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Mishoonash in Southern New England: Construction and Use of Dugout Canoes in a Multicultural Context

Jacob M. Orcutt
University of Massachusetts Amherst

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**MISHOONASH IN SOUTHERN NEW ENGLAND: CONSTRUCTION AND USE
OF DUGOUT CANOES IN A MULTICULTURAL CONTEXT**

A Thesis Presented

by

JACOB MARK ORCUTT

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
of the requirements for the degree of

MASTER OF ARTS

September 2014

History

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**MISHOONASH IN SOUTHERN NEW ENGLAND: CONSTRUCTION AND USE
OF DUGOUT CANOES IN A MULTICULTURAL CONTEXT**

A Thesis Presented

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JACOB MARK ORCUTT

Approved as to style and content by:

Alice Nash, Chair

Sam Redman, Member

Elizabeth Chilton, Member

Joye Bowman, Department Chair

Department of History

DEDICATION

To my loving and supporting family.

ACKNOWLEDGMENTS

While this thesis represents only a small contribution to the field of history, the amount of support, encouragement, and time that my friends and colleagues have lent to this project seems worthy of a much more significant cause. I can only begin to thank them here, as words can not fully express my appreciation for their help. I hope that everyone I mention here (and anyone I may have regrettably forgotten) knows that my gratitude extends well beyond what I am able to express in written words.

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If I have unintentionally overlooked anyone, I apologize for the omission. While many people have contributed to this thesis, any mistakes are entirely my own.

ABSTRACT

MISHOONASH IN SOUTHERN NEW ENGLAND: CONSTRUCTION AND USE OF DUGOUT CANOES IN A MULTICULTURAL CONTEXT

SEPTEMBER 2014

JACOB MARK ORCUTT,

B.A., STATE UNIVERSITY OF NEW YORK COLLEGE AT POTSDAM

M.A., UNIVERSITY OF MASSACHUSETTS AMHERST

Directed by: Professor Alice Nash

For New England's indigenous peoples, rivers and waterways have historically served as highways connecting communities and tribes across the region. The network of rivers that connect disparate regions facilitated the spread of ideas and goods and shaped settlement patterns and alliances in the pre-contact period. Indigenous peoples in southern New England relied primarily upon the dugout canoe, or *mishoon* (pl. *mishoonash*), to navigate these bodies of water. As a result, *mishoonash* were vital components of trade and subsistence in the northeast, but they have received surprisingly little attention from historians and archaeologists today. While relatively few known examples survive, an historical and archaeological analysis of these vessels indicates that they were not only important to pre- and post-contact indigenous communities, but also had a significant and lasting role in Euro-American communities as well.

This thesis examines the history of New England's dugout canoes – a history that can be traced from 8500 BCE to the twenty-first century. The historical record and

archaeological evidence surrounding dugout canoes suggests that the use of dugout canoes changed significantly over time, and that their form varied considerably in different regions of New England. While historians have claimed that these varied forms represent European and colonial influences, I argue that the Eurcolonial influence on dugouts was much more visible in the way the canoes were used than in the shape the vessels took. In addition to analyzing the canoes, this study analyzes the ways in which dugout canoes have been exhibited and interpreted in museums and offer suggestions as to best practices in the interpretation of mishoonash as artifacts of contested cultural attribution.

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CHAPTER 1

INTRODUCTION

For New England's indigenous peoples, rivers and waterways have historically served as highways connecting communities and tribes across the region. As the quickest way to move from place to place, the network of rivers that connects disparate regions facilitated the spread of ideas and goods and shaped settlement patterns and alliances in the pre-contact period. Indigenous peoples in southern New England relied primarily upon the dugout canoe, or *mishoon* (pl. *mishoonash*) as it is called in Wampanoag and other Algonkian languages, to navigate these bodies of water. When Europeans began to settle the region, they quickly realized the significance of *mishoonash* and moved to incorporate the boat into their daily lives, and particularly their economic systems. By the mid-seventeenth century, Eurocolonials were constructing their own canoes and enacting laws to keep the valuable vessels within their communities. As a result, *mishoonash* were vital components of trade and subsistence in the Northeast.

As important as dugout canoes were to both indigenous and European peoples in New England, few have survived in the archaeological record. The ones that have survived all date roughly to the contact (1500-1620) and early colonial (1620-1776) periods. While these canoes have received relatively little attention from historians and archaeologists, those who have spent time analyzing them question whether the surviving *mishoonash* are truly of indigenous origin. The most complete analysis of dugout canoes in the American northeast to date is an article written by Ann Marie Plane for the *Bulletin of the Massachusetts Archaeological Society* in 1991. Plane concludes that few of the surviving dugouts reflect "pristine artifacts of Amerindian experience." Rather, they

suggest European construction and use based on the influences of not only Native, but also Irish and African cultures.¹ Other scholars who have analyzed mishoonash offer the same warnings about a reductive interpretation that assumes all dugouts are of indigenous origin solely because we know Indians used them at some point.²

These concerns are no doubt valid, and it would not be the first time that historians and archaeologists have made incorrect cultural attributions based on preconceived notions of use and production. Attributing the dugout canoe (as with many other artifacts of the contact and colonial periods in the Americas) to a particular culture is complicated by questions of change and cultural continuity.³ Stephen Silliman has written extensively about this issue, with an eye towards southern New England that is particularly useful for this study. Silliman writes that archaeologists have misinterpreted artifacts as markers of cultural identity by assuming that objects can be categorized to represent people. If this were true, it would suggest that we can track cultural change through objects: as cultures adjust during the colonial exchange, we can use certain artifacts as diagnostic markers to understand cultural change. In other words, some

¹ Ann Marie Plane, "New England's Logboats: Four Centuries of Watercraft," *Bulletin of the Massachusetts Archaeological Society* 52 (1991): 8. Also, a note on terminology – wherever possible I prefer to identify indigenous peoples by their tribal affiliation, as any term used to describe "Indians" as a collective group stems from a colonial history and exists in a colonial world. But, for the purposes of convenience, I use "indigenous," "Indian," and "Native" interchangeably. I use "indigenous" as often as possible since it is used by the United Nations and represents a collective decision on behalf of aboriginal peoples from around the world. I tend to use "Indian" more often than "Native (American)" because while both are problematic, the term Native American comes out of a movement that undermines indigenous claims to sovereignty. Additionally, Indian was the term used most often by eighteenth in the nineteenth century, so other terms are anachronistic. For more on this discussion, see Peter D'Errico, "Native American Indian Studies – A Note on Names," [<http://www.umass.edu/legal/derrico/name.html>], accessed November 30, 2013.

² Henry Glassie, "The Nature of the New World Artifact: The Instance of the Dugout Canoe," *Schweizerisches Archiv für Volkskunde* 68-69 (1972-1973): 156-158; Jason Mancini, Personal communication with the author, October 11, 2013; Mike Volmar, "The Dugout Canoe Project," [http://www.fruitlands.org/media/Dugout_Canoe_Article.pdf], n.d: 6.

³ While this thesis focuses on dugout canoes, other types of canoes were common throughout North America. A classic reference for other boat types, especially birch-bark canoes, is Edwin Tappan Adney and Howard Irving Chapelle, *The Bark Canoes and Skin Boats of North America*, Washington, D.C.: Smithsonian Institution, 1964.

artifacts can be considered indigenous while others are considered European. Thus a site with many European artifacts suggests that the people who inhabited that site represent a European way of life. Using this system, a traditionally indigenous household that features a large amount of European goods would suggest that the indigenous peoples had become acculturated and no longer represent their traditional indigenous culture. Silliman and others argue that this line of reasoning is problematic, as artifacts do not represent people, but instead represent practice.⁴

Silliman's discussion comes out of a larger conversation on issues of material culture hybridity, cultural continuity, and cultural change. Hybridity is a term that could be considered important to this thesis. Many of the dugout canoes I analyze and discuss here occupy a liminal space between indigenous and Eurocolonial societies and feature elements of both indigenous and European cultural influences. In attempting to construct the cultural location where material culture hybridity occurs, Silliman argues that hybrid artifacts come out of situations wherein one culture has prolonged exposure to another culture (or another culture's objects) and, in response to this exposure, incorporates new elements to their own material culture "in *experimental, creative, or seemingly imitative ways*."⁵ While dugout canoes with iron nails and possible European-influenced alterations fit the hybrid mold, I have avoided the term in this thesis. I have chosen to do so because of the imprecise and unsettled nature of the term within the field of archaeology. Silliman admits as much in his concluding chapter to *The Archaeology of*

⁴ Stephen W. Silliman, "Change and Continuity, Practice and Memory: Native American Persistence in Colonial New England," *American Antiquity* 74 (2009): 211-230.

⁵ Stephen W. Silliman, "What, Where, and When is Hybridity" in *The Archaeology of Material Culture*, ed. Jeb J. Card, Carbondale, IL: Southern Illinois University, 2013: 488. Emphasis in quote is from the original text.

Hybrid Material Culture, as does Jeb Card in his intro to the same volume.⁶

Summarizing the concerns of the contributors to his edited volume, Card says that hybridity as a term is potentially problematic because of its negative association with the biological concept of the same name and because “it is too vague and not sufficiently distinct from other similar concepts.”⁷

Instead, my thesis engages more substantially with the conversation on cultural change and cultural continuity. Kent G. Lightfoot frames change and continuity studies as a means of moving beyond the prehistory/history dichotomy, which he believes is a counterproductive division in the field. Rather than studying pre-contact and post-contact in isolation – or even simply in opposition to one another – studies of change and continuity allow archaeologists to study cultures diachronically. By studying change as a long process and by emphasizing spatial associations of artifacts rather than the artifacts themselves, archaeologists can better understand how artifacts were used. The use of artifacts, rather than their form, can inform archaeologists about the cultural practices of the people they are attempting to understand.⁸ By understanding objects as a way to interpret how people navigate change, rather than a reflection of change itself, we can avoid the pitfall of associating material culture change with acculturation and better understand how people adopted new forms of material culture to continue cultural traditions and practices.

Ultimately the challenge in interpreting New England’s mishoonash, as with interpreting any artifacts of the contact and colonial period that were of contested use and

⁶ Silliman, “What, Where, and When is Hybridity”: 486-487.

⁷ Jeb J. Card, “Introduction,” in *The Archaeology of Material Culture*, ed. Jeb J. Card, Carbondale, IL: Southern Illinois University, 2013: 1.

⁸ Kent G. Lightfoot, “The Archaeological Study of Culture Change and Continuity in Multiethnic Communities,” *Proceedings of the Society for California Archaeology* 7 (1994): 8-9.

construction, is to avoid the assumption that cultural continuity is always reflected in material culture. Certainly Plane and those who agree with her are correct in pointing out the dangers of assuming all dugout canoes to be of indigenous origin; doing so frames European colonists as an inflexible group that refused to adopt aspects of Indian cultures, even when it would have benefited them tremendously to do so. However, assuming that variations in the form and production methods of dugout canoes necessarily reflects European use and construction risks swinging too far towards the other extreme, suggesting that indigenous people were unable to integrate European tools and stylistic and functional adaptations in their own canoes. Furthermore, Plane's assertion that Irish and African dugout construction influenced European use of dugouts further diminishes the role that New England's indigenous peoples played in this cultural contest. As a result of Plane's research, museums have begun to more critically analyze and interpret the dugout canoes in their collections, rather than simply assuming that these artifacts are of indigenous origin.

This critical approach to interpreting dugout canoes is not inherently negative. One of the concerns that Plane cites in her article is that “[b]y the mid-nineteenth century, the Indian was firmly entrenched as a romantic figure in the American mind.”⁹ This romanticism frames indigenous peoples as an almost mythical element of the American past, rather than acknowledging the complicated position of indigenous peoples and nations in relation to the United States today. Plane's argument echoes Henry Glassie's belief that “[t]he linear reasoning that finds the source of the American dugout in the

⁹ Plane, “New England's Logboats”: 15.

Indian's canoe alone is an expression of the (dimly guilty) positive attitude held toward the red man.”¹⁰

A more nuanced and complicated understanding of dugout canoes and their origins is useful in combatting this romanticism, but it must be done with caution. In seeking to prove that New England's dugout canoes were not “pristine artifacts of Amerindian experience,” Plane may have been too eager to assign particular diagnostic criteria to dugout canoes as evidence of non-indigenous influence (See fig. 1 for a pictorial guide to terminology). Her descriptions of indigenous and Euro-American dugout canoes create a too-rigid binary that suggests many of New England's extant dugout canoes are of Eurocolonial origin and use. A careful analysis of these canoes and the contexts in which they were found suggests that Plane's diagnostic criteria may be incorrect. By using these criteria in analyzing the surviving dugout canoes in southern New England, scholars may be falsely attributing indigenous mishoonash to non-indigenous peoples.

This thesis will revise Plane's interpretation of New England's dugout canoes by analyzing ten mishoonash in Massachusetts, Rhode Island, and Connecticut. Some of these canoes are held by museums and other institutions, while others remain in situ as part of ongoing archaeological investigations. While this thesis challenges Plane's conclusions, I owe a considerable debt to her scholarship. Plane's “New England's Logboats: Four Centuries of Watercraft” remains the single most comprehensive study on mishoonash in northeastern America, and her work compiled an important list of sources and references that has helped drive my own research. I hope that this thesis will complement Plane's paper, and that it will add to the discussion on New England's

¹⁰ Glassie, “The Nature of the New World Artifact”: 157.

dugout canoes. Henry Glassie's argument that America's dugout canoes were influenced by Irish and African logboat construction played a vital role in Plane's research, and thus has been an important component of this thesis as well.¹¹ More recent papers by Mike Volmar at the Fruitlands Museum and Jonathan K. Patton of the Massachusetts Historical Commission have also been tremendously helpful.¹² These articles have shaped my thesis and my approach to studying dugout canoes.

The next two chapters will look at the history of dugout canoes in southern New England. Chapter two focuses on the indigenous construction and use of dugout canoes from the earliest evidence of their appearance until the twentieth century. This is a rather complicated and difficult history to uncover. Dugout canoes have been in use since at least 3000 BCE (and likely much longer), but few survive today. Those that have been found have generally not been part of larger archaeological sites, but rather represent isolated artifacts submerged in a body of water. Thus, archaeological analysis provides only a small glimpse into the history of dugout canoes in New England. Chapter two addresses archaeological research wherever possible, but relies most heavily on the accounts of early explorers and colonists in New England and the Eastern Woodlands. From a careful analysis of these reports, secondary historical research on related topics, and the available archaeological evidence, we can glean significant insight into the construction and use of dugouts by indigenous peoples in New England.

The third chapter looks at the role of dugout canoes in Euro-American communities from the earliest stages of colonialism through the twenty-first century.

¹¹ Glassie, "The Nature of the New World Artifact."

¹² Volmar, "The Dugout Canoe Project"; Jonathan K. Patton, "Considering the Wet Homelands of Indigenous Massachusetts," *Journal of Social Archaeology* 14 (2014): 1-25, <http://jsa.sagepub.com/content/early/2013/11/19/1469605313509182>.

While much of this history overlaps with that of indigenous dugout use, historical evidence shows that Euro-Americans were using dugout canoes in distinctive ways that differed from those of their indigenous contemporaries. Perhaps the most significant difference is visible in the way non-indigenous peoples sought to control the use and movement of dugout canoes in the early colonial period. Still, the dugout canoes that remained in use at the turn of the twentieth century varied only minimally from those recorded by early European explorers. While the dugout canoe may have occupied a very different place in the Euro-American legal and economic systems than it did in indigenous societies, these changes do not appear to represent a significant shift in the way canoes were made or designed.

Chapter four addresses the claim that dugout canoes were influenced by Irish and African influences. The argument is that Irish and African migrants to the Americas exerted an early influence on the form of dugout canoes, bringing with them design elements from similar logboats from their home countries. Using evidence from the historical record, I argue that this is unlikely. Furthermore, Europeans do not seem to have considered African or Irish dugouts to be similar to the indigenous American ones, referring to eighteenth century archaeological discoveries of logboats in the United Kingdom as similar to an “Indian canoe.” The fourth chapter also presents an analysis of dugout canoes from southern New England, incorporating and critiquing Plane’s diagnostic criteria. From this analysis, I argue that Plane’s criteria for determining a dugout’s cultural attribution might be more useful in delineating between categories of use: dugouts that feature “Euro-American” traits likely represent the style of canoe that

was used on inland lakes and ponds, and this canoe form was used by both colonists and Indians.

Finally, in chapter five, I present the challenges that museums face in interpreting surviving dugout canoes from New England. Specifically, I engage with questions of cultural attribution in contact-era mishoonash. Many dugout canoes feature clear evidence of European influence – iron nails, keels/keel pieces, metal tool markings, etc. Yet attributing these mishoonash to Euro-American construction and use is not always appropriate. I address these challenges and present several case studies from southern New England. Ultimately, I present solutions to these challenges that museums might use to interpret dugout canoes in a sensitive and accurate manner.

While dugout canoes are rare in today's museums, they were the primary vehicle of transportation in New England for more than 10,000 years. Both indigenous and non-indigenous New Englanders used them to travel rivers, lakes, and the open ocean, to move people and goods, and to provide for their families and communities. While they are few in number today, dugout canoes are important material remnants of the region's history, and this thesis aims to bring more attention to their significance.

CHAPTER 2

DUGOUT CANOES AND THE INDIGENOUS PEOPLES OF COASTAL NORTH AMERICA

Dugout canoes were used continuously by indigenous peoples from at least 3000 BCE until the nineteenth century or later.¹ These dates likely underestimate the extensive use of dugout canoes by America's indigenous peoples. While Native peoples and humans more generally were making and using boats for millennia, taphonomic processes have obscured the earliest history of the use of canoes in North America. Examples predating 5000 BCE are unlikely to appear in the archaeological record since wood, like other organic materials, does not preserve well in the archaeological record. And while gaps in the archaeological and historical record make it difficult to track the continuous use of dugout in later periods, indigenous peoples still make and use dugouts today.² Dugout canoes have traditionally been built and used across most of the continent: from Florida to New England, across the Great Lakes region, and along the length of the Pacific coast.³ For the purposes of this paper and its analysis of dugouts in the contact and early colonial periods, this section will focus primarily upon the canoes used in the Algonkian-speaking ranges of the Eastern Woodlands, and more specifically in southern New England wherever possible.

¹ Florida Museum of Natural History, "Dugout Canoes: Paddling through the Americas," [<http://www.flmnh.ufl.edu/exhibits/limited-time-only/dugout-canoes/>], accessed November 25, 2013; William Bartram, *Travels Through North & South Carolina, Georgia, East & West Florida, the Cherokee Country, the Extensive Territories of the Muscogulges, or Creek Confederacy, and the Country of the Chactaws; Containing An Account of the Soil and Natural Productions of Those Regions, Together with Observations on the Manners of the Indians*, Philadelphia: James and Johnson, 1791: 227; Mike Volmar, "The Dugout Canoe Project," [http://www.fruitlands.org/media/Dugout_Canoe_Article.pdf], n.d: 5.

² Jeff Kalin, "About PTL," [<http://primitivetechnologies.com/About/about.html>], accessed November 25, 2013; Timothy Turner, "Mishoon (dugout canoe) launch May 25, 2010," Blog: As the Wetu Turns, [<http://blogs.plimoth.org/wetu/uncategorized/mishoon-dugout-canoe-launch-may-25-2010/>], June 15, 2010.

³ FLMNH, "Dugout Canoes."; Henry Glassie, "The Nature of the New World Artifact: The Instance of the Dugout Canoe," *Schweizerisches Archiv für Volkskunde* 68-69 (1972-1973): 153-156, 163.

The earliest known appearance of North American dugout canoes in the historical record comes from Giovanni da Verrazzano, who explored much of the North American coastline in 1524 under the service of King Francis I of France. Commenting on the peoples of what was likely Virginia or Maryland, Verrazzano reported that their boats were:

20. foote long, and 4. foote broad, which are not made with yron or stone, or any other kind of metal (because that in all this country for the space of 200. leagues which we ranne, we nevr saw one stone of any sort:) they helpe themselves with fire, burning so much of the tree as is sufficient for the hollownesse of the boat ; the like they doe in making the sterne & the forepart, until it be fit to saile upon the sea... They make hollow their canoas with fire.⁴

Some of the earliest documentation of dugout canoes in North America was recorded not by the European explorers who penned the early narratives of the “discovery” of the New World, but rather by the artists who accompanied them. The original sketches and watercolors these individuals composed were turned into wood-cut etchings by publisher Theodor De Bry and his associates, allowing the pieces to be mass produced. The earliest of these was a series of paintings by Jacques le Moyne, who traveled with Jean Ribault and René Laudonnière in an early attempt to establish a colony in Florida in 1564. Two of De Bry’s etchings of le Moyne’s work – under the titles of “The industry of the Floridians in storing the products of the harvest” (fig. 4) and “The murder of the Frenchman, Pierre Gambié” (fig. 5) – show Timucua men paddling raked truncate-ended dugout canoes.⁵

De Bry’s woodcuts of the considerably more famous John White paintings from Richard Grenville’s voyage to Virginia in 1585 are much more revealing, especially

⁴ Richard Hakluyt, *The Principal Navigations, Voyages, Traffiques & Discoveries of the English Nation*, volume 8, Glasgow: James MacLehose and Sons, 1904 [1598]: 429.

⁵ Michael Alexander, ed., *Discovering the New World: Based on the Works of Theodore De Bry*, New York: Harper and Row, 1976: 12-16, 39, 59.

when considered alongside Thomas Harriot's writings about the expedition in his *A Briefe and True Report of the New Found Land of Virginia*. Additionally, Harriot wrote captions for White's pictures to be published in De Bry's work. The canoes play a somewhat remarkable role in White's paintings, appearing in thirteen of his twenty-three Virginia scenes and maps. The canoes are primarily featured in the background of his works, and most often show two men paddling the boats or propelling them with poles. Some depict other activities in the boats, such as hunting waterfowl, net fishing, and even preparing fish over small fires in the hull of the canoes (fig. 6). While the canoes vary in size and the number of people that they can hold, they almost universally feature rounded and raked bows and sterns. The only image that breaks this rule is the one that is most useful for this paper, a painting entitled "The manner of making their boats," (fig. 7) in which four Roanoke men are building dugout canoes. The canoe in the foreground of the image (the one nearest to completion) features a truncated and raked end.⁶

While the frequency with which canoes appear in John White's paintings is significant in its own right, the detail provided alongside "The manner of making their boats" is the most important contribution that Harriot has made to our understanding of dugout canoes in the Eastern Woodlands. He provides us with the earliest and most complete description of dugout canoe-making in North America:

First they choose some longe, and thicke tree, accordinge to the bignes of the boate which they would frame, and make a fyre on the grownd abowt the Roote therof, kindlinge the same by little, and little with drie mosse of trees, and chipps of woode that the flame should not mounthe opp to highe, and burne to mucche of the lengthe of the tree[.] When yt is almost burnt thorough, and readye to fall they make a new fyre, which they suffer to burne until the tree fall of yt owne accord. Then burninge of the topp, and bowghs of the tree suche wyse that the bodie of the same may Retayne his just lengthe, they raise yt uppon potes laid over cross wise upon forked posts, at suche a reasonable heighte as they may handsomlye

⁶ Alexander, ed., *Discovering the New World*: 60-89.

worke uppon yt. Then take they of the barke with certayne shells: thy reserve the, innermost parte of the lennke, for the nethermost parte of the boate. On the other side they make a fyre accordinge to the lengthe of the bodye of the tree, savinge at both the endes. That which they thinke is sufficientlye burned they quenche and scrape away with shells, and makinge a new fyre they burne yt agayne, and soe they continne somtymes burninge and sometymes scrapinge, until the boate have sufficient bothowmes. Thus god indueth these savage people with sufficient reason to make thinges necessarie to serve their turnes.⁷

Richard Hakluyt, who was on the same voyage, corroborated this testimony, adding that resin from trees would be used to fuel the fires needed to carve out the boat, and that some of the work was done with European tools that they had found in a shipwreck.⁸

Archaeologists have expressed some doubt about the details of this process. Mike Volmar, in attempting to re-create the practice of dugout canoe manufacture as described by this and other passages, found that burning the standing trees to fall them did not provide any noticeable advantage. This might be explained by the varying moisture content of tree throughout the year or it might suggest that these colonial explorers were missing a step in the process. Perhaps the trees were girdled earlier in the year to dry them out and make falling them with fire possible.⁹ Still, Hakluyt's passage remains the most detailed description of dugout canoe making in historic North America.

