Highway to the Past

The Archaeology of Boston's Big Dig

Ann-Eliza H. Lewis, Editor

With contributions by:
Brona G. Simon
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Foreword

As Chairman of the Massachusetts Historical Commission, I am pleased to present *Highway to the Past: The Archaeology of Boston's Big Dig*. This publication captures the history and character of archaeological sites that, remarkably in this densely developed city, remained untouched for centuries. Now they tell us the stories of people who lived or worked at the sites long ago. Before work started on the Big Dig, the largest public works project in our nation's history, archaeologists excavated a number of sites in the path of construction. As you will read, the recovered artifacts provide detailed information about life and events in early Boston.

Federal and state archaeological and historic preservation laws insure that publicly funded projects take into consideration the identification and protection of historic resources before the actual project starts. Congress and the Legislature (or The General Court) wisely anticipated that such large projects would be in the public interest, but at the same time did not want these projects to destroy all evidence of the nation's patrimony without consideration of alternatives. For all its dilemmas and disruption, the Central Artery project is a national model of preservation planning and protection.

However, federal and state preservation laws do not address public interpretation and display of the findings of archaeological investigations. The Massachusetts Historical Commission is grateful that the Legislature chose to support a modest exhibit of the artifacts at the Commonwealth Museum, the development of school programs and curricula, and a small traveling panel exhibit.

I extend my gratitude to The Gillette Company for generously supporting the publication of this booklet and its wide distribution to schools, libraries, and museums in the Commonwealth. Thanks to Gillette, which also supported the Big Dig exhibit, the public can share in these exciting discoveries about Boston's past.

William Francis Galvin
Secretary of the Commonwealth
Chairman, Massachusetts Historical Commission

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The Gillette Company is honored to sponsor the publication of "Highway to the Past – The Archaeology of Boston's Big Dig."

The Big Dig, which is shaping Boston's transportation future, has revealed a remarkable story about our city's past. Thousands of artifacts uncovered in the path of excavators provide a first-hand look at Boston centuries ago, from Native American settlements of the pre-Colonial period, to the home of a 17th-century widow, to a 19th-century glass factory in South Boston.

Gillette supported the exhibit on which this book is based, "The Central Artery Project – Highway to the Past," at Boston's Commonwealth Museum. Presented by Secretary of the Commonwealth William F. Galvin and the Massachusetts Historical Commission, the exhibit has treated museum visitors, including thousands of school children, to a unique view of Boston's history.

Gillette's relationship with Boston goes back a century. King C. Gillette, inventor of the safety razor, founded the Company in Boston in 1901. Operations began that year over a fish store on Atlantic Avenue. Today, Gillette is a $9 billion global company with 39 facilities in 19 countries, led by our flagship South Boston Manufacturing Center, better known as "World Shaving Headquarters."

As Gillette moves into its second century, we are proud to call this vibrant city our home.

Edward F. DeGraan
President and Chief Operating Officer
The Gillette Company

Acknowledgments

Any public education and exhibit program depends on high-quality research. The archaeological research presented in this book is the result of many years of study by a number of fine scholars. The Institute of Conservation Archaeology at Harvard University, The Public Archaeology Laboratory, Boston University's Office of Public Archaeology, John Milner Associates, and Timelines, Inc. all contributed to the archaeological research. The fieldwork conducted by the people at these organizations provides the foundation for the Massachusetts Historical Commission's successful education programs.

Many agencies and organizations have supported Central Artery archaeology including: the Federal Highway Administration; Massachusetts High- way Department; Massachusetts Turnpike Authority; Advisory Council on Historic Preservation; and the Boston Landmarks Commission. The archaeology was overseen by the Massachusetts Historical Commission.

Many organizations and individuals supported the exhibit Archaeology of the Central Artery: Highway to the Past on which this book is based: The Commonwealth Museum; The Massachusetts Archives; Maxine Trost, Curator and Associate Archivist of the Commonwealth; Boston City Archaeologist, Ellen Berkland; John Dalzell, formerly of the International Bowling Museum and Hall of Fame; Ancient and Honorable Artillery Company, Boston; Barbara Luedtke, University of Massachusetts, Boston; Blanchard's Tavern; Dennis Piechota, University of Massachusetts, Boston; Kenneth Wilson; Marine Model Gallery, Salem, Massachusetts; Museum of Fine Arts, Boston; Old Sturbridge Village; Patrick Otton, Department of the Navy, Charlestown, Massachusetts; Plimoth Plantation; Robert S. Peabody Museum of

Archaeology; Sandwich Glass Museum; the Society for Historical Archaeology; the Family of Charles O. MacDonald; and the House of Seven Gables.

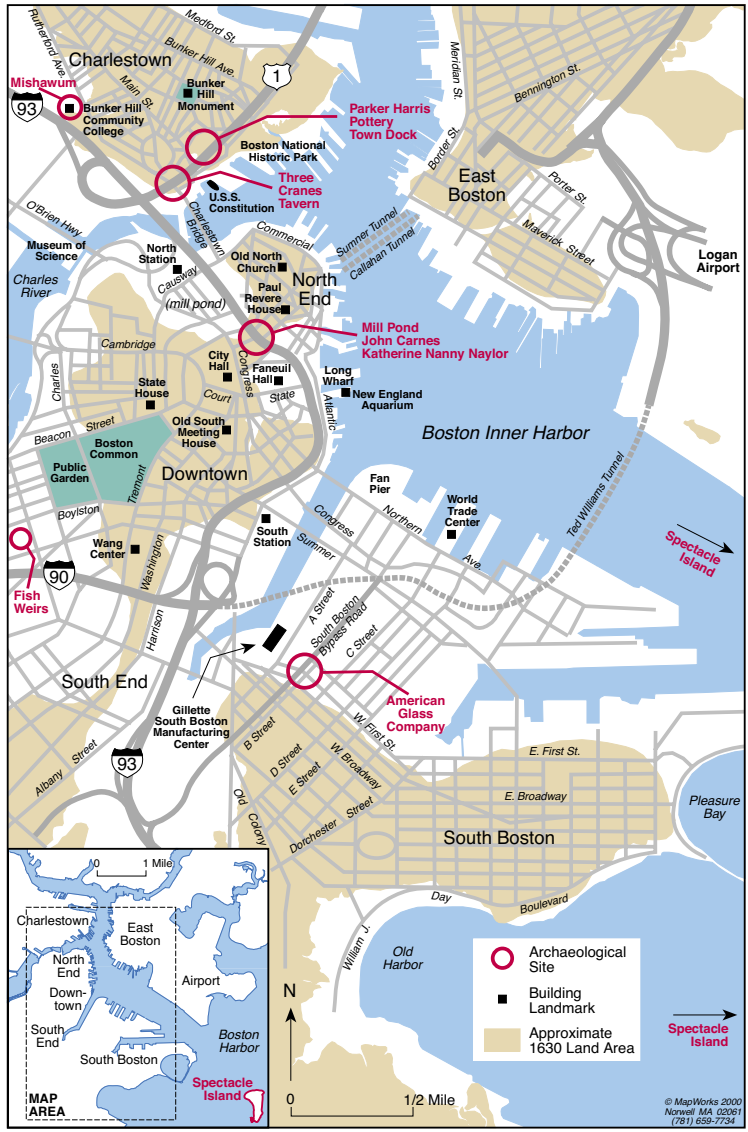
Special thanks are due to William Francis Galvin, Secretary of the Commonwealth and Chairman of the MHC; Judith McDonough, State Historic Preservation Officer and Executive Director of the MHC; and State Archaeologist Brona Simon for their commitment to preserving the Common-wealth's archaeological re- sources and for their support of creative archaeology education. Their work of many years to fund and staff a curation laboratory to care for the Commonwealth's archaeological collections provides the foundation for the success of the program.

This book was designed by Thomas M. Blazej, Director of Graphic Communications for the Office of the Secretary of the Commonwealth. Herb Heidt and Eliza McClennen of Mapworks created the maps.

The staff at the MHC's Archaeological Curation Center has undergone a number of changes but the following people have all made significant contributions to the education program and to the exhibit on which this book is based: Christa Beranek, Jeff Carovillano, Margo Muhl Davis, Frederica Dimmick, Harley Erickson, Liz Kiniry, Alicia Paresi, Rita Reinke, J. N. Leith Smith, and Carolyn White.

The Gillette Company's support of Archaeology of the Central Artery: Highway to the Past is greatly appreciated. Its generous contributions have made it possible for us to produce a high-quality book and to distribute it for free to schools and public libraries throughout Massachusetts as well as to the general public. ◆

Map of the Central Artery Project with the locations of the sites marked in red. The coastline of Boston, circa 1630, is shaded tan.

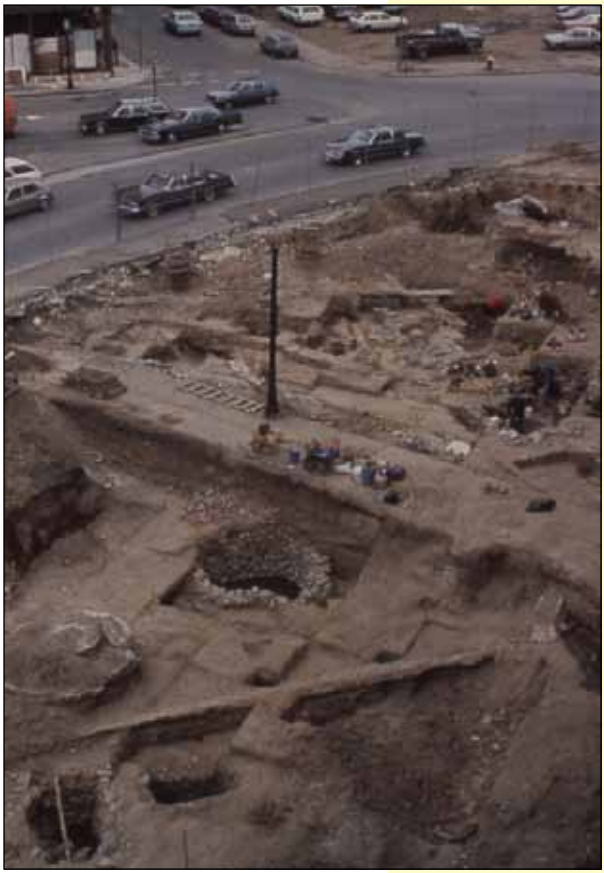


Archaeology and the Big Dig

Ann-Eliza H. Lewis

When people imagine archaeologists at work, they don't usually think of a modern city like Boston. You might picture someone excavating a pyramid in the desert or maybe a hidden temple in an exotic jungle, but not someone digging in an urban center. But in an historic city like Boston our past is everywhere—above and below ground. For thousands of years Native Americans have called this area home, and for the nearly four centuries since the first Puritans arrived, immigrants from all over the world have settled here. That is a lot of history. All of these people have left things behind, and these things become the archaeological record of their time in the Boston area. Over the last several years many sites have been excavated in downtown Boston, but no project has provided as great a view into Boston's archaeological past as the Big Dig.

