



Archaeologists uncover timbers from the wharf at Mulberry Landing, the second oldest wharf of its kind in the United States. (Author's photograph.)

Tongues in Trees: Archaeology, Dendrochronology, and the Mulberry Landing Wharf

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*And this our life, exempt from public haunt,
Finds tongues in trees, books in the running brooks,
Sermons in stones, and good in everything.*

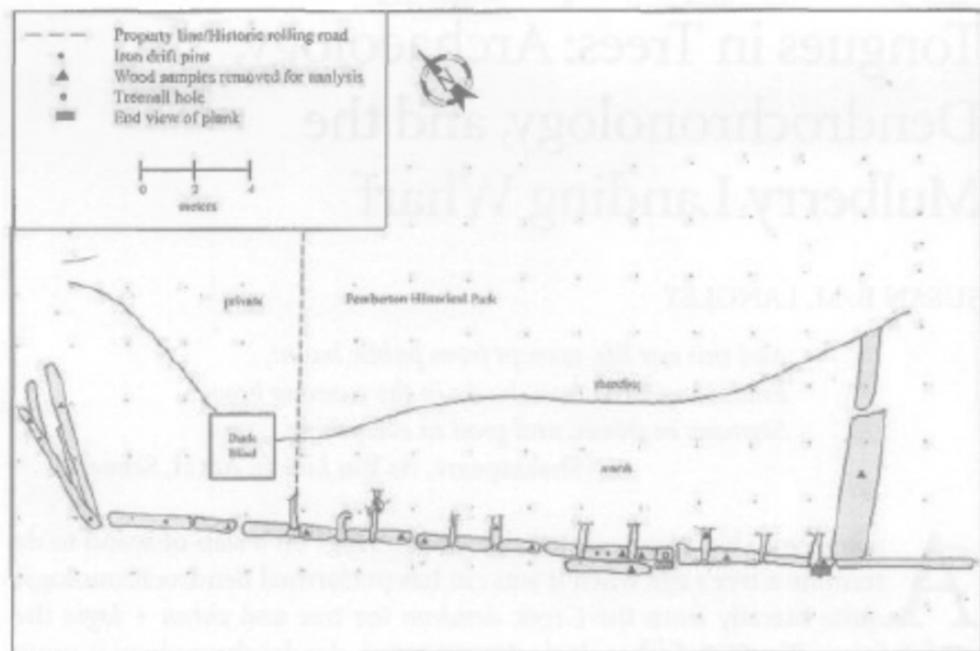
(Shakespeare, *As You Like It*, Act II, Scene I)

Anyone who has ever counted the growth rings on a slab of wood to determine a tree's age when it was cut has performed dendrochronology; quite literally from the Greek *dendron* for tree and *chron* + *logia* the study of time. From an archaeological perspective, dendrochronology is more complicated, but the result is essentially the same. Between 1995 and 1996, archaeological excavations were opened at Mulberry Landing, Wicomico County, Maryland, to determine the extent, configuration, and age of the wharf remains frequently exposed there at low tide.

Mulberry Landing is at the mouth of Bell Creek on the Wicomico River, within the Pemberton Historical Park, approximately two miles southwest of the city of Salisbury on Maryland's Eastern Shore. Although the park encompasses numerous prehistoric sites, it was created to protect the remains of an eighteenth-century plantation, Pemberton Hall. In addition to the main standing manor house, the grounds contain palimpsests of other structures, including outbuildings and the area known as Mulberry Landing, where documents note that a wharf existed from the second quarter of the eighteenth century through the last decades of the nineteenth. There are two periods in which the wharf might have been constructed; the archaeological challenge was to confirm the correct one.

The original Pemberton tract consisted of nine hundred acres, patented in 1679 to Colonel William Stevens in Somerset County. Wicomico County was subsequently formed from part of Somerset, and Pemberton fell within the new boundary. Although the property passed through several hands, including a Thomas Pemberton from whom the name derived, it remained undeveloped until it was purchased by Colonel Isaac Handy in 1726, the year he married

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Map of original property, indicating Mulberry Landing.

Anne, of the wealthy Dashiell family. Four years later he had the property resurveyed, adding an additional seventy acres that included the adjacent island known variously as Mulberry, James, Net, and Bell. On the island was a small house, which may have served as the Handy residence while he built Pemberton Hall.

Listed on the National Register of Historic Places, the Hall is a three-bay, one and one-half story, gambrel-roofed brick house in Flemish Bond. A brick above the original side door bears the date 1741. This door is now within a single-story kitchen reconstructed in the 1970s. The house represents one of the earliest gambrel-roofed structures in the state.