De Bry's final series of engravings from North America provide us with a possible explanation for the one truncate-ended canoe from the John White series. While most of the images that De Bry included in his publication were directly adapted from White's paintings of the New World, some appear to have been alterations from the original or even creations of his own imagination, as outlined in Karen Ordahl

⁷ Thomas Harriot, *A Briefe and True Report of the New Found Land of Virginia*, New York: Dover, 1972 [1590]: 55.

⁸ Hakluyt, *Principal Navigations*, vol. 8: 303.

⁹ Volmar, "The Dugout Canoe Project": 6-7.

Kupperman's *Indians and English*.¹⁰ De Bry's final set of North American engravings focused on the travels of Captain John Smith and the settlement at Jamestown, Virginia. These were based loosely on the images portrayed in John White's earlier paintings, but they were essentially original pieces by De Bry. Since he had never been to the New World himself, these images were more speculative than true-to-life. In the two images from the John Smith engravings that feature dugout canoes, the boats feature truncated ends. The engraving that accompanied Harriot's passage on canoe-making appears to be a De Bry original, rather than one based on an original John White watercolor. Thus, the discrepancy in forms seems adequately explained as an artistic choice by Theodor De Bry.¹¹

While De Bry may have been inventing some of his imagery from the John Smith expedition, Captain Smith was not entirely silent on the role of dugout canoes in the lives of Jamestown's indigenous neighbors. In 1612, Smith stated that:

Their fishing is much in Boats. These they make of one tree by burning and scratching away the coles with stones and shels, till they have made it in forme of a Trough. Some of them are an elne [four feet] deepe, and 40 or 50 foot in length, and some will beare 40 men ; but the most ordinary are smaller, and will beare 10, 20, or 30. according to their bignes. Insteed of oares, they use paddles and sticks, with which they will row faster then our Barges.¹²

In 1613, Samuel de Champlain provided the first description of dugouts from New England, after observations he made along the Massachusetts coast:

The canoes of those who live there are made of a single piece, and are very liable to turn over if one is not skillful in managing them. We had not before seen any

¹⁰ Karen Ordahl Kupperman, *Indians and English: Facing off in Early America*, Ithaca, NY: Cornell University Press, 2000: 41-45.

¹¹ Virtual Jamestown, "Index of White Watercolors and De Bry Engravings," [http://www.virtualjamestown.org/images/white_debry_html/jamestown.html], accessed November 25, 2013; Jerald T. Milanich, "The Devil in the Details," *Archaeology* 58 (2005): 26-31; Alexander, ed. *Discovering the New World*: 190-202.

¹² Edward Arber, ed., *Travels and Works of Captain John Smith: President of Virginia and Admiral of New England, 1580-1631*, Edinburgh: John Grant, 1910: 69.

of this kind. They are made in the following manner. After cutting down, at a cost of much labor and time, the largest and tallest tree they can find, by means of stone hatchets... they remove the bark, and round off the tree except on one side, where they apply fire gradually along its entire length; and sometimes they put red-hot pebble-stones on top. When the fire is too fierce, they extinguish it with a little water, not entirely, but so that the edge of the boat may not be burned. It being hollowed out as they wish, they scrape it all over with stones, which they use instead of knives. These stones resemble our musket flints.¹³

Just as Richard Hakluyt reported from Virginia some thirty years earlier, Champlain noted that the Indians in Massachusetts used some European tools in their canoe-making, having acquired the tools via trade. The use of European tools, then, does not appear to be a phenomenon known only after European settlement, but instead had been a fairly common occurrence by the turn of the seventeenth century.¹⁴ Additionally, Champlain remarked that dugout canoes were used for sea fishing: near Ipswich Bay, Champlain recorded that his crew had encountered some Indians who were returning from fishing “cod and other fish, which are found there in great numbers.”¹⁵

In 1634, William Wood recorded another account of dugout canoe construction and use in southern New England:

Their canoes be made either of pine trees, which before they were acquainted with English tools they burned hollow, scraping them smooth with clam shells and oyster shells, cutting their outsides with stone hatchets. These boats be not above a foot and a half or two feet wide and twenty foot long.¹⁶

Johannes Blaeu, a Dutch cartographer, was the next to record a tidbit related to dugout canoes in the historic record. In his 1635 map of New Belgium and New

¹³ W.L. Grant, ed., *Voyages of Samuel de Champlain, 1604-1618*, New York: Charles Scribner's Sons, 1907: 66.

¹⁴ Historians have argued that indigenous trade networks facilitated this spread of European goods throughout New England, and that peoples who had little or no contact with Europeans were able to acquire tools this way. See Bruce J. Bourque and Ruth Holmes Whitehead, “Tarrentines and the Introduction of European Trade Goods in the Gulf of Maine,” *Ethnohistory* 32 (1985): 327-341.

¹⁵ Grant, ed., *Voyages of Samuel de Champlain*: 68.

¹⁶ William Wood, *New England's Prospect*, Amherst, MA: University of Massachusetts Press, 1977 [1634]: 108-109.

England, Blaeu included an illustration of five indigenous men paddling a dugout canoe between Long Island and Block Island (fig. 8). The maps that influenced Blaeu's – a 1617 map by Willem Jansz Blaeu (Johannes' father) and the original 1614 *Figurative Map of New Netherland* by Adriaen Block – are canoe-free.¹⁷ His caption for the canoe was “*Navis ex arboris trunco igne excavata*,” or “ship carved from the trunk of a tree by fire.”¹⁸ The canoe depicted on the map is of a unique form – the boat features a raised prow and stern in a style reminiscent of Viking ships, though I certainly do not mean to draw a cultural connection between the two. Whether or not Blaeu was drawing this from a point of reference is unknown, but as of yet, no canoes that have been recovered in the Northeast seem to follow this form.

In 1643, Roger Williams' *A Key into the Language of America* made reference to various canoes and introduced the Wampanoag term *mishoón* to refer to the dugout style. Williams described canoe-making as a solitary effort:

*Obs. Mishoón an Indian Boat, or Canow made of a Pine or Oake, or Chestnut-tree: I have seene a Native goe into the woods with his hatchet, carrying onely a Basket of Corne with him, & stones to strike a fire when he had feld his tree (being a chestnut) he made him a little House or shed of the bark it, het puts fire and follows the burning of it with fire, in the midst of many places: his corne he boyles and hath the Brook by him, and sometimes angles for a little fish; but so hee continues burning and hewing until he hath within ten to twelve dayes (lying there at his worke alone) finished, and (getting hands,) lunched his Boate; with which afterward hee ventures out to fish in the Ocean.*¹⁹

Furthermore, Williams provides us with a fairly extensive list of names for indigenous canoes in New England:

Mishoonémese.

A little Canow.

¹⁷ Benjamin Schmidt, “Mapping an Empire: Cartographic and Colonial Rivalry in Seventeenth-Century Dutch and English North America,” *William and Mary Quarterly* 54 (1997): 557-600.

¹⁸ Volmar, “The Dugout Canoe Project”: 3.

¹⁹ Roger Williams, *A Key Into the Language of America*, Bedford, MA: Applewood Books, 1997 [1643]: 106-107.

Some of them will not well carry above three or foure: but some of them twenty, thirty, forty men...

Mishítouwand.	<i>A great Canow.</i>
Peewàsu.	<i>A little one.</i>
Paugautemissaûnd.	<i>An Oake Canow.</i>
Kowawwaûnd.	<i>A pine Canow.</i>
Wompissaûnd	<i>A chestnut Canow.</i> ²⁰

The multitude of words for different types of canoes suggests that the vessels played significant roles in Wampanoag and Narragansett life, that different types of canoes were likely employed for different purposes, and that the type of tree that was used for building a canoe was significant.

Williams also provides us with some of the most detailed information about the indigenous use of dugout canoes in this area prior to 1650. He confirms Champlain's reports that the canoes were "very liable to turn over if one is not skillful in managing them," having experienced their apparent instability himself:

Obs. It is wonderfull to see how they will venture in those Canoes, and (being oft overset as I have my selfe been with them) they will swim a mile, yea two or more safe to Land: I having been necessitated to passe waters diverse times with them, it hath pleased God to make them many times the instrument of my preservation...²¹

The supposed instability of these boats is rather surprising given that so many explorers and early European settlers have remarked on their use in the open ocean. It would be easy to blame this on European clumsiness, but recent attempts to paddle mishoonash on open seas have lent credence to these reports: during a sacred run and paddle to commemorate the capture and internment of nearly five hundred Nipmucs on Deer Island in 1675, a number of Wampanoag and Nipmuc individuals paddled mishoonash from the Charles River into Boston Bay. Two of the three mishoonash (reproductions made

²⁰ Williams, *Key Into the Language*: 107-108.

²¹ Williams, *Key Into the Language*: 109.

specifically for the journey) flooded and sank in the open sea, while a third flipped and was damaged beyond repair. All of the paddlers escaped without injury. The event has been repeated with more success in recent years, proving that the vessels are sea-worthy while suggesting that the paddler's level experience is a significant factor in keeping a dugout upright.²²

Williams also wrote that some Indians would raise "a Coat or two and set it up on a small pole, with which they will saile before a wind ten, or twenty mile, &c." Whether this was, as Williams believed, something "Their owne reason hath taught them," or an idea adopted from European traders with whom indigenous peoples had interacted for well over a century is up for debate.²³ Certainly New England's indigenous peoples were familiar with the practice of sailing prior to Williams' writing in 1643:

Bartholomew Gosnold and his crew encountered six Indians sailing a Basque barque off the southern coast of Maine more than forty years earlier.²⁴

One of the more intriguing observations that Williams makes regarding dugout canoes is their use in warfare: "*Obs.* I have knowne thirty or forty of their Canowes fill'd with men, and neere as many more of their enemies in a Sea-fight."²⁵ If we can believe his account, we can gain more insight into the significance of mishoonash to indigenous peoples along the coast of southern New England. Considering the small number of dugout canoes existing in the archaeological record today, it is remarkable that a single tribe could gather forty mishoonash at one time.

²² Donna Laurent Caruso, "Sacred Run and Sacred Paddle Provide Solemn Memorial for Massachusetts Natives." *Indian Country Today*, [<http://indiancountrytodaymedianetwork.com/2010/12/01/sacred-run-and-sacred-paddle-provide-solemn-memorial-massachusetts-natives-81606>], December 1, 2010.

²³ Williams, *Key into the Language*, 108.

²⁴ John Brereton, *A Briefe and True Relation of the Discoverie of the North Part of Virginia*, New York: Mead, Dodd, and Co., 1903 [1602]: 4.

²⁵ Williams, *Key Into the Language*: 110.

Williams was not the only colonist to remark on the use of dugout canoes during times of warfare in southern New England. Lion Gardiner, a British engineer who established a fort on Saybrook Point in southeastern Connecticut during the Pequot War, penned a letter in 1660 that outlined some of the details of his service in the conflict. In 1637, the Wangunk peoples of what is today Portland, Connecticut launched a raid (with Pequot support) on the English settlement of Wethersfield. The attack left nine English dead, and the Pequots took two girls captive. As the warriors entered the mouth of the Connecticut River on their return home, Gardiner's men fired a small cannon into the bow of the canoe carrying the two girls, sinking the boat. The girls were rescued and later ransomed back to Wethersfield by Dutch traders.²⁶

Canoes were clearly important to southern New England's indigenous peoples during times of warfare in the mid-seventeenth century. However, we must be careful not to presume that this particular use of mishoonash represents any sort of lengthy pre-contact tradition. In fact, the practice of warfare itself (defining warfare as a large-scale armed conflict between two or more communities, rather than intermittent or occasional violence between individuals) seems to be a product of colonialism and its effects on Algonkian lifeways in New England. Elizabeth Chilton has argued that warfare was generally absent in pre-contact New England because the Algonkian peoples who occupied the region were not bound to maize horticulture.²⁷ Jared Diamond wrote in 1987 that using agriculture as a means of increasing food production, rather than

²⁶ Pliny LeRoy Harwood, *History of Eastern Connecticut: Embracing the Counties of Tolland, Windham, Middlesex, and New London*, volume 1, New Haven: Pioneer Publishing Company, 1932: 95.

²⁷ Elizabeth S. Chilton, "Farming and Social Complexity in New England: AD 1000-1600," in *North American Archaeology*, ed. Timothy Pauketat and Diana Loren, Lynchburg, VA: Blackwell Press, 2005: 149-150.

choosing to limit populations, was the “worst mistake in human history.”²⁸ The adoption of agriculture, according to Diamond, led to “starvation, warfare, and tyranny.”²⁹ Chilton nicely summarizes how sedentism and intensive horticulture lead to warfare:

[W]hen one examines the big picture of human history and evolution, it is only when people become dependent on few resources that they are willing – even forced – to compete, sometimes violently, for access to the resources and the land that produces these resources. Also, as societies become sedentary and grow in size, they require a restructuring of social relations that often leads to inter- and intra-group tensions.³⁰

And while there is pre-contact evidence for both intensive horticulture and warfare in other parts of the northeast (the Iroquois homelands, for example) prior to European contact, the archaeological record suggests that Algonkian New England was considerably less sedentary, and free from evidence of warfare.³¹ Perhaps more excavations will eventually uncover evidence that suggests more sedentary settlement patterns in New England, but the current lack of evidence for sedentism, fortification, intensive agriculture, and direct evidence of organized violence in the region suggests that warfare was not a significant component of pre-contact Algonkian life in southern New England.³²

As a result, the documented use of dugout canoes in times of warfare is likely a colonial adaptation. But this does not diminish the significance of Williams’ account. Rather, if warfare and the use of dugouts in armed conflict is a post-contact era development, the quantity of mishoonash that Williams recorded becomes even more

²⁸ Jared Diamond, “The Worst Mistake in the History of the Human Race,” *Discover Magazine*, May 1987: 98.

²⁹ Diamond, “The Worst Mistake”: 98.

³⁰ Chilton, “Farming and Social Complexity in New England: AD 1000-1600”: 145.

³¹ Chilton, “Farming and Social Complexity in New England”: 145-150; Elizabeth S. Chilton, “‘Towns They Have None’: Diverse Subsistence and Settlement Strategies in Native New England,” in *Northeast Subsistence-Settlement Change: A.D. 700 - A.D. 1300*, ed. John P. Hart and Christina B. Reith, New York State Museum Bulletin, No. 496, 2002.

³² Chilton, “Farming and Social Complexity in New England”: 150.

remarkable. On one hand, Williams' account reveals the adaptability of dugout canoes: in the roughly fifty years that passed between early European contact in the northeast and the time of Williams' account, the dugout canoe had taken on a new and significant role as a tool of war. Additionally, the number of canoes that Williams noted, when considered alongside the rapid escalation in warfare during this time period, may suggest that canoes were being constructed specifically for use in battle. If this is true, dugout canoe construction may have accelerated considerably during the early- to mid-seventeenth century to meet the demands of warfare.

While warfare may have been a relatively new phenomenon in southern New England when these accounts were written, these documents also provide useful evidence of the importance of dugout canoes to indigenous transportation. Water routes often provided the easiest means of travelling from one place to another. Pequot territory in southeastern Connecticut was only thirty miles from Wethersfield by land, but more than sixty miles by water via the Long Island Sound and Connecticut River; and yet the water route was still the preferred route. Waterways allowed people to avoid the challenges of varied terrain and (in post-contact times) enemy settlements. This holds true for much of New England in the seventeenth century and earlier. Waterways were centrally-important to the Algonkian-speaking peoples of New England, and as Lisa Brooks suggests, historians might be well served to consider indigenous New England as “a network of waterways and kinship”.³³

These waterways – and dugout canoes – may have taken on an even more significant role during the early years of colonialism. As discussed earlier in this chapter,

³³ Lisa Brooks, *The Common Pot: The Recover of Native Space in the Northeast*, Minneapolis: University of Minnesota Press, 2008.

Elizabeth Chilton has argued that southern New England's indigenous peoples were not highly dependent on maize horticulture prior to European contact, but relied instead on a subsistence strategy primarily based on hunting and gathering. This subsistence pattern required communities to move throughout a number of sites within the bounds of their homeland, sometimes coming together to live as a large group, and at other times disbanding into smaller units.³⁴ However, there is sufficient evidence to conclude that indigenous peoples in the lower and middle Connecticut River Valley relied heavily on maize production by the mid-seventeenth century. This shift in food production was likely an indigenous adaptation to the shifting colonial landscape, and this transition would have been accompanied by an increased reliance on trade in order to capitalize on crop surpluses.³⁵

Much like the arrival and expansion of warfare in Algonkian communities, the increased importance of trade necessitated by the transition to a corn economy would have demanded an increase in the construction and use of mishoonash. In order to turn a profit on corn surpluses, indigenous peoples would have sought to trade with colonial communities. Dugout canoes would have played a vital role in facilitating that trade. When the Connecticut colony's lower towns faced a crop shortage near the end of the Pequot War, for example, the Pocumtucks sent "Fifty Canoes laden with Corn" from Deerfield to the lower river valley to save the English from starvation.³⁶ While this fleet of fifty canoes seems to have been a unique occurrence, smaller fleets would have been a much more common occurrence as Natives sent corn down the river for trade. While

³⁴ Chilton, "Farming and Social Complexity in New England": 150.

³⁵ Chilton, "Towns They Have None": 8.

³⁶ John Mason, "Brief History of the Pequot War," in *History of the Pequot War*, ed. Charles Orr, Cleveland: Helman-Taylor Company, 1897: 46.

trade was certainly an important part of indigenous life prior to the arrival of the Europeans, it became essential to the survival of both groups once colonialism began and indigenous peoples began to transition to intensive horticulture as a primary subsistence strategy. As a result, canoes would have become increasingly important as a means of carrying out that trade.

Indeed, waterways, kinship, and mishoonash were inseparable and vital components of life in indigenous New England. Dugout canoes allowed people, trade goods, warfare, and ideas to move throughout the region. When Europeans began to settle the region in the early seventeenth century, they quickly realized the utility of mishoonash and moved to incorporate the boat into their daily lives, and particularly their economic system. By 1638, English colonists were making their own canoes and enacting laws to protect them as a vital resource. While the relationship between colonists and the mishoon will be investigated more thoroughly in the next chapter, a glimpse into the colonial use of dugout canoes can provide a more complete understanding of how the relationship between indigenous peoples and their mishoonash began to change in the seventeenth century.

By 1645, the colony of New Haven had a serious problem. Canoes had become vital to local English life, as they were used to cross bodies of water as ferries; to collect oysters, hay, and other products; as well as to transport crops (and they retained some of these roles into the twentieth century).³⁷ As a means of transportation, the canoes had the tendency to “transport” out of New Haven and never come back: theft was a significant issue. As a result, many canoes that were falling into disrepair were being forced into

³⁷ Ernest E. Ball, “Letter to Fred F. Hill,” catalog Entry for number BU 6, The Mariner’s Museum, Newport News, VA, New Haven: September 20, 1938, in Plane, Ann Marie. “New England’s Logboats: Four Centuries of Watercraft.” *Bulletin of the Massachusetts Archaeological Society* 52 (1991): 8-17.

use, potentially leading to drowning or injury. A law put into place in the late spring months of 1645 required that any canoes used by colonists in New Haven must bear the town's mark, and that only canoes which had been inspected and approved for use would receive the mark. This reveals not only the importance of keeping dugout canoes in the community, but also the significant role that Indians continued to play in the construction of mishoonash in colonial New England. English colonists were making their own canoes but were buying them from Indians as well.³⁸

This should not be particularly surprising: indigenous peoples and Europeans had been engaging in trade in New England since the early sixteenth century. Based on the little information that we have about mishoonash in pre-contact times, it appears that canoes were not private possessions but were rather left along waterway access points to be used by tribal members when needed. Dugouts are quite heavy: one person would have been able to move a dry ten-foot canoe for some distance on his own accord, but once it became waterlogged (or if it were a larger canoe), it would have been an effort in futility to move it any considerable distance, and even then likely only by dragging it along the ground. Nearly every dugout canoe known today has been discovered in roughly the same condition – sunken at the bottom of a body of water, many with stones placed in the hull to weigh it down. Indigenous peoples stored mishoonash this way through the winter months. The canoes would have needed to dry out before they could float, so this would not be an efficient year-round storage practice. During warmer seasons, dugouts were left along the shore for anyone who needed them.³⁹ This suggests

³⁸ Charles J. Hoadly, ed. *Records of the Colony and Plantation of New Haven, From 1638-1649*, Hartford: Case, Tiffany, and Company, 1857: 211-212.

³⁹ Vic Mastone, "Underwater Archaeology: 17th Century Nipmuc Mishoonahs in Lake Quinsigamond," Presentation, Worcester, MA: November 9, 2013.

that mishoonash were generally considered goods for common use, rather than tightly regulated private property.

This practice seems to have been adopted along with the canoes themselves by early colonists. In legal proceedings throughout southern New England's colonies, there are numerous laws restricting the movement of canoes, often accompanied with criminal and civil cases in which individuals have taken canoes without the owner's consent.⁴⁰ These cases reveal that European colonists, like their indigenous neighbors, left the heavy canoes along waterways for easy access. Unlike the Indians, however, the English were less generous with their canoes, often relying on them for income. Colonists adopted the dugout canoe in its indigenous form, but adopted its use to better suit their market economy.

By trading their canoes to the English, the Indians were engaging with this market economy as well.⁴¹ Indians also often hired out their services as ferrymen. In 1648 when John Bissell of Windsor, Connecticut established a ferry business that was endorsed by the town, he monopolized the river crossing. While residents of Windsor who wished to cross the river in their own boats were allowed to do so freely, "if any person or persons (from outside the town)... goe over by Indians or English that have not Boates or Canoes of their owne, that they pass over the said Ferry in, they shall as truly pay... as if they went over with [Bissell]."⁴² While laws like this surely cut into this indigenous

⁴⁰ Hoadly, ed. *Records of the Colony and Plantation of New Haven*: 26, 157, 211, 434; George Francis Dow, ed., *Records and Files of the Quarterly Courts of Essex County, Massachusetts*, vol. 1, Salem, MA: The Essex Institute, 1911: 21, 25, 28. For a more extensive list, see chapter three.

⁴¹ For more on Indian involvement in the market economy, see Jean M. O'Brien, *Dispossession by Degrees: Indian Land and Identity in Natick, Massachusetts, 1650-1790*, Lincoln, NE: University of Nebraska Press, 2003.

⁴² J. Hammond Trumbull, *Public Records of the Colony of Connecticut Prior to the Union with New Haven Colony, May 1665*, vol. 1, Hartford: Brown and Parsons, 1850: 175.

enterprise, the passage clearly shows that Indians recognized that their ability to build and use mishoonash provided them with economic opportunities.

