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Mark P. Leone

Center for Heritage Resource Studies, Mleone@umd.edu

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March 2011 Newsletter

Archaeologists Find Hidden African Side to Noted 1780s Maryland Building

By Mark P. Leone

This is an edited version of a press [release](#) by the University of Maryland published on February 14, 2011, and presented here with the permission of Mark Leone, mleone@anth.umd.edu, and the University.

Evidence of Slaves' Technical Skills and Religion at Enlightenment Greenhouse

College Park, Md. – One of North America's most famous Revolutionary-era buildings – a lone-surviving testament to an Enlightenment ideal – has a hidden West African face, University of Maryland archaeologists have discovered.

Their excavation at the 1785 Wye “Orangery” on Maryland’s Eastern Shore – the only 18th century greenhouse left in North America – reveals that African American slaves played a sophisticated role in its construction and operation. They left behind tangible cultural evidence of their involvement and spiritual traditions.

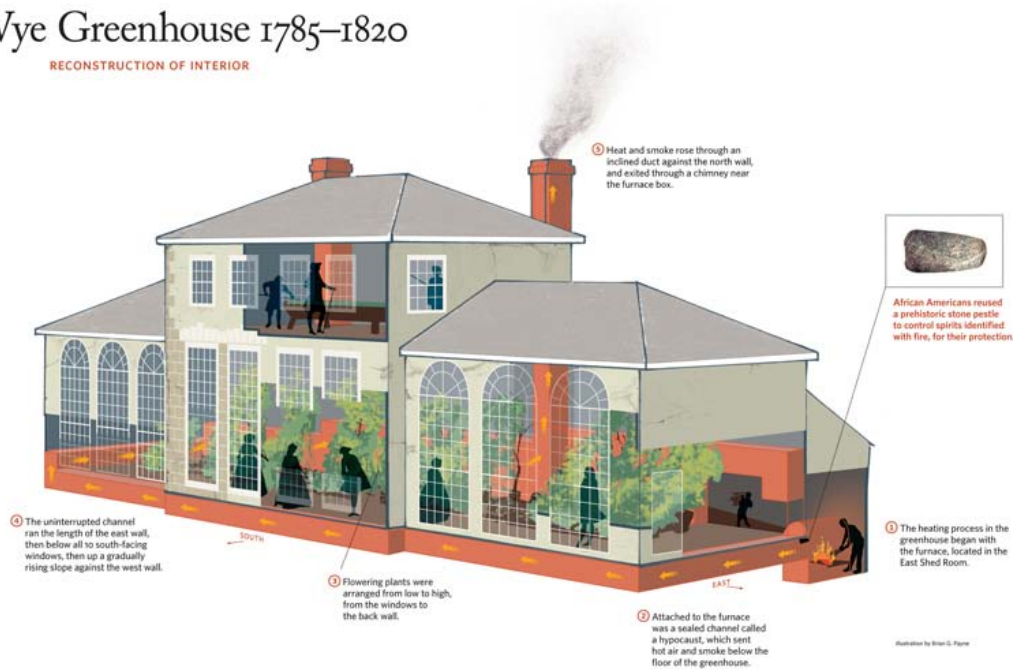
Frederick Douglass, who lived there as a young man, made it famous through his autobiography. But the team concludes it can build on Douglass to make a more full contribution to understanding.

“For years, this famous Enlightenment structure has been recognized for its European qualities, but it has a hidden African face that we’ve unearthed,” says University of Maryland archaeologist Mark Leone, who led the excavation. “Concealed among the bricks of the furnace that controlled the greenhouse temperature, we found embedded a symbol used in West African spirit practice. An African American slave built the furnace, and left an historic signature.”

His team also found an African bundle buried at the entrance to a part of the Wye greenhouse that once served as living quarters for the slaves who maintained the building.

Wye Greenhouse 1785–1820

RECONSTRUCTION OF INTERIOR



The Wye Orangery as it appeared 1785-1820 (Credit: Brian Payne/UMD) (view an enlarged version of this [illustration](#)).

“Ironically, these African symbols distinguish this building from its more elaborate European counterparts, and give it a unique American character,” Leone adds, who has uncovered other evidence of African spirit practice through his Archaeology in Annapolis project.

African American Contributions

The slaves were pioneers in early U.S. agricultural experimentation, the new research concludes. They did far more than manual labor, performing work that today might be conducted by skilled lab technicians, though under far different conditions.