Handy had inherited a partial interest in the sloop *William and Mary* from his father in the 1720s and added to his possession the forty-ton sloop *George*. By 1741 he had established himself in the shipping business, exporting to England, among the commodities, tobacco, wool, linen cloth, and cider, all produced on the estate. His son George served as captain and master of the sloop of that name during his father's life and continued to use his father's wharf until the late eighteenth century. At Isaac Handy's death in 1763, the property was divided among his four sons with the youngest, Henry, inheriting the home parcel. Henry ran the plantation much as his father had, experimenting with growing cotton and adding to his portion whenever possible so that at the time of his death in 1787 it consisted of 437 acres, almost half the size of the undi-



Pemberton Hall today. (Author's photograph.)

vided tract. Henry and George, who owned the adjacent lands, spent much time disputing boundary and rights-of-way to, and use of, the wharf.

Henry's son, also Henry, added a successful commercial tannery to the property before his death in 1803 led to the division and sale of the property three years later. Although sold to another sibling, the property remained entangled in legal disputes until 1835, when it was sold to Jehu Parsons. The Parsons family abandoned tobacco and cotton for mixed farming but maintained the cider distillery and developed the wharf facilities. Parsons had two sons; one, also named Jehu, later became mayor of Salisbury, and the other, Alison, inherited the plantation in 1859. Alison's estate inventory of 1868 lists no fewer than six vessels (ranging from a canoe to the schooner *George Edward*), more than sixteen hundred feet of pine and chestnut wharf logs and posts, and ships' stores of turpentine, sails, spars, and anchor chain. Equity files also indicate development around the wharf including at least two buildings (a storehouse and an office for the latter). The wharf appears on an 1865 property plat that depicts it extending more than one hundred feet onto the adjacent property.¹

After Parsons' death (1868) the property was sold to Elihu Jackson, later a governor of Maryland, and James Cannon. Sold again in 1884 to Cadmus Taylor, the land was held in that family until 1960. The next owners, the Rayners, sold the house and road right-of-way to the Maryland Historical Trust three

years later, and the manor was conveyed to the Pemberton Hall Foundation in 1977. The Wicomico County Department of Recreation and Parks bought the surrounding sixty-one acres in 1978 and an additional 164 acres in 1987 to preserve some of the land from extensive suburban development.

The wharf was probably constructed either by Isaac Handy in the second quarter of the eighteenth century or by Parsons a hundred years later. The shallow burial of the timbers, their extension at least a hundred feet in front of the adjacent property, and the presence of several iron drift pins proportionate to the wooden pegs called treenails, make the later time period seem most likely, but no plats from the earlier period indicate the orientation or extent of the original wharf.

This project, to date the Mulberry Landing timbers, was not the first study undertaken at Pemberton Hall. Archaeological activities have been conducted sporadically on Pemberton lands since the 1960s, but few have been done professionally and only two have generated reports.² Although these both make reference to the wharf remains, neither involved any excavation or testing of the area around the landing. The official site form for the wharf, filed with the Maryland Historical Trust in 1982, notes the age as "probably dating to the nineteenth century" with no supporting evidence. Sanders and Moran claim that the wharf timbers are nineteenth-century, although they undertook no investigations at the wharf. Andrea Heintzelman, noted for her wharf studies,³ worked with a local chapter of the Archaeological Society of Maryland in 1986 on a limited testing project that was not completed nor was a report generated.

The project to date the Mulberry Landing wharf began with the intention only of opening a handful of test units to assess the amount and condition of the wharf remaining and examining the construction techniques used thereon. From whatever evidence those efforts uncovered, and from any associated diagnostic artifacts that turned up, the project would attempt to determine the age of the structure. Two-thirds of the remains were cleared, photographed, and measured. The site's location in the tidal zone made windows of opportunity cyclic and brief. Construction of mud dikes with the excavated material extended these windows and when possible the archaeologists coordinated field days with lunar phases to ensure maximum work at low tides. During periods of inactivity at the site, they covered exposed timbers with heavy plastic to keep them wet and to facilitate removal of overburden (archaeologically insignificant soil) when work resumed. Encircling the site with a barrier, pumping it dry, and then excavating within the coffer dam was impractical and prohibitively expensive in view of the fact that the project had virtually no budget. However, in the final stages, the Pemberton Hall Foundation contracted for a backhoe to dig a small sump pit to aid in keeping the site drained for a day. Archaeologists undertook no excavation on the shore, where no obvious re-

mains of any wharf-related structures remain, although traces of the original road to the landing still exist. It ran along the boundary of the park and privately owned land downstream.

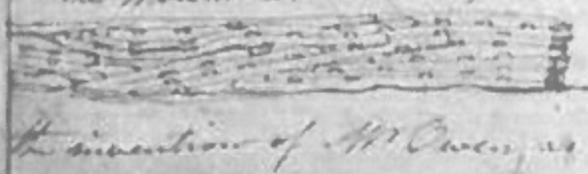
We learned that the wharf's remains consist mostly of two courses of timbers, squared only on the top and bottom, joined by lapped scarf joints pinned by treenails and, in several places, with iron drift pins. There is evidence of a third course at the western (downstream) end and in the middle, where fallen timbers lie nearby. It is of bulkhead style construction: three sides with the shore making the fourth and held in place by large end timbers and with tie-backs dovetailed into the facing wall and angled back into the fill and shoreline.⁴ There the butts are held down by small poles pounded into the ground at angles such that they cross over the tie-back; these occur at approximately ten-foot intervals along the entire facing wall of the wharf. Some of the ties were deliberately shaped into a classic dovetail, while others were merely natural shapes deemed suitable for the task. The naturally shaped tie-backs were original and not hasty replacements. Since wood was not at a premium, this small economy does not seem in keeping with the overall construction method. Perhaps these were considered to have inherent strength, just as shipbuilders selected naturally shaped, or compass, timbers for specific pieces of ship architecture.

The space between the facing wall and the shore was filled with saplings, earth, and scrap branches. The archaeologists found neither the stone nor domestic debris that is common in many wharf structures. The adjacent shore has had fill added in recent years, and this may be the source of much of the sand in the area. The front face of the wharf is 51.5 meters long from end timber to end timber, with a 4-meter extension on the upstream end. Timbers average 48.5 cm. in width and 38 cm. in thickness. Since there is a thick bark layer on the interior and exterior faces which accounts for 6–10 cm. of the width, the timbers in fact average 38 cm. in width as well, making them square in section. Tie-backs average 10 cm. in width and 4 cm. in depth. No diagonal braces were encountered at the ends which may explain why the heavy end timbers have splayed outward. The upstream timber is the single largest piece in the structure, of pine, probably either Virginia (*P. virginiana* Mill.) or loblolly (*P. taeda* L.) like the rest of the wharf. It is 78 cm. thick and 60 cm. wide. There are three courses of end timbers at the downstream end, but only one is *in situ* and it is more the size of the facing timbers.

Comparison with eleven other archaeologically documented wharves from New Haven, Connecticut, and New Bedford, Massachusetts, to as far south as Swansboro, North Carolina, proved of limited value for dating the site.⁵ Most were of crib-style construction, either open or closed, floored and then filled with stone, sand, mud, or debris. They dated generally from the second quarter of the eighteenth century to the mid-nineteenth century, exactly the periods

Several years, & in countries where wood is in greater plenty
 than Europe capitals, ^{large enough to} ~~achieve~~ ^{space a} ~~proportion~~ ^{proportion} for a more
 marant heat more expensive erections, in the first place
 a number of round logs are lapped together to the length of
 the wharf on the edge of the station. The angles are returned
 by the logs, ^{most dissimilar pieces,} and pins, are dovetailed onto the front logs to
 as land lies. This machine being made, ^{it is} carried out to the
 sea where it floats.

Another is then made
 exactly of the same size & construction ^{to} ~~be~~ ^{placed} upon it is fixed
 with ^{two} ~~two~~ ^{rows} of ^{iron} ~~iron~~ ^{bolts} ~~bolts~~. A third & fourth proceeds, and the
 wharf pikes it is pushed further and further from shore.
 At last it finds the bottom at the depth intended, & the
 back is then filled up with Ballast Stones & Charcoal,
 that is, young ^{tree} ~~tree~~ ^{trunks} ~~trunks~~ ^{about} ~~about~~ ^{two} ~~two~~ ^{feet} ~~feet~~ ^{diameter} ~~diameter~~ cut in to logs
 of ^{two} ~~two~~ ^{feet} ~~feet~~ ^{long} ~~long & parallel across the tier. The lower logs
 which are either sunk in the mud or constantly covered with
 water last a great number of years without injury, but those
 that are alternately wet & dry, are devoured by the worms in the
 course of 7 or 8 years, the work is to be done over again. The
 then appears the most irregular twisted appearance imaginable
 and the machines erected upon it are in various altitudes.~~

 ^{Supports} These wooden
 wharves are said to have been
 the invention of Mr Owen, or Holdman. He was a

Benjamin Henry Latrobe's journal entry with sketches showing building and wharf construction.
 (Maryland Historical Society.)

covered by the two contenders as the source of the timbers in question. Of the documented sites, Keith's Wharf in Alexandria, Virginia, most closely matches that at Mulberry Landing in that it is of bulkhead-style construction and dates to about 1785.⁶ Cheapside wharf in Baltimore has elements of both crib construction and some bulkheading and dates to between 1754 and 1773.⁷ These provide little argument in favor of either period under consideration, falling as they do midway between. This is also true of a reference from the journals of the noted architect and engineer, Benjamin Henry Latrobe, dated Norfolk, March 23, 1796. He described and sketched a house with a mansard roof which looks very similar to Pemberton. He then commented:

The river is crowded with [torn page] and ill looking weatherboarded Warehouses, upon log Wharfs turned[ed] into every direction of obliquity. The said Log wharfs des[erve] description more than imitation, but they answer the purpose [for] several, years, in a country where wood is in greater plenty, than capitals, large enough to spare a sufficiency for a more permanent but more expensive erection. In the first place a number of round logs are lapped together to the length of the wharf on the edge of the Water. The angles are returned by other logs with diagonal pieces; and the pieces are dove-tailed into the front logs to serve as land ties. This machine being made, is carried to the river where it floats. Another is then made exactly of the same size and construction and being laid upon it, is fixed with treenails (Trunnells). A third and fourth succeeds, and as the wharf sinks it is pushed further and further from Shore. At last it finds the bottom at the depth intended, and the back is then filled up with Ballast stones and Wharf wood (that is, young fir trees of about 4 or 6 inches diameter) cut into lengths of 10 or 12 feet and laid parallel across the ties. The lower logs which are either sunk in the mud or constantly covered with water last a great number of years without injury, but those that are alternately wet and dry, are devoured by the Worm in the course of 7 or 8 years, and the Work is to be done over again. The Wharf then assumes the most irregular twisted appearance imaginable and the Warehouses erected upon it nod in unison with their support. These wooden wharfs are said to be the invention of Mr. Owens, a Welchman. He was a drunk dog, continuing in a state of intoxication sometimes a week together, but when moderately sober his ingenuity and industry made up for lost time.⁸

Latrobe continued at length with delicious gossip about Mr. Owens, his wife's attempts to cure him of drink, which killed him, and the widow's subsequent suitors. Latrobe wrote this immediately upon his arrival from England with its



Original eighteenth-century timbers at Mulberry Landing. (Author's photograph.)

dressed stone quays, so it is not a little biased in its rather harsh assessment. The sketches do bear a strong resemblance to Mulberry Landing, and it is a reasonably accurate description of the construction techniques employed (Fig.5). Adz chips and other construction debris recovered from the mud at the exterior base of the front wall indicate that some of the timbers were dressed in place. The overall paucity of artifacts was surprising: no pipestems, liquor bottles, or domestic refuse, only a walnut-sized nugget of eroded brick and a handful of oyster shells, all possibly from a nearby midden of indeterminate age. A volunteer walking along the shore of the creek located a couple of sherds of Late Woodland Townsend pottery, circa A.D. 900-contact, and some metal-detecting hobbyists (who were permitted to assist for a day) turned in a couple of eighteenth-century buttons found near the edge of the wharf roadway. The only diagnostic artifact from the water is a shipyard jack that dates to the mid-nineteenth century but which was found in the mud external to the wharf. Whether it was used in vessel construction, wharf repairs, or fell off a ship being loaded is something we will never know.

Archaeologists often speak of "asking questions of their data," and so it fell to the wharf itself to tell its age. The presence of the bark layer made the wharf an excellent candidate for dendrochronological analysis. Jack Heikkinen from Dendrochronology, Inc. of Blacksburg, Virginia, took fourteen samples, twelve from along the entire length of the wharf wall and two from tie-backs to determine species and to ensure that any extensions or additions would be noted. He confirmed that all elements were of pine and, using a patented computerized method he calls his key date technique, determined that the wharf must have been constructed prior to 1748 as the latest date was 1747 and many were earlier.⁹ This fits well with the construction of Pemberton Hall in 1741. He also noted there was no indication of insect damage. This suggests that the timbers were used as soon as they were cut—not cut and stored for use at a future time. The heavy anaerobic mud also precluded damage by marine borers. Therefore, it is safe to say the wharf was built on the orders of Isaac Handy himself. The presence of a larger proportion of the more costly iron drift pins relative to treenails may be indicative of Handy's wealth or the importance he placed on his maritime endeavors. Equally they may be later additions, either by the Handy family or by the Parsons family, to prolong use of the older timbers.

The work establishes the wharf at Mulberry Landing as the second earliest archaeologically documented wharf structure. Cruger's crib-style wharf in New York City has been dated to 1739–¹⁰ and the earliest bulkhead-style wharf on the eastern seaboard, thereby the earliest in the country. The project was successful on two levels; it answered the archaeological question and provided, over two years, field opportunities for over a hundred volunteers.

NOTES

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