It is considerably more difficult to track indigenous use and construction of dugout canoes in the late seventeenth century and beyond. There are multiple reasons for this. First, dugout canoes were no longer novel to colonists. The earliest explorers to the Northeast likely had little or no experience with dugout canoes, so they were fascinated by how they were made and used and felt compelled to record encounters with the boats in great detail. But mishoonash were a common sight in southern New England, and the canoes would have quickly become unremarkable. Additionally, the conclusion of King Philip's War in 1676 began an era in which Eurocolonials intentionally portrayed indigenous peoples as "disappearing."⁴³

While their numbers were certainly reduced by the conflict, southern New England's indigenous peoples did not simply abandon their ancestral homelands or go extinct in the seventeenth and eighteenth centuries, as some earlier historians have claimed. New England's indigenous population did significantly decline after King Philip's War – conservative estimates suggest that the Indian population dropped roughly 40 percent due to the conflict, with some historians estimating as high as 69 percent population loss and relocation, while the non-Indian population reached new highs – but they certainly did not disappear on their own accord.⁴⁴ Rather, the Indians that returned to their villages or relocated elsewhere in southern New England after the conflict were intentionally ignored (or were "hiding in plain sight," as Margaret Bruchac suggests) and

⁴³ Colin G. Calloway, "Introduction: Surviving the Dark Ages," in *After King Philip's War: Presence and Persistence in Indian New England*, ed. Colin G. Calloway, Hanover, NH: University Press of New England, 2000.

⁴⁴ For demographic figures, see James D. Drake, *King Philip's War: Civil War in New England, 1675-1676*, Amherst: University of Massachusetts Press, 2000: 168-169.

their presence was obfuscated by colonists who wished to paint a picture of a declining Indian threat.⁴⁵ This reported decline and disappearance is overstated. Careful historical, ethnographic, and archaeological analysis has revealed that New England's indigenous peoples neither vanished nor assimilated, but instead continued as households and communities throughout the region, as they do in many communities to this day.⁴⁶

The pre-contact era does not provide us with a wealth of knowledge about dugout canoes. New England's environment simply does not facilitate the preservation of wooden artifacts in the archaeological record: high levels of moisture and acidic soil, along with high post-contact population density and considerable re-routing of waterways for dams, reservoirs, and urban development are all impediments to the survival of dugout canoes. Additionally, indigenous peoples may have repurposed the wood from dugout canoes after they were no longer serviceable, limiting the number of canoes that would enter the archaeological record. Given these conditions, it is actually somewhat surprising that so many have been uncovered. Other regions of the country have been comparably fortunate in terms of artifact preservation. When Newnans Lake outside of Gainesville, Florida dried up during a drought in 2000, its bed revealed over 100 dugout canoes and plank-built skiffs.⁴⁷ While this certainly can not be taken as a representative sample for the rest of the Atlantic coast (or even the southeast), it may hint at the unrecognized significance of these boats in indigenous cultures.

⁴⁵Margaret Bruchac, "Hiding in Plain Sight: Native Adaptation and Survival in New England," Paper presented at the New England Native American Institute, Worcester Historical Museum, Worcester, MA, reference from Elizabeth S. Chilton, "New England Algonquians: Navigating 'Backwaters' and Typological Boundaries," in *The Oxford Handbook of North American Archaeology*, ed. Timothy Pauketat, New York: Oxford University Press, 2012: 271.

⁴⁶ Donna Keith Baron, J. Edward Hood, and Holly V. Izard, "They Were Here All Along: The Native American Presence in Lower-Central New England in the Eighteenth and Nineteenth Centuries," *William and Mary Quarterly* 53 (1996).

⁴⁷ Ryan J. Wheeler, James J. Miller, Ray M. McGee, Donna Ruhl, Brenda Swann, and Melissa Memory, "Archaic Period Canoes from Newnans Lake, Florida," *American Antiquity* 68 (2003): 533-551.

While archaeology in New England has not yet provided a wealth of direct evidence for the earliest construction of mishoonash, indirect evidence provides some insight into the history of dugout canoes prior to the arrival of Europeans. Dugout canoe construction in New England likely began during the Middle archaic period, roughly 8,500 to 5,000 years ago. It is during this period that we first begin to see the heavy woodworking tools (adzes, gouges, and grooved axes) required to cut down trees and hollow out the canoes.⁴⁸ During the Late Archaic and Transitional Periods (3000-1000 BCE), conditions became ripe for a significant increase in dugout canoe construction. Sea levels began to stabilize and riverine floodplains reached their modern levels, presenting the conditions necessary for shellfish to thrive. Shell middens from this period suggest that people began to intensively harvest shellfish around this time and may have established year-round residence in coastal areas. Dugout canoes would have been useful implements in shellfishing and reaching off-shore islands like Martha's Vineyard, which had previously been connected to the mainland. Furthermore, hardwood population growth exploded during this period while softwoods like hemlock declined. This may have been a result of human activity – perhaps people were intentionally clearing the softwoods to promote the growth of hardwoods that could be used for dugout construction. Whether intentional or not, the increased populations of hardwoods would have provided the opportunity to construct dugouts more frequently. This may have been necessary, as there appears to be significant evidence for a boom in the human population

⁴⁸ Public Archaeology Laboratory, "Over 5,000 Years of History in Eastern Connecticut: The Story of the Tower Hill Road Site," [http://www.palinc.com/sites/default/files/publications/Tower_Hill_Popular_Report.pdf,] accessed February 20, 2014: 14.

at this time.⁴⁹ Still, without finding dugout canoes from these earlier periods, our understanding of them will be shaped primarily by secondary evidence.

The comparative rarity of New England dugouts makes the surviving mishoonash critical. The Connecticut Museum of Natural History has a dugout from Mountain Pond (now Mountain Pond Reservoir) in Bethel, Connecticut that was discovered in 1911 when the pond was being dredged. The collector who donated that canoe to the museum owned a second dugout canoe that had been excavated from Squantz Pond (now Candlewood Lake) in New Fairfield, Connecticut in 1927. A dugout discovered in 1965 in Great Pond in South Weymouth, Massachusetts was donated to the Tufts Library and dates to roughly 1400. The Mashantucket-Pequot Museum and Research Center received a dugout canoe via Yale University that was originally discovered in West Hill Pond in Winsted, Connecticut in the 1980s. And in 2000 and 2001, divers found three mishoonash at the bottom of Lake Quinsigamond in Worcester, Massachusetts. These cases and others will be more carefully investigated in chapter four.

Additionally, archaeologists believe they uncovered a mishoon construction site in North Reading, Massachusetts in 1961. The Eaton site features an unusually large amount of charcoal – approximately 20 square feet worth of coverage and up to eleven inches in depth suggests that intensive, localized burning took place at the site. This matches well with the descriptions of canoe manufacture that early explorers and colonists recorded, as well as with the process of contemporary mishoonash manufacture. The charcoal found throughout the site is crushed in pieces as large as one inch in diameter, with some of those pieces featuring a smooth surface on one side. This effect

⁴⁹ Elizabeth S. Chilton and Meredith D. Hardy, “Eastern Atlantic Coast,” in *The Cambridge World Prehistory*, vol. 2, ed. Colin Renfrew and Paul Bahn, Cambridge, UK: Cambridge University Press, 2014: 1285-1289.

might have been produced by a cutting implement after the wood was burned. Both Harriot and Champlain offer corroborating evidence for this by saying that Indians scraped out the charcoal after burning it, either with shells or stone.⁵⁰

While some archaeologists have suggested that the site may represent a house floor or refuse pit, William Fowler (archaeologist former and Curator of the Bronson Museum, now the Robbins Museum of Archaeology) disagrees on the basis of five stone woodworking tools found in the charcoal, as well as the absence of other artifacts that would be typical of the other two types of sites.⁵¹ I concur with Fowler's assessment that this is a dugout construction site, but for slightly different reasons. While the woodworking tools and charcoal strongly suggest that this was the site of mishoon construction, the location of the site is more significant. The Eaton site is located near two bodies of water: Skug River and Martin Pond. This proximity to water means that the mishoon's maker(s) would have only had to move the canoe a short distance over land. Once it was on the water, the boat could have been easily transported to anywhere it needed to be. Had the site been a mile or more from the nearest body of water, it would not have been a practical site for dugout construction. Mishoonash move quite well on water, but are cumbersome on land. English colonists learned the same lesson and quickly became protective over stands of "canoe trees," large pines along waterways.⁵²

The challenges of incomplete and imperfect data that bookmark the contact and colonial periods in New England's indigenous history are not unique to the study of mishoonash, nor are they unique to the study of material culture more generally. The

⁵⁰ William Fowler, "A Review of Dugout-Making," *Bulletin of the Massachusetts Archaeological Society* 37 (1975): 1-5.

⁵¹ Fowler, "A Review of Dugout-Making": 4.

⁵² Mason A. Green, *Springfield, 1636-1886, History of Town and City*, Springfield, MA: C.A. Nichols and Company, 1888: 47.

vast majority of historical inquiry into indigenous cultures in New England has focused on the seventeenth and eighteenth century in large part due to these limitations. The contact and colonial periods are not particularly rich with anecdotes on dugout canoes, but the periods before and after are regrettably silent on the subject. The fourth chapter (covering the rediscovery and diagnostic analyses of surviving mishoonash) will address these concerns by examining the ways in which dugout canoes have changed over time and projecting both forward and backward from the seventeenth century.

Still, the information that we can glean from the historic and archaeological records provides some vital conclusions about dugout canoes in New England. First, the archaeological record and the written record of encounters with dugout canoes by the earliest European explorers to the region confirm that mishoonash were being built and used by indigenous peoples before the arrival of white explorers and settlers. The discovery of over one hundred dugout canoes dating back to 5000 BCE in a single lake in Florida suggests the importance of dugout canoes to indigenous peoples of eastern North America. Roger Williams' account suggests that they were equally important to the peoples of southern New England: the vast number of mishoonash at a tribe's disposal at any one time and the variety of words used to describe the canoes support this.

Corroborating accounts by every individual who remarked on the construction of dugout canoes from Virginia to Boston's North Shore suggest that while certain practices might vary from culture to culture (the use of fire in felling the trees, using shell versus stone tools to carve out the canoe's trough, etc.), the basic method of constructing dugout canoes is the same throughout the region. This suggests that the practice of dugout canoe construction is a long-held tradition that has been kept as populations grew and cultural

groups multiplied. It may represent the exchange of ideas across a wide swath of the continent as one group adopts the practice from another. But as Jeff Kalin (a Cherokee primitive technologist) suggests, perhaps it simply represents common sense practices.⁵³ The historical record indicates at least a few of the ways mishoonash were used in New England (hunting, fishing, warfare, and travel) and how indigenous peoples adopted new practices at the introduction of the market economy (selling their canoes as well as their services by ferrying people and animals across waterways). The historical and archaeological record does not tell the whole story of mishoonash in indigenous New England, but it would be a mistake to expect it to. The information that it does provide will prove useful for a continuing discussion of dugout canoes in a changing cultural landscape.

⁵³ Jeff Kalin, Personal communication with the author, October 11, 2013.

CHAPTER 3

NEW ENGLAND'S DUGOUT CANOES IN THE ENGLISH COLONIES

In August of 1644, the New Haven colony court addressed recent disputes on the plantation by enacting several laws governing commerce. First, a lack of English coinage demanded that colonists accept Spanish “peesces of eight” and “Indian wompom” as currency. Second, a heavy fine was to be levied on any person who took another man’s “boate or cannow” without their express permission. And, finally, that:

divers cannowes, some made by the English, some bought of the Indians, are altogether unfit for the service to w^{ch} they are usually putt, & may prove dangerous to the lives of men, Mr. Crayne & Leiutennant Seely are by this court appoynted viewers... who are to marke all and every cannowe w^{ch} they shall approve & judg meete for service, and whosoever shall henceforward hire out, lend or use any cannowe not soe marked... shall pay 20s fine for every such default, besides what further damadge may grow thereby.¹

This passage reveals the complexity of the dugout canoe in colonial New England. By the 1630s, Eurocolonial New Englanders were building their own canoes. Writing in 1630, Governor John Winthrop of the Massachusetts Bay Colony described hollowing out trees in the form of “an Indian canoe,” lashing them together, and laying boards on top to build a boat.² By the 1640s the practice was in full swing – not only did New Haven’s colonists own English-built canoes, but they had owned them long enough for dugouts to fall into dangerous levels of disrepair.³ Yet English construction apparently could not meet the demand for canoes, as indigenous peoples profited by selling their dugouts to colonial customers. Purchasing canoes from local Indians does not appear to

¹ Charles J. Hoadly, ed. *Records of the Colony and Plantation of New Haven, From 1638-1649*, Hartford: Case, Tiffany, and Company, 1857: 211-212.

² John Winthrop, “How to Make a Strong Boat and Cover a House,” in *Winthrop Papers, 1623-1630*, vol. 2, New York: Russell and Russell, 1968 [1931]: 238.

³ In 1663, John Josselyn described the process by which colonists built their dugout canoes. The passage is remarkable in its similarity to the early accounts of indigenous dugout construction. See: John Josselyn, *John Josselyn, Colonial Traveler: A Critical Edition of Two Voyages to New England*, ed. Paul J. Lindholdt, Hanover, NH: University of New England Press, 1988: 47.

have been a short-term practice for colonists: a Connecticut newspaper advertisement concerning a dugout canoe in the late eighteenth century described the vessel as “Indian built.”⁴

Regardless of who was making them, canoes were in high demand throughout seventeenth century New England. The numerous court cases involving canoe theft and the laws established to control their movement is evidence of this. William Almy was fined by the Massachusetts Bay Colony in 1631 for taking Ralf Glover’s canoe “without leave.”⁵ In 1640 when Robert Adams and John Skudder discovered “a poor man in distress,” they stole his canoe rather than helping him. Adams appeared in Salem’s court in March of the next year on similar charges. In that same month, a servant named William Poole stole a pair of stockings and a canoe from George Emery.⁶ Stolen canoes were also the getaway vehicle of choice (or perhaps necessity) in the colonies. Zachry Debell and William Newman damaged a canoe while helping their friend, Stephen Godwin, break out of the prison in Ipswich. The getaway paddlers were ordered to pay triple the damage done to the canoe.⁷ In April of 1691, two prisoners at Salem escaped when the prison keeper’s wife opened the door to sell the inmates a pot of beer. The convicts escaped by crossing the river in a stolen canoe.⁸

Considering the frequency with which colonists stole canoes from one another, it is likely that Indian canoes were frequent targets of theft. Archaeologist Vic Mastone has

⁴ Ross K. Harper, “‘Providence Brings to our Doors, the Delicious Treasures of the Sea’: Household Use of Maritime Resources in 18th-Century Connecticut,” *CORIOLIS* 1 (2010): 56.

⁵ John Noble, ed., *Records of the Court of Assistants of the Colony of the Massachusetts Bay, 1630-1692*, vol. 2, Boston: The County of Suffolk, 1904: 16.

⁶ George Francis Dow, ed., *Records and Files of the Quarterly Courts of Essex County, Massachusetts*, vol. 1, Salem, MA: The Essex Institute, 1911: 21, 25.

⁷ George Francis Dow, ed., *Records and Files of the Quarterly Courts of Essex County, Massachusetts*, vol. 3, Salem, MA: The Essex Institute, 1913: 152.

⁸ Sidney Perley, *The History of Salem, Massachusetts*, vol. 3, Salem, MA: Sidney Perley, 1928: 241.

suggested that New England's indigenous peoples would have left dugout canoes unattended along waterways and on the shores of lakes and ponds. Dugouts, especially large ones, would have been very difficult to portage, so leaving canoes at certain access points and river crossings would have been a common practice.⁹ This notion is supported by William Bradford's entry in *Mourt's Relation* from November of 1620, writing that his exploratory party discovered "two Canoas, the one on the one side, the other on the other side" of a river.¹⁰ To English colonists, the seemingly abandoned canoes would have been ripe for picking. In the eyes of many, the canoes may have even been a sign of God's providence.¹¹

While it is difficult to ascertain exactly how often English colonists stole mishoonahs from their indigenous neighbors, we do know it happened. Thomas Morton, the founder of the Merrymount colony and a considerable nuisance to the Puritan settlement at Plymouth, was charged with stealing a canoe from a Massachusetts village in 1630.¹² Wequash Cooke II, a Niantic leader whose brother allied with Uncas and joined the English cause in the Pequot War, acquired a "great Canoe" in 1647. On March 8, 1648, John Mason wrote to John Winthrop, Jr. on Wequash's behalf to request the return of a canoe that Winthrop's servant, Jonathan Austin, had stolen.¹³ It is unclear whether or not this was the same canoe, or whether the canoe was eventually returned to

⁹ Vic Mastone, "Underwater Archaeology: 17th Century Nipmuc Mishoonahs in Lake Quinsigamond," Presentation, Worcester, MA: November 9, 2013.

¹⁰ Edward Winslow and William Bradford, *Mourt's Relation or Journal of the Plantation at Plymouth*, Boston: John Kimball Wiggin, 1865: 23-24.

¹¹ When Bradford's men desecrated Wampanoag graves, they found corn that had been buried as an offering to the dead. To the colonists, their good fortune could only be explained as "Gods good providence." Other indigenous property would have been similarly received by the colonists. Winslow and Bradford, *Mourt's Relation*: 31.

¹² Joseph Barlow Felt, *The Annals of Salem, From its First Settlement*, Salem: W. & S.B. Ives, 1827: 47-48.

¹³ John Winthrop, "Memorandum of Wequash Cooke's Depredations," in *Winthrop Papers, 1645-1649*, vol. 5, Boston: Massachusetts Historical Society, 1947: 123-124; John Winthrop, "John Mason to John Winthrop, Jr.," in *Winthrop Papers, 1645-1649*, vol. 5, Boston: Massachusetts Historical Society, 1947: 317-318.

Wequash, but it is clear that canoe theft was common throughout the colonies and in neighboring Indian communities.

Indians, too, were sometimes charged with taking canoes. The communal use of dugout canoes amongst New England's indigenous peoples led to occasional conflict between Indians and colonists. A group of Christian Indians, led by Tahattawan and encouraged by John Eliot, established a praying town at Nashoba, near Concord, Massachusetts. The colonists at Concord were uneasy with the idea of having an Indian town so close, and in 1646 they drafted a contract requiring the Indians to give up many of their traditional practices and habits. Along with ceasing "powwaws" and agreeing to wear their hair "as the English doe," the contract stated that "No Indian shall take an English man's canoe without leave under penaltie of five schillings."¹⁴ The relatively low fine (the penalty for Englishmen who stole canoes in New Haven was twenty schillings) suggests that Indians were not stealing the canoes, but were borrowing and returning them at some inconvenience to those who owned them.¹⁵ To a culture that viewed mishoonash as goods for common use, the English insistence on controlling their use led to some misunderstandings.

For the English, part of controlling how canoes were used was controlling their movement. In addition to the laws and fines against canoe theft, many colonies put restrictions on when and where canoes could be used, and who canoes could be lent or sold to. One of the more common ways to keep canoes within the community was to incise or burn the town's mark onto them. From New Haven in 1645:

¹⁴ Lemuel Shattuck, *A History of the Town of Concord, Middlesex County, Massachusetts: From Its Earliest Settlement to 1832*, Boston: Russell, Odiorne, and Co., 1835: 22-24.

¹⁵ Hoadly, *Records of the Colony and Plantation of New Haven*: 211.

Itt was ordered thatt Jasper Craine and Rob^t Ceely before the next second day, shall veiw all the cannows belonging to the English about this towne, and marke y w^th the townes marke all such w^eh they shall approve as fitt for the English to use, and thatt no person or persons in this plantatiō or belonging to itt shall lend or use any cannow thatt is nott so marked by the psons aforesaid, under the penalty of 20s fine for every default.¹⁶

And Springfield, in 1638, began to regulate both the canoes themselves and the “Canoe trees” that made up the raw material for the logboats:

It is ordered y^t it shall be lawfull for any inhabitant to fell any Canoe trees and make y^mfor his owne use or for y^euse of any inhabitant y^t grow on y^eCommon but not to sell or any ways pass away any Canoe out of y^t Plantation untill it be five years old, and in case any shall transgress this order after this day he shall be lyable to a fine of twenty shillings.¹⁷

These laws suggest that canoes were a vital resource to New England’s colonists; keeping the canoe trade within the plantation meant keeping money within the local economy.

There were exceptions to these restrictions, as Samuel Hubbard was granted leave from Springfield to sell his canoe in 1642.¹⁸

These laws also hint at a secondary motive. While colonies and indigenous communities generally tolerated each other through the first half of the seventeenth century, the growing colonial population and the associated invasions of Indian lands led to increased conflict in the second half of the century, culminating in King Philip’s War in the 1670s. In May of 1676, the English launched an attack on Peskeompscut (present day Turner’s Falls, Massachusetts), killing several hundred of the town’s inhabitants, most of whom were women, children, and the elderly. In the aftermath of this battle, more troops returned to the falls and destroyed one of the villages there, burning one

¹⁶ Hoadly, *Records of the Colony and Plantation of New Haven*: 157.

¹⁷ Henry M. and Silas W. Burt, *Early Days in New England: Life and Times of Henry Burt of Springfield and Some of his Descendants*, Springfield, MA: Clark W. Bryan Co., 1893: 164.

¹⁸ Burt, *Early Days in New England*: 169.

hundred wigwams and destroying thirty dugout canoes.¹⁹ The decision to destroy the canoes may have been due to their strategic importance in the war. Rather than keeping them and risking that they fall back into the hands of the Indians, the colonists decided to destroy the mishoonash.

Branding canoes with a town's mark might have also been intended as a means of keeping colonially-built canoes out of the hands of Indians, while simultaneously making it easier to commandeer indigenous mishoonash. In *Creatures of Empire*, Virginia DeJohn Anderson cites a similar practice in New England in terms of branding pigs. English communities branded their pigs and other livestock with a town mark or by notching the animals' ears, but imposed laws that expressly forbade Indians to do the same. Anderson compellingly argues that these policies were intended to "render Indian animals vulnerable to unscrupulous colonists who merely had to mark the creatures' uncut ears and claim possession."²⁰ The same practice could easily be applied to mishoonash. Once a stolen canoe was branded with the town's mark, the boat's owner had a recognized legal claim to the vessel, and it would be very difficult for an Indian claimant to successfully plead his case.

While canoe-branding may have been a means of legalizing the theft of Indian canoes, the practice was ostensibly enforced to keep canoes within the colony and to protect a town's inhabitants. Dugout canoes were the workhorse vehicle in northeastern America through the seventeenth century, and as a result they were used and abused until they were no longer water-worthy. New Haven ruled that canoes on their plantation

¹⁹ Sylvester Judd, *History of Hadley: Including the Early History of Hatfield, South Hadley, Amherst and Granby, Massachusetts*, Springfield, MA: H.R. Hunting & Co., 1905: 171.

²⁰ Virginia DeJohn Anderson, *Creatures of Empire: How Domestic Animals Transformed Early America*, New York: Oxford Press, 2004: 217-218.

needed to be “approve[d] as fitt for the English to use,” and Salem, which held similar laws on marking its canoes, ordered in 1636 that “no canoe [is] to be used under penalty of 40s to the owner, except those approved by the surveyors.”²¹ When Sarah Dillingham recorded her last will and testament in July of 1636, her estate included “2 borded Canow,” signifying that the boats had suffered enough damage to require boards patched over holes.²² The Mountain Pond dugout (analyzed in this paper) at the Connecticut Museum of Natural history provides an extant example of such repairs and a testament to the punishment dugout canoes received.

Regulating the use and maintenance of canoes to ensure that dangerous dugouts were kept off the water was important to colonial governments, and for good reason. Drowning was a fairly common cause of death in colonial New England, and plenty of colonists died canoe-related deaths. On October 20, 1635, five men died when their canoe overturned near Kettle Island near Gloucester, Massachusetts.²³ John Winthrop, Jr. wrote to his father in 1639 to report that a woman had drowned when her husband’s canoe overturned, and another man had almost died when his canoe – overloaded with manure – sank.²⁴ Archibald Thomson of Marblehead died when his own manure-filled dugout sank underneath him in 1641.²⁵ On July 23, 1658, a young boy drowned in Ipswich when he was playing in a canoe unsupervised and fell out. Another man died in Salem in November of 1661 when he was tossed from his canoe and into the icy water.²⁶

The Massachusetts Bay colony became so concerned with the safety of canoes that they

²¹ Dow, *Quarterly Courts of Essex County*, vol. 1: 3.

²² George Francis Dow, *The Probate Records of Essex County*, vol. 1, Salem, MA: The Essex Institute, 1916: 5.