“These greenhouses were for agricultural and horticultural experimentation in 18th century America, and African American slaves played a far more significant and technical role in their operation than they’ve been given credit for,” Leone says. “This work required sophistication and skill, and the slaves provided it.” For example, slaves began experimenting

there with wild greens like broccoli, Seneca snakeroot as a cure-all, ginger root for tea and colds, buckbean as an analgesic and antiemetic, and also hardy bananas.

European Contributions

Leone says that Enlightenment ideals of beauty, natural order and scientific understanding made greenhouses important to colonial-era estates in America and across Europe. His excavation at the Wye greenhouse revealed the European tastes of its owners.

Rare Pollen Analysis

Based on an analysis of centuries-old pollen recovered from the site – a rarely used procedure in historical archaeology – plus written historical records, Leone says the greenhouse started with a range of flowering plants, shrubs, and medicinal herbs. By the 1820s, more exotic plants were cultivated, including lemon and orange trees, and possibly tubs of pond lilies. This corresponds to Frederick Douglass’ descriptions in his autobiography.

The Wye “Orangery” stood on the Lloyd Plantation, a large operation with several hundred slaves. The property, first settled by Edward Lloyd I in the 1650s, is still owned by the descendants. The family has encouraged the excavation for the historical and scientific knowledge it can provide.

Frederick Douglass

The building’s fame stems, in large part, from the garden’s description by Frederick Douglass. In his “Narrative of the Life of Frederick Douglass, An American Slave” (1845), Douglass wrote: “Colonel Lloyd kept a large and finely cultivated garden, which afforded almost constant employment for four men, besides the chief gardener,” he recalled two decades after leaving the plantation. “This garden was probably the greatest attraction of the place. During the summer months, people came from far and near – from Baltimore, Easton, and Annapolis – to see it. It abounded in fruits of almost every description, from the hardy apple of the north to the delicate orange of the south.”

Writing in 1855 (“My Bondage and My Freedom”), Douglass identified the greenhouse chief as Mr. McDermott, the “scientific gardener imported from Scotland,” and again, noting his team.

Pollen analysis confirms the broad sweep of plant life grown in the greenhouse, as Douglass describes it. In turn, his writings provide historical markers in the evolution of the greenhouse. But the total archaeological record suggests Douglass did not recognize the skilled work the greenhouse slaves performed, Leone concludes.

Specific Findings and Conclusions

- Slaves constructed the brick and mortar furnace that regulated temperature in the greenhouse. Evidence for this comes from the excavation’s discovery of a concealed West African-style charm cemented among the bricks at the rear of the furnace where it connects to ductwork – a spot where no one would see it, since spirit practice was conducted in secret. The African America builder of the furnace had placed a stone pestle there to control spirits. This corresponds analogously to the Yoruba practice of placing an old, sharp object from the ground there, Leone says. The pestle was discovered by Drake Witte, who rebuilt the furnace and repaired the heating conduits.



Evidence of African Spirit Practice – Stone Pestle Hidden in Greenhouse Oven. This prehistoric pestle was found cemented among the bricks at the back of the furnace. Leone identifies it as an African charm put there by the slave who built the furnace (Credit: UMD) (view an enlarged version of this [photo](#)).



Stone pestle as found during excavation (Credit: UMD) (view an enlarged version of this [photo](#)).



African charms buried at doorway to greenhouse living quarters. In West African practice, placing metal and pointed objects at the doorway helps deter harmful spirits from entering. These were found buried at the entrance to the slave quarters, until now known only as a potting shed – its most recent use (Credit: UMD) (view an enlarged version of this [photo](#)).

- Slaves lived in the greenhouse, where they could operate the heating system – the “hypocaust” – and maintain the heat, light and water required by the plants. The team recovered evidence of domestic life in one of the greenhouse’s three rooms. Most recently the area has been used for storage. But, buried underground were fragments of earthenware and other domestic objects. Leone says the loft in the room was likely used for sleeping. By the door, the team also unearthed another set of West African charms – a coin and arrowheads – placed there to manage spirits.

Systematic experiments were conducted in the 18th and 19th centuries to determine optimum light, temperature and water requirements of exotic plants, and slaves took an active role in this work. “These buildings were not only for beauty or display,” Leone says, drawing on historic records and modern scholarship. “Plantation owners like the Lloyds also were conducting agricultural experiments. They wanted to have access to exotic plants, and they wanted to learn how to make them thrive. They approached this in a systematic way, and it’s no stretch to consider this scientific experimentation.”

Furnace operators – the slaves – would have had to monitor conditions and maintain temperatures within the recommended range of 42 to 54 degrees F, Leone adds. Working under a Scots gardener, they would have to read the thermometer, understand each plant’s requirements, control the windows and monitor the furnace. The knowledge and skill acquired from these experiments became one of the slaves’ possessions, and helped create an African American tradition of gardening.

Harrison Roberts, born a slave at Wye House, continued the gardening tradition there and died in the 20th century. He mastered the skills while a slave and continued to use them after freedom. “The knowledge didn’t just go away – it endured longer than the plantation system,” Leone concludes, based on an oral history from the 1960s.

- Evolution from greenhouse to orangery – pollen analysis and Frederick Douglass tell the story. In the late 18th century, the greenhouse had a range of flowering plants, shrubs, and medicinal herbs. Over time, the plant arrays expanded, and by the 1820s citrus and more exotic species were cultivated. Lemons and oranges grew there, as did members of the rose family, lily, saxifrage, phlox, iris and members of the nightshade

family. Evidence for this comes from pollen excavated from the greenhouse by the team and analyzed by specialists. Historic records and descriptions also supplement the picture, especially the autobiographical writings of Frederick Douglass, who spent his early years as a slave on the Lloyd Plantation.

- Look of the Greenhouse: Anything in the greenhouse would have been potted or in a trough of some sort, and these would have been in tiers or placed on risers, Leone explains. The plants would probably have been kept in groups, which was the preferred technique shown in gardening manuals at the time.



Part of the Library of Congress Collection of the Orangery. Because of its age and uniqueness, the Orangery has been frequently photographed, but, until now, never systematically examined by archaeologists (view an enlarged version of this [photo](#)).

- The 1785 greenhouse was built on top of an earlier one. Around 1770, Edward Lloyd IV built his first greenhouse. In 1784 or 1785 he started again – the building that stands today, equipped with a hypocaust. At Leone’s request, Bryan Haley, of the Center for Archaeological Research at the University of Mississippi (now of the Tulane Department of Anthropology), used extensive soundings from a magnetometer and ground penetrating radar to discover evidence of the larger, earlier structure. Haley’s analysis showed what may be the underground remains of structures attached to the

original greenhouse, which did not have a heating system within it. This would have been a garden.



Greenhouse as it appears today (Credit: UMD) ([view an enlarged version of this photo](#)).

Pollen Analysis

To analyze the traces of old pollen found buried in the greenhouse soil, Leone consulted with a palynologist. It's the first time the technique has been used on an historic U.S. greenhouse, Leone says. Research scientist Dr. Heather Trigg at the University of Massachusetts, Boston's Fiske Center for Archaeological Research was able to identify families of plants grown in the greenhouse. "The technique often does not permit the identification of specific species," Trigg explains. "Pollen from the rose family was identified in the soil of the greenhouse, for example, meaning that rose, strawberries, or some wild plants, such as cinquefoil, were grown there."

Lloyd Descendants

The Orangery remains active today, maintained by descendants of Edward Lloyd IV, who first started construction on it even before the Revolutionary War. The excavation was launched at the request of the family, and preceded structural work to maintain the building.

“I’m committed to preserving the history of this building and the entire estate,” says Mrs. R.C. Tilghman, an 11th generation descendant of Lloyd. “This land has always been a part of my life, and its preservation comes as a duty.”

The Tilghmans permitted Leone to conduct an earlier series of excavations on the property, which uncovered slave quarters and other buildings.

Slave Archaeology and the University of Maryland

Three of Leone’s graduate students, Matthew Cochran, Stephanie Duensing, and John Blair, conducted the Orangery excavation. For the past three decades, Leone has focused much of his work in nearby Annapolis, launching the Archaeology in Annapolis program. “We’ve rewritten Maryland history in a number of cases by unearthing the activities of African Americans,” he reflects. “The formative years of Maryland’s history were shaped by a blending of European and African culture, and this helps us understand our modern experience.”



Greenhouse interior under excavation (Credit: UMD) (view an enlarged version of this [photo](#)).



Team at work at the greenhouse (Credit: UMD) (view an enlarged version of this [photo](#)).

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