The Big Dig—also known as the Central Artery Project—is the largest and most complex construction project ever attempted in the United States. The Central Artery Project will replace the elevated I-93 highway with a state of the art underground tunnel. The project is aptly named because the Central Artery is



An overhead view of excavations in full swing in Charlestown's City Square in the mid 1980s.

Archaeology and the History of Glassmaking in South Boston

The Big Dig passes through a section of South Boston that was a thriving center of glass production throughout the 19th century. Central Artery Archaeologists had a unique opportunity to explore this aspect of South Boston's industrial heritage.

The Boston Glass Manufactory built the first factory on this site in 1811 with the intention of producing window glass. The War of 1812, however, limited access to the necessary ingredients. During this difficult time, Thomas Cains, a worker in the factory leased a furnace to make flint glass (often called lead glass or lead crystal). Cains's company, the South Boston Flint Glass Works continued to operate as a subsidiary of the Boston Glass Manufactory for nearly 10 years until Cains opened his own factory on a new site. Cains is often called the father of the flint glass industry in the Atlantic states, but before the recent archaeological research few examples of his work were known. The Big Dig has provided new insight into this successful businessman's work.

After Cains separated from the Boston Glass Manufactory, the company reorganized itself several times and experienced various financial difficulties. It wasn't until Patrick Slane leased the site in 1843 that this glass factory entered another successful and productive phase, this time under the name, The American Glass Company.

Over the years the glass factories on this site produced a wide variety of items and introduced a number of advancements in the technology of making glass that helped to modernize the industry while satisfying the growing demands for affordable glassware. In addition to window glass the various factories produced perfume and apothecary bottles, chemical glass such as pipettes and test tubes and many fancy tablewares, lamps, and candlesticks.

These cologne bottles stand just a few inches high and were manufactured at the American Glass Company in South Boston in the mid 1800s.

just that—a highway that runs right through the heart of Boston and through some of the city's most historic neighborhoods. From such a sweeping construction project, you would expect nothing less than some of the most important archaeology ever conducted in Massachusetts—we were not disappointed.

Where to Begin?

The Central Artery Archaeological Project provided an unprecedented look at Boston's archaeological past, from early Native American residents of Massachusetts Bay through the arrival of European colonists and the American Revolution and on to the Industrial Revolution. This book summarizes the exciting discoveries from the Big Dig Archaeology project, but it is not a comprehensive report. Big Dig archaeological research began in the late 1970s and continued on and off through the 1990s. If you were to stack up just the reports on the excavations and scientific analyses that resulted from these years of research, the pile would be more than four feet high, and that does not include all the field and research notes, which would add many more feet. The archaeological collections fill more than 1,000 boxes.

Excavating sites in an urban area such as downtown Boston is a considerable challenge. The conditions are often much dirtier than at a rural site and the logistics can be a nightmare, but the rewards far outweighed any of the difficulties on this particular project. The extensive urban development in Boston destroyed many archaeological sites long before the laws were put in place that protect them today. But as you will see in reading this book, small pockets of land were found that contained significant archaeological evidence of our past.

Donning safety vests and hardhats, archaeologists work in less-than-perfect conditions directly under the current elevated highway.

We are frequently asked how we found these pockets. The truth is that many months of research often precede an excavation. Big Dig archaeologists used a combination of traditional historical research and high tech methods. Maps from the 17th, 18th, and 19th centuries were the most useful. Archaeologists compiled the maps and adjusted the scales so they could be compared. Since much of Boston is built on filled land, a lot of time was spent just trying to figure out what was land and what was water at different points in time. Archaeologists also had to rule out all the city lots where there are buildings with deep foundations, and they had to identify all the utility trenches. After all this research, a few places emerged where there had been little building activity in the last century, and these were the areas that were tested.

When all was said and done, important sites had been discovered in Charlestown, the North End, South Boston, and on Spectacle Island. In Charles-town there were both Native American and historical sites including a large Native American site, the first stoneware pottery in New England, Governor John Winthrop's first home in the colony, a distillery and a tannery, and a number of docks and wharves. The North End sites include a lot along the former Mill Pond, the home and workshop of a colonial metal smith, and a privy, which belonged to an intriguing Puritan woman. Archaeologists excavated a shell midden on Spectacle Island, and in South Boston they examined a 19th-century glass factory. All told there were sites that spanned several thousand years of human occupation in the Boston area.

In this short book we provide just some of the highlights of the larger project. This book is based on the exhibit Highway to the Past: The Archaeology of the Central Artery Project, open at the Commonwealth Museum from July of 1999 through July 2001. The exhibit was organized around the neighborhoods through which the Central Artery passed; we have maintained that organization in this book. In the pages that follow you will find archaeological tours of Massachusetts Bay, Charlestown, and the North End. ◆

Archaeology 101

When I ask students what an archaeologist does, invariably the answer is "they dig up old stuff." And we do…most of the data we analyze comes out of the ground. But an archaeologist's goal isn't to dig up artifacts; it is to learn about and understand human behavior. Digging is only a small part of archaeological research and sometimes it isn't even necessary. Archaeologists are social scientists who study people who lived in the past by looking at the material the people left behind. Archaeologists want to know how people lived, what they ate and how they prepared it, what they believed in, how they organized their families and their governments, what made their lives meaningful, and how and why cultures change over time.

In a sense archaeologists are storytellers. We want to tell a story about how people lived in the past. To write the story, we collect clues—often by excavating an archaeological site. The clues are mostly artifacts, that is, anything that has been made or used by a person. It could be the ruins of an ancient city, a cache of tools left behind by a Native American, the trash in a privy, or the privy itself. By using such a broad definition of an artifact archaeologists can study just about anything. A great deal of research must be done before deciding to excavate, and after an excavation most archaeologists count on at least three days of lab work for every day spent digging. Then an archaeologist must publish their research and arrange for the permanent curation of the artifacts and research notes.

To make the jump from the artifacts we dig up to human behavior we look at something called "context." Remember when you were learning to read and your teacher told you to use the context to define an unfamiliar word? It's a similar process for an archaeologist. The stories of people who lived in the past emerge from the combination of artifacts found, from their relationships to other artifacts, and from their location in the ground. For example, a musket ball found with some deer bones tells a very different story from a similar musket ball found inside the ruins of a fort.

(continued)

Many activities are visible in this overview of the Three Cranes Tavern Site. Archaeologists use the grid pattern to track the exact find spot of each artifact; all excavated dirt is carried to a screen, visible in the lower left. Sifting the dirt or "screening" helps to recover even the tiniest artifacts. Large sheets of plastic are ready in case a sudden rain threatens the exposed site. At the top, an archaeologist stops to record her findings in a notebook.

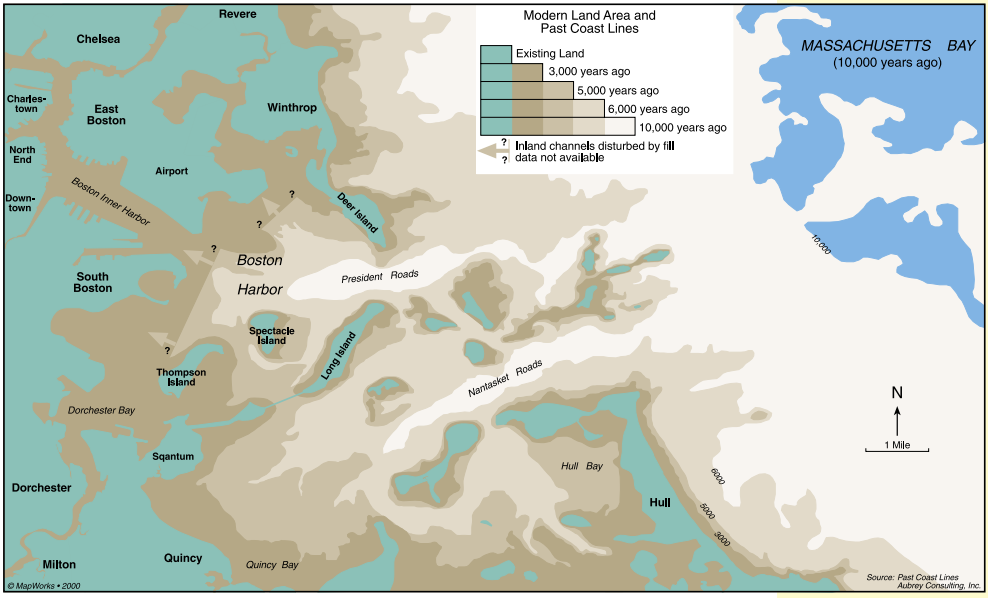
Archaeologists conduct their research much like any other scientist. We take careful notes and document each step. There is, however, one significant difference between a traditional scientist and an archaeologist. Most scientists can repeat their experiments if they need to, but excavating a site destroys it forever. Once the site is excavated, it exists only in our notes and the recovered artifacts. That is why proper training is crucial for an archaeologist. If an archaeologist in the future wants to restudy the Central Artery sites—the only records are the notes and artifacts collected by the current Central Artery archaeologists. Their work is their legacy.

Massachusetts Bay

Brona G. Simon

Imagine the excitement felt by the archaeologists who discovered ancient Native American archaeological sites in a modern urban setting like the Charlestown section of Boston during their investigations of the Central Artery project area. The original landscape of Boston has been so heavily modified, graded, filled, and built upon by colonists and urbanites over the past nearly 400 years, as to be unrecognizable as ever having supported Native American settlements. Yet small pockets of Native archaeological sites have been found in Boston giving us small windows to see the past. In addition, sites discovered on the undeveloped Boston Harbor Islands provide a chronicle of thousands of years of Native American occupation. Native peoples have lived in Massachusetts for over 12,000 years.

Imagine yourself a Native visitor to the Boston area 8,000 to 10,000 years ago. You would



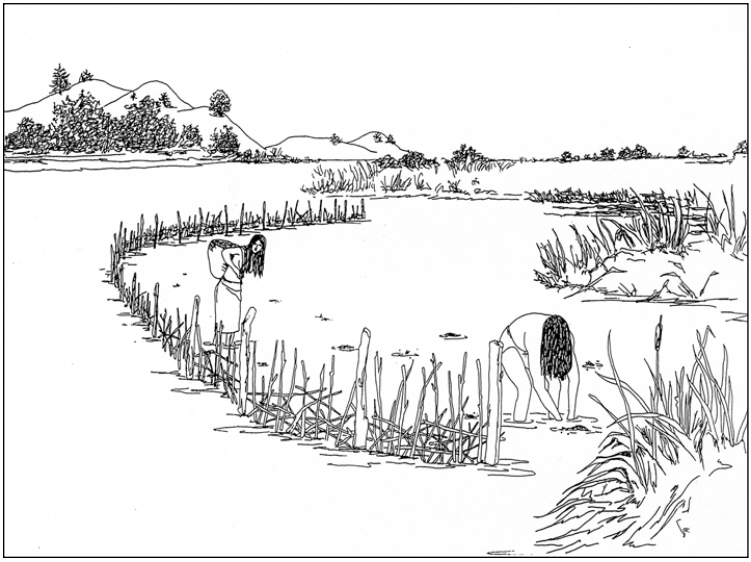
This map illustrates how the coastline of Massachusetts Bay was flooded over the last 10,000 years. Water released from melting glaciers far to the north slowly enlarged the oceans and carved our current coastline. Modern Boston is green; the changing coastline is shown in shades of tan.

have come here by dugout canoe or on foot. Standing on top of what is now Spectacle Island, if you looked to the east, you would see a broad coastal plain extending about 11 miles out to the ocean's edge. Dotting this forested plain would be hilltops that we now know as the Boston Harbor Islands and three major river valleys formed by what are now known as the Charles, Mystic, and Neponset rivers. As a hunter, you would see the advantage of the hilltops as lookouts for spying game. As a gatherer of wild plant foods, you would see the hilltops for their blueberries, hickory nuts, and acorns. As a fisherman, you would look to the rivers, ponds, and ocean.

Move ahead in time to 6,000 years ago and you see that the seacoast is closer and that three major river valleys have formed. As a fisherman, you would look to the rivers, ponds, and ocean for prime fishing spots. If you move ahead again to 5,000 years ago, your eye catches sight of the same prominent hilltops from the past, but you notice that some of the outer hills are now separate islands and the seacoast is much closer to you. What you are witnessing are the dramatic changes made by the continuous melting of the Ice Age glaciers. As the glaciers melted, the oceans enlarged and inundated the prehistoric coastal zones throughout the world. The rapid rate of glacial melting did not slow down to its present rate (about 1 foot every 20 years) until about 3000 years ago. In the Boston area, the former hilltops on the old coastal plain became surrounded by ocean water and became the islands of the harbor we know today. At 3,000 – 1,500 years ago, salt marshes and estuaries grew at the mouths of the rivers and streams along the coast. These became important locations for Native peoples to gather shellfish, hunt fowl, fish, collect reeds for basketry, and obtain clay in order to make their own pottery. It is around this time period that Native peoples inhabited the archaeological sites found in the Central Artery project.

The Native use of the mainland and harbor islands

This net weight and line sinker, or plummet, were found at archaeological sites in the greater Massachusetts Bay area (Calf Island and Hull, respectively). They are typical items that would be found in the tool kit of Native Americans in this region.



Native Americans often caught fish by building structures of twigs and wooden stakes called fish weirs. This is an artist's rendition of a fish weir in Back Bay. While many fish weirs are elaborate structures, current research suggests that the ones in Boston's Back Bay were more ephemeral. Drawing courtesy of Timelines, Inc.

changed through the millennia in response to environmental and social changes. Sharing an intimate knowledge of the bounties of nature in terms of where and when the resources would be available, Native groups would move their family camps in accordance with the seasonal availability of sources of food. At certain times of the year when food resources would be available in abundance, such as during the spring spawning of anadromous fish (herring, alewives, shad, and salmon), multiple families would convene together in large campsites. The families (men, women, and children) would construct wooden fish weirs or deploy nets, fishing lines, or spears to harvest the migrating fish. In what is now the Back Bay section of Boston, archaeologists have discovered a series of wooden fish weirs that spanned across a former tidal bay of the Charles River. Known as the Boylston Street Fish Weir, the complex of fish weirs was radiocarbon dated to about 5,000 years ago. During such times of year there would also be much feasting and socializing.

The Native peoples undoubtedly recognized the dynamic of the changing environment. As sea level rose and global warming continued to change, plant and animal species changed the location of their habitats. In response to these biotic changes, Native people changed the locations of their seasonal settlements as well as changing their tool technology.

The Charlestown Area

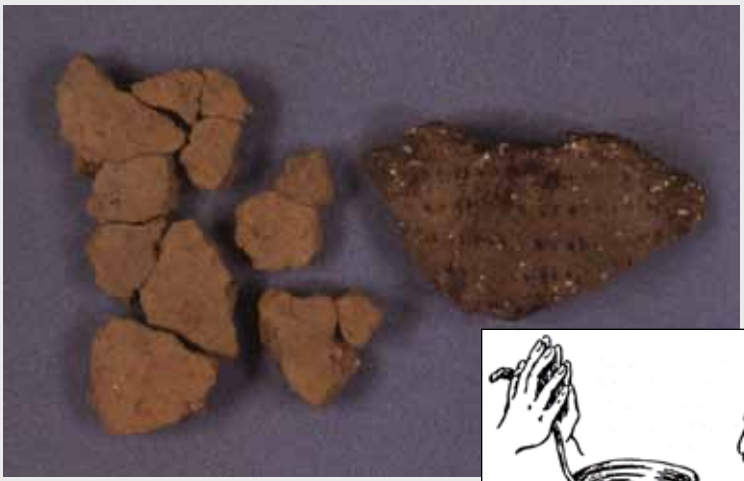
Two Native sites that were discovered in the Central Artery project in Charlestown show how Native people adapted to the changes in sea level. These sites are known as the Water Street Site and the Town Dock Prehistoric Site.

The Water Street Site was used as a seasonal campsite several times between 4,000 and 1,500 years ago. The principal period of occupation was during the Early Woodland period (about 2,300 years ago) when the site was used as a fishing camp. The stone tools and hearths at the site suggest that fish were cut and dried on wooden racks for later use. Pottery sherds found in or near the hearths indicate that food was also boiled on the site, probably for daily consumption. It was during the Early Woodland period that Native women first started to make clay pots in New England.

The Native American tool kit was filled with a wide variety of stone tools including spear points, knives, scrapers, drills, and more recently, arrowheads. Bifaces are stones chipped on both sides to form a sharp edge for cutting and scraping. Tools made of stone are strong, durable, and easily resharpened for long use.

The Town Dock Prehistoric Site may have been contemporary to the earliest camp at the Water Street Site. The Town Dock site was a small hunting camp where stone tools were manufactured and repaired. At that time the site was located on the edge of a small cove. Soon after, the site was inundated by rising sea level, which created a layer of peat on top of the campsite. The peat indicates that an estuary was being formed on what had previously been dry land. As Native peoples saw their old campsites become flooded, they moved a little further inland and to higher ground along the unstable, but economically important coast.

In addition, Native groups would make seasonal trips to



A major technological change was the manufacture of clay pottery. About 3000 years ago, local Native women learned how to make clay pottery from Native women from neighboring tribes to the west and south. Clay pots quickly replaced the heavy soapstone bowls of the past. While soapstone quarries were few and far between, clay deposits were more prolific, and clay pots served better for cooking and storage. In addition, it took less time and energy to make a clay pot than one of soapstone, and clay pots were more quickly replaced if broken.

The sherds on the left in the photo above were recovered at the Water Street Site, the fragment on the right is from Grape Island.

Clay pots were made by carefully wrapping a long coil of clay into the desired shape and then smoothing out the ridges with a paddle. A decoration could later be added by pressing fabric, reeds, or other interesting patterns into the soft clay. The pattern on the large sherd above was made by pressing a sharp object into the soft clay.

all of the islands in Boston Harbor, but archaeological investigations reveal that the intensity and purpose of their use changed through time. As sea level rose and created the "outer" harbor islands, Native peoples made more intensive trips to camp on the "inner" harbor islands where wild food sources were in greater abundance. Archaeologists for the Central Artery project systematically investigated one of the "inner" harbor islands, Spectacle Island.

Archaeologists at work on Spectacle Island.

Spectacle Island

Construction of the Ted Williams Tunnel necessitated finding a location to put all the clay and sediments that were excavated for the tunnel. Spectacle Island was selected to serve as the primary location since the island had previously been used as a trash dump by the city of Boston and had not been properly capped to seal the trash deposits from degrading the surrounding marine environment. One area in the southeastern portion of the island hadn't been disturbed by the trash dumping or industrial use. This area contained an intact Native archaeological site that was used for short periods of time between 1,415 and 1,040 years ago (A.D. 535 – 1590). The site was excavated by a team of archaeologists as mitigation for the future landfilling operation. The site was a shell midden containing thousands and thousands of clamshells.

These bone artifacts are quite rare. On the left are small, carved projectile points. On the right are smooth awls, used to puncture holes in soft materials.

Spectacle Island got its name because it originally looked like a pair of spectacles (eyeglasses or pince nez) to the early English settlers, before it was used as a trash dump, which started the recent history of its ever-changing shape. During the island's use by Native peoples, it also had the appearance of being shaped like a pair of spectacles. We do not know what Native peoples called the island, but certainly not

"spectacle," since there were no spectacles in Native culture. Geological studies show that the site of the shell midden was adjacent to an ancient mudflat that was probably the source of the multitude of shellfish gathered by the Natives.

Many interesting artifacts were discovered in the midden. These artifacts had been discarded by the original Native inhabitants, but reveal significant information about their past activities. Rare artifacts made of bone, such as bone points, awls, and beads were found preserved in the shell midden. The bone points would have been used for spear fishing, the awls for punching holes into skins for sewing clothing. Stone arrowheads, knife blades, hammerstones, and a decorative slate pendant were uncovered, as well as pottery sherds and a tobacco pipe bowl fragment. Food remains thrown into the midden included soft-shell clam, bones of codfish, small mammals and birds, and hickory nut shells.

An artist's reconstruction of what Native life might have been like on Spectacle Island.

Put all this together and we can easily envision Native families catching fish with nets, weirs, and spears; hunting migratory water fowl; digging clams; smoking/drying the meat of clams, fish, and animals over hearths; sewing clothes and making beads and pendants for jewelry while they were on Spectacle Island.

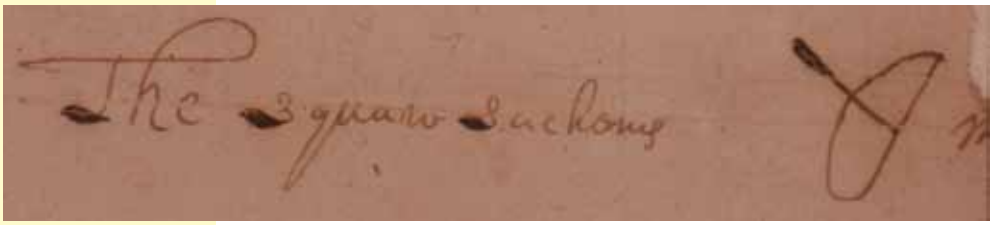
An important technological change was the replacement of the throwing spear by the bow and arrow in game hunting, especially deer and small mammals. Although the bow and arrow were originally invented elsewhere in the Americas, the idea spread from group to group. It was adopted in New England sometime between 1,500 and 1,000 years ago. The differences in stone points for a spear versus points used on an arrow can be seen in the size, shape, and preferences in stone material. The smaller points were used on darts or arrows.

Early Contact Between Native Americans and the English

Early contact with European explorers and fishermen in the early 1600s resulted in the spread of infectious diseases among the coastal Native communities, resulting in incredible loss of life. The Native people had no natural immunity to European diseases. Several tribes, including the Massachuset of the Boston area, lost up to 90% of their population.

When the English first came to settle Boston in 1630, they found Native communities to the north and south of what is now downtown Boston. To the north was the Mystic tribe (also known as Pawtuckeog or Pawtucket) and to the south was the Neponset tribe. Every tribe was led by a sachem. The Mystic tribe had recently chosen a woman as their leader. In 1619, Nanepashemet, the sachem of the Mystic, was killed. The Mystic Indians chose his widow, whose name was not recorded, as their leader. In all written records, she is called simply "Squaw Sachem." In deeds and other legal records, she signed her mark as a stylized bow and arrow. The principal settlement of the Mystic tribe was called Mishawum, which was located in Charlestown near the current site of Bunker Hill Community College. In 1628, during Squaw Sachem's leadership, Mishawum contained several wigwams (the traditional Native house built of bent saplings and bark panels), only one English-style thatched house, and a palisade (stockade fence) for protection from enemy tribes who lived farther north.

The Mystic tribal territory included the Charles and Mystic rivers, the estuaries at the rivers' mouths, as well as some of the Boston Harbor Islands such as Spectacle Island. It is possible that ancestors of the Mystic Tribe occupied the two Native archaeological sites in the Central Artery project in Charlestown, given their proximity to Mishawum. It is also likely that ancestors of the Mystic Tribe had used the



The Squaw Sachem's own written mark, a bow and arrow, is on the far right. The words identifying the mark as hers were written by a clerk. Courtesy, Massachusetts Archives.

shell midden site on Spectacle Island, perhaps even ancestors of Squaw Sachem herself, given the close proximity of time.

Even though sachems tended to be men and the title conveyed to the son of a deceased sachem, Native peoples were matrilineal in identifying family lineages, that is, your bloodline would be traced through your mother, not your father. Thus, you are a member of your mother's clan, not your father's. In addition, they practiced matrilocal residence—a man would move to live with his wife's family. This type of social organization helped to solidify alliances among clans, forming tribes or subtribes.

Women played an important role in the economy of Native families. William Wood made note of all of the work activities that women performed in their daily lives. In addition to his list, archaeological evidence suggests that women also made tools of stone and bone and helped in processing meat, fish, and shellfish for smoking or drying for storage.

The English purchased a large part of Charlestown from Squaw Sachem in 1637 for 36 shillings. Squaw Sachem lived a long and interesting life. She was one of the last Native people to submit to conversion to English Protestant religion. She held onto much of the Mystic people's territory longer than most of her contemporary (male) sachems. She arranged for her two sons to marry daughters of other sachems, in order to strengthen her tribe's political alliances. She was also well respected by the English governmental officials, who responded favorably to her petitions and complaints.

The Native American presence in the Boston area continued to lessen through the 17th century as the English purchased more and more tracts of land for expansion of their colony. Squaw Sachem moved to the Indian settlement in Natick in her later years. The exact future of each Mystic Indian who lived in Charlestown was not recorded. Many perished in epidemics. Many, like Squaw Sachem, probably moved to other Indian settlements such as Natick, Wameset (Lowell), and Punkapoag (Canton), and their descendents may live on today. ◆

Women's Work

William Wood visited New England between 1629 and 1633. He reported these tasks among Native American women's regular tasks. Most tasks were done while carrying children at the same time.

Along the shore and in estuaries:

- Collect clams, cockles, and lobsters
- Jig for fish through the ice

In the garden:

- Plant, gather, and dry corn and other grains
- Plant vegetables and weed gardens

On the land:

- Gather wild plant foods such as berries and nuts
- Gather plants for their fibers

On the path:

- Carry food including the fish and game men catch
- Carry house frames to new settlements
- Carry water

At home:

- Prepare, cook, and serve meals
- Dry meat
- Dig underground storage pits
- Store dried foods in underground pits
- Make mats and baskets
- Make dyes and decorate objects (baskets, etc.)
- Make and fire clay pots (not specifically mentioned)
- Make shoes and clothing
- Build and maintain houses
- Disassemble houses
- Make fish nets

An artist's depiction of Native American life. Reprinted from *The New England Indians* © 1996 by C. Keith Wilbur with permission from the Globe Pequot Press, Guilford, CT, 1-800-962-0973, www.globe-pequot.com.

Charlestown

Rita Reinke

What was life like for the English settlers of Massachusetts Bay? We all know the stories of the Pilgrims and their hardships as they learned to adjust to their new environment in Plymouth, Massachusetts. Plymouth, however, was not the only place where Puritans settled. What of the Puritans and their new settlement in Charlestown? What challenges did they face, and how did they meet them? This chapter tells the story of Charlestown's first 150 years as revealed by the archaeological sites investigated as part of the Big Dig.

John Winthrop and the English Settlement of Charlestown

The Puritans came to the New World in order to leave behind what they viewed as the excesses of English society and the Church of England. They wanted to establish new communities based on the worship of God and supported by the hard work of its God-fearing residents. The English settlement of Massachusetts Bay began in earnest in the summer of 1630 when John Winthrop (1588–1649) and his fellow Puritan colonists arrived at the mouth of the Charles River in their 11 ships. In his address to his fellow colonists, A Model of Christian Charity, Winthrop laid out his vision of the new colony. God "…shall make us a praise and glory, that men shall say of succeeding plantations, the Lord make it like that of New England. For we must consider that we shall be as a city upon a hill, the eyes of all people are upon us." Winthrop was the new governor of the Massachusetts Bay Colony, and he and his followers hoped

Governor John Winthrop, the first governor of the Massachusetts Bay Colony. Courtesy, American Antiquarian Society.

their "city upon a hill" would be Charlestown.

Before the settlers left England, an order was sent for a building that could serve as home to Governor Winthrop and some of the other important leaders of the community and provide an administrative and religious center for the colony. That structure became known as the Great House. Archaeologists found only traces of the Great House; they recovered several postholes, stains in the ground left by wooden timbers that had long since rotted away. This suggested that the building, while sturdily made, was an earthfast structure. This means that the main frame of the house, the vertical posts and the horizontal sills, would have been placed directly into or on the ground, rather than on a stone foundation. This kind of building, although sturdy and well built, would have been a temporary solution for the settlers. A stone foundation would need to be added at a later date, before the posts and sills were too damaged by moisture and insects.

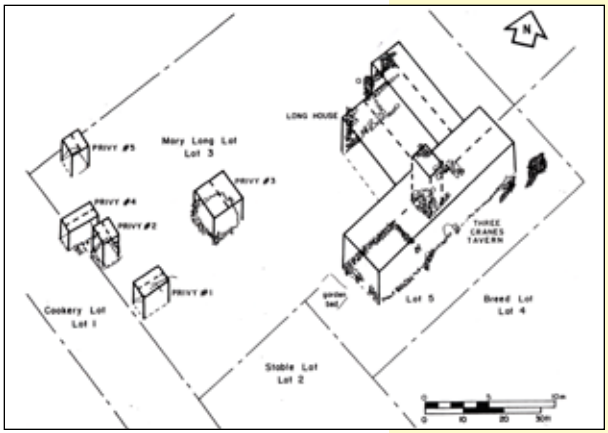
While the archaeological evidence shows a stone foundation, it was not Governor Winthrop who built it. Like so many new colonists, the settlers faced a difficult period of adjustment. The water supply was found to be unsuitable and insufficient in Charlestown, and after only three months many of the people, including Governor Winthrop, moved across the Charles River to the Shawmut Peninsula, to settle in what was to become Boston, leaving the Great House behind.

The Story of Three Cranes Tavern

Some of the settlers remained in Charlestown, and the Great House was used as their first meetinghouse. In 1635, with a new meetinghouse being planned, the Great House and property were sold to Robert Long, who not only lived in the house with his family (a wife and 10 children), but also opened a business, known simply as Long's Ordinary. This tavern, later renamed the Three Cranes Tavern, remained in operation for 140 years, until it was lost in the burning of Charlestown during the Battle of Bunker Hill in 1775. One hundred and forty years is a long time for any business to be in operation. Think of the advertising: "Serving the needs of Charlestown's visitors since 1635!" How could a tavern have remained in business for so long? In the case of Three Cranes it was the hard work of the Long family and their successors and their ability to adapt to the changing needs of the Charlestown community.

The archaeology and the documentary research on the Great House/Three Cranes Tavern site revealed changes made to the structure as well as changes in the kinds of dishes and other artifacts that the owners and visitors of the Tavern used. Between 1635 and the death of Robert's son John in 1683, the Longs greatly expanded the Tavern. The documentary research showed that the Longs built a stable so that visitors' horses could be housed. It was probably John Long who built a brew house in the yard so that the beer making process could be moved out of the kitchen, surely a relief to those who had to prepare meals for both family and tavern guests!

The archaeologists were able to see some of the changes that the Longs made to the old Great House. It is not clear if it was Robert or John Long who undertook the major remodeling of Winthrop's Great House, but it was finished before the last quarter of the 17th century. A wine cellar was excavated and paved with bricks and the Great House itself was raised up onto a stone foundation. It may have been at the time of this remodeling and expansion that the tavern was given its name of Three Cranes. It was John who built a new house for himself and his family, connected to the old building by an entryway. This left the Tavern available to be rented to tenants and overnight visitors. The archaeologists found the foundations of the Long Ordinary/Three Cranes Tavern as well as the Long house.



Archaeologists excavated the foundations of Three Cranes Tavern. From their research, an artist provided this drawing of what the tavern building and Long House would have looked like in about 1710. The foundations of these buildings and the privies amazingly survived in Charlestown, buried for more than 200 years.

It wasn't only the buildings that were changing, however. The period between Robert Long's purchase of the Great House and its destruction by fire in 1775 was one of enormous changes in New England, both in customs and laws. During the first 75 years of settlement, the General Court passed many laws that tried to regulate people's behavior. John Winthrop's model of Christian charity was one that apparently needed quite a bit of encouragement from the government. The General Court of Massachusetts Bay met any threats to the moral health of the Puritans head

Archaeologists recovered a wide variety of glassware at the Three Cranes Tavern including wine glasses, firing glasses, and mugs. The second glass from the left is a firing glass. Designed with a broad base to bang on the table in response to a toast, they came to be called firing glasses because the sound resembled that of a musket being fired.

on. In 1637, it was even made illegal to sell "cakes or buns" except for those needed for weddings, funerals, or similar special occasions!

Taverns were clearly an area that would require significant amounts of regulation. In the 17th century the church leaders, at least, regarded taverns as little more than a necessary evil. Certainly travelers and returning sailors needed to have a place to eat and sleep, and taverns were a good way to meet that need. Local residents, however, should not waste productive hours loitering about in taverns, singing, dancing, playing games, and drinking. Taverns were intended primarily to be used by travelers and to supply any domestic wine or beer needs in a "take-out" style. Local consumers were permitted to buy wine or beer, if they were reputable heads of household, by bringing in their own bottles to be filled from the taps of the tavern. Local residents, in fact, were not allowed to stay in taverns for long periods, and they were expected to be at home at a decent hour. In 1647 you could be fined for playing shuffleboard in a tavern; in 1650, bowling was added to the list of forbidden tavern games. (The fines were 20 shillings for the tavern owner five shillings for each player.) In 1664 the General Court prohibited "singing rudely, or making a noise…in any place of public entertainment" under penalty of five shillings. If all of these laws were enforced, the Three Cranes Tavern in the 17th century would have been a pretty quiet place compared to the taverns of today.

The new world that Winthrop and his contemporaries were trying to create, however, gradually receded from view, laws were liberalized, and public bowling greens were legal and available by 1714. At the time of its destruction by fire, the Three Cranes Tavern was an establishment popular with the American rebel soldiers who were plotting actions against the British army in Boston. (Perhaps that explains why the archaeologists found so many musket balls in the Tavern's privies.) The Tavern must have been a noisy and rowdy place by 1775, with toasts to the American cause and curses against Parliament being greeted with shouts and the banging of firing glasses.

There were other changes taking place, too. In the 17th century, patrons of the Tavern would have expected to share not only their dinner table, but the plates and cups on the table as well. Trenchers were large platters, often made of wood, which could hold enough food for several people who would share both the platter and the food. They might also share their tankards, or perhaps a large pot of posset (a warm drink made with milk, rum, and spices) would be passed around the table. It was not until the middle part of the 18th century that the colonists of the New World started using individual plates, cups, or even forks. The artifacts that the archaeologists recovered from the privies of the Three Cranes Tavern clearly show this transition. At the time of Long's Ordinary in the 17th century, patrons ate together. The ceramics were not very fancy, and there were probably not very many dishes. By 1775 they were using a variety of fine ceramics and beautifully made wine glasses. Tea was even being served in imported European and Chinese teawares.

This drinking pot and trencher are generously proportioned to satisfy a crowd. The pot has two handles for easy sharing.

Archaeologists recovered this collection of fine stoneware plates, tankards, and tea bowls and saucers at the Three Cranes Tavern. This is just a small selection of the ceramics found at the tavern; archaeologists excavated several thousand fragments.

This is one of five privies excavated at Three Cranes Tavern.

The story of the evolution of Three Cranes Tavern was made possible because of the archaeological discoveries in City Square. The vast majority of the artifacts came from the five privies (or outhouses) that the archaeologists found and excavated. Since trash was routinely dumped into the privy, and smaller objects were often lost there (dropped out of pockets perhaps), archaeologists look on privies as special opportunities. The five privies were not all used at the same time, so the objects in them can be used as snapshots of the tavern at five different periods in its history. The posset pot and the firing glass, for example, came from two different privies, and help us to interpret two different periods of the tavern's history.

Taverns were not the whole story of Charlestown archaeology. The Three Cranes Tavern was located in the center of a bustling port community. Almost from the very beginning, the people of Charlestown were involved in industry and shipping. Two of the other locations investigated by archaeologists in Charlestown were the sites of North America's first dry dock and one of the famous Charlestown potteries.

The Town Dock and Dry Dock

The Town Dock, constructed by the middle of the 17th century, was located not far from the Three Cranes Tavern. This dock could handle the larger ships that might come into Boston Harbor from all over the world. Individuals who owned waterfront property also had private docks and wharves. The early and widespread construction of docks and wharves underscores the importance of shipping to the people of Charlestown. There was, however, one element of the shipping industry that was quite a long while in coming—a dry dock. A dry dock is a dock from which the water can be drained so that ships can be repaired or painted while out of the water without having to remove them to shore. As early as 1667 the General Court offered a 15-year monopoly to anyone who would build a dry dock in Charlestown. No one took up this offer, and in 1668 the monopoly was extended to 21 years. It was still not until

At one of the sites in Charlestown, archaeologists found this wharf and "corduroy" road. A corduroy road is made by laying logs next to each other.

1677 that a group of investors from Charlestown finally built the first dry dock in North America. (The monopoly was extended for them to 30 years, and tax abatements were added to sweeten the deal.) At whatever the price, there was now a place to care for the many ships that came in and out of Boston Harbor.

The archaeologists found portions of this dry dock, as well as of Town Dock, preserved for all these years under the area now covered by Gray Street and an adjoining parking lot. Since docks and wharves are constructed at the water's edge, it can be very difficult for archaeologists to excavate them—difficult, but very rewarding and for the same reason. The high water table in the area means that the remains are in mud and that pumps are needed to remove the water that seeps in. This water, though, is what also makes the archaeology worthwhile.

One of the hard facts about archaeology is that archaeologists only find a small part of what people actually used in the past. One of the main reasons for this is that organic materials, including artifacts made from textiles, bone, wood, and shell, for example, generally decay once they are buried. If these same objects are buried in conditions where they are kept constantly wet, however, they are preserved. This was the case with Town Dock. The portions of the dock that had not been destroyed by later building and road construction were wonderfully preserved. The archaeologists were able to document how the docks were built and when they underwent repair and expansion. Some of the construction was of a

type seen in the archaeological excavations of 14th-century European wharves. There may not be many pretty artifacts associated with the dock, but the dock itself is an amazing artifact that gives us a clearer picture of Charlestown as a bustling international port in the 17th and 18th centuries.

The Parker-Harris Pottery

By 1720, Isaac Parker had purchased several pieces of property in Charlestown, not far from the Three Cranes Tavern. On the property, Isaac built a successful pottery business. The term "pottery" refers not only to ceramic vessels, but also to the site where they are made (so when we refer to the Parker-Harris Pottery, we mean not only the dishes and jugs they made, but their business as well).

Charlestown was well known for its redware potteries in the 18th century. Redware is a kind of ceramic, generally made from locally available clays. It is usually fired ("cooked" and hardened) in the kiln at relatively low temperatures, which results in a reddish colored ceramic that is rather porous. Modern ceramic flowerpots that you might find in your local garden center are one kind of redware. By the middle of the 18th century, however, the demand for redware was beginning to decline because of very serious health concerns. In order to make the redware watertight it must be glazed, otherwise liquid can seep into the porous surface. The traditional glaze used on redwares is lead based, and lead glaze on a food storage or serving dish was as unsafe then as lead paint in houses is today. Consumers were increasingly unwilling to use what they knew to be an unsafe product and demand for redware declined.

This 18th-century picture of a potter at work shows what the inside of the Parker pottery may have looked like. Courtesy, Colonial Williamsburg Foundation.

Faced with this potential drop-off in demand, and aware of a new market possibility, Isaac Parker investigated expanding his business to include the production of stoneware, which, at that time, was not produced in New England. Stoneware is another class of ceramic; fired at a higher temperature, it is harder and less porous than redware and not glazed with lead. Stoneware wasn't perfect, however. The techniques

involved in making stoneware were sufficiently different from those for making redware that Parker had to contract with a stoneware potter to come and work for him. The second problem lay in the clay. There was a reason no one was making stoneware in Charlestown. The locally available clays were not suitable for stoneware so the clay would have to be imported from New York or Pennsylvania. In order to make this economically feasible Isaac Parker applied to the General Court of Massachusetts Bay for the right to have a monopoly on stoneware production. It was granted and Isaac contracted with potter James Duche to begin making stoneware.

Unfortunately, it was at this critical time that Isaac Parker died, in 1742. Faced with economic worries and with promises her husband had made, Grace carried on the business. Grace entered into a partnership with Thomas Symmes, another potter, and was able to begin production of stoneware. Archaeologists did find some examples of the Parkers' stoneware. Those found at the pottery tended to be the pieces that were ruined in the process of being made, or broken before they could be sold. Archaeological documentation of the success of the stoneware production was found, not at the Parker Pottery site, but at Three Cranes Tavern, which must have been a ready market for its near neighbor's products.

Used and found at the Three Cranes Tavern, these stoneware jugs were made at the nearby Parker-Harris pottery.

The life of the potter and of the businesswoman, is a difficult one at the best of times, and Grace was not blessed with the best of times. Grace and Isaac's son John, who had been active in the business, became increasingly unable to carry on. The dangerous business took its toll on his health. Not only did John have to work with the lead glazes used on the redwares, he also was regularly exposed to chlorine gases given off by the burning salt that was used to glaze the stoneware. In addition, the global political situation affected the business with the continued wars between France and England damaging trade. By 1745, the Parker Pottery no longer produced stoneware. Redware production continued until Grace's death in 1755. Soon

The Three Cranes Tavern came to a fiery end during the Battle of Bunker Hill. The tavern was not rebuilt. *Attack on Bunker's Hill, with the Burning of Charles Town*, 1783 or after, oil on canvas. Gift of Edgar William and Bernice Chrysler Garbish, Photograph © 2000 Board of Trustees, National Gallery of Art, Washington.

after her death her surviving children sold their shares of the business to Josiah Harris who continued redware production until the pottery was completely demolished by the same fire that destroyed the Three Cranes Tavern in 1775.

Conclusion

The spring of 1775 saw the beginnings of enormous changes in Charlestown's political world. In April "the shot heard 'round the world," was fired and by June, the American rebel army was encamped around Boston, putting the British soldiers under siege in the city. The British Navy had blockaded the port, so Charlestown's docks were quieter than usual; it would have been difficult to ship out the ceramics from the local potteries. Three Cranes, however, as a Patriot-leaning tavern, no doubt remained busy. It was into this highly charged atmosphere that the British fired cannons and set fire to the center of Charlestown in an attempt to rout the rebel soldiers and sympathizers firing on them from the city during the Battle of Bunker Hill. The Three Cranes Tavern

and the Parker-Harris Pottery were among the first casualties of the American Revolution, burned to the ground in the fires that consumed much of Charles-town. Their remains were cleared out and buried as life in Charlestown moved on, the space formerly occupied by the tavern becoming an open market area. Growth and new industry arrived with the new century, and these fragments of the 17th and 18th centuries remained hidden for 200 years.

City Square in Charlestown today is an open park at the edge of the highway. In this park you can visit the site of the Great House and Three Cranes Tavern. Some of the foundation stones have been used to mark the outline of the building as the archaeologists found it. If you visit the site, try to imagine what Charlestown would have looked like in 1630 when Winthrop arrived with his eleven ships; in 1774 when American patriots gathered to plan the rebellion against England; in 1775, when so much of the town was burning during the battle of Bunker Hill. What might it look like in 2175? ◆

City Square Park in Charlestown.

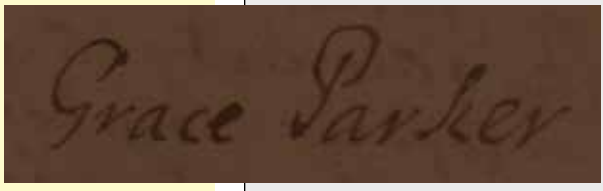
Charlestown's Women of Business

Mary Long and Grace Parker were both owners and operators of successful businesses in Charlestown during a time when the opportunities for women were fairly limited. Both of these women inherited their businesses from their husbands, neither remarried, and both retained control of the business, or at least the property. Grace Parker took over the operations of the Parker Pottery in 1742 after the death of her husband, Isaac. She successfully petitioned the General Court to transfer the stoneware monopoly rights from her late husband to herself. She continued to be involved in the management of the pottery, along with her son John until her death in 1755. Although she had problems with producing stoneware, she was able to keep the business afloat and keep the business and property in the family.

Mary Long inherited the Three Cranes Tavern from her husband, John, in 1683. While it seems clear that she did not operate the Tavern herself, at least after 1698, she did retain the property and leased it to Henry Cookery, Jr., her husband's nephew. Henry lived on the adjoining lot, and, by 1698 held a tavern license. Mary continued to live in the Long family house, attached to the Tavern, and parceled out the property to her children and grandchildren, both before her death and in her will. She died in 1730 at the ripe old age of 87.

These women show us that even in times of restricted rights and opportunities for women, there were those who were able to take control of their lives and prove themselves capable women of business and managers of property. They remind us, as archaeologists, that we need to remain aware that it wasn't only men who created the sites we investigate and the materials we recover. We need to think about how we can recognize women in the archaeological record and how we can acknowledge their lives. When you read the next chapter on the North End you will find the story of another extraordinary woman of 17th-century Boston, Katherine Wheelwright Nanny Naylor. In her case, it was much easier for the archaeologists to think about and analyze women's lives in Puritan Boston.

Grace Parker and Mary Long's involvement in business and trade is reflected in historic documents in the collections of the Massachusetts Archives. Here is Grace Parker's signature on her petition to the court to maintain a monopoly on stoneware production that had originally been granted to her late husband. Courtesy, Massachusetts Archives.



The North End

Ann-Eliza H. Lewis

Boston's North End is a special place. Take a look at the map of Boston in the first chapter of this book. You can see that Bostonians have created a substantial amount of the land on which the city is built. Most of the North End, however, is on "original land," that is, land that was present when the first European colonists arrived. Because the Central Artery passed over a narrow neck of this original land, there was a possibility the archaeologists would find sites that date to the earliest history of European colonization. A closer look at that map reveals that the archaeologists did indeed find sites here, and they turned out to be very significant. In this chapter you will meet a pewterer and a Puritan woman with interesting life stories and explore a pond that no longer exists.

The North End was a complicated neighborhood in the 1600s and 1700s. It was one of the earliest settled areas in Boston and with so much coastline and convenient access to the harbor, it was settled rapidly and completely. Imagine a bustling coastal town with merchants clamoring for access to the harbor and building wharves so they could easily load and unload cargoes from around the world. City lots were often the location of warehouses and workshops as well as the family home. Lucky merchants had waterfront property with a wharf as well. To satisfy the needs of the families and the merchants, all the usual businesses from grocers to butchers to crafts-

This tin-glazed tile (often called delft) was found by archaeologists at Katherine Nanny Naylor's site. Tiles like this one were imported from the Netherlands and often adorned the hearths of wealthier 17th-century homes.

people opened shops in the North End. These business owners sold their products to local residents for their personal use and to merchants for resale elsewhere in the colonies and overseas. Central Artery archaeologists peeked into this bustling urban community during their excavations at three sites and concluded that the neighborhood was a "motley" one at best.

The Mill Pond Shapes and Reshapes a Neighborhood

The Mill Pond area is an interesting example of how Bostonians have changed the landscape to suit their needs. In the 1640s Bostonians needed mills to grind wheat and corn into flour. To power the mills, Bostonians turned to the harbor. The colonial government granted a group of investors ownership of a small cove on the Shawmut Peninsula on the condition that they build one or more corn mills and maintain them forever. The proprietors built a dam across the cove (now Causeway Street) and transformed the cove into a shallow pond. They connected the pond to Boston Harbor via the Mill Creek, which cut across a narrow neck of land, and let the ocean tides waterpower the mills. The water was shallow and only small boats could navigate around the pond. Many people with land on the shore of the pond built wharves and docks from which they could shuttle goods around the pond and to larger, ocean-going boats moored in Boston Harbor.

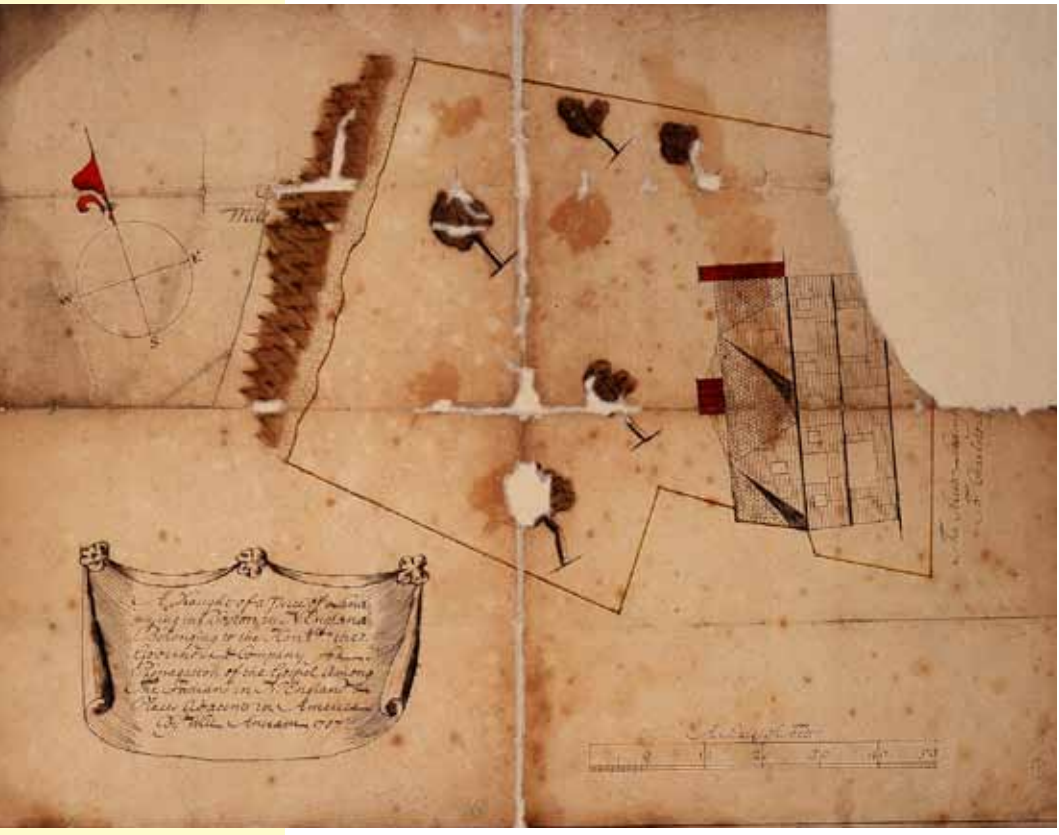
This 1814 map shows the Mill Pond after it was filled, you can still see the rough outline of the pond's shore. The road along the new coastline is Causeway Street. This had been the dam that formed the edge of the pond. Courtesy, Boston Athenaeum.

Over time the proprietors of the pond grew lax in maintaining the mills and the pond itself. Less and less fresh water was let in to wash out the silt and trash that inevitably built up. As early as the mid 1700s residents were calling for the pond to be filled. The debate over filling the pond gained speed at the turn of the 19th century and soon people were arguing in the local newspapers

Dirt from Beacon Hill was moved using picks and shovels to fill buckets and horse drawn carts to carry the excavated dirt to the Mill Pond, where the fill was dumped to make new solid land for building. It took 12 years to fill the Mill Pond in this fashion. Courtesy, Boston Athenaeum.

over the merits of filling the pond. Many residents with land near the pond were reluctant to give up their waterfront property and the cooling breezes that they claimed came off the pond. Others, however, recognized that the pond was becoming more of a trash dump than anything else and were concerned that it was a public health risk. Eventually the latter won out and the pond was filled using dirt removed from the top of Beacon Hill. It took 12 years to fill the pond using horses and carts to move dirt that was dug by hand with shovels. When it was completed Boston architect Charles Bullfinch designed an attractive triangular street pattern for the new neighborhood.

A shore-side lot fell within the Central Artery project area. The lot encapsulated 350 years of life along the shore of the Mill Pond and chronicled the pond's transformation from a marshy cove to a pond with wharves to a domestic lot and stable. The lot had many different owners, but in its earliest phases the most interesting owner was the Society for the Propagation of the Gospel among the Indians (SPGI). They built a house on the lot,



This 1707 plat map shows the lot along the shore of the Mill Pond that belonged to the Society for the Propagation of the Gospel among the Indians. Courtesy of the Guildhall Library, Corporation of London. Guildhall Library Ms 8010.

which they probably rented to tenants to provide an income for the society. The SPGI built the first wharf on this lot sometime between 1707 and 1709 shortly before the Society sold the lot to John Eustis, a housewright, public officer, and member of the Ancient and Honorable Artillery Company, which is the oldest military organization in the country. After SPGI sold the property it changed hands many times, often occupied by men who listed their profession as "truckman," a generic term for a merchant. A wharf would be an essential part of any truckman's business, making this a very desirable location. The archaeologists found that the wharf was repaired and improved many times until the pond was filled during the early 19th century. After the pond was filled the history of this Mill Pond lot becomes considerably more complex. It remained a residential city lot, but it was no longer waterfront property. A stable was built in the 1820s, which remained there into the early 20th century. Archaeologists recovered remains from all periods of the

Mill Pond's history including several wharf structures, artifacts, and a cobble walkway from the stable.

Some of the most interesting artifacts were those that were mixed with the dirt that filled the pond. While most of the dirt came from Beacon Hill, which was shortened to fill the pond, there was also a good bit of local trash mixed in with the fill. Archaeologists found a complete man's dress boot, a fragment of a Spanish milled dollar, and a silver bodkin. A bodkin is similar to an oversized needle with a large eye. Women used them to lace up their intricately constructed dresses; fancy bodkins were also sometimes used as hair ornaments. There were also many bones from cows, pigs, and sheep. These bones, combined with the many different shapes of vessels in which they were cooked and which were also recovered, provided a look into the diet of the residents at the turn of the 19th century. In addition to learning what types of meat were common, archaeologists conducted broader studies to understand the nature of markets in early New England and also determined that there may have been a unique regional Boston cuisine developing. When the

This man's dress boot was found in the Mill Pond fill.

Archaeologists often find very personal items. On the left is a silver bodkin and on the right is half of a Spanish Milled dollar. A bodkin was used by women to lace their clothing, as sewing tools, and occasionally as hair ornaments. This particular bodkin has someone's initials carved into it. You can see the letters "EI" just below the bodkins eye. On the right is a Spanish milled dollar, which is worth 8 *reales*. To make exact change a person could simply break up a coin. This custom led to the phrase "a piece of 8." This piece of 8 is worth 4 bits.

This pewter tankard is one of the only known pieces of John Carnes's work. Courtesy, Winterthur Museum.

North End data are compared with data from similar archaeological sites in the mid Atlantic colonies it appears that Bostonians were eating more meat pies than the residents of other colonies. From this understanding of diet we might be able to expand to learn more about the ethnic groups that immigrated to Boston.

Alleys and Backlots

Not far from the Mill Pond archaeologists excavated two more sites. The Paddy's Alley and Cross Street Backlot sites are better known by the names of their prominent residents: John Carnes and Katherine Wheelwright Nanny Naylor. While the Mill Pond site gave researchers a look into the history of the pond, these two sites provided in-depth looks at the daily lives of two of the residents of the neighborhood.

JOHN CARNES

It was not uncommon in the North End for landowners to mix business and family life. In addition to the family home, many lots also had a warehouse, a wharf, or a workshop. The home of John Carnes is a typical example of this mixed residential and commercial space. Carnes was a prominent businessman and like John Eustis mentioned above, a

Archaeologists recovered many small examples of Carnes's work. These are small pieces of decorative brass, which were discarded.

member of the Ancient and Honorable Artillery Company. Carnes married three times. His first wife apparently died after less than 2 years of marriage. Carnes's second wife, Sarah Baker, bore him 14 children in 18 years. After her death in 1740, Carnes married Dorothy Farnum, who accepted the challenge of raising his many children. Carnes and his large family lived in a stone house with a garden on a large lot, which also contained two brick tenements, a shop facing Ann Street, and more buildings in the back.

Carnes earned his living as a metalsmith working primarily in pewter and brass; his workshop was adjacent to his home. Carnes was a successful and prolific craftsman as well as one of the wealthiest men in Boston. The inventory taken upon his death recorded nearly 700 pounds of pewter molds—more than twice the weight recorded for two other pewterers in his neighborhood combined! Despite his large business the pewter tankard pictured here is the only known piece of his manufacture. This archaeological site uncovered new evidence of the work completed in his shop, including many fragments of brass as well as pewter and the actual tools of his trade.

This tiny piece of carved crystal quartz may have once been part of a piece of jewelry. It is less than 1/2 of an inch in diameter.

Carnes supported his family well. Most of the structural evidence excavated was related to the workshop, but archaeologists did recover many domestic items including the usual glass and ceramic items, gunflints, and even a few marbles that must have belonged to one of Carnes's children. The most exciting find was a wine bottle seal with Carnes's full name on it. Imagine the excitement the archaeologists felt finding an artifact with the name of the occupant written on it!

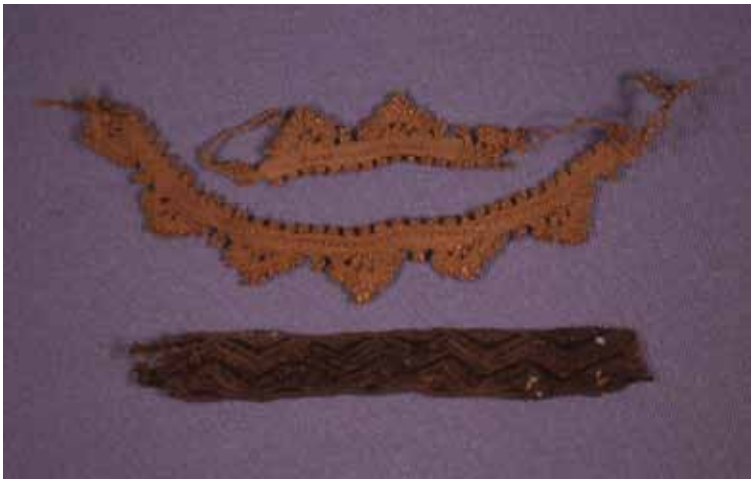
Wine bottles often carried seals that identified their owners. Wine was bought directly from the cask, and, in an early example of recycling, individuals had to supply their own bottles.

KATHERINE NANNY NAYLOR

One of the most poignant stories that emerged from the archaeology is from the site of Katherine Nanny Naylor. Archaeologically the site consisted of a single archaeological feature—a privy (an outhouse) that dated from the 1660s through the first few years of the 1700s. The types and quality of artifacts that archaeologists recover from any site always depend on the conditions in the soil. In this privy the conditions were excellent and many types of data were recovered that are not typically found in the Boston area. The Katherine Nanny Naylor privy provided a rare opportunity to combine archaeological evidence with scientific research and traditional historical data to create an incredibly well rounded portrait of life in 17th-century Boston.

Katherine Nanny Naylor was born Katherine Wheelwright in England in 1630. She soon emigrated to Boston with her father Rev. John Wheelwright. Katherine Wheelwright's father was a prominent minister who supported Anne Hutchinson's controversial religious beliefs and for which he was banished from Boston. Katherine Wheelwright, however, stayed

All of the artifacts at the Katherine Nanny Naylor site were recovered from this privy, which you see here while under excavation.



The conditions in Katherine Nanny Naylor's privy were excellent for the preservation of organic material. These small fragments of lace and silk ribbon are indicators of Katherine Nanny Naylor's relative wealth and status in the Boston community.

in Boston and married Robert Nanny sometime around 1650. Nanny was a wealthy merchant with an estate in Barbados. The couple lived together for several years before Robert died at the age of 50. Katherine then married Edward Naylor another merchant who may have been a business associate of Robert Nanny's.

The artifacts recovered reflect the home of a wealthy merchant's family. Ceramics and glass from around the world including Italy, Spain, Portugal, and Germany were recovered. There were also many "exotic" items including a cowry shell from the Indian Ocean, bits of Caribbean coral, and evidence of imported spices and olives. Robert Nanny's business must have taken his ships around the world and many items found their way into daily use in his family's home.

Because of the excellent preservation many organic items survived to add depth to the portrait of Katherine's household. Among the well-preserved organic material were several shoes and more than 150 fragments of silk and lace. The fabric may be one of the best indicators Katherine Nanny Naylor's wealth. Sumptuary Laws are laws that control personal behavior in an attempt to limit perceived extravagances or luxuries. Puritan Boston's colonial court passed Sumptuary Laws in order to promote behavior appropriate to the Puritan lifestyle. The earliest law, passed in 1634, forbade the purchase or wearing of woolen, silk, or linen garments with silver, gold, silk, or thread lace on them. The laws were loosened over time, and in 1651 Massachusetts modified the law to distinguish between people of low estate (worth

less than £200) and people of higher status (those with estates valued more than £200 as well as magistrates and other public officers). People of high estate were allowed to trim their garments in lace and wear fine silk. This is the period of Katherine's time in Boston and the presence of more than 150 fragments of silk and lace show her wealth.

Archaeologists also found that the Nanny Naylor household enjoyed bowling. Archaeologists recovered a small wooden ball that turned out to be the oldest bowling ball known in North America. This artifact has an interesting twist because laws similar to those that restricted clothing also restricted behavior. Remember from reading about the Three Cranes Tavern in the previous chapter that it was illegal to bowl in a tavern. There is no sign that it was illegal to bowl at home, but recreation in general was limited, and any boisterous behavior would be frowned upon. Historian Bruce Daniels, in his book Puritans at Play (St. Martin's Press, NY, 1995), suggests that recreation was OK among Puritans as long as it was not "ungodly, unlawful, unreasonable, or unproductive." It must have been awfully hard to relax in early Boston!

This bowling ball is the oldest known example in North America. Made of lathe-turned oak, the hole once held a lead weight and would have been covered with a decorative piece of ivory or mother of pearl. The ball is more properly called a bowle and was used for lawn bowling, not a pin bowling game like those we play more commonly today.

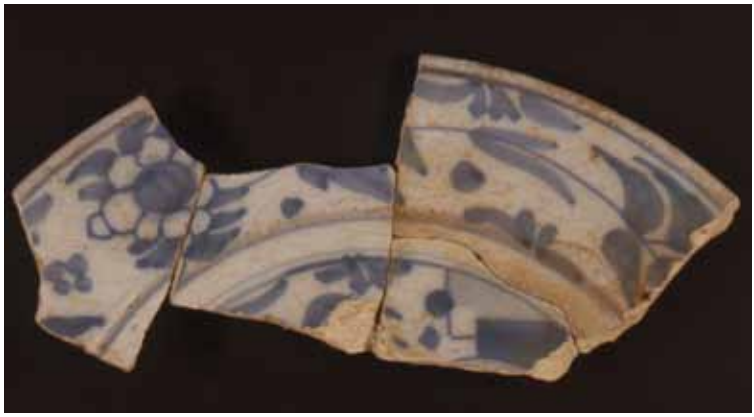
Because this privy was a rare opportunity to look at all parts of colonial life, archaeological scientists specializing in the analysis of pollen and other plant remains, insects, and parasites, all of which can be recovered from privy deposits, were consulted for this excavation. This type of research can answer the nitty gritty questions of what life was really like in early Boston. Archaeologists learned that despite Katherine Nanny Naylor's wealth her family suffered from many discomforts. For example the eggs of whipworms and roundworms were found suggesting that gastrointestinal discomfort was probably a fact of life. Gra-

nary weevils, which eat grains, suggest that there was a problem with bug-infested flour. There was some more positive information about the colonial diet in the privy too, however. Archaeologists found more than a quarter of a million seeds and pits—mostly from cherries, which had probably been preserved to make them last longer. There were also animal bones, and evidence of imported olives and spices such as coriander, which would have made meals more interesting and tasty.

Standing not much higher than two inches this tiny brass bucket is in fact a pin cushion. At one time it was filled with fabric-covered hay or horse hair.

Despite the evidence of wealth and leisure, Katherine Nanny Naylor's life was not always a happy one. Big Dig researchers soon learned that there was a dark side to Katherine Nanny Naylor's home life. Edward Naylor, her second husband, was abusive. This part of the story emerged from court records housed at the Massachusetts Archives. In these records archaeologists found a petition from Katherine Nanny Naylor for a divorce from Edward Naylor. The petition graphically describes the abuse she and her children suffered at his hand including having "earthen" (ceramic) platters, food, and furniture thrown at them. One child was kicked down the stairs. Edward Naylor also had affairs with two household servants; the

This is Katherine Naylor's petition to the court for a divorce from her abusive second husband. It is one of more than 30 pages of records from this case, which survive in the Massachusetts Supreme Judicial Archive. Spelling was less standardized in the 1700s, that is why Katherine's name is spelled Nailor here.



Katherine's petition to the court recounts having "earthen platters" tossed at her. This fragment of a tin-glazed plate is a typical type of earthenware found on many 17th-century sites. Archaeologists recovered the fragment from Katherine privy.

second became pregnant and was suspected of trying to poison Katherine Nanny Naylor. Edward Naylor was eventually found guilty of "inhumane carriage" among other things, and a divorce was granted in 1671. After that experience Katherine Nanny did not remarry; she remained in the Cross Street house for another 30 years. Around 1700, now elderly and unable to live on her own Katherine Wheelwright Nanny Naylor moved to Charlestown where friends cared for her until her death in 1715.

Katherine Nanny Naylor's story is an amazing and complex one. While she may not have been a typical resident of Puritan Boston, her life was probably not unique. And when considered with the other sites in the North End, you begin to get a much better feel for what it was like to live in Boston at different times in its history. Although they are spread out in time over more than 150 years, the Paddy's Alley and Cross Street sites were adjacent to each other and less than 500 feet away from the Mill Pond site. The individual stories revealed by the archaeology explore many of the details of everyday life in Boston. This is the great power of archaeological study. It often reveals the details and complexity of the lives of individuals not unlike us who lived in the past. ◆

African Americans in Early Boston

Christa M. Beranek

As the Central Artery Project illustrates, the archaeological study of the past is not limited to famous people or to written history. Archaeologists study artifacts and everyone has artifacts. Knowing this, people see the results of the Big Dig archaeology project and ask why there is so little information on the communities that are less well represented in documentary history, especially African Americans. The Central Artery Archaeology Project did uncover some evidence of the lives of African Americans in Boston, but more research remains to be done. Several factors make it difficult to find evidence of African Americans in the archaeological record. First, the route of the construction determined the sites that were excavated. The archaeologists did not have the freedom to choose the best sites for examining early African-American life in Boston; rather they were limited to where the highway was going to go. Second, since enslaved African Americans often lived in the homes of their white owners, it is hard to know which archaeological remains at a domestic site tell us specifically about African-American lifeways.

The African-American community in colonial Boston was one of the largest in New England in the mid-18th century. African Americans were only 1% of the population of Boston in the 1600s, but comprised 10% by 1750. While there were both free and enslaved people in Boston, most African Americans in the north lived as urban slaves. Typically,

This small pot was found at the Cross Street Back Lot site. It may be "colonoware," a ceramic that is a much debated among archaeologists. Colonoware is often attributed to African-American makers, this particular piece may have West Indian origins.

a family might hold one or two slaves who lived and worked in the house or in the family's trade, especially in shipping and commerce. While the kinds of work that the slaves did allowed them to move throughout the city and form social networks and communities across Boston, legal and social restrictions on free and enslaved African Americans limited their movement, limited the time they spent congregating in public spaces like taverns, and for free men, limited their ability to establish and maintain businesses.

The Central Artery Project provided a few clues. We know that John Long at the Three Cranes Tavern held one slave and that John Carnes, the metal smith, and Isaac Parker, the potter, each held two. They are mentioned in probate inventories—lists made of people's possessions at their deaths. Based on these documents archaeologists know

(continued)

that African Americans lived and worked in these three households and their industries, and the artifacts found there may shed light on their daily lives. The girl at Three Cranes probably helped run the tavern and prepare food, using the dishes and utensils that were found. The man and woman listed in Carnes's inventory might have worked in his metal shop and certainly were responsible for the hard work required to maintain Carnes's elegant lifestyle.

A woman referred to only as Zipora was identified as a resident of the North End. She was a free, African-American woman, who owned a piece of property near the Mill Pond in 1670 and who lived there until 1699. Zipora was a widow, but we do not know anything else about her life. She was one of few free African Americans in Boston in the 1600s. Archaeologists did not excavate this site because it was not in the area directly impacted by the Big Dig, but a site like this could tell us about life for African Americans as well as about the Mill Pond community. Fully documenting the African American and other minority communities in Colonial Boston will take many more years of research, but the Big Dig archaeology project has in a small way helped to move along research in this important aspect of Boston's past.

Preserving Our Archaeological Past

Ann-Eliza H. Lewis

Why Archaeology?

Many people are surprised that there is an archaeological component to Boston's Big Dig and some are surprised that archaeological research can be used to study our own past as well as that of ancient civilizations. Archaeology is every- where in Massachusetts. Anyone walking the streets of Boston will notice how many historic buildings remain. Although less visible, there are also many archaeological sites in the Boston area. These sites provide a unique window into the pasts of the people who lived here before us. Since the Native Americans of this region did not leave written records, the power of archaeology to teach us about the Native American past is obvious. Less obvious is the power of archaeology to provide new information about our more recent past. The complex story of Katherine Nanny Naylor, for example, only came to full light by combining the archaeological study with more traditional historical study. Thus archaeology should always be considered an integral part of historical study, but archaeological resources are fragile and irreplaceable and therefore require special handling.

Preserving Your Past

One of the many functions of the Massachusetts Historical Commission is to identify, evaluate, and preserve Massachusetts's historic resources, both above and below ground, for the enjoyment of all. Preserving these resources is time consuming but well worth the effort. Preservation is guided

Excavations at the Paddy's Alley Site in the North End of Boston.

by a complex set of historic preservation laws passed by the federal and state governments. The historic preservation system recognizes that knowledge of our past is good for our future, and preservation laws are designed to consider our past when planning for that future. Projects such as the Big Dig are subject to the National Historic Preservation Act, which requires federally sponsored projects to assess the impact of construction on historic and archaeological resources. The MHC's review of these resources is built into the project planning and overall construction schedule in order to avoid construction delays. The system is designed to minimize interference and to build cooperation between project proponents and preservation professionals.

Our cultural resources, including archaeological sites, are nonrenewable and irreplaceable. There is a limited number of archaeological sites, and like oil reserves or endangered plants and animals, once a site is destroyed, it is gone forever. While we cannot save every site, we do our best to preserve significant ones. Archaeologists approach site preservation with an eye to the future. Fifty years ago, we didn't know how to extract the microscopic data that the archaeologists collected from Katherine Nanny Naylor's privy, but those data provided significant insight into the health and quality of life in Puritan Boston. We can only imagine what scholars 50 or 100 years from now will be able to do. It is imperative that we preserve some sites in place and unexcavated for future generations.

When a site can't be preserved in place, professional archaeologists will excavate it. Archaeologists first develop a detailed research design to guide the research to ensure that we learn as much as possible from their excavations. Archaeologists accept the responsibility to excavate a site according to current professional standards so that everyone can share the benefits of our archaeological heritage. In Massachusetts the State Archaeologist issues permits to qualified individuals to excavate sites. Since a site can only be excavated once, archaeologists do their best to collect as much information as they can—even if it doesn't seem pertinent to their research—because that information may help someone else's research. The artifacts they recover belong to the Commonwealth of Massachusetts, and the MHC oversees their permanent curation in appropriate facilities so that the general public can enjoy them in the future.

What You Can Do

The future of the past depends on the active involvement of the general public. The MHC makes our archaeological past available to the public through lectures, classroom programs, teacher training programs, and museum exhibits. We also sponsor Massachusetts Archaeology Week, an annual state- wide celebration of archaeology in local communities.

The MHC hopes that everyone will act as responsible stewards of the past. If you find a site, the best thing you can do is leave everything in place and notify the MHC. Removing artifacts can destroy the context, which is so important to understanding the objects. If you want to get your hands dirty, call a local museum, university, or historical society and see if they have volunteer programs. It is important that only qualified, professional archaeologists lead excavations. They have the skills and training to collect the data for maximum public benefit. Letting an unqualified person excavate a site is like allowing an untrained person to teach in our schools, or letting someone who has not been to medical school provide health care. Since there are a limited number of archaeological sites, it makes sense to take care of them.

Projects like the Central Artery Archaeology project show how well the partnership between project proponents, preservation agencies, and the general public can work. In addition to this book, there have been traveling and temporary exhibits on the archaeological project, a classroom curriculum guide was written, and MHC archaeologists toured thousands of Massachusetts school students through the Big Dig archaeology exhibit. Archaeologists also helped to plan the archaeological park in Charlestown's City Square on the site of the Three Cranes Tavern. Knowing our past gives us a sense of comfort and well being, provides insight into who we are today, and helps to point us in the right direction for the future. Preserving our past is an important investment in our future. ◆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