²³ Felt, *The Annals of Salem*: 72.

²⁴ John Winthrop, Jr., “John Winthrop, Jr. to his Father,” in *Winthrop Papers, 1637-1644*, vol. 4, Boston: Massachusetts Historical Society, 1944: 118-119.

²⁵ Felt, *The Annals of Salem*: 529.

²⁶ Dow, *Quarterly Courts of Essex County*, vol. 3: 119, 421.

temporarily banned their construction in 1638. The decision came as the result of an accident in which three men fell out of an over-crowded canoe and drowned. When the canoe was recovered, the court ordered that the vessel be split in half.²⁷ James and Patricia Deetz, citing another canoe-related drowning from Marshfield, Massachusetts in 1660, suggest that objects were sometimes blamed for people's actions in colonial New England.²⁸ In the case from Massachusetts Bay, it seems that the canoe was not only blamed, but was sentenced to death for its crime.

Regardless of their potential danger, dugouts were too important to colonial communities to ban them outright. Colonies enacted laws and regulations to ensure that canoes were being used responsibly, but their utility ensured their continued presence on New England's waterways. As evidence of the canoe's significance, paddling one was one of only a few tasks that Springfield permitted on the Sabbath day, stating in 1696 that "We count it as Lawful to Row in a Boate, or paddle a Canoe, or bridle and saddle an horse. Works of necessity, are works of the Sabbath."²⁹ This statement also places the dugout canoe directly in the center of Connecticut River politics at the turn of the eighteenth century. Towns like Springfield that had established themselves on the eastern shores of the Connecticut River often expanded to the west side of the waterway. As the western side of town grew in population they often began to seek autonomy and sought permission to build their own meetinghouses and establish a church. Among other complaints, western towns complained that they had to make a difficult and

²⁷ Noble, *Records of the Court of Assistants*, vol. 2: 78, 238.

²⁸ James and Patricia Scott Deetz, *The Times of Their Lives: Life, Love, and Death in Plymouth Colony*, New York: Henry Holt & Co., 2000: 100.

²⁹ Mason A. Green, *Springfield, 1636-1886, History of Town and City*, Springfield, MA: C.A. Nichols and Company, 1888: 198.

laborious river crossing, and that such work violated the Sabbath. For them, the canoe became a tool to fight for autonomy.

Ferry operators were among the most significant stakeholders in the river crossing controversies. Down the river from Springfield in Windsor, Connecticut, a similar controversy arose in 1650. The original town of Windsor was established on the western side of the river, and when church services ended on Sunday the ferry operator was overwhelmed by the crowd of people who wished to return to their houses on the east side. On October 23rd, the town council ordered that:

upon the Lord's days, meetings, and all other days of public meetings, none shall go into the canoe before the magistrates and elders, when they or any of them go [personally over], and that there shall not at any time go above 35 persons at a time into the great canoe, and not above six persons at a time in the little canoe, upon penalty of 3d. for every such transgression.³⁰

Paddling thirty-five irritated churchgoers across the Connecticut River was probably a less-than enjoyable part of the ferry operator's job. The ferry's significance to river towns also meant the job required long hours – "sunrise to evening."³¹ Still, there were some benefits to operating the town's ferry. The town often provided a house near the river and some land for the operator, and the town allowed the ferry operator to monopolize his trade. Any person who carried somebody across the river in his canoe was ordered to pay the ferry operator one dollar per head. Indians were an exception to

³⁰ Henry Reed Stiles, *The History and Genealogies of Ancient Windsor, Connecticut: Including East Windsor, South Windsor, Bloomfield, Windsor Locks, and Ellington, 1635-1891*, Hartford: Case, Lockwood, & Brainard Co., 1891: 172.

³¹ Stiles, *The History and Genealogies of Ancient Windsor*: 172-173. The size of the dugout canoe used at Windsor is worth noting. John Smith, writing about canoes near Jamestown speaks of canoes that were fifty feet long and could hold forty people, but notes that those are uncommon. The presence of canoe this large in use in Connecticut is rather remarkable. Wequash Cooke receives a "great Canoe" but no details beyond that are provided. New England's pre-contact and early colonial canoes, then, were probably larger on average than we generally conceive of them.

this rule – only other English canoe operators were required to pay the ferry operator for cutting into his business.³²

As the two manure-related canoe accidents discussed earlier suggest, dugouts played an essential role in the lives of New England’s colonial farmers. In the New Haven colony, officials noted that rather than taking the ferry or paying the ferry operator, planters “are left free to use their own cannowes” to cross the river or to bring across their families or “work folkes.”³³ Giles Corey, a prominent Salem farmer remembered for his execution by pressing during the witchcraft trials, was fined for “fetching a canoe load of wood in time of his watch and denying it before the court” in September of 1648.³⁴ Five Essex county men listed canoes and farm land in their estate inventories.³⁵ When a New Haven farmer was fined for taking away three men from military “traynings” to fetch hay, he defended his actions by saying he needed their help while he still had access to his borrowed canoes.³⁶ For farmers in colonial New England, canoes were vital tools for moving wood, manure, feed, and produce.

While dugout canoes were useful to all farmers, they were perhaps most important to those who owned salt marsh property. Salt marshes – the meadows and brackish waterways that separate the sea from the land – were critical sources of hay. The use of draft animals to clear forests and plow fields made animal husbandry an essential practice in New England’s colonies.³⁷ Livestock were also a vital export of the New England economy, while milk was an important component of local diets, and

³² Hoadly, *Records of the Colony and Plantation of New Haven*: 165.

³³ Hoadly, *Records of the Colony and Plantation of New Haven*: 165.

³⁴ Dow, *Quarterly Courts of Essex County*, vol. 1: 152.

³⁵ Dow, *The Probate Records of Essex County*, vol 1: 42, 156-158, 342; George Francis Dow, *The Probate Records of Essex County*, vol. 2, Salem, MA: The Essex Institute, 1917: 413; George Francis Dow, *The Probate Records of Essex County*, vol. 3, Salem, MA: The Essex Institute, 1920: 237-238.

³⁶ Hoadly, *Records of the Colony and Plantation of New Haven*: 230.

³⁷ Anderson, *Creatures of Empire*: 153.

manure improved the region's soil.³⁸ Upland grasses in northeastern America made poor fodder for livestock, but using salt marsh grass as feed was common in England and colonists took to the practice quickly.³⁹ The marshes were also an ideal location for hunting waterfowl and an important source of shellfish.⁴⁰ As a result, salt marshes became one of coastal New England's most important resources.

David Casagrande has argued that the "availability of salt marsh hay, along with good harbors, were major factors in the selection of locations for many coastal New England towns settled in the early 17th century," and that colonists saw them as a manifest example of God's providence.⁴¹ The 3,000 acres of meadow at Sudbury, Massachusetts, is what first drew colonists to the site. Salt marshes were so important to the colonies that in 1677, inhabitants of Hingham, Massachusetts, valued salt marsh acreage at double the cost of farm land.⁴² Beyond the financial value of salt marshes, they may have provided a sense of security for English colonists as well. Coming from England's open meadows, the forest was perceived as a place of fear and mystery, and the refuge for evil. Open grasslands would have been welcoming and familiar in a landscape that was otherwise alien.⁴³

The importance of salt marshes is closely tied to the importance of dugout canoes for English colonists. Dugouts made possible the transportation of salt grasses to town for sale or to a farmer's barn for drying and storage before being fed to his livestock. The

³⁸ Anderson, *Creatures of Empire*: 152-154; David G. Casagrande, "The Full Circle: A Historical Context for Urban Salt Marsh Restoration," *Yale Forestry and Environmental Studies Bulletin* 100 (1997): 14-15.

³⁹ Casagrande, "The Full Circle": 14.

⁴⁰ Casagrande, "The Full Circle": 21, 26.

⁴¹ Casagrande, "The Full Circle": 14.

⁴² Anderson, *Creatures of Empire*: 154; David Grayson Allen, *In English Ways: The Movement of Societies and the Transferal of English Local Law and Custom to Massachusetts Bay in the Seventeenth Century*, New York: W.W. Norton, 1983: 59.

⁴³ Casagrande, "The Full Circle": 14.

close tie between canoes and salt marshes is visible in probate records. In Essex County between the years of 1635 and 1681, more than half (53 percent; 18 of 34) of the individuals who owned a canoe at the time of their death also owned marsh or meadow land.⁴⁴ Canoes, along with servants, made the laborious task of hauling hay a considerably more manageable task. In at least one case, a canoe filled with hay made a tempting target for theft. In Gloucester in 1666, James Steevens stole a canoe filled with hay from his employer, Edward Harrenden. The case was particularly controversial because the town's deputy constable had abetted the theft and had even ordered another man "to assist him in his Majesty's name."⁴⁵

While farmers generally used canoes to transport their goods from one property to another, others used dugouts to ship goods over much longer distances. Perhaps the best example of this is the shipping and trade enterprise that William Pynchon established in Springfield. Originally established as an attempt to monopolize the beaver trade with the Pocumtuck and other Indians of the middle Connecticut River valley, the business flourished into a trade and shipping network connecting Springfield to Hartford and Boston.⁴⁶ William and his son John sent canoes loaded with three to four tons worth of grain and other goods up and down the Connecticut River throughout the seventeenth century.⁴⁷

Eventually colonists along the Connecticut River began using a second type of boat, the scow.⁴⁸ The boat, which featured a truncated and raised bow and stern and was

⁴⁴ Dow, *The Probate Records of Essex County*, vol. 1-3.

⁴⁵ Dow, *Quarterly Courts of Essex County*, vol. 3: 327, 391, 442; Edwin M. Bacon, *The Connecticut River and the Valley of the Connecticut*, New York: The Knickerbocker Press, 1906: 304.

⁴⁶ William B. Weeden, *Economic and Social History of New England, 1620-1789*, vol. 1, Boston: Houghton, Mifflin, and Co., 1890: 311, 332.

⁴⁷ Judd, *History of Hadley*: 93.

⁴⁸ Bacon, *The Connecticut River*: 303-306.

built by nailing planks to two upright sideboards, was more stable and versatile than a dugout canoe (fig. 10). Historical accounts note scows ranging from thirteen feet in length to more than sixty feet.⁴⁹ Given their similarity in design to mishoonash and their first appearance in the late seventeenth century, they were probably inspired by dugout canoes. The range in size seems to support this, perhaps replacing smaller canoes and the “great Canoos” that some explorers and colonists took note of. Professions that relied heavily on dugout canoes were the first to adopt the scow. Scows were commonly used as ferries for people and animals and benefited from a very shallow draft. Farmers were quick to use them for shipping salt hay, lumber, and other products.⁵⁰

Still, the dugout canoe remained popular even after the introduction and proliferation of the scow. In a survey of Connecticut newspaper advertisements between 1760 and 1810, Ross Harper found thirty-four references to scows and thirty-two to dugout canoes.⁵¹ The two vessels appear to have been used similarly and concurrently throughout southern Connecticut into the late eighteenth century. While the scow’s improved stability and ease of construction made it an appealing option, it did not lead to the demise of the dugout. Perhaps due to the mishoon’s size and durability, it remained a favorite amongst oyster tonging fishermen at the mouths of Connecticut’s rivers. The form of the oyster-tonging dugout varied minimally from those described and depicted by early explorers and colonists along the Atlantic coast of North America (fig. 11). Images of oyster-tonging dugouts and the few known surviving examples are roughly thirty feet in length with rounded to slightly pointed bows and sterns that are raked and raised out of

⁴⁹ Harper, ““Providence Brings to our Doors””: 57.

⁵⁰ Harper, ““Providence Brings to our Doors””: 54, 57-58.

⁵¹ Harper, ““Providence Brings to our Doors””: 55, 57.

the water. Surviving examples have mounts for a sail and a leeboard for stability.⁵² As late as the early nineteenth century, a man named John Smith built dugouts in New York's Finger Lakes region and floated them – twenty to thirty at a time – through the Erie Canal and down the Hudson River to Long Island Sound.⁵³ Two of these canoes survive at the Mystic Seaport Museum in Mystic, Connecticut, and another is in the possession of the Mariner's Museum in Newport News, Virginia.⁵⁴ There is good reason to believe that even as late as the turn of the twentieth century, indigenous people continued to use dugout canoes alongside American oyster fishermen: the Mystic Seaport has a pair of oyster tongs made by a man named "Indian John" and a photo of the same man.⁵⁵

Photographs show dugout canoes in use into the 1890s.⁵⁶ One of these images shows shovel-nosed (spoon-shaped bow and stern) dugouts, some in the foreground and some in the distance, floating across the mouth of the Quinnipiac River (fig. 12). Some of the canoes hold one person, some show two. In the foreground the men sit on the sides of their canoes, the bows loaded with oysters. Further in the distance men stand in their boats, dipping into the water with their oyster tongs. The image, if not for the steel

⁵² Maynard Bray, *Watercraft*, Mystic, CT: Mystic Seaport Museum, Inc., 1979: 202-203; Harper, "Providence Brings to our Doors": 54.

⁵³ Ann Marie Plane, "New England's Logboats: Four Centuries of Watercraft," *Bulletin of the Massachusetts Archaeological Society* 52 (1991): 14; Bray, *Watercraft*: 202; Kenneth G. Roberts and Philip Shackleton, *The Canoe: A History of the Craft from Panama to the Arctic*, Toronto: Macmillan of Canada, 1983: 80.

⁵⁴ Plane, "New England's Logboats": 14; Bray, *Watercraft*: 202; The Mariner's Museum, "1935.0008.000001," in "The Mariner's Catalogue," [<http://collections.marinersmuseum.org/default.asp?IDCFile=DETAILS.IDC,SPECIFIC=30619,NEXTRECORDS=31,PREVRECORDS=11,DATABASE=69990099,LISTIDC=PAGE.IDC,RECORDMAX=10,RECNO=23,WORDS=dugout>], accessed February 20, 2014.

⁵⁵ Mystic Museum, "1992.126," in "Objects," [<http://mobius.mysticseaport.org/detail.php?t=objects&type=browse&f=maker&s=Indian+John&record=0>], accessed February 20, 2014; Mystic Museum, "1993.17.1," in "Objects," [<http://mobius.mysticseaport.org/detail.php?type=related&kv=63645&t=objects>], accessed February 20, 2014.

⁵⁶ Bray, *Watercraft*: 203; Harper, "Providence Brings to our Doors": 54.

bridge, sail boats, white washed houses, and bowler derby hats, appears to mimic John White's fishing scene from Virginia (fig. 6).⁵⁷ While it is important to remember the liberties John White might have taken in his sketches, De Bry's liberties in preparing them for print, and the cultural differences that separate Virginia's indigenous peoples to those of New England, the resemblance is striking.

Plane and Glassie have – for good reason – cautioned scholars about romanticizing the dugout canoe. The dugout canoe changed significantly from the time European explorers first took note of them to the twentieth century when they fell out of use, and they almost certainly changed significantly in the thousands of years before Europeans began invading the eastern edges of North America. The arrival of metal tools changed the way canoes were made. Iron nails meant canoes could be repaired, and thus used, over a longer period of time. Canoes continued to be used to transport people, but now they carried European as well as indigenous passengers. Mishoonash carried goods they had never carried prior to contact: livestock, guns, wheat, and barley, to name only a few. The people who made canoes changed, and the pace at which canoes were produced increased rapidly. In the colonies, dugouts were not left for community use, but were instead stamped, regulated, and protected by English law as private property. Yet the concrete and visible changes to the form of mishoonash are more difficult to discern. The next chapter is devoted to analyzing and understanding the different forms of surviving mishoonash from New England and investigates the ways in which this form has and changed.

⁵⁷ Bray, *Watercraft*: 203; Michael Alexander, ed., *Discovering the New World: Based on the Works of Theodore De Bry*, New York: Harper and Row, 1976: 76.

CHAPTER 4

**DEBATING IRISH AND AFRICAN INFLUENCE AND AN ANALYSIS OF
SURVIVING DUGOUTS**

I. The Debate

Ann Marie Plane’s “New England’s Logboats” is a vital piece of scholarship to the study of dugout canoes in New England and beyond. This thesis owes a considerable debt to her scholarship, and her work has shaped the ways scholars and museum professionals think about dugout canoes. Plane’s most significant contribution to the study of dugout canoes is her analysis of design elements of various dugouts from New England, and her conclusion that these canoes can be sorted into indigenous and Eurocolonial types. Both categories have a unique set of diagnostic criteria that can be used in concert with other evidence to determine whether or not a dugout truly is of indigenous manufacture and use.

While dugout canoes are relatively rare artifacts, those who study them are certainly aware of Plane’s research and have used it to guide their own analyses. Staff at the Mashantucket Pequot Museum and Research Center took Plane’s work into consideration when developing interpretive panels for their mishoon.¹ Project Mishoon researchers have referenced the article in trying to determine whether the submerged dugouts in Lake Quinsigamond are of Nipmuc or English origin.² Even scholars in the United Kingdom have cited Plane’s work, using Plane’s article to discuss the potential

¹ Jason Mancini, Personal communication with the author, October 11, 2013; Doug Currie, personal communication with the author, October 11, 2013.

² David S. Robinson and Cheryl Stedtler, “Documented Artifacts Under MBUAR #001-01,” unpublished field notes, n.d.

cultural connections between European logboats and the American dugout tradition.³

Thus, a discussion of Plane's research and conclusions, along with those of other scholars and professionals studying dugout canoes, is central to this chapter.

Sean McGrail, who studies dugouts in the United Kingdom, argues in *Logboats of England and Wales* that the term "logboat" is preferable to "dugout canoe" when discussing watercrafts that are hollowed out from a single tree. "Logboat," he argues, has a long and extensive use in archaeological analysis while the term "canoe" connotes the birch bark canoe and the modern canoes that followed its design.⁴ However, the word "canoe" derives from the Arawakan *kanoa*, a word meaning "boat" and referring to the dugout vessels that were commonly used in the Caribbean.⁵ Columbus first recorded the word in his first voyage to the Americas, and the word entered European lexica. Logboat, on the other hand, seems to have been used in published books no earlier than 1837, and was only used with any frequency beginning in the late 1970s when McGrail was publishing his work.⁶ It seems clear that "logboat" is not a more accurate term than "dugout canoe" by their historical use alone. Since "dugout canoe" is the more familiar term, I give it preference here while using "logboat" interchangeably for stylistic

³ Robert J.C. Mowat, *The Logboats of Scotland: With Notes on Related Artefact Types*, Oxford: Oxbow Books, 1996: 124.

⁴ Sean McGrail, *Logboats of England and Wales with Comparative Material from Europe and Other Countries*, vol. 1, Oxford: British Archaeological Reports, 197: 82.

⁵ Kenneth G. Roberts and Philip Shackleton, *The Canoe: A History of the Craft from Panama to the Arctic*, Toronto: Macmillan of Canada, 1983: 1. Note that the spelling of "kanoa" varies, also *kana:wa*, *canoa*, *canoua*, etc., as does its attribution – sometimes attributed to Carib, rather than Arawak.

⁶ Google N-Gram Viewer analysis of English language texts for "logboat," "log boat," and "log-boat," shows that from 1600-1833, these terms made up 0.000000000% percentage of unigrams, bi-grams, and tri-grams, respectively. In 1837, "log-boat" jumped to 0.000004963% and "logboat" climbed to 0.000020742%. The use of these terms peaks in 1978 with the publication of McGrail's *Logboats of England and Wales*. For more on Google N-Gram, see the original paper on its development: Jean-Baptiste Michel, Yuan Kui Shen, Aviva Presser Aiden, Adrian Veres, Matthew K. Gray, William Brockman, The Google Books Team, Joseph P. Pickett, Dale Hoiberg, Dan Clancy, Peter Norvig, Jon Orwant, Steven Pinker, Martin A. Nowak, and Erez Lieberman Aiden, "Quantitative Analysis of Culture Using Millions of Digitized Books," *Science* (Published online ahead of print: December 16, 2010).

variation. I use “mishoon” as well, but generally restrict its use to talking about canoes that were constructed or used by southern New England’s indigenous peoples.

Whether called dugout canoes or logboats, vessels carved out of a singular tree are found on every continent (sometimes retrieved from the archaeological record, sometimes being put to use). Dugouts may have been made in China as early as 10,000 BCE, and archaeological excavations have uncovered burials in northern Sichuan in which coffins were placed inside of logboats. Over sixty dugouts have been found in Japan. Dugouts were popular throughout southeast Asia, and cave paintings show that they were sometimes modified to have higher sides for sea-travel. The Maoris of New Zealand built dugouts that could hold one hundred men and were building them well into the nineteenth century during British occupation.⁷ Aboriginal Australians began using dugout canoes when Makassan fishermen arrived on their shores in the seventeenth century.⁸ Dugout canoes were and continue to be commonplace throughout much of Colombia, Ecuador, and Central America.⁹ Logboats were so prevalent in western Africa that several scholars have suggested black slaves in Virginia and neighboring colonies in the seventeenth and eighteenth century were charged with constructing and operating canoes, and that these cultural influences altered the form of dugout canoes in North America.¹⁰

⁷ Paul Johnstone, *The Sea-craft of Prehistory*, Cambridge, MA: Harvard University Press, 1980: 187, 194, 206, 212-214.

⁸ National Museum of Australia, “Telling Our Indigenous Stories,” [http://www.nma.gov.au/__data/assets/pdf_file/0003/18903/Telling_Indigenous_stories_all_colour.pdf,] accessed February 20, 2014.

⁹ Chuck Meide, “The Dugout Canoe in the Americas: An Archaeological, Ethnohistorical, and Structural Overview,” manuscript on file, Department of Anthropology, Tallahassee: Florida State University, 199: 24; Roberts and Shackleton, *The Canoe*: 27-35.

¹⁰ Henry Glassie, “The Nature of the New World Artifact: The Instance of the Dugout Canoe,” *Schweizerisches Archiv für Volkskunde* 68-69 (1972-1973): 158; Roberts and Shackleton, *The Canoe*: 75-

Some of these same scholars have suggested that Irish immigrants may have influenced the form of early dugout canoes in colonial America.¹¹ Dugouts had formerly been common throughout the British Isles and the European continent as a whole. A Greek Macedonian archaeological site dating to 6100 BCE shows evidence of logboat manufacture, while a dugout found in Pesse, Netherlands dates to 6315 BCE – the oldest logboat found in Europe to date.¹² Archaeological research in the British Isles has uncovered logboats dating to 1800 BCE, while documentary sources and drawings depict their use throughout the seventeenth century and likely well into the eighteenth. In other parts of Europe there is documentation of dugout vessels being used well into the 1900s.¹³

Henry Glassie was the first to argue that “the American dugout” was influenced by Irish and African colonists:

[B]efore the seventeenth century had closed, the new inhabitants of the Indian's land, both black and white, had learned to make the canoe, and it became part of the cultures of many rural communities. The dugout canoe of country America has generally been explained as a modification of an Indian original. If that statement bears truth, it is simplistic still, for the acceptance of the Indian's boat was likely conditioned by its comparability to old concepts as well as its expediency in the new environment...¹⁴

Ann Marie Plane, echoing and expanding on Glassie's work, argued that “English, French, African, and native American designs converged to create New England's logboats.”¹⁵ The specific changes that Irish and African influence affected in dugout canoes are unclear and contested: while Plane argues that the modified canoes featured

76; Ann Marie Plane, “New England's Logboats: Four Centuries of Watercraft,” *Bulletin of the Massachusetts Archaeological Society* 52 (1991): 12.

¹¹ Plane, “New England's Logboats”: 12; Glassie, “The Nature of the New World Artifact”: 158.

¹² Johnstone, *The Sea-craft of Prehistory*: 60; McGrail, *Logboats of England and Wales*: 109.

¹³ McGrail, *Logboats of England and Wales*: 109.

¹⁴ Glassie, “The Nature of the New World Artifact”: 156.

¹⁵ Plane, “New England's Logboats”: 8.

pointed bows, truncated sterns, and a more angular appearance, Roberts and Shackleton argue that the European-influenced canoes were now “gracefully rounded, not sharply pointed.”¹⁶ Still, it was clear to Glassie, Plane, and Roberts and Shackleton that “the American dugout” was an example of syncretic material culture.

Both Glassie and Plane were countering a paradigm that romanticized indigenous culture. Glassie argued that “[t]he linear reasoning that finds the source of the American dugout in the Indian’s canoe alone is an expression of the (dimly guilty) positive attitude held toward the red man; modern Americans, safe in a synthetic cave, enjoy establishing genetic and cultural links with Indians.”¹⁷ Plane asserted that “the Indian was firmly entrenched as a romantic figure,” by the mid-nineteenth century, and that “this romance... shapes our attitudes about logboats even today.” She adds, “[L]ogboats did have a source in the Native American cultures of this area. But they also were integrated into Euro-American culture, and this integration persisted beyond the point of initial frontier contact into the twentieth century.”¹⁸ Employing a romanticized and simplified portrayal of indigenous culture is not a new phenomenon. Philip Deloria has argued in *Playing Indian* that Americans have inappropriately drawn cultural connections to indigenous cultures since the Boston Tea Party, and have used these connections to affirm a uniquely American identity.¹⁹ In their respective articles, Glassie and Plane took aim at an over-simplified perception of indigenous material culture that has its roots in an

¹⁶ Plane, “New England’s Logboats”: 8; Roberts and Shackleton, *The Canoe*: 74.

¹⁷ Glassie, “The Nature of the New World Artifact”: 157. It is worth noting that Glassie was writing during archaeology’s post-processual swing and the wider cultural turn that placed more attention on the lives of individual people and uncovering the stories of previously under-represented groups of people. For a more thorough discussion on the cultural turn in material culture and archaeology, see Dan Hicks, “The Material-Cultural Turn: Event and Effect,” in *The Oxford Handbook of Material Culture Studies*, ed. Dan Hicks and Mary C. Beaudry, New York: Oxford University Press, 2010: 25-98.

¹⁸ Plane, “New England’s Logboats”: 15.

¹⁹ Philip J. Deloria, *Playing Indian*, New Haven: Yale University Press, 1998.

exploitative use of indigenous cultures to promote an Anglo-American identity rooted in American soil.

Still, underlying assumptions problematize the arguments made by Glassie and Plane. Glassie's article glosses over the multicultural and multinational landscape of sixteenth-eighteenth century colonial America and ignores the drastic stylistic differences in boat forms across this region. The author uses the phrases "American dugout" and "New World dugout" in reference to dugout canoes used by Euro-Americans along the Atlantic coast, while employing "Indian canoe" to categorize dugouts of the Atlantic coast and the Mississippi and Ohio River systems. The Chesapeake dugout, to which Glassie attributes various African and Irish influences, is vastly different in form than the oyster tonging dugout popular in Connecticut.²⁰ The author acknowledges this (arguing that the Connecticut dugout varied little from the indigenous form excepting the addition of a sail), but still includes the "Connecticut dugout" amongst the "American dugout" that owes a debt to outside influences.²¹

The vagueness of Glassie's classification scheme is echoed and amplified in Plane's article when she explicitly links Irish and African (as well as French and English) influence to New England's dugout canoes.²² By Plane's own admission, there were only "small numbers of African and Irish Americans in seventeenth century New England."²³ The first recorded Africans arrived in New England in 1638, while the first notable influx

²⁰ Glassie, "The Nature of the New World Artifact": 158.

²¹ Glassie underestimates indigenous peoples here. As discussed earlier, the sail was not a European adaptation to the dugout, but rather an indigenous one. Roger Williams, *A Key Into the Language of America*, Bedford, MA: Applewood Books, 1997 [1643]: 108.

²² Plane, "New England's Logboats": 8.

²³ Plane, "New England's Logboats": 12.

of Irish immigrants occurred in the eighteenth century.²⁴ While Irish and Africans may have visited England during earlier expeditions, neither group appears to have been represented by a significant population in the early days of colonial settlement.

Similarly, Glassie claimed that “the idea of the canoe was not fully taken into Anglo-American culture until the population included its African and Irish elements.”²⁵

Some early Euro-Americans were certainly skeptical about the dugout craft. Ebenezer Cooke, in a 1708 poem about his unpleasant time in Maryland, wrote:

The Indians call this Watry Waggon
Cannoo, a Vessel none can brag on;
Cut from a Popular-tree or Pine
And fashion'd like a Trough for Swine;²⁶

Roger Williams, too, waxed poetic about the dugout canoe, implying a clumsiness that was probably both entertaining and frustrating to his Narragansett hosts:

Alone'mongst *Indians* in Canoes,
Sometimes o're-turn'd, I have been
Halfe inch from death, in Ocean deepe,
God's wonders I have seene.²⁷

Williams also recorded that, on more than one instance, the Indians he was canoeing with saved his life by swimming him back to shore after their canoe was upset.²⁸ Even watching an individual operate a canoe could be frightening for some – Sara Knight

²⁴The John Carter Brown Library, “Africans in Colonial New England,” in “Exhibition: Slavery and Justice,” [http://www.brown.edu/Facilities/John_Carter_Brown_Library/jcbexhibit/Pages/exhibAfricans.html#anchor], accessed February 20, 2014.; Charles Knowles Bolton, *Scotch Irish pioneers in Ulster and America*, Boston: Bacon and Brown, 1910: 18.

²⁵ Glassie, “The Nature of the New World Artifact”: 158.

²⁶ Roberts and Shackleton, *The Canoe*: 75.

²⁷ Williams, *Key into the Language*: 111.

²⁸ Williams, *Key into the Language*: 109.

wrote on a return trip from New York to Boston that she was filled with “Exceeding fright” as she watched her canoe man make several trips across a treacherous river.²⁹

Many more colonists, however, took to the dugout canoe quite naturally. Thomas Morton, a Massachusetts colonist accused of being one of the first colonists in New England to sell guns to Indians, was exiled in 1630 after being charged with cheating local Indians and stealing their canoe to escape.³⁰ Thomas Minor from Salem bought canoes regularly from neighboring Indians through the 1650s.³¹ In 1630, John Winthrop recorded the details of how to make a boat that incorporated elements of the dugout canoe, and by 1638 the earliest settlers of Springfield were making so many canoes that the plantation established laws to protect the trees from which they were made.³² Rather than being reluctant to accept dugout canoes, it appears that colonists were buying them from indigenous communities and even building their own within the first ten years of colonization. Given the relatively late arrival of Irish and African populations to New England and this early evidence of dugout canoe use, it seems unlikely that these cultures exerted much influence over the earliest dugout canoes in New England. Glassie’s assertion that English colonists did not accept dugout canoes until they were influenced by these cultures is not supported by the historical record.

²⁹ Ross K. Harper, “‘Providence Brings to our Doors, the Delicious Treasures of the Sea’: Household Use of Maritime Resources in 18th-Century Connecticut,” *CORIOLIS* 1 (2010): 56. A note on gender: Women rarely appear in accounts about dugout canoes in the colonies. When they do, they are passengers. It remains unclear whether canoes were similarly gendered in indigenous society, but if they did, the English do not make note of it. Considering the gendered use of canoes in English colonies and the tendency to record ways in which indigenous gender norms offended their sensibilities, it seems unlikely that English colonists encountered Indian women paddling dugouts.

³⁰ Joseph Barlow Felt, *The Annals of Salem, From its First Settlement*, Salem: W. & S.B. Ives, 1827: 47-48.

³¹ Harper, “‘Providence Brings to our Doors’”: 55.

³² John Winthrop, “How to Make a Strong Boat and Cover a House,” in *Winthrop Papers, 1623-1630*, vol. 2, New York: Russell and Russell, 1968 [1931]: 238; Henry M. and Silas W. Burt, *Early Days in New England: Life and Times of Henry Burt of Springfield and Some of his Descendants*, Springfield, MA: Clark W. Bryan Co., 1893: 164.

Plane also suggests that dugout canoes would not have been completely alien to the British colonists who first inhabited New England, arguing that “English contact with the Irish and African peoples familiarized them with such vessels.”³³ There is evidence to support Plane’s claims. Europeans near Nigeria had commented on Ibo dugout canoes as early as the fifteenth century, while documentary evidence suggests dugouts were relatively common in Ireland through much of the nineteenth century.³⁴ It stands to reason that if dugouts were being used prior to and contemporaneously with colonialism in North America that some English individuals would be familiar with logboats. But if a high percentage of the British population was aware of dugout vessels in the British Isles, there is very little evidence that suggests it. The fascinated reports of dugout canoe use and construction in the Americas throughout the fifteenth, sixteenth, and seventeenth centuries indicate that dugout canoes were peculiar and noteworthy to early explorers and colonists. These accounts do not compare the dugouts to dugout boats from any other parts of the world. If the explorers were aware of analogous vessels from other parts of the world it seems likely that they would have noted its similarity, just as Champlain did when comparing Indians’ chert tools to musket flints.³⁵ When Europeans did compare dugouts to other vessels it was to comment on their unusual nature; John Smith, for example, observed that “Instead of oares, they use paddles and sticks, with which they will row faster then our Barges.”³⁶

³³ Plane, “New England’s Logboats”: 12.

³⁴ Glassie, “The Nature of the New World Artifact”: 157; McGrail, *Logboats of England and Wales*: 109.

³⁵ W.L. Grant, ed., *Voyages of Samuel de Champlain, 1604-1618*, New York: Charles Scribner’s Sons, 1907: 66.

³⁶ Edward Arber, ed., *Travels and Works of Captain John Smith: President of Virginia and Admiral of New England, 1580-1631*, Edinburgh: John Grant, 1910: 69.

Furthermore, if the British were aware of dugouts from outside North America, they seem to have forgotten by the eighteenth and nineteenth centuries. The discoverer of a logboat in southern Scotland in the early 1700s said the boat was in the “form of an old Indian canoe,” while another Scottish logboat discovered in 1866 was compared to those of the “North American Indians.”³⁷ If the British population associated dugouts with Irish, African, or any other culture before contact with Native Americans, that association appears to have been lost by the eighteenth century.

Perhaps the most significant result of Glassie’s and Plane’s articles is the articulation of diagnostic criteria that might be useful in differentiating between pre-contact indigenous canoes and later Euro-American dugouts. Glassie says that the pre-contact canoe along America’s eastern coast “varied nearly not at all: its form was bluffly rounded or squared at each end with both bow and stern lifted out of the water.”³⁸ Any variation, in his view, suggests outside influence, generally English, Irish, or African. Plane’s analysis is similar, arguing that canoes of “early contact Native American origin” tend to feature rounded sterns and bows (fig. 2) while those of Euro-American origin are more likely to have pointed bows and truncated sterns (fig. 3).³⁹ I will examine her conclusions more thoroughly in my own analysis of surviving New England dugout canoes.

While Plane’s findings are grounded in an analysis of surviving dugouts from the pre-contact and early colonial periods, Glassie’s conclusions are based on the sketches of Jacques le Moyne and John White. Both sets of drawings survive primarily through the etchings by Theodor de Bry. Le Moyne’s drawings are based on his experience with the

³⁷ Mowat, *The Logboats of Scotland*: 18, 78.

³⁸ Glassie, “The Nature of the New World Artifact”: 154.

³⁹ Plane, “New England’s Logboats”: 8.

Timucua people of what is today the area around Jacksonville, Florida, while White's drawings illustrated his experiences on Grenville's voyage to Roanoke near the Chesapeake Bay. De Bry's etchings are useful as early artistic renderings of indigenous dugout canoes, but they represent a limited geographic region. Dugout canoes likely varied in form across the eastern seaboard. New England's oyster tonging dugouts, which remained popular throughout the nineteenth century, featured undercut or slightly elevated bows to break through thin layers of winter ice.⁴⁰ While this innovation is often credited to Euro-Americans, indigenous peoples of New England have engaged in shellfishing for roughly 7,000 years and encountered ice on waterways for roughly four months every year.⁴¹ If, as both Glassie and Plane argue, people adapt their material culture to fit their environment, it seems likely that New England's indigenous peoples adapted their canoes to icy conditions.⁴² Additionally, De Bry took liberties in his reproductions of the original sketches, as noted earlier in this paper. His artwork is an unsuitable foundation for diagnostic analysis of dugout canoe forms since we can not be sure of how significantly his works differ from the originals.

While this paper proposes some critiques of the articles by Glassie and Plane, I do agree with the central theme of their work: not every dugout canoe is of indigenous origin, and we need to approach the analysis of dugout canoes with an "awareness of the distinct and interrelated historic traditions" that have shaped their place in New England's material world.⁴³ Historians must be careful not to romanticize dugout canoes as "pristine artifacts of Amerindian experience," as the vast majority of New England

⁴⁰ Roberts and Shackleton, *The Canoe*: 80.

⁴¹ Cheryl Claassen, "The Shell Matrix at Dogan Point," in *A Golden Chronograph for Robert E. Funk*, edited by Chris Lindner and Edward V. Curtin, Bethlehem, CT: Archaeological Services, 1996: 99-107.

⁴² Glassie, "The Nature of the New World Artifact": 168, Plane, "New England's Logboats": 8.

⁴³ Glassie, "The Nature of the New World Artifact": 170.

dugouts in museums today date to the seventeenth century or later.⁴⁴ On the other hand, it is time to review the diagnostic criteria set forth in these essays to distinguish between indigenous and non-indigenous made canoes. The appearance of European characteristics in a dugout canoe does not necessarily mean the boat was used or manufactured by a Euro-American colonist.

Further complicating the study of dugout canoes in New England is the relatively small number of them that survive in the archaeological record and in museums. The mishoonash that have survived in the archaeological record and those that exist in southern New England's museums were submerged in the bottom of lakes and swamps where the colder temperatures, organically rich sediments, reduced exposure to disturbance by people and animals, and other factors facilitated their preservation.⁴⁵ Writing in 1991, Plane studied over thirty dugout canoes from Canada and New England, of which three were known only from written records.⁴⁶ New examples have been discovered since then.

In June of 2000, an amateur diver discovered a dugout canoe in Lake Quinsigamond in Worcester, Massachusetts. In partnership with the Nipmuc Nation (whose traditional homelands encompass the lake), the Massachusetts State Board of Underwater Archeological Resources (MBUAR) investigated the discovery and found two more dugout canoes in the lake. The Nipmuc Nation is currently raising funds to study the canoes further with the hopes of excavating, conserving, and displaying the

⁴⁴ Plane, "New England's Logboats": 8.

⁴⁵ Chester B. Keavitt, "Aboriginal Dugout Discovered at Weymouth," *Bulletin of the Massachusetts Archaeological Society* 30 (1968): 2; Lucianne Lavin, *Connecticut's Indigenous Peoples: What Archaeology, History, and Oral Traditions Teach Us About Their Communities and Cultures*, New Haven: Yale University Press, 2013: 38, 41-42.

⁴⁶ Plane, "New England's Logboats": 8.

canoes. They have dubbed this mission “Project Mishoon.” While the discoveries are remarkable on their own, perhaps the most valuable outcome of this project to date has been the development of a side-scan sonar signature for dugout canoes. If the signature proves reliable, it could be used to locate dugout canoes on any body of water large enough to float the side-scan boat.⁴⁷

II. Analysis

In my own research on dugout canoes in southern New England, I closely examine nine surviving canoes in and from Massachusetts, Connecticut, Rhode Island, and the Mashantucket Pequot Nation. Also included in my analysis are a dugout from Maine and a possible Massachusetts dugout canoe, both held by The Haffenreffer Museum of Anthropology at Brown University. Of these eleven confirmed and potential dugout canoes, I have closely analyzed six in person. For another three, I examined photographs, publications, and field reports, and I have studied photographs and publications on two more. Another dugout has been discovered in Billings Lake, North Stonington, Connecticut, and there may be another dugout canoe in Long Pond on the border of North Stonington/Ledyard and the Mashantucket Pequot Nation.⁴⁸ Both of these were unavailable to me for analysis.

In this chapter I analyze and discuss the ten confirmed and unconfirmed dugout canoes from southern New England that I studied. I also devote a small section of this chapter to the Maine dugout at the Haffenreffer. While this dugout is a geographical outlier in this study, it serves as an important example of dugout canoes in early colonial New England and the influence of European design elements. I exclude the two

⁴⁷ Vic Mastone, “Underwater Archaeology: 17th Century Nipmuc Mishoonahs in Lake Quinsigamond,” Presentation, Worcester, MA: November 9, 2013.

⁴⁸ Mancini, Personal communication.

submerged Connecticut vessels as I do not have any substantive data to report on them. In my analysis, I hope to reveal the complexities in attributing dugout canoes to either indigenous or non-indigenous cultures, and to put these canoes into dialogue with the Plane and Glassie articles referenced throughout this chapter.

III. Weymouth Canoe

The Weymouth canoe is the smallest of the canoes analyzed for this study (figs. 2, 24). The boat measures 10'11" (3.3m) long, 27" (68.6cm) wide, and 8.25-11.75" (21-30cm) deep, with gunwales not exceeding .75" (2cm) in thickness. Both the bow and stern are rounded and spoon-shaped, while the bottom is relatively flat. Radiocarbon analysis provides an uncalibrated date range of 445 +/- 100 BP in radiocarbon years for the canoe's construction, making it the oldest of the radiometrically-dated canoes in this study. The wood is white pine. There is no indication that the boat had been weighed down with stones like other recovered dugouts, but it was likely made without the use of metal implements based on the tool markings. The boat is in remarkable condition, especially considering its age. There is also evidence to suggest that the canoe was used for a considerable period of time – not only were nail remnants found in the boat (across the hull near the boat's center and in the bow), but a likely keel piece with nails was found near the boat. The keel piece was a likely Eurocolonial addition.⁴⁹

The boat was found in the fall of 1965 and quickly brought to the attention of the Weymouth Historical Commission. A drought in that same year had left Great Pond in South Weymouth, Massachusetts almost completely dried up. A group of children

⁴⁹ Keavitt, "Aboriginal Dugout Discovered at Weymouth." Several of the canoes analyzed here show the presence of nails. Unfortunately, I was unable to get a close look at the nails on any of the vessels, but if any nails could be removed and analyzed, they could prove useful in dating the vessels. Still, the Weymouth canoe serves as a cautionary tale here – nails can be added to the canoe at a later date, and thus may not be the best way to determine when a canoe was first constructed.

exploring at the southern end of the pond bed discovered the boat and brought it to a neighbor's attention. The neighbor, Howard Crocker, informed the Historical Commission about the find, and the commission reached out to archaeologists William Bullard and James Deetz, who considered the boat a remarkable find. Through fundraising, volunteer effort, and fortuitous donations of supplies, the Historical Commission was able to conserve the boat with polyethylene glycol (PEG).

The conservation process, while expensive and time-consuming, is fairly simple. The wood cells in the canoe are supported by water when it is water-logged, but can become brittle and collapse when the wood dries out. To conserve the canoe, it is kept submerged in water until it can be transferred to a vat of PEG solution, which is essentially liquefied wax. The wax slowly replaces the water in the wood, impregnating the cells and preventing them from collapsing. Unlike water, which evaporates, the wax eventually solidifies and preserves the wood cells' shape. The technology was quite new – a Swedish warship and a French bateaux (the latter found in Lake George in upstate New York) had been conserved with PEG just several years earlier, but until then its use was unprecedented. The process was successful and the boat remains well-preserved today.⁵⁰

The Weymouth canoe is the only mishoon in this study that definitively dates prior to English settlement in New England. By Plane's diagnostic criteria, rounded bow and stern suggest indigenous construction. In her analysis of the Weymouth dugout, Plane suggests that the boat was likely made with indigenous technology. The presence of nails and a possible rib, as well as the reports of a keel piece, suggest that either

⁵⁰ Keavitt, "Aboriginal Dugout Discovered at Weymouth"; Ed Walker, Personal communication with the author, October 30, 2013. Ed Walker is a member of the Weymouth Historical Society and was a member when the society first obtained the mishoon.

indigenous or European people eventually made alterations to the craft.⁵¹ While the additions almost certainly reflect European influence, they do not necessarily mean that colonists used the boats. It is possible that indigenous peoples adopted elements of English craft that were useful. Still, whether Europeans or Indians added these later features, it is clear that this canoe was built and used by indigenous peoples.

IV. Project Mishoon Canoes

The Project Mishoon canoes represent the dugouts discovered in Lake Quinsigamond. While the mishoonash have not been excavated from the lakebed, they have been studied and photographed fairly extensively. The measurements recorded here are from a Massachusetts State Board of Underwater Archaeological Resources report on the canoes. Observations on the canoes were gathered from the sketches provided in the report and photographs on the Project Mishoon website and facebook page.⁵² The photos are composites based on a number of individual images that were later stitched together, which may negatively impact the integrity of the photographs.⁵³ Thus, whenever possible, I have relied on a combination of photographs and sketches from the field in noting any observations on form.

Canoe #1 is the longest of the three canoes that Project Mishoon has discovered (fig. 13). It measures roughly 15' 9" (4.8m), but the bow is buried in sediment and therefore a conclusive measurement can not be determined. It measures approximately 1' 10" (55cm) across. While a piece of wood was removed for radiocarbon dating, it was accidentally lost into the lake. The mishoon features a truncated stern and a small (5" or

⁵¹ Plane, "New England's Logboats": 8,11, 14.

⁵² Cheryl Stedtler, "Home," Project Mishoon, [<http://projectmishoon.homestead.com/>,] February 8, 2014.; Cheryl Stedtler, "Project Mishoon," Facebook., [<https://www.facebook.com/pages/Project-Mishoon/178142342221116>,] accessed February 20, 2014.

⁵³ Mastone, "Underwater Archaeology."

13cm wide) “seat” at the stern. The seat has a hole in it which project archaeologist David S. Robinson, Senior Marine Research Specialist at University of Rhode Island, believes was made intentionally. Kevin McBride of the Mashantucket Pequot Museum and Research Center described the condition of the wood as “good”. The gunwales appear to be slightly rounded and are not particularly thin, measuring roughly four inches (10cm) in width. The bow, though buried, has been determined to be pointed and the mishoon appears to have a flat bottom. There are three notches along the gunwales: two of these are to be intentional and are directly opposite of one another roughly five feet from the canoe’s stern, while the third (along the seat on the canoe’s stern on the port side) appears to be the result of “recent damage”.⁵⁴

Canoe #2 (fig. 14) was found roughly 50 feet south of Canoe #1, and both are very similar in design. Radiocarbon analysis dates the mishoon from 1640-1680⁵⁵. Six feet of the estimated total length of 14’ 9” (4.5m) is exposed, while the rest of the bow is buried in sediment. Robinson notes that this canoe is in better condition than Canoe #1, and both have flat bottoms. Like the first mishoon, Canoe #2 features a small seat in the stern measuring roughly six inches (15cm). It is wider than the first, measuring 2’ 3” (70cm) in breadth. The stern is truncated and tapered so that it is not as wide as the full breadth of the canoe. The gunwales are roughly the same shape as those of Canoe #1, and measure approximately six inches (15cm) in width. Like the first mishoon, the gunwales feature notches: one pair at roughly five feet from the stern and another pair at

⁵⁴ Robinson and Stedtler, “Documented Artifacts Under MBUAR #001-01”.

⁵⁵ Katherine MacAuliffe, Allen M. Gontz, Victor T. Mastone, and Cheryl Stedtler, “Paleo-lacustrine Shorelines and their Potential Association with Submerged Paleo-Indian Canoes, Worcester, MA,” unpublished abstract with comments, 2009. It is important to note that the MBUAR report stated an uncalibrated radiocarbon date of 220 +/- 40 BP, but they report 1640-1680 most frequently.

roughly seven feet from the stern. Both vessels appear to be made of the same material, though the wood has not been conclusively identified by species in the report.⁵⁶

Canoe #3 (fig. 15) was found on the opposite side of the lake from Canoes #1 and #2, and it is in poor condition. Thus, comparatively little diagnostic information can be gleaned from this canoe. The canoe measures roughly 14' 7" (4.45m) and seems to be of a different material than the first two canoes, possibly oak. The stern appears to be truncated like the other two, though degradation of the wood makes it difficult to be certain of this. The bow is visible, but is highly damaged. What remains indicates that it likely featured a pointed bow like the other two. There is no evidence of a seat in this canoe. The gunwales are almost completely missing, so we do not know if there were notches on them. They appear to be much thinner than the gunwales on the first two canoes, likely no wider than three inches (8.3cm). It appears to have a flattened bottom. David Robinson believes that there may be evidence of nails and canvas in the canoe's construction.⁵⁷

Based on their close proximity to one another and similar form, canoes #1 and #2 almost certainly date from around the same time. The radiocarbon date of 1640-1680 for these canoes is significant when considering the historical context. European colonists do not begin to settle in Worcester until 1673, while neighboring Shrewsbury remained free of European households into the eighteenth century.⁵⁸ Canoe #3 does not have a radiocarbon date, but the presence of nails (and possibly canvas) indicates that it was still in use during the contact or early colonial period. All three canoes have a flattened

⁵⁶ Robinson and Stedtler, "Documented Artifacts Under MBUAR #001-01."

⁵⁷ Robinson and Stedtler, "Documented Artifacts Under MBUAR #001-01."

⁵⁸ Charles Nutt, *History of Worcester and its People*, vol. 1. New York: Lewis Historical Publishing Co., 1919: 1; Massachusetts Historical Commission, "MHC Reconnaissance Survey Town Report Shrewsbury," February, 1983.

bottom, appear to have a pointed bow (though canoes #1 and #2 are partially buried, and #3 is extensively damaged), and have truncated sterns. All of these features suggest, using Plane's criteria, that these dugouts are of European origin.⁵⁹ Their size supports this notion too – Plane suggests that European logboats from interior lakes generally measure three to six meters in length.⁶⁰ At 4.4m to 4.8m, all three canoes sit right near the mean of this range. The small seat at the stern of dugouts #1 and #2 also might suggest European use – the photographs of oyster-tonging dugouts in use show their operators sitting at the stern of the vessel.⁶¹

Using Plane's criteria, the dugouts clearly follow the mold of European style logboats for interior lakes. However, the dates present a problem. Perhaps the carbon dates are slightly off, or the boats date from the most recent end of the range. This would put the boats within the limits of colonial inhabitation in Worcester. Another possibility is that colonists were living in or near Worcester earlier than the historical records suggest. Worcester's early European residents might have brought the canoes with them from further east, but this seems unlikely due to their significant weight and the challenges of finding a water route.

Still, we should be careful in deciding that these canoes were of European manufacture and use. Nipmuc were living on Lake Quinsigamond at the time of European arrival to the area and their presence is well-documented. Wigwam Hill, located on the western shores of the lake and not far from the site of canoes #1 and #2, was recognized by several historians as a Nipmuc village when Daniel Gookin first

⁵⁹ Plane, "New England's Logboats": 8, 14.

⁶⁰ Plane, "New England's Logboats": 14.

⁶¹ Maynard Bray, *Watercraft*, Mystic, CT: Mystic Seaport Museum, Inc., 1979: 203.

arrived in 1674.⁶² The recovery of several stone axes and an 1886 newspaper report citing large trees sunken in the lake with stone hatchet marks suggest that mishoonash production may have been a common activity on the lake prior to a colonial presence.⁶³

It is also worth investigating the practice of sinking dugout canoes. The practice of intentionally sinking watercraft seems to be of aboriginal origin. Jonathan Patton has argued that the practice may have served multiple purposes:

Functionally, this practice preserves the canoe by keeping the wooden structure moist and serves as a kind of storage during winter ice or as camouflage. After multiple cycles of “burial” and recovery, the canoe becomes waterlogged and does not float again after the stones are removed. The spiritual implications of this action within the homeland may be multiple and significant; as a ritual, perhaps as an offering. The sinking location may also be highly significant, as territorial or route markers to reinforce or impose group identity boundaries or guidance to cross particular water bodies in a ferry context.⁶⁴

Linguistic evidence suggests that mishoonash, and boats more generally, were not labeled as animate in the Wampanoag language, so the ritual burial theory is suspect. But historians and archaeologists generally accept that New England’s indigenous people intentionally sank their canoes.⁶⁵

Europeans may have continued this practice, but the historical evidence of this is sparse. Thomas Minor of Stonington, Connecticut, recorded in his diary in April of 1658

⁶² William Lincoln, *History of Worcester, Massachusetts*, Worcester, MA: Moses D. Phillips and Co., 1837: 17, 27; Kenneth J. Moynihan, *A History of Worcester, 1674-1848*, Charleston, SC: The History Press, 2007: 14-31; Thomas F. O’Flynn, *The Story of Worcester, Massachusetts*, Boston: Little, Brown and Co., 1910: 6.

⁶³ Cheryl Stedtler, “Photos of a Stone Axe Head Found Submerged in the Southern Part of Lake Quinsigamond,” in “Project Mishoon,” Facebook, [https://www.facebook.com/178142342221116/photos/pb.178142342221116.-2207520000.1393281198./439831556052192/?type=3&theater,] accessed February 20, 2014; No author, “A Hatchet Found,” clipped article in unpublished papers, Project Mishoon. The article was clipped from a newspaper and scanned, but the source has been lost.

⁶⁴ Jonathan K. Patton, “Considering the Wet Homelands of Indigenous Massachusetts,” *Journal of Social Archaeology* 14 (2014): 1-25, <http://jsa.sagepub.com/content/early/2013/11/19/1469605313509182>: 16.

⁶⁵ Patton, “Considering the Wet Homelands of Indigenous Massachusetts”: 19-20; Harper, ““Providence Brings to our Doors””: 55.

that he “suncke the Canoows.”⁶⁶ As a colonist who had a good relationship with neighboring Indians, Minor probably learned the practice from them and understood the practicality of sinking the canoes. The only other clear example of Europeans intentionally sinking canoes is rooted in scandal, but reveals an important detail. In 1644, John Endecott wrote of a woman from Weymouth, Massachusetts, who was found guilty of committing adultery and convincing her lover to murder her husband. The crime was uncovered when her husband’s body “was taken up in the river, his head bruised, and a pole sticking in his side, and his canoe laden with clay found sunk.”⁶⁷ While the story is a tragic one, the details of how he was sunk are relevant to this analysis. Sinking canoes with clay may have been a common practice amongst colonists, or it may have simply been a desperate attempt to dispose of evidence, but it is interesting that clay was chosen rather than rocks. While the form of the Project Mishoon canoes suggests colonial construction, the context complicates that diagnosis. Given the dates for the canoes, the history of the area, and the purposeful sinking with stones, the boats are more likely of indigenous construction and use.

V. Mountain Pond Canoe

The Mountain Pond canoe is one of two Connecticut dugouts analyzed in this paper (fig. 17). Like the West Hill Pond canoe, the Mountain Pond canoe was found after being sunken in an inland lake in western Connecticut and is made from an American chestnut. The canoe measures fourteen feet (4.3m) in length and 2-2.5’ (60-75cm) in width and features a flat bottom and straight gunwales. The gunwales are very thin, measuring roughly .5-.75” (1.25-2cm) thick. The bow and stern are both tilted

⁶⁶ Thomas Minor, *The Diary of Thomas Minor*, New London, CT: The Day Publishing Co., 1899: 28.

⁶⁷ James Savage, *The History of New England from 1630 to 1649*, vol. 1, Boston: Little, Brown, and Co., 1853 [1790]: 210.

upwards and are rounded in a spoon shape, though less bluntly rounded than those of the Weymouth canoe and coming close to a point like that of the West Hill Pond canoe. The starboard side of the hull is checked and broken. A hole along the sternward bottom portion of the broken area features a hole that appears to have been patched with a board and nails. The tops of the gunwales on both sides are curling inward. Overall the canoe is in poor condition.

The canoe was found in 1911 when crews were dredging part of Mountain Pond in Bethel, Connecticut. The machinery flipped the canoe, but it had been intentionally sunk with rocks. The canoe was reportedly sunk at a depth of roughly forty feet (12 meters), but it seems unlikely that the water was this deep when the canoe was first sunk. Since the pond was being drained when the canoe was found, this might also be an erroneous estimation of previous water levels. In addition to the stones, witness accounts state that “other types of artifacts” were found with the canoe. If we assume “artifacts” to mean *indigenous* artifacts, this would suggest that indigenous peoples were the last to use the canoe – an important revelation given the presence of Eurocolonial nail remnants. While its exact age has not been determined (radiocarbon dates were inconclusive), the Connecticut Office of State Archaeology has suggested that it may date to the sixteenth or seventeenth century.⁶⁸

While the rough condition of the Mountain Pond dugout makes it harder to analyze, it is clearly unique. Like most of the canoes in this analysis, it has a flattened bottom. It has flat sides and measures near the mean of Plane’s range for inland lake

⁶⁸ Connecticut Office of State Archaeology, “Dugout Canoe,” in “Underwater Archaeology,” Connecticut Museum of Natural History, [<http://www.mnh.uconn.edu/underwater/Dugout.html>,] accessed February 20, 2014.

canoes. These traits match up with Plane's criteria for a Euro-American dugout.⁶⁹ However, the bow and stern are rounded to somewhat pointed and raised in the traditional spoon shape. While the boat is fairly angular, falling in line with Eurocolonial characteristics, the bow and stern are more characteristic of indigenous dugouts, following Plane's model.⁷⁰ The Connecticut Museum of Natural History's date of sixteenth or seventeenth century, if accurate, would place the canoe's construction prior to settlement. Danbury, which once encompassed the area now called Bethel, was settled only by indigenous (likely Paugussett) peoples until the 1680s.⁷¹ Since the canoe's date is an estimate, rather than a radiocarbon date, the date of Danbury's establishment as a colonial town is less significant. Evidence of the canoe being patched with iron nails is a clear indication of European influence. Still, the eyewitness reports of "other types of artifacts" being found with the canoe is telling. This almost certainly meant Native American artifacts, strongly suggesting that the canoe was last used by an indigenous person.

VI. West Hill Pond Canoe

The West Hill Pond canoe (fig. 18), like the Mountain Pond canoe, was made from an American chestnut and is relatively long and narrow. The canoe is in relatively poor condition, having broken into two pieces at some point prior to its arrival at the Mashantucket Pequot Museum and Research Center (MPMRC) where it is now on display. The total size of the canoe has been measured eighteen feet (5.49m) in length and 20" (50.8cm) wide, while the gunwales are no more than 17" (43.2cm) high. The boat features a pointed bow, a truncated stern, and a flat bottom that tilts upward at both

⁶⁹ Plane, "New England's Logboats": 8, 14.

⁷⁰ Plane, "New England's Logboats": 8.

⁷¹ Bailey, James M. *History of Danbury, Conn., 1684-1896*. New York: Burr Printing House, 1896: 3.

the bow and stern. The knife-edge gunwales appear no thicker than 1.5” (3.8cm) and are very steep. The boat was carbon dated to a calibrated range of 1671-1955 AD, and the museum estimates that it dates to the earliest end of that range (ca. 1670).⁷² Unlike many of the canoes found in New England, this one does not appear to contain any nail remnants, but it does indicate the use of metal tools.⁷³

This dugout was found in West Hill Pond in Winsted, Connecticut, in 1988. Divers found the canoe at roughly twelve feet (3.66m) deep where it had been intentionally sunk with large stones (though only one stone remains with the canoe today). Water levels were lower when the canoe was first deposited, and it was probably originally left in seven to eight feet (2-2.5m) of water. The Yale Peabody Museum acquired the canoe shortly after it had been discovered, and donated it to the MPMRC in 1995. The process of conserving the canoe with PEG took more than eight years, employing the same process used in conserving the Weymouth canoe.⁷⁴

The West Hill Pond canoe is remarkable in its similarity to the Hopkinton canoe that Plane cites in her article. To Plane, the Hopkinton dugout is the ideal example of a Euro-American logboat.⁷⁵ With its truncated stern, flat bottom that raises towards the bow, straight walls, and pointed bow, the West Hill Pond dugout fits Plane’s criteria for Euro-American dugouts perfectly. The metal tool marks support this as well. But like the Mountain Pond dugout and the Project Mishoon vessels, the boat’s deposition into the archaeological record and its date add layers of complexity to any cultural attribution.

⁷² Mashantucket Pequot Museum and Research Center, “1995.1.1,” Object report, accessed October 11, 2013.

⁷³ Currie, personal communication.

⁷⁴ Bill Adamsen, “340 Year Old Chestnut Canoe,” Connecticut Chapter of the American Chestnut Foundation, [<http://ctacf.org/index.cfm/2009/2/10/340-Year-Old-Solid-Chestnut-Canoe>,] February 10, 2009; Mashantucket Pequot Museum and Research Center, “Dugout Canoe, c. 1670,” Museum panel, October 11, 2013; Currie, personal communication.

⁷⁵ Plane, “New England’s Logboats”: 8-9, 13.

Winsted was not settled by colonists until at least 1720.⁷⁶ If the dugout dates to the first fifty years of its radiocarbon date range, it would precede colonial residence in the area. The mishoon's intentional sinking with stones might also suggest indigenous use, though there is no mention of other artifacts found with the stones in this dugout. Still, the context within which this dugout was found complicates a rather clear-cut Euro-American diagnosis derived from Plane's analysis.

VII. Haffenreffer Half Canoe

While visiting the Haffenreffer Museum of Anthropology in Bristol, Rhode Island, to study the Dugout Rowboat (analysis of that vessel below), the museum's Chief Curator, Kevin Smith, showed me another artifact that the museum had interpreted as a possible dugout. The artifact was a pine slab measuring 13 feet (3.97m) in length, 12.6 inches (32cm) in width, and about 10 inches (25cm) in height. It strongly resembles a dugout canoe that had been split down the middle. The bottom and side were both very flat with rounded and lifted ends. There were no visible tool marks or nails, but there did appear to be an intentional plug in the boat's bottom. There were also two holes drilled into the bow and two more drilled into the stern. The holes were clearly intentional, with one drilled vertically and one drilled horizontally at both ends. The holes do not intersect, and the vertical holes are plugged with another piece of wood. The holes have led some at the museum to wonder whether this is actually a canoe, or whether it is instead a feeding trough or something else entirely. The lack of tooth marks or similar damage make the trough theory seem unlikely.

⁷⁶ John Boyd, *Annals and Family Records of Winchester, Conn.*, Hartford: Case, Lockwood & Brainard, 1873: 11.

The artifact was first discovered at Gunners Exchange Pond in Plymouth, Massachusetts, by Henry J. Thayer in 1896. He donated it to Rudolf Haffenreffer some time prior to 1930, and the museum's original description of the artifact was a "Wampanoag canoe."⁷⁷ The lack of details from this report makes it hard to make any clear conclusions about the boat's provenience, but noting that it was found in a pond seems to support that it is a dugout canoe, rather than a feeding trough. The general shape of the dugout and the location of the holes are also remarkably similar to an image of a double dugout canoe from Finland (figs. 19, 20).⁷⁸ It would be too large a stretch to say that one influenced the other, but it is possible that the Haffenreffer artifact was used to stabilize another dugout. More likely, the canoe represents a fragment of a dugout and that the holes served an as-yet unrecognized purpose. The poor condition further complicates this analysis; if it is a canoe, it is no more than half of one.

VIII. Dugout Rowboat

Discovered in the Penobscot River in Maine some time before 1925, the Dugout Rowboat (held at the Haffenreffer Museum of Anthropology) is a geographic outlier in this study. However, the boat is such an unusual specimen that I am compelled to include it here with the hope that it will throw some light upon the complexity of cultural attribution and syncretic material culture in early contact-period artifacts, specifically regarding dugout canoes.

While dugout canoes were common throughout southern New England, the availability of large birch trees in northern New England meant that birch bark canoes

⁷⁷ Haffenreffer Museum of Anthropology, "97-15-1," Object report, accessed January 23, 2014.

⁷⁸ Johnstone, *The Sea-craft of Prehistory*: 49.

were much more popular in most of Maine.⁷⁹ Still, dugout canoes have been found in Maine throughout the years, especially towards the southwestern portions of the state.⁸⁰ The Dugout Rowboat was discovered by an unknown party in the Penobscot River at an unrecorded date and ended up in Waldoboro, Maine. By 1924 the boat had come into the possession of a Ben Stanley of Bath, Maine. The boat changed hands several more times before Rudolf F. Haffenreffer purchased it for his museum in 1931.⁸¹

Beyond this, very little is known about the canoe. It measures roughly twelve feet (3.66m) long, nearly three feet (1m) deep and at least three feet wide. It is unclear what type of tree the canoe was built from, but given its width the tree must have been quite large. Yet even though the Rowboat is the widest and deepest canoe discussed here, it is also one of the shortest. These unusual proportions are part of the reason the Haffenreffer staff have taken to calling the boat the Dugout Rowboat. The presence of a truncated stern, a fairly prominent keel running the length of the boat, and small holes at the top of both sides of the hull near the boat's middle (vaguely reminiscent of oar holes) create the appearance of a rowboat, rather than a canoe. Metal tool markings are present on the inside of the hull, and the letters "KAKA" are inscribed in block script on the starboard bow near the top of the gunwale. The gunwales are curved and taper to the keel at the front, which is tilted slightly upwards. The bottom of the boat is neither flat nor rounded, but instead comes to a point along the keel. There are several holes (damage) along the

⁷⁹ Edwin Tappan Adney and Howard Irving Chapelle, *The Bark Canoes and Skin Boats of North America*, Washington, D.C.: Smithsonian Institution, 1964: 14.

⁸⁰ Gillian Graham, "Canoe that Time Forgot Belongs to Biddeford," *Portland Press Herald*, [http://www.pressherald.com/news/canoe-that-time-forgot-belongs-to-biddeford_2013-02-28.html,] February 28, 2013.; David Starbuck, *The Archeology of New Hampshire: Exploring 10,000 Years in the Granite State*, Durham, NH: University of New Hampshire Press, 2006: 178.

⁸¹ Haffenreffer Museum of Anthropology, "10150," Object report, accessed January 23, 2014; Haffenreffer Museum of Anthropology, "10150: Associated documents," Correspondence and artifact documentation, accessed January 23, 2014.

floor and port gunwale at the boat's stern, while another hole (possibly a missing knot) is present on the transom. There are pairs of notches on the inside of the hull near the top of the gunwales towards the stern with nail remnants present on one side, suggesting a thwart may have once existed there. Two rows of four wooden pegs cross the boat near its center. The "oar holes" mentioned earlier are likely not oar holes, as they are rectangular and quite small. Additionally, there is evidence of nail remnants next to one of them, suggesting that some sort of beam may have been secured there as well.

The museum has not radiocarbon dated the boat, but hopes to date it dendrochronologically to get a more precise age⁸². The date could provide some answers about the boat, but right now it is somewhat difficult to interpret. Since it has not yet been conserved, the dugout is fragile. The stern of the canoe is similar to those of canoes #1 and #2 from Lake Quinsigamond and it has similar notches to those, but it is clearly shorter and wider than those dugouts. The shape of the boat and the engraved letters might suggest European influence or use, but it certainly does not resemble the Agawam "white man's canoe." Without knowing more about the canoe's archaeological provenience or its age it remains enigmatic, but if we conclude that it was likely a product of the early contact period, the dugout might provide insight into that period in the Penobscot River region.

IX. Agawam Canoe

The Hadley Farm Museum in Hadley, Massachusetts, houses one of the more intriguing canoes analyzed in this study (fig. 21). The museum has almost no information on the canoe's provenience and does not have an accession file for the dugout. Two small interpretive panels of unknown age describe the boat as a "White

⁸² Kevin P. Smith, Personal communication with the author, September 23, 2013.

man's canoe" from Agawam, Massachusetts (fig. 26). The dugout is made from a white pine and measures eighteen feet (5.5m) in length. The museum estimated the canoe's date to ca. 1710-1745 and was supposedly used for "trading with the Indians," but there is no indication of how either of these notions was ascertained. The boat was first found in Agawam by an auctioneer named Ray Murphy in 1955 (though there is no indication as to where he found it), and it was donated to the museum by a Charles Sienkiewicz of Hadley in 1980, though it is not clear how Sienkiewicz came to possess it.⁸³

While the documentation on this canoe and its history is incomplete, the descriptions provided by the exhibit panels seem plausible. English colonists at Springfield (which included the area of present-day Agawam between the years of 1660 and 1855) were building dugout canoes by 1638, supporting the possibility that this was a "white man's canoe."⁸⁴ White pine was a particularly popular material for dugout canoes. These trees were very common throughout the northeast, and many measured heights of more than two hundred feet, with more than half of that height remaining free of branches. They were also in high demand as masts for English vessels beginning in the early seventeenth century, leading to a rapid decline in the white pine population throughout New England.⁸⁵ By 1650, Springfield had passed several laws intended to slow deforestation in its territory, with a special emphasis on the white pine "canoe trees" that were apparently in high demand.⁸⁶ At roughly three feet (1m) in width and eighteen

⁸³ Hadley Farm Museum, "Dugout Canoe: 18 Foot White Pine," Museum panel, November 10, 2013; Hadley Farm Museum, "Dugout Canoe: Found in Agawam, Mass," Museum panel, November 10, 2013.

⁸⁴ Edith Hull LaFrancis, "Agawam, Massachusetts: A Town History," Chicopee, MA: Pond-Ekberg Co., 1980: 1; Burt, *Early Days in New England*: 164.

⁸⁵ Donald Culross Peattie, *A Natural History of Trees of Eastern and Central North America*, Boston: Houghton Mifflin Co., 1966 [1948]: 3-8.

⁸⁶ Burt, *Early Days in New England*: 164, 167, 202; Mason A. Green, *Springfield, 1636-1886, History of Town and City*, Springfield, MA: C.A. Nichols and Company, 1888: 65.

feet in length, this canoe was not likely made from one of the giants, making the suggested manufacture range of 1710-1745 a reasonable estimation.

Certain elements of the canoe's form also suggest that it may not have been of indigenous construction. Unlike many of the other canoes in this study, the bow and stern of the Agawam canoe match one another; both ends are tilted upwards so that they do not rest flat on the ground, and the gunwales taper to a deliberate and pronounced keel. The keel and gunwales at the bow and stern rise considerably higher than the gunwales along the length of the boat do. Other features are less unique: there is evidence of burning and metal tool use on the boat's interior, the outside was shaped with metal tools, the bottom of the boat is flat and rather narrow before transitioning to a rounded hull, and the gunwales are straight and roughly 1-2" (2.5-5cm) in width. This angularity and the pronounced keels fall in line with evidence of Eurocolonial influence. There are five pairs of rectangular notches on the gunwales, with one pair at the bow and stern and three pairs evenly spaced towards the middle of the canoe. Each notch features a nail hole. The spacing and clear presence of nail holes suggests thwarts or yokes that are no longer with the boat – more evidence of Euro-American influence. There are also two nail holes several inches apart from one another along the keel of the boat's sternward interior. The canoe has not been conserved, but is in good condition with only some checking (cracks along the wood's grain) present at the bow and stern.

X. Oyster-Tonging Dugouts

The Mystic Seaport Museum in Mystic, Connecticut, owns two dugout canoes built by John Smith of Cayuga Lake, New York. While these dugouts were built in upstate New York, Smith was from Connecticut and only moved to New York to find the

large white pines necessary for dugout construction. Additionally, the canoes were intended for use in southern New England, particularly the oyster beds at the mouth of New Haven's rivers. Dugout #1 (accession number 46.643) measures 27'1" (8.25m) in length and 3'2" (96cm) wide (fig. 22). Restored in 1968, the canoe's floor has been replaced with boards nailed horizontally across the bottom. The dugout would have been made of one piece originally, but when the bottom wore out, planks would replace it. The bow and stern are both rounded to slightly pointed and spoon shaped, both lifting slightly upwards. It features a metal cleat near the bow and a base for a sail, while similar ones may have had a leeboard and a long sculling oar at the stern.⁸⁷

The second oyster-tonging canoe (accession number 46.644) is very similar to the first one. It is slightly larger at 30'8" (9.35m) long and 3'7" (109cm) wide, and is in poor condition (fig. 23). This dugout retains its original log bottom, with boards laid lengthwise on the inside to reinforce the floor. The bow and stern are both rounded, slightly lifted, and spoon shaped. Like the first dugout, it features a mount for a sail and a metal cleat near the bow. Both dugouts date to roughly 1824.⁸⁸

Unlike the other dugouts in this study, we know exactly where and (roughly) when these canoes were constructed, as well as who made them. These canoes were constructed for riverine and ocean conditions and fall towards the high end of Plane's size range for such canoes. More interestingly, the "rounded ends and less angular appearance" closely follow her criteria for indigenous logboats.⁸⁹ The dugouts that are most clearly attributable to Eurocolonial construction and use via the historical record directly challenge Plane's diagnostic criteria for cultural attribution.

⁸⁷ Bray, *Watercraft*: 202.

⁸⁸ Bray, *Watercraft*: 202-203.

⁸⁹ Plane, "New England's Logboats": 8, 14.

XI. Conclusion

Out of the ten confirmed dugouts analyzed here, we can fairly conclusively attribute one of them to indigenous construction (Weymouth canoe), and we can safely attribute three (Agawam, Oyster-tonging #1 and Oyster-tonging #2) to Eurocolonial construction. The other six, however, are more complicated. If we employ Plane's criteria, all six (Project Mishoon #1, #2, and #3, Mountain Pond, West Hill Pond, and the Dugout Rowboat) are of likely Euro-American construction. However, the additional information – specifically archaeological provenience and the historical record – complicate this analysis. Further, the two oyster-tonging dugouts at Mystic Seaport, when the historical record is discounted, match up closely with Plane's criteria for indigenous dugouts. Plane's criteria for cultural attribution, while potentially useful, seem flawed when put into practice.

Still, clear differences exist in dugout form. Plane's two basic forms – one with “rounded ends and less angular appearance” and a second more angular type with a “pointed bow and a square or truncate stern” – are clearly represented in the sample analyzed here. While Plane uses these criteria to suggest the presence or absence of European influence, she hints at a second explanation for these differences that might prove more useful. In discussing Eurocolonial manufactured dugouts in northern New England, Plane writes:

[I]nland boats survive in relatively greater numbers than either the coastal/riverine or the aboriginal types. Sunk in ponds and marshes, they are discovered and excavated with some frequency. Their common characteristics include flat bottoms 6-7.5 cm thick, sides rising at near ninety degree angles, and square or pointed bows... The inland boats in general look rougher than the coastal and river logboats-their lines are sharper, and they sometimes still bear the blade marks from the tools used to make them.⁹⁰

⁹⁰ Plane, “New England's Logboats”: 14.

Plane's criteria for inland dugouts matches up closely with her criteria for Eurocolonial dugouts more generally: sharp lines, an angular appearance, pointed or square bows, and flat bottoms. Her criteria for Eurocolonial riverine/coastal dugouts, on the other hand, match her criteria for indigenous dugouts: rounded bows and sterns, smooth/gradual lines, and a generally less-angular appearance. If we apply Plane's criteria to determine whether dugouts were used on inland lakes or in coastal areas, the results are much more accurate. Five of the six mishoonash recovered from inland ponds and two out of the four dugouts attributed to coastal/riverine regions meet these criteria. The Weymouth canoe, the only dugout found on an inland body of water that does not meet the criteria, was found in a pond that is less than six miles from Boston Harbor. The Mountain Pond canoe is interesting because it shows features of both types. Still, given its rounded bow and stern, it seems to fit the mold for inland canoes. The Agawam canoe and the Dugout Rowboat are the two vessels that do not meet the coastal/riverine criteria. Both are clearly influenced by European ideas of boats, as they are the only two examined here with built-in keels.

Using this approach, it appears that southern New England's dugout canoes took two general forms: one with rounded (or rounded to slightly-pointed) bow and stern used primarily in coastal areas and possibly rivers, and another with pointed and raised bows, straight sides, flat bottoms, and a generally angular appearance, often with truncated sterns, used on inland lakes and ponds. Based on archaeological context and historical evidence, these forms appear to pre-date European colonialism. The coastal dugout is almost certainly an indigenous form that Europeans later adopted for its usefulness in Eurocolonial economies. The earliest evidence of the inland canoe form as described

here dates to the contact period and shows evidence of European tool markings. It may be that the form existed before European contact and that older ones are yet to be recovered, or it might be that European tools made building these dugouts more practical for indigenous canoe-builders.

Perhaps the inland form is a European adaptation of the indigenous vessel that indigenous people began using after European contact. However, it seems unlikely that Eurocolonials would accept the indigenous dugout only in coastal contexts and change its form elsewhere. Kathleen Bragdon has argued that southern New England can be broken up into “three distinct ecological regions...: maritime/estuarine; riverine; and uplands/lacustrine,” and that indigenous societies tended to divide along those divisions. Coastal (or estuarine) societies, Bragdon argues, would function quite differently from upland cultures.⁹¹ Cultural variation between these regions could provide a possible explanation for the different canoe forms that appear in coastal/riverine areas and in inland lakes.

Bragdon’s tripartiate model, while useful for investigating the possible explanations for canoe form variation between regions, has been criticized by archaeologists. Elizabeth Chilton notes that this tripartiate model may reflect post-contact settlement patterns rather than pre-contact organization, as the inland riverine sites that Bragdon uses in her analysis represent post-contact occupations. Furthermore, Chilton argues that there “may be more diversity *within* rather than *between*” Bragdon’s divisions.⁹² Whether this tripartiate model holds water or not, it is clear that canoe form

⁹¹ Kathleen J. Bragdon, *Native People of Southern New England, 1500-1650*, Norman: Oklahoma University Press, 1999: 35-36, 55.

⁹² Elizabeth S. Chilton, “The Archaeology and Ethnohistory of the Contact Period in the Northeastern United States,” *Reviews in Anthropology* 29 (2001): 342-343. Emphasis in quote is from the original text.

varied between inland lakes and coastal/riverine regions. Following Bragdon's model, this difference may be explained by cultural differences between upland and coastal/riverine groups. If we reject Bragdon's model, the differences in form might be explained as a functional variation.

The functional reasons for using rounded canoes in rivers and shoreline areas while using more angular dugouts for inland lake use are unclear. A truncated stern will create more drag than a rounded or pointed stern, an undesirable trait that makes paddling a more laborious task. Perhaps low drag is more important in rivers, where the difficulty of paddling into a current would be multiplied by the increased drag of a truncated stern. The matched ends of riverine canoes might also benefit paddlers when trying to cross a river. Rather than turning the canoe around in the river or on land, a person could paddle in either direction. Dugouts with truncated sterns could only be paddled in the direction that the bow pointed. The unidirectional limit and increased drag may have been less significant on lakes and ponds due to the minimal current. Still, intentionally including flawed elements in a dugout's design seems foolish unless there is a correlating benefit. Perhaps the truncated stern shifts the canoe's weight to the rear, making it easier for a single person to maneuver it. The lifted bow may have also been beneficial for breaking through thin layers of ice in the late fall and early spring months, a less prevalent problem in the fast-flowing rivers and salty and brackish waters of estuarine regions. The reasons may be unclear, but it is likely that the canoe forms present in southern New England represent long-standing cultural and material practices in indigenous communities. Still, until clearly pre-contact dugout canoes of the inland form are discovered, this remains conjecture.

CHAPTER 5

MISHOONASH AS MUSEUM PIECES

I. Introduction

When a summer 2000 drought revealed over one hundred dugout canoes and other small vessels in the dried up bed of Newnans Lake outside of Gainesville, Florida, it was an unbelievable discovery.¹ Dugout canoes had resurfaced from time to time in the eastern United States since the turn of the twentieth century. Still, when Chester Kevitt of the Massachusetts Archaeological Society wrote about the Weymouth dugout in 1968, he called dugout canoes “one of the rarest aboriginal items to be found in North America.”² Especially in New England’s acidic soils, wooden artifacts do not last very long in the archaeological record. While dugout canoes have been found primarily in underwater environments (aiding their preservation), they remain uncommon finds today.

Given their rarity, it should not be surprising that few New England museums have local dugout canoes on display. What is more surprising is that when museums do hold dugout canoes in their collection, they are often kept in storage. Of the eleven confirmed and possible dugout canoes profiled in the previous chapter, eight are held by museums or other institutions (only the Project Mishoon canoes, which remain submerged in Lake Quinsigamond, are not). Of those eight, only three are currently on display. The others remain in storage. Given the rarity of these artifacts, why are museums choosing not to display them? The short answer is that dugout canoes are

¹ Ryan J. Wheeler, James J. Miller, Ray M. McGee, Donna Ruhl, Brenda Swann, and Melissa Memory, “Archaic Period Canoes from Newnans Lake, Florida,” *American Antiquity* 68 (2003): 533-551.

² Chester B. Keavitt, “Aboriginal Dugout Discovered at Weymouth,” *Bulletin of the Massachusetts Archaeological Society* 30 (1968): 2. While the name is published as “Keavitt,” the correct spelling is “Kevitt.” I have left the incorrect spelling in the citations for reference purposes, but have corrected it in the text’s body.

difficult to display. This chapter will investigate these difficulties using several of the canoes analyzed in chapter three as case studies, and by reflecting more generally upon the challenges of interpreting and displaying mishoonash in museums. Additionally, this chapter will offer potential solutions to these concerns.

II. Pragmatic Concerns

There are a number of practical issues at stake in regards to displaying dugout canoes. The first and foremost issue is that dugout canoes are very large artifacts. The average length of the dugout canoes analyzed in this thesis is 17'2" (5.24m). Many museums simply do not have enough space to exhibit such a large artifact year-round, and those that do might find that the space is better served by displaying numerous smaller artifacts. Moving dugout canoes between storage areas and exhibit space could provide an alternative, but their weight (often several hundred pounds) makes moving them a laborious task that is dangerous for staff and the object. Additionally, large artifacts are more difficult to protect, as they generally will not fit in enclosed cases unless they are made specifically for the artifact.³ Custom-built cases and barriers to keep people away from mishoonash can make moving them impractical.

Mishoonash also tend to be fragile and unstable, especially when they have not been conserved with PEG. Simply touching the exposed wood can cause the wood to crumble, and thus dugouts should be handled as little as possible. Putting the canoe on display, unless it can be put behind glass, means that it will likely be touched by visitors ("Do not touch" signs generally do little to stop this).⁴ Additionally, wooden artifacts

³ The State Historical Society of Iowa, *The Field Guide for Museums*, 2nd ed., [http://www.iowahistory.org/education/assets/the_field_guide_for_museums.pdf,] 2004: 26.

⁴ Stephen Bitgood, "Common Beliefs About Visitors: Do We Really Understand Our Visitors?" *Visitor Behavior* 6 (1991): 6.

should be kept at a stable relative humidity between 45% and 55% and should be kept at a stable temperature.⁵ In some cases this may require keeping the artifact in a display area that features a controlled environment that differs from that of the rest of the museum. These factors make regularly moving the canoe from storage to exhibition safe risky for the dugout's conservation. Canoes that have been preserved with PEG (like the Weymouth and West Hill Pond dugouts) are more stable, but temperature and relative humidity still need to be monitored to keep the wax from bleeding out. Still, PEG impregnation is not a cheap process, and the cost can be prohibitive for many institutions.

Beyond cost, museum professionals must consider the ethics of conservation processes. Ruth E. Norton's "Conservation of Artifacts Made from Plant Materials" provides a comprehensive overview of the processes of caring for and conserving plant-based artifacts, as well as a lengthy discussion on the ethics of conservation. Summarizing conservation literature for museum pieces, Norton states that conservation methods that irreversibly alter an object "should be avoided unless there is a danger of loss if no action is taken" and that "deterioration should be inhibited or arrested through preventive measures rather than through treatment that alters the artifact."⁶

Considering this ideal, is PEG impregnation an ethical means of conserving dugout canoes? According to research into conservation methods, PEG impregnation appears to be a completely reversible process. Polyethylene glycol is water-soluble and

⁵ National Parks Service, "Appendix I: Curatorial Care of Archeological Objects," in *Museum Handbook*, Part I. [<http://www.nps.gov/museum/publications/MHI/AppendI.pdf>,] 2001: 5.

⁶ Ruth E. Norton, "The Conservation of Artifacts Made from Plant Materials," in *The Conservation of Artifacts Made from Plant Materials*, ed. Mary-Lou E. Florian, Dale Paul Kronkright, and Ruth E. Norton, Marina del Rey, CA: Getty Conservation Institute, 1990: 196.

can effectively be “washed” out of wood.⁷ This is why dugouts treated with PEG need to be kept in humidity-controlled spaces: if the humidity climbs to high, the wax will begin to wash out. This is one of the reasons that PEG is such an attractive means of conservation. As a reversible process, it meets the standards for the best practices in conservation.

Still, nearly any means of chemical conservation – no matter how “reversible” – is likely to leave some trace of the conservation process. While PEG can be removed from wood, it is considered a contaminant that can distort future analyses. Radiocarbon dating, for example, is impossible after this and similar chemical conservation processes. Because it is nearly impossible to conserve an artifact without altering the material in some way, museum professionals must weigh the benefits of conservation very closely. Conservators must consider “the condition of the artifact, the type and extent of prior contamination through previous treatment and environment, the provenance, the intended use of the artifact and the collection as a whole, the uniqueness of the artifact, and the anticipated type and extent of alteration.”⁸ Considering the instability of once-waterlogged wood, the limits of provenance in an underwater environment, and the considerable rarity of extant dugouts in southern New England, PEG conservation is often a good decision to protect mishoonash.

Norton also promotes collaboration with descendant communities in cases of conserving indigenous material culture, writing that these communities “have a moral right to be involved in the conservation policies developed for those artifacts. Their

⁷ David Grattan, “Polyethylene Glycol (PEG),” Canadian Conservation Institute, [<http://www.cool.conservation-us.org/byauth/grattan/peg.html>,] August 13, 2000; Doina Maria Creangă, “The Conservation of Archaeological Wood,” *European Journal of Science and Theology* 5 (2009): 65.

⁸ Norton, “The Conservation of Artifacts”: 209.

involvement is an advantage to all parties.”⁹ Indigenous communities may have different priorities in preservation than the museum does in conserving artifacts, and indigenous concerns should be given primacy over those of the museum. The Mashantucket Pequot Museum and Research Center, a tribally-owned and operated museum, opted in favor of PEG impregnation to conserve the West Hill Pond canoe. The Nipmuc, on the other hand, are considering a pine rosin impregnation method on the Project Mishoon canoes once they are excavated from the bottom of Lake Quinsigamond. Both processes are very similar, and the end result is a wood composition that is considerably more stable than one that has simply air dried. But collaborating with descendant communities ensures that conservators take appropriate steps to conserve (or not conserve) artifacts in a way that respects the wishes of the community to whom the objects traditionally belong.

Perhaps the best means of conserving the canoes, however, is to leave them in place. Canoes that have been found sunk at the bottom of bodies of water have survived there for hundreds of years, and bringing them to the surface puts them into immediate peril of being damaged or destroyed by the elements or by drying out. Leaving them in situ is the most affordable option as well (surveying, excavation, conservation, and storage are all expensive procedures), making it an even more appealing option. However, leaving dugouts in situ has its disadvantages as well. The Project Mishoon canoes – the only ones studied in this thesis that are still submerged – represent a number of the dangers of leaving the boats in place. Canoe #3 is heavily damaged, possibly as a result of human activity. Canoe #1 is also damaged in places, possibly as the result of an anchor being dropped on it. The dugouts are surrounded by garbage, with glass bottles

⁹ Norton, “The Conservation of Artifacts”: 197.

and plastic lids strewn alongside and even inside the canoes. Additionally, the canoes were originally found by an amateur diver who tried to sell the first one before the Nipmuc Nation intervened. Now that surveys have begun, the canoes are in even greater danger of human disturbance and vandalism. For the safety of the canoes, excavation and preservation looks to be the best option.¹⁰

More importantly for the Nipmuc community, the canoes will serve as important educational tools and reminders of the tribe's past once excavated. While the tribe has learned a lot about the canoes from the dives that have already been conducted, only so much can be gleaned from underwater observations. Here we transition from the ethics of conservation to the ethics of display. In his book *Do Museums Still Need Objects?*, Steven Conn references a controversy at the National Gallery in London in the 1850s. The museum worried that its paintings were being damaged by air pollution, an effect of the high number of people who came to see them. To protect the artwork, the museum considered moving to a less-trafficked location outside of the city. A High Court Justice, John Coleridge, expressed his opinion that if a painting "perished in the using, it could not be said that the picture had not fulfilled the best purpose of its purchase."¹¹ The gallery followed his advice – it was better that the paintings be destroyed by exposure than preserved while cloistered away from the public. The Nipmucs intend to act in a similar vein. The community is working to ensure that the canoes come to the surface to educate the public, rather than sit in relative safety and complete invisibility at the bottom of the lake.

¹⁰ Vic Mastone, "Underwater Archaeology: 17th Century Nipmuc Mishoonahs in Lake Quinsigamond," Presentation, Worcester, MA: November 9, 2013.

¹¹ Steven Conn, *Do Museums Still Need Objects?*, Philadelphia: University of Pennsylvania Press, 2010: 10-11.

Given the small number of known surviving dugout canoes from this region and the incredible efforts the Nipmuc Nation are taking to display the Project Mishoon canoes, it is unfortunate that so many of the canoes analyzed in this thesis remain held in storage facilities at the time of this writing. I have already addressed some of the challenges of displaying dugout canoes, and those challenges must be kept in mind.

Additionally, many dugout canoes are not particularly visually appealing for most visitors. On first glance they appear to be little more than an old log. For curators, the combination of the rather plain appearance of mishoonash and the considerable exhibit space they consume makes them less desirable artifacts for display. Most of the mishoonash in southern New England's museums are damaged, some extensively so (Mountain Pond dugout, West Hill Pond dugout). On the other hand, some have argued that artifacts that are not pristine – that show damage, wear, and destruction – can appeal to visitors in a different way, one that harkens back to a bygone and romanticized era.¹² This thesis has already discussed what this romanticism means for a primarily non-indigenous audience casting their gaze upon Indian artifacts, and I will develop the idea further in the next section. But when given the choice between a large and rather unattractive canoe or several display cases of smaller artifacts, many curators prefer the latter.

III. Questions of Interpretation: Case Studies

The Weymouth dugout has been under the care of Weymouth Historical Commission since it was first pulled out of the mud of Great Pond in the fall of 1965. The dugout has been housed by Tufts Memorial Library since the building opened, as library officials decided to dedicate part of the building to a town library. The canoe was

¹² Andreas Huyssen, "Nostalgia for Ruins," *Grey Room* 23 (2006): 6-21.

originally conserved there, and by the summer of 1967 the exhibit space had been designed and developed.¹³ The exhibit space remains much the same today as it did thirty-six years ago. The canoe sits in a plexiglass enclosure on a simulated shoreline in front of a mural designed by the town's school children (fig. 24). The container has been climate-controlled since 1967 when a spike in humidity caused some of the PEG to bleed out of the canoe.¹⁴ The room features a second mural, consisting of five panels, depicting the various stages of mishoonash construction while women gather corn and tend to fires and children in the background (fig. 25). The exhibit is kept separate from the rest of the museum space, which focuses on the town's Eurocolonial history.

Certainly the exhibit is dated – the murals show an idealized image of idyllic indigenous life while the clear delineation between indigenous and Eurocolonial space in the museum paints an image of Indians as figments of the past whose history ended when colonial history began. An exhibit like this one would be unacceptable by today's standards, but as a small town historical commission display designed by school children in the 1960s and operated out of the basement of a library, it seems unduly harsh to criticize the space too much. The mishoon is interpreted as an "Indian dugout canoe," fitting with the exhibit's theme of a pristine pre-contact indigenous culture. There is no mention of the nail holes present in the canoe's hull or the keel piece found with the dugout. The interpretation of the canoe as presented in the exhibit is rather uncritical, though not necessarily incorrect. Updating the text to discuss the presence of Eurocolonial influence on the canoe's form would open up a discussion on cultural

¹³ Keavitt, "Aboriginal Dugout Discovered at Weymouth": 2-5.

¹⁴ Keavitt, "Aboriginal Dugout Discovered at Weymouth": 4.

exchange, Indian life after the arrival of Europeans, and indigenous peoples in Weymouth today.

IV. Agawam Canoe

The Agawam canoe currently resides at the Hadley Farm Museum in Hadley, Massachusetts. The museum is a small, low-budget operation housed in a restored 1782 barn. The museum, which is open from May to October, has no heat or air conditioning but is filled with artifacts representing New England farm life from the eighteenth-twentieth centuries.¹⁵ The canoe sits on the floor near the museum's entrance and behind one of the museum's large wagons. Tacked to the gunwale on the dugout's starboard side are two small signs interpreting the canoe (fig. 26). This first reads as follows:

DUGOUT CANOE
18 FOOT WHITE PINE
WHITE MAN'S CANOE USED ON CONNECTICUT RIVER TRADING
WITH INDIANS
c. 1710-1745

The second provides some information about how the museum acquired the piece:

DUGOUT CANOE
Found in Agawam, Mass. By Auctioneer Ray Murphy 1955
Donated to Farm Museum by CHARLES SIENKIEWICZ OF HALDEY 7-9-80

The Farm Museum's interpretation of the Agawam dugout is intriguing – knowing the history of dugout canoes among Connecticut River Valley colonists, it is possible that the dugout was used for trading with the region's indigenous peoples. However, it was almost certainly used in farming, to transport hay, feed, manure, and other products along and across the Connecticut River. While the canoe has strong ties to the valley's farming history (and likely represents one of the oldest artifacts in the

¹⁵ Hadley Farm Museum, "Home," [<http://hadleyfarmmuseum.org/index.html>,] accessed February 20, 2014.

museum's collection), they chose to interpret the canoe through an association with Native American cultures. More poignantly than any of the other canoes analyzed in this paper, the Hadley Farm Museum's treatment of the dugout canoe seems to reflect the concerns of romanticizing and essentializing the dugout canoe as an indigenous artifact as articulated by Plane and Glassie. While the Agawam canoe shows clear European influence and was almost certainly built and used by a Eurocolonial person, the museum emphasizes the canoe's link to indigenous cultures despite their focus on colonial-era farming practices.

The museum does make clear that they consider the boat to be a "White man's Canoe," and the interpretive signs likely date to the museum's acquisition of the canoe in 1980. An update to this interpretation might emphasize the role of the canoe as a farmer's tool in the late seventeenth and early eighteenth centuries and thus tie to the artifact more closely to their mission of showcasing the "vehicles and equipment used on New England farms and farmhouses from the late 1700s to the early twentieth century."¹⁶ The museum does not need to tie the dugout to indigenous peoples, but if they really want to maintain that connection, there are ways to do so with more sensitivity than the current interpretive panels show. By framing this Euro-American dugout as a descendent of indigenous practices and by using tribal names when discussing trade, the museum could frame the canoe in a more educational way. For example, a new sign might say:

Colonial Farmer's Dugout Canoe

Hadley, MA, ca. 1710-1745

White Pine, 18 feet long

This dugout canoe was found in Agawam, Massachusetts, in 1955. It dates to the early 18th century, when Agawam was still part of the Springfield plantation. Early English farmers on the Connecticut River used canoes to move people,

¹⁶ Hadley Farm Museum, "Home."

animals, and goods across the river, and to trade with the local Indian tribes. While this dugout was made by colonists, indigenous people have been using dugout canoes on the Connecticut River for thousands of years.

While the panel text could vary considerably from this, something incorporating these elements would present the canoe in a way that would be informative for visitors and teach them about indigenous peoples in a less romanticized way. Using the present perfect continuous tense (“have been using”) suggests a continuing indigenous presence in the valley in a way the current panel does not.

V. West Hill Pond Canoe

The West Hill Pond canoe at the Mashantucket Pequot Museum and Research Center (MPMRC) provides an ideal example of how a similar panel can be used in a museum setting. The MPMRC is a tribally-owned and operated museum on the Mashantucket Pequot Tribal Nation’s lands in southeastern Connecticut. The dugout canoe was donated by the Yale Peabody Museum in the 1980s, and the MPMRC undertook the long conservation project before putting the boat on display. The mishoon sits on specially-designed supports atop two display pedestals so that the canoe is elevated several feet off the ground (fig. 18). A rope barricade keeps people a few feet from the boat and “Do not touch” signs sit on the pedestals (both precautions were ignored by multiple visitors during the fifteen minutes I was there, with both children and adults trying to touch the PEG-impregnated canoe). An interpretive panel is posted on the wall behind the canoe. The display is simple and visually appealing, but it certainly does take up a lot of floor space, and the wall space behind it is left vacant aside from the lone interpretive panel.

The MPMRC's interpretation of the West Hill Pond canoe is ideal. The canoe, as examined in chapter four, is a contested piece in terms of cultural attribution. There is evidence to suggest that it is of indigenous manufacture and use, and I argue that it is an indigenous mishoon. Still, the presence of metal tool marks and a form that falls within Plane's criteria for Euro-American influence complicates this attribution. Rather than ignoring the possibility of European influence, the panel brings this information into its interpretation. After providing the visitor with identification information (material, dimensions, date, etc.), background information on how the museum acquired the canoe, and the conservation process, the panel provides an interpretation that argues for indigenous construction while acknowledging European influence in a way that does not distract from its indigenous attribution:

[A]lthough the canoe is Native made, it shows evidence of metal tool marks. The latter indicates the dugout was made after European contact, consistent with the canoe's radio carbon date of around 1670.

Dugout canoes were the principal means of water transportation in Connecticut prior to European contact. They continued to be used by both Native people and European settlers well into the 18th century. Traditionally, dugout canoes were made using fire and stone tools. During winter, when most of the ponds and lakes were frozen, the canoes were often sunk with heavy rocks to help preserve them from drying out. In the spring they were retrieved, ready for use. Quite often they were left only to be found centuries later during periods of drought or when a particular lake or pond was drained.¹⁷

By definitively declaring that the canoe was "Native made," the museum presents an authoritative perspective on the canoe's origins. But by acknowledging the use of European tools and European use of dugout canoes during the colonial period, the museum does not completely obscure the complexity of dugout manufacture in New England during the contact and early colonial periods. This approach allows museums

¹⁷ Mashantucket Pequot Museum and Research Center, "Dugout Canoe, c. 1670," Museum panel, October 11, 2013.

(in this case a tribal museum with a vested interest in framing its collections as indigenous) to attribute mishoonash to indigenous peoples without romanticizing dugouts as “pristine artifacts of Amerindian experience.”¹⁸

While the MPMRC panel provides an ideal example of how to interpret mishoonash, it does merit some critique from a museum studies perspective. My primary criticism of the panel is its length – at 256 words and presented several feet away from viewers due to the size of the canoe and the rope barricade, only dedicated visitors are likely to read the entire panel. Cutting out the more than one hundred words dedicated to the canoe’s history (or perhaps spreading the text across multiple panels on the otherwise blank background wall) might have made the display more visitor-friendly.¹⁹ With this critique in mind, the MPMRC panel is the ideal that others should strive for when interpreting dugout canoes.

VI. Mountain Pond Canoe

The Mountain Pond canoe was not on exhibit when I visited the Connecticut Museum of Natural History on the University of Connecticut campus in Storrs. Like other dugout canoes I visited, the dugout was kept in an off-site storage facility on top of some filing cabinets – even in storage, dugout canoes take up valuable floor space. However, it had been on display several years earlier, and the Connecticut Office of State Archaeology (in conjunction with the Museum of Natural History) maintains a webpage dedicated to the canoe in its “Issues in Underwater Archaeology” website (fig. 27).²⁰

¹⁸ Ann Marie Plane, “New England’s Logboats: Four Centuries of Watercraft,” *Bulletin of the Massachusetts Archaeological Society* 52 (1991): 8.

¹⁹ Beverly Serrell, *Exhibit Labels: An Interpretive Approach*, Lanham, MD: AltaMira Press, 1996: 25, 34-35, 85-87, 125-127.

²⁰ Connecticut Office of State Archaeology, “Dugout Canoe,” in “Underwater Archaeology,” Connecticut Museum of Natural History, [<http://www.mnh.uconn.edu/underwater/Dugout.html>,] accessed February 20, 2014.

From a public history or museum studies perspective, virtual exhibits are quite different from physical exhibits, but analyzing the way the Connecticut Office of State Archaeology interprets the Mountain Pond canoe is useful to this study.²¹

Like the West Hill Pond canoe, the Mountain Pond dugout shows evidence of metal tools and fits the criteria for Plane's Euro-American inland canoe type. Still, as analyzed in chapter four, there is evidence to suggest that the canoe was of indigenous origin. Rather than presenting both cases, the website simply deems the mishoon a "Native American canoe." After describing the process of making the canoe, the website further explains the canoe's history and origins:

This late 16th to early 17th century canoe was sunk in about 40 feet of water by loading it with stones. Some witnesses claim that other types of artifacts were in the canoe; however, none were precisely described or recovered. The canoe may have been placed in the pond for winter storage, or it is possible that its owner traveled to another area by land and stored it for use on his way back. The identity of the Native Americans who made the canoe is not known; however, Ramapo or Titicus villages were in the region during this time. The Paugessett tribe also inhabited the area.²²

This use of tribal names is important in minimizing the romanticism of the webpage's portrayal of the Mountain Pond dugout, as it reminds visitors that Connecticut's indigenous people represent many distinct nations. Still, the Office of State Archaeology could have done more to disrupt the image of the dugout canoe as a pristine example of indigenous culture by referencing the post-contact additions of nails and the use of metal tools.

Perhaps the Office of State Archaeology did not want to completely de-romanticize the Mountain Pond dugout. One of the goals of the "Issues in Underwater

²¹ Sue Ann Cody, "Historical Museums on the World Wide Web: An Exploration and Critical Analysis," *The Public Historian* 19 (1997): 29-53.

²² Connecticut Office of State Archaeology, "Dugout Canoe."

Archaeology” website is “to develop a cooperative relationship with divers, coastal residents, maritime historians, amateur archaeologists, fishermen and the interested public to identify and protect Connecticut's underwater resources.”²³ As Phillip Deloria, Henry Glassie, and others have argued, non-Natives often “enjoy establishing genetic and cultural links with Indians” as a means of tapping into the earliest human history of America.²⁴ In most cases this ideology is damaging and museums would do well to discourage that line of thinking. But if framing dugout canoes as indigenous artifacts will encourage people to come forward with information when they find them, perhaps romanticism is a useful – though certainly less-than-ideal – tool for preserving indigenous material culture from theft and destruction.²⁵

VII. Conclusion

In some ways, dugout canoes are very simple artifacts: they are some of the earliest and most wide-spread vessels in the world, they require only fire and stone tools to build, and the finished product is little more than a hollowed out tree trunk.²⁶ In other ways, they seem considerably more complex: they take innumerable different forms that vary from region to region and from culture to culture. Close inspection reveals differences in size, wood type, gunwale thickness, angularity, bow shape, stern shape, tool markings, damage, repairs, and modifications. As a result, attributing mishoonash – particularly those from the contact and early colonial periods – to either indigenous or

²³ Connecticut Office of State Archaeology, “Home,” in “Underwater Archaeology,” Connecticut Museum of Natural History, [<http://www.mnh.uconn.edu/underwater/index.html>,] accessed February 20, 2014.

²⁴ Philip J. Deloria, *Playing Indian*, New Haven: Yale University Press, 1998; Henry Glassie, “The Nature of the New World Artifact: The Instance of the Dugout Canoe,” *Schweizerisches Archiv für Volkskunde* 68-69 (1972-1973): 157.

²⁵ If this is the goal, archaeological offices still need to do their part as well. When an amateur diver first discovered one of the dugouts in Lake Quinsigamond and informed the Massachusetts Board of Underwater Archaeological Resources looking for a reward, they initially ignored him. For more details, see the conclusion to this thesis.

²⁶ Paul Johnstone, *The Sea-craft of Prehistory*, Cambridge, MA: Harvard University Press, 1980: 45-47.

Eurocolonial cultures is rarely an easy task. Finding exhibit space (or even storage space) for them is often difficult for museums. Interpreting mishoonash in a meaningful and effective way can be even more difficult. Curators must be cautious not to romanticize them as representations of an unsullied and bygone age in American history – a dangerous myth that turns indigenous peoples into figments of the past. At the same time, the presence of non-indigenous influences – real or perceived – in a dugout’s form does not necessarily mean that the boat belonged to or was used by non-indigenous peoples.

Even with these challenges, it is important to exhibit the few mishoonash that survive in museums today. As early as 8,500 years ago and as recently as the early twentieth century, dugout canoes were common sights on southern New England’s waterways.²⁷ The Algonkian world was linked by systems of river highways and open lakes, and mishoonash were the primary vehicles for carrying people, goods, and ideas across that world. When European colonists began to scout and slowly invade the Algonkian world in the sixteenth and seventeenth centuries, their presence represented a new world for both the invaders and the indigenous communities who encountered them.²⁸ But waterways remained the most efficient way to move across New England’s landscape, and for many people the dugout canoe remained the most important means of transportation. Nearly three hundred years after the first colonists established a permanent colony in New England, people continued to use dugout canoes to navigate

²⁷ Public Archaeology Laboratory, “Over 5,000 Years of History in Eastern Connecticut: The Story of the Tower Hill Road Site,” [http://www.palinc.com/sites/default/files/publications/Tower_Hill_Popular_Report.pdf,] accessed February 20, 2014: 14.

²⁸ James H. Merrell, *The Indians' New World: Catawbas and their Neighbors from European Contact through the Era of Removal*, New York: W.W. Norton Press, 1991.

Connecticut's waterways and provide for their families. While dugout canoes are difficult objects to interpret and exhibit, they present a unique opportunity to tell a multitude of stories about New England's past.

CHAPTER 6

CONCLUSION

On a damp and frigid day in December of 1970, Harvey Ellis of Bridgewater, Massachusetts trudged deep into the muck, mud, and frigid waters of Hockomock Swamp in the neighboring town of Easton. Earlier that morning Ellis had received a call from a friend of his who had been setting or checking traps around the swamp – a practice this body of water has played host to for hundreds of years. The friend claimed to have found a dugout canoe in the wetlands muck. When the two men reached the center of the swamp they found exactly what they had hoped for – the bow of a partially-submerged dugout canoe.¹

Ellis, an amateur archaeologist in the region, returned the next day to fully reveal and remove the canoe. The excavation revealed two more mishoonash in the shallow swamp. The bow and stern of these canoes were “surprisingly blunt.” The mud and cold water had preserved the canoes remarkably well. In fact, one of the canoes was in such good shape as to allow a young boy who had accompanied Ellis to sit in the canoe and paddle it to the shore.² William Fowler, the curator of the Bronson Museum and editor/contributor to the *Massachusetts Archaeological Society Bulletin* was called in to examine the canoes and estimated that they were possibly over 500 years old. Curiously, it does not appear that Fowler ever conducted a more extensive analysis of the canoes, nor did he report on them in an article he wrote about dugout canoes just two years later.³

¹ Ted Williams, “History,” in *Hockomock: Wonder Wetland*, ed. Henry Moore (Privately published, n.d.):6-9. Page numbers are my own, as there are none given in the book. The book is listed as being published in 1968-69, but since there are quotes from late 1970 in the text this is an error. The information in the first two paragraphs not otherwise cited comes from this text.

² Williams, “History”: 6-9.

³ William S. Fowler, “A Review of Dugout-Making,” *Bulletin of the Massachusetts Archaeological*

After this brief appearance in the documentary record, the canoes seem to disappear. They likely remained in private hands and, due to the conservation that wooden artifacts require, may well have crumbled to nothing.⁴

In June of 2000, nearly thirty years later and less than forty miles northeast of Hockomock Swamp, Michael Brauer of Connecticut discovered another submerged mishoon – this one in the depths of Lake Quinsigamond in Worcester, Massachusetts. Realizing that he had found something special, he contacted the Massachusetts state Board of Underwater Archeological Resources (MBUAR), reportedly looking for a reward for his find. Victor T. Mastone, the Director and Chief Archaeologist for MBUAR, was doubtful of Brauer’s claim and turned the diver away empty handed. Shortly thereafter Mastone’s office received a call from Nipmuc Nation representatives reporting that they had been in contact with Brauer after finding that he had listed the dugout canoe on eBay. Rather than having charges pressed against Brauer for attempting to sell an archaeological resource or rebuffing MBUAR for choosing not to investigate the claim, the Nipmucs mediated between the two sides and helped forge a cooperative effort to find out more about the mishoonash.⁵

In the following spring, MBUAR conducted a dive to locate the canoe. While Brauer was unavailable for the start of the dive, he was able to provide Mastone with directions as to how to find the canoe: the canoe was roughly 75 feet east and 25 feet down from the end of the dock of a blue cottage on the lake. Upon locating the only blue cottage with a dock in the area, the MBUAR crew began diving. The crew quickly found

Society 37 (1975):1-5. While the article was published in 1975, Fowler signs off the article with a date of November 4, 1972.

⁴ Curtiss Hoffman, Personal communication with the author, October 27, 2013.

⁵ Vic Mastone, “Underwater Archaeology: 17th Century Nipmuc Mishoonahs in Lake Quinsigamond,” Presentation, Worcester, MA: November 9, 2013.

the canoe and celebrated their success. When Brauer made it to the lake to help with the dive, he told Mastone that his crew was diving in the wrong spot. Another blue cottage less than one hundred feet away had pulled up their dock for the season. The crew dove again at the second blue cottage and found Canoe #2, the mishoon that Brauer had originally discovered.⁶

MBUAR, along with the Nipmuc Nation, put measures in place to protect the two canoes – finding more than one mishoon at any single location was a rare feat and they wanted to ensure that they were kept safe. Brauer became actively involved in protecting the canoes, and would dive to check on them every time he was in the area. Concerned that Brauer’s frequent dives might attract unwanted attention to the boats, Mastone suggested that the diver try different locations to move peoples’ attentions to other parts of the lake. Brauer agreed, and on his first dive on the other side of the lake he found Canoe #3. In the decade or so following these discoveries, MBUAR and the Nipmuc Nation have worked together to fund more research on the canoes, including sending divers down to create a photo mosaic of the canoes so they could have complete images of the vessels, using ground-penetrating radar (GPR) on the ice above the lake in winter to see if they could detect the mishoonash (they could not), and using sidescan sonar to create profiles for the canoes and to look for more. In the process, MBUAR was able to develop a sidescan signature for likely dugouts: they were able to tell the dugouts apart from sunken logs by measuring the way the sonar waves responded to the wood and the rocks that weighed the canoes down. As a result, they are confident that they have found

⁶ Mastone, “Underwater Archaeology.”

several more mishoonash in the lake, and hope to use the same technique in other bodies of water.⁷

The careful guardianship of these canoes by the Nipmucs, the legal protections established to prevent theft or damage, and methodical and careful attention to preservation will ensure that these canoes become what the Hockomock Swamp mishoonash did not – reminders of the cultural and historic heritage of the indigenous ancestors who constructed and employed these vessels in their daily lives. The Nipmuc Nation intends to construct an educational facility to house the canoes and other aspects of their material heritage so that they can share their history and culture with the greater public.⁸

Both of these examples are somewhat unusual. People have been stumbling upon once-submerged dugout canoes in New England since at least the 1800s, but to find three or more in one body of water, all within a fairly short amount of time, is rather unusual.⁹ That is not to say that these cases are unheard of; in addition to the two cases listed here, three canoes were discovered in Shelburne Pond, just south of Burlington, Vermont, between 1978 and 1985.¹⁰ But when mishoonash are discovered, they seem most often to be isolated artifacts. It is impossible to figure out how many of these canoes have been discovered over the years – while some were well documented and remain preserved in museums today, others (like the three found in Hockamock Swamp) only briefly appear

⁷ Mastone, “Underwater Archaeology.”

⁸ Cheryl Stedtler, “Contact Info,” Project Mishoon, [http://projectmishoon.homestead.com/Contact_Info.html,] February 8, 2014.

⁹ Bob Datz, “Nipmuc Mystery Below Quinsigamond,” *Worcester Telegram and Gazette*, [http://www.telegram.com/article/20120520/NEWS/105209741/1011/rss01&Template=printart,] May 20, 2012.

¹⁰ The University of Vermont Libraries, “Human History,” in “Bailey/Howe Library: Shelburne Pond, the H. Laurence Achilles Natural Area,” [http://researchguides.uvm.edu/shelburne_pond/history,] January 17, 2014.

in the historic record before slipping away, and countless more likely never made a formal appearance in the documentary record at all. Several more, like the three in Lake Quinsigamond, are known to exist but are lying in situ to ensure their continued preservation and protection. Unfortunately very few are as well documented as the Project Mishoon canoes, as the Nipmucs have gone to great lengths to photograph the boats for educational and planning purposes. There are precious few canoes that remain accessible for study, and even these have received surprisingly little attention from archaeologists and historians.

In the coming years, Nipmuc leaders and community members are hoping to raise the mishoonash from the lake bottom and to preserve them, enabling “the tribe to use the artifacts as educational tools for tribal members, school groups and others who want to learn more about both the history of dugout canoes and the conservation process.”¹¹ Using the PEG conservation process (or possibly a similar process using a pine rosin solution) will take considerable time and resources.¹² The most pressing need is for a space to complete the conservation work while also being able to introduce the public to the mishoonash and other aspects of Nipmuc culture and history. The tribe currently owns and operates the Hassanamisco Indian Museum in Grafton, Massachusetts, but the building that houses the museum is not big enough to restore and display the fourteen foot canoes. Additionally, the house itself is an important historic site – the Homestead is thought to be the oldest building in southern New England to be continuously inhabited by Natives. Instead, the tribe hopes to build a new cultural center in Worcester, where

¹¹ Rae Gould, “Tribal Historic Preservation Office Seeks Support for ‘Project Mishoon,’” *Blackstone Daily*, [<http://www.blackstonedaily.com/mishoon.htm>,] accessed February 20, 2014.

¹² Datz, “Nipmuc Mystery Below Quinsigamond.”

many Nipmuc people moved after the Massachusetts Indian Enfranchisement Act of 1869 broke up the reservation.¹³

Project Mishoon represents the best practices in public history and collaboration between researchers and indigenous peoples. The Nipmuc Nation and tribal members have been involved in the project from the very beginning. The relationship between the state of Massachusetts (through MBUAR) and the Nipmuc people has not merely been a consultative one, but rather a collaborative one. Cheryl Stedtler, Rae Gould, and other Nipmuc community members have helped shape the goals and direction of the project, have raised awareness and have raised funds, and have even joined the divers underwater to partake in the research first hand. When the community raises enough funds to raise the canoes and put them in their museum, they will likely be the first tribe in New England to exhibit their own historic mishoonash.¹⁴

Project Mishoon has been possible, in part, because there has been a consensus between state officials, tribal members, and the general public that the dugout canoes belong to the tribe. Very few parties would try to stop the Nipmuc Nation from raising the funds to excavate the dugouts because dugout canoes are synonymous with indigenous peoples in New England. We need to look no further than the “Kennewick Man” case to see how this process might have played out differently if both Native and non-Native peoples believed they had a just claim to the canoes.¹⁵ Certainly romantic ideas about dugout canoes can be harmful – blindly accepting that all dugout canoes are

¹³ Jim Adams, “Nipmucs Preserve History,” *Indian Country Today*, [http://indiancountrytodaymedianetwork.com/2004/06/02/nipmucs-preserve-history-93616,] June 6, 2004.

¹⁴ Mashpee Wampanoag Tribe members have constructed numerous mishoonash in conjunction with Plimoth Plantation’s Wampanoag Homesite. The two dugout canoes in North Stonington, Connecticut, fall within the traditional homelands of the Mashantucket Pequot Tribal Nation, but they have not yet been excavated. The West Hill Pond canoe from Winsted, Connecticut, falls outside of Pequot territory.

¹⁵ Susan B. Bruning, “Complex Legal Legacies: The Native American Graves Protection and Repatriation Act, Scientific Study, and Kennewick Man,” *American Antiquity* 71 (2006): 501-521.

examples of pre-contact indigenous culture assumes that “authentic” indigenous lifeways ended with the arrival of Europeans, and that Euro-Americans “gave culture” to indigenous peoples but gained nothing of value from indigenous peoples in return. On the other hand, over-emphasizing the significance of European influence on the dugout canoe can be harmful as well. Rae Gould has noted the possibility that the Project Mishoon dugouts might not be of Nipmuc origin.¹⁶ Jason Mancini at the Mashantucket Pequot Museum and Research Center has offered the same caution.¹⁷ Both Gould and Mancini are right – it would be unwise to assume that these are indigenous canoes until they have been fully analyzed. On the other hand, we need to be critical about the criteria we use to determine cultural attribution to ensure that indigenous mishoonash are not mistakenly attributed to non-Natives.

¹⁶ Adams, “Nipmucs Preserve History.”

¹⁷ Jason Mancini, Personal communication with the author, October 11, 2013.

APPENDIX I

DATA TABLE

Table 1: Dugout Canoe Data

	Length (m)	Width (cm)	Avg. Depth (cm)	Gunwale Width (cm)	Bow	Stern	Wood	Condition	Treated	RC Date (BP)	Est. Date (CE)	Sunk	Sunk w/ stones	Found	Metal tool marks	Nails	Gunwale notches	Keel
Weymouth	3.3	68.6	25.5	2	Spoon	Spoon	Pine	Very good	Yes	445 +/- 100	1505	Yes	No	Estuarine pond	No	Yes	No	No*
Proj. Mishoon #1	4.8	55	u/k	10	Pointed	Truncate	u/k	Good	No	N/A	1660	Yes	Yes	Inland lake	u/k	u/k	Yes	No
PM#2	4.5	70	u/k	15	Pointed	Truncate	u/k	Good	No	u/k	1660	Yes	Yes	Inland lake	u/k	u/k	Yes	No
PM#3	4.45	50	u/k	8.3	Pointed	Truncate	Oak?	Very poor	No	N/A	u/k	Yes	Yes	Inland lake	u/k	Yes	u/k	No
Mountain Pond	4.3	67.5	u/k	2	Spoon	Spoon	Chestnut	Poor	No	N/A	1600	Yes	Yes	Inland pond	Yes	Yes	No	No
West Hill Pond	5.49	50.8	43.2	3.8	Pointed	Truncate	Chestnut	Poor	Yes	137 +/- 142	1670	Yes	Yes	Inland pond	Yes	No	No	No
Haffenreffer Half	3.97	32	25	u/k	u/k	u/k	u/k	Very poor	No	N/A	u/k	Yes	u/k	Estuarine pond	u/k	No	No	No
Dugout Rowboat	3.66	~100	u/k	u/k	Pointed	Truncate	u/k	Fair	No	N/A	1700	Yes	u/k	River	Yes	Yes	Yes	Yes
Agawam	5.5	~100	u/k	5	Pointed	Pointed	Pine	Good	No	N/A	1728	u/k	u/k	u/k	Yes	Yes	Yes	Yes
Oyster-tonging #1	8.25	96	u/k	u/k	Spoon	Spoon	Pine	Good (restored)	No	N/A	1824	No	No	N/A	Yes	Yes	No	No
OT#2	9.35	105	u/k	u/k	Spoon	Spoon	Pine	Poor	No	N/A	1825	No	No	N/A	Yes	Yes	No	No

Key

Condