved to be the remnants of the stockade fenced James Fort, the earliest settlement at Jamestown and the first permanent English settlement in North America.*

These were not unrealistic goals. In only five excavation seasons, this research has shed light on every single one of the original objectives and, typically, uncovered a number of surprises.

But to understand the scope of the discoveries, a short review of the documentary background of early Jamestown settlement is in order. On May 13, 1607, a group of 104 men and boys backed by the Virginia Company of London chose to settle a point of land that was actually an island at very high tide, Jamestown Island. While Captain John Smith and others left Jamestown soon after landing to explore the James River, the rest of the council were left to "contrive [design] the Fort." By June 15, 1607, George Percy, one of the original settlers described the finished fort:

> We had built and finished our fort, which was triangle-wise, having three bulwarks at every corner like a half-moon, and four or five pieces of artillery mounted in them.

Whatever its form and degree of sophistication, the "council's Fort" did not last long. In January 1608, fire either seriously damaged or completely destroyed it. Yet by summer that year it was rebuilt and the overall plan transformed into a five-sided shape. This newer "James towne" seemed to prosper under Captain John Smith's strict leadership, but soon after he left in the fall of 1609, the colony began to deteriorate. By spring, when a supply ship arrived with the first governor, Sir Thomas Gates, and his future secretary, William Strachey, they basically found Jamestown in a shambles: "viewing the fort, [May 23, 1610] we found the palisades torn down, the ports open, the gates from off their hinges." Soon things got so bad that Gates ordered an evacuation of the town. On June 7, 1610, "the survivors sailed down river.

APVA Jamestown Rediscovery *excavations have recovered hundreds of 16th- and 17th-century iron military artifacts like this helmet. High power X-rays of these artifacts determined that nearly 400 years in the ground destroyed most of the objects' stable metal. Left buried and not removed archeologically to a modern museum conservation environment, they will no longer be recoverable in any form in the very near future.*

Much to their surprise, however, they soon met an advance party from the incoming supply fleet of the new Governor, Lord Delaware. Thereafter the new leadership and especially the new supplies quickly seemed to rejuvenate the town. Strachey's next description of the fort is considerably more positive than his first and remains the most exact that is known to exist. Only three days after his return to the abandoned town, Strachey saw a fort of:

> ...about half an acre...is cast almost into the form of a triangle and so palisaded. The south side next the river (howbeit extended in a line or curtain sixscore foot more in length than the other two, by reason the advantage of the ground doth require) contains 140 yards, the west and east sides a hundred only. At every angle or corner, where the lines meet, a bulwark or watchtower is raised and in each bulwark a piece or two well mounted.... And thus enclosed, as I said, round with a palisade of planks and strong posts, four feet deep in the ground, of young oaks, walnuts, etc...the fort is called, in honor of His Majesty's name, Jamestown.

Removal of the upper foot of plowed soil by *Jamestown Rediscovery* archeologists in the yard south of the church during the course of five digging seasons uncovered a number of soil disturbances in the deeper clay that prove beyond a reasonable doubt to be the remnants of 1607-1625(?) James Fort. These early 17th-century features are part of the footprints of the defense work, including sections of two fort walls, part of a projecting corner defensive construction known as a bulwark or bastion and an adjacent outwork, one of the James Fort interior timber buildings, four backfilled pits, a series of ditches and postholes and two graves. The plowed soil and the fill in these features held over 250,000 artifacts, most dating to the first quarter of the 1600s. A surprising number of these objects were over 400 years old, including arms, armor, ammunition, pottery, coins, political tokens, and scrap from the manufacture of copper jewelry for the Indian trade, and glassmaking. The graves contained the coffins and skeletons of a man with a gunshot wound in his leg and a women in a very poor state of preservation, both likely buried during the early occupation of the settlement.

Objects found that were used and thrown away or lost within the palisades are indeed old and military enough to be the signs of James Fort. Excavations uncovered three major artifact deposits directly related to the fort: two backfilled pits and the bulwark "moat." The pits and the moat were all filled at the same time, the datable artifacts in them all point to the 1607-1610 period. They all contained almost identical artifact types

including copper scrap from making Algonquin-style trade jewelry and fragments of delft pottery vessels that could be glued back together from feature to feature. All dated coins or tokens found in the pits, a total of nine, predated 1603. And the nature of the metal finds from the pits are exactly the types of things one would expect to find in a fort: a helmet and helmet fragments, a breastplate, other pieces of body armor, gun parts and equipment, sword and dagger parts, pike heads, powder cartridges, and ammunition ranging from small shot to cannon balls. Dutch political tokens may also attest to the military experience the English soldiers brought with them to Jamestown.

A cobblestone and brick building foundation was also found, east of the bulwark. Enough of the building was dug to suggest that it was 50 feet long and 30 feet wide with two chimneys on the west. A thick layer of ash inside the bounds of the foundation indicates that the building burned. Some of what appeared to be burned flooring was still visible. No artifacts have yet been recovered from construction deposits, but the lack of wine bottle glass across the foundation and in the yard area to the west suggest that it was built and burned sometime before 1650. While the excavations are extremely preliminary, it is tempting to identify this building with some commercial use, such as a storehouse, warehouse, or perhaps a customs house. In any

event, a land patent of 1644 fairly clearly establishes this property as belonging to one John White, a member of the House of Burgesses and possibly a merchant. In fact, a distinctive backfilled ditch aligned with the orientation of the foundation almost certainly marks the division between White's property and the land belonging to the church to the west. This ditch may prove to be the only property line that can be marked with any certainty at Jamestown thus making a significant contribution to piecing together the layout of the town.

The story of early Jamestown continues to become richer with each archeological season. But how is it that this description of total area excavation at Jamestown appears in a cultural resource management periodical? Is not *Jamestown Rediscovery* actually a dreaded "Phase III" process, usually reserved as a last resort for threatened sites, surely not to be used at America's buried birthplace?* In fact, in 1957, the pioneer National Park Service archeologist, John Cotter, recommended at the end of his heroic monographic report on the Jamestown excavations:

> In 1957 systematic trench testing at Jamestown ended, it is hoped, forever. New field techniques...that detect underground features without excavating should be employed at sites like Jamestown—even if we must wait until the celebrations of 2007....

Magnetometers or such like, he reasoned, would let archeologists have their cake and eat it too, enabling them to access the archeological story without the inevitable disturbance of the ground.

Well, perhaps by 2007 there will be a device capable of detecting those all but invisible soil stains of earliest Jamestown. However, recent testing and follow-up excavation at the Rediscovery site show few signs of that on the near horizon. And even if some sort of precise ground x-ray could develop, only excavation with the traditional shovel and trowel can sort out the age and meaning of the features anyway. In other words, it is less likely today that technology will replace excavation than it may have seemed to Dr. Cotter 41 years ago. Shovels and trowels were the basic archeological tools before manned-flight was invented. Shovels and trowels are equally the basic archeological tools in the space age.

While no magical x-ray substitute for shovels and trowels seems within our grasp, another invention has indeed revolutionized the archeological process: the computer chip. While it obviously cannot move dirt, the PC certainly minimizes the destruction of archeological context by making it possible to micro-archive and analyze the excavation record. With a custom program known as Re: discovery for field/ lab text and images and total station/auto CAD, the dismantled parts of James Fort can be preserved digitally far more precisely than the most meticulous records of the past. In that sense, the future at Jamestown is indeed now.

Three other arguments stemming from the *Jamestown Rediscovery* experience bode for re-evaluation of the "don't dig" school of CRM: the threat of time, an almost boundless site, and the crippling learning freeze. *Jamestown Rediscovery* excavations prove that in normal soil conditions at Jamestown metal and bone that have been in the ground for close to 400 years are within a few decades of the end of their survival. So a sizable percentage of the artifacts will not even be there to find in the not-to-distant future. Careful contextual removal and storage in a dry stable environment, however, arrests that decomposition. Also it is clear, based on the rate of excavation during the first five years of *Jamestown Rediscovery*, fully exploring the site of the earliest occupation at Jamestown would take 70 years. So even if total excavation goes forward from the 1990s there will be enough of untouched "Old" Town James for three more generations of "new and improved" archeologists. Add the rest of the Jamestown town site and it is clear that by the year 3007, archeologists might be able to begin to understand the settlement. And finally, if the excavations stop to wait for the perfect technological advance, how could desk archeologists gain the field experience at Jamestown necessary to interpret the discoveries advanced technology may offer? True the Rediscovery excavations benefited enormously from the experience gained by archeologists rescuing Jamestown period sites elsewhere in the Chesapeake region since Cotter worked. No one today could have recognized the importance of the ephemeral clues to early life at Jamestown including the not so obvious signs of the "fort" without the field trials of salvage work in the 1970s and 1980s. But the current excavations prove that there is no better classroom for the excavation of Jamestown than Jamestown. Thus as the millennium closes, the Jamestown experience suggests that the mothball approach to archeological cultural resource management, while it was a godsend in the 1890s, needs serious revision today.

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* The National Park Service and other federal agencies limit Phase III, total excavation of a site, to those sites that may be destroyed or are threatened. Limited archeology to identify and evaluate a site is generally recommended in order to preserve the site for future study.

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Photos courtesy APVA.

Karen G. Rehm and Diane G. Stallings

Cultural Resource Management and Interpretation

A Cooperative Venture

In 1607, the first permanent English settlement in North America was established in Virginia. This settlement represented a cooperative venture between the Virginia Company (investors seeking to increase their wealth by reaping the benefits of the abundant natural resources purported to be located in this new world) and the British government, which hoped to expand its dominion into territory not already claimed by Spain and its other European rivals. John Smith who arrived with the first settlers on May 13, 1607, described Jamestown as "... a verie fit place for the erecting of a great cittie ...." None of those involved with this venture could have guessed the ramifications of this small settlement on the banks of the James River. It was here that representative government got its foothold on American soil, a bi-cameral legislature was established, Native American policies including the establishment of reservations were formulated, and African Americans were brought in from the West Indies and Africa to eventually serve as the predominant labor force for the South and divide a young nation in two. These are the major stories of Jamestown, and yet there is so much more to be told about this small settlement that struggled to survive for 92 years before losing its place as the capital of Virginia to Williamsburg in 1699. The articles in this issue of *CRM* focus on aspects of the Jamestown Archeological Assessment (JAA) as integral parts of the cultural resource management program at Colonial National Historical Park or challenge the policies and procedures in retrieving this information. This article will examine the benefits of the JAA to the interpretation of the site.

It is amazing that most Americans believe that Plymouth was the first permanent English settlement in North America, a myth reinforced every year at Thanksgiving. Some visitors to Jamestown ask to see Plymouth Rock and if the three ships docked at the Jamestown Settlement, the Commonwealth of Virginia state park adjacent to the Original Site, are the *Nina*, the *Pinta*, and the *Santa Maria*. The recent Disney film on Pocahontas resulted in a noted increase in visitation with many children wanting to have their picture taken next to the statue of Pocahontas and asking for the location of the waterfalls and the talking tree. This general sense of confusion has been a challenge to interpreters at Jamestown for most of the 60-plus years that the National Park Service has been interpreting the site.

In the 1930s, the decision was made to neither reconstruct nor try to recreate this 17th-century village. Instead brick formations marked the site of the original foundations and a pastoral setting with only a large obelisk monument, a reconstructed church, and statues of John Smith and Pocahontas dotting the picturesque view of the James River. For the 350th anniversary of Jamestown in 1957, the Service built a visitor center that in 1976 was enlarged to include a large picture window overlooking the New Towne site. Additional archeological testing resulting in a series of booklets on aspects of 17th-century life at Jamestown and brick audio stations placed near the foundations were modest improvements to the interpretive program. The primary stories were told through waysides, special events, guided ranger tours, and first-person living history programs that were developed in the 1970s, and continue to be one of the most popular programs at Jamestown. While the non-intrusive approach has proven to be the best course in light of the recent archeological findings, Jamestown was not necessarily awe-inspiring or fulfilling to the visitor and the park staff. It seemed as though once the story of the settlers landing and the major events of 1619 (representative government and the arrival of African Americans) were told, there was not much left to say. One of the objectives of the JAA was that it serve as a catalyst to reinvigorate the interpretation of Jamestown. The full story from prehistoric times to knowing who lived at each of the house sites and what they did would assist the park in establishing the identity of Jamestown and to relate the vibrancy of this small community and its impact on Virginia and the entire nation.

As in 1607, the JAA was a cooperative venture since the interpreters at Jamestown were given access to the various archeologists, historians,

Field school conducting Phase II survey of New Towne structure that is open to the public. Photo by Tony Belcastro.

anthropologists, and other experts from The Colonial Williamsburg Foundation (CWF)and The College of William and Mary through training sessions and briefings on the most recent findings. Newsletters were developed by the partners on their findings and distributed to the academic community and interested professionals free of charge. Arrangements were made with Eastern National, a Park Service cooperating association, to produce and sell them to the public at a modest fee. The park staff created a special file in the library and used bulletin boards in the office for current reports, press releases, etc., so that materials reached the staff immediately. This information was translated into temporary exhibits displaying some of the recent finds, site bulletins, and interpretive tours of New Towne. Working with the staff at NPS Harpers Ferry Center, the Park developed a new brochure of Jamestown that relates these recent findings to the public. Artwork commissioned for the brochure depicts New Towne in the 1660s, its heyday, with architectural renderings of the structures based on the findings of professionals at CWF and artifacts actually recovered from the site.

Since 1994, when the Association for the Preservation of Virginia Antiquities (APVA) initiated their search for the original fort and its discovery in 1996, there has been an increasing effort to relate these new discoveries to the public who are fascinated by discovering or rediscovering the past. The APVA produces popular publications on each year's findings. In the fall, their lecture series on Jamestown and related sites are booked to capacity. This spring the National Geographic Society produced an exhibit on the *Jamestown Rediscovery* project featuring some of the finest artifacts and the skeleton of one of the first settlers to die at Jamestown. In June the exhibit was put on temporary display at the Jamestown visitor center.

In the fall of 1998, the park sponsored two blue-ribbon weekends of special lectures by the archeologists and historians from CWF and William and Mary. Special park ranger guided tours and an evening program on the "Burning of Jamestown" during Bacon's Rebellion in 1676 enabled the park to focus on the evolution of the settlement from a fort to a capital city. After seeing an advertisement on the park's web page, a 12-year-old boy from the State of Washington enticed his father to bring him to Virginia just to see these programs. Eric Deetz, staff archeologist with APVA, presented dig tours of the first fort site. All of the programs were well attended with the public asking for similar programs in the future.

This five-year assessment also sparked the staff to seek funding to revise one of its most popular education programs on Jamestown Archeology. Funded through the Parks as Classrooms program in 1998, the park staff worked with archeologists and staff from APVA and CWF and educators in James City County to develop an education program that not only incorporates the new findings but has resource based activities and can be adjusted for all ages. The final product will include teacher lesson plans that can be used for various age groups, a video on the process of discovery, and a companion poster.

Although the Service has received several draft volumes on various research topics, including *A Comprehensive Archaeological Survey of Jamestown Island; Jamestown Island Land Ownership Patterns, Historical Data: Volume II;* and *"A verie fit place to erect a great cittie" Comparative Contextual Analysis of Archaeological Jamestown,* with the remaining volumes due in the coming months, this does not mark the end of the comprehensive study of Jamestown. Additional studies and archeological surveys are needed to identify or retrieve resources threatened by an eroding shoreline and to explore sites that were identified during the Phase I survey. In 1998, the park received funding for a study on the African Americans at Jamestown and Green Spring. Based on Doug Owsley's findings (see "Lessons from the Past," p. 17) and the significance of Jamestown to African-American history, the need for specific information on the African Americans who worked and lived in Jamestown, those who owned or traded them, and their connection to the outlying plantations was deemed a critical need in both areas of cultural resource management and interpretation. During African American History month in February, the early findings from this study and slavery in general will be presented through special lectures at Jamestown. Future research will focus on illuminating the stories of all of Jamestown's inhabitants, including Native Americans.

Continued research on both APVA and NPS property is imperative as we move toward 2007 and the 400th anniversary of the founding of Jamestown. Major efforts by the Commonwealth of Virginia, the National Park Service, and APVA are underway in a cooperative manner to re-examine the interpretive facilities and programs to ensure that the story is told effectively and accurately. Knowing the location of the original fort and structures is important, but understanding and interpreting the events and the people who secured England's presence in North America are critical to ensuring that Americans treasure this site as their nation's birthplace. The successful marriage of historical and scientific research developed by J. C. Harrington in the 1930s was fulfilled by the Jamestown Archeological Assessment. To paraphrase John Smith, this small peninsula did become "a verie fit place for the erecting of a great" nation.

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1699 Exhibit—A Symbol of Transition

On April 27, 1699, Virginia's legislature voted to move the capital from Jamestown to Williamsburg. To commemorate this event and the tercentennial of the city of Williamsburg, the Colonial Williamsburg Foundation will feature a special exhibit at its DeWitt Wallace Gallery. Titled "1699: When Virginia was the Wild West," it will open on May 1, 1999, and close early in the year 2000.

The exhibit is symbolic not only of the movement of the capital but of a transition in the partnership between the National Park Service and the Colonial Williamsburg Foundation. After five years of joint efforts in the Jamestown Archeological Assessment, the two institutions have embarked on this new endeavor.

Colonial Williamsburg initiated planning for the exhibit when the Assessment was in its final phase. And, just as The College of William and Mary joined in the Assessment, four other institutions are co-sponsoring the exhibit: the Association for the Preservation of Virginia Antiquities, the Jamestown-Yorktown Foundation, the Virginia Department of Historic Resources, and Historic St. Mary's City.

Museum staff from Colonial National Historical Park and Colonial Williamsburg selected 103 objects from the Jamestown museum collection for the exhibit. The wide range of objects includes weaponry, tools, architectural remnants, and domestic items that typify the rudiments of daily survival. In contrast, the colonial capital's sophistication is revealed in the decorative arts, as represented by a sample of Jamestown's North Devon sgraffitoware, a Chinese porcelain tea bowl, and ornamental plaster figures.

The research partnership between Colonial National Historical Park and the Colonial Williamsburg Foundation made it easier for this exhibit to become a reality. It is probable that cooperative efforts will render additional rewards as Jamestown's 400th anniversary approaches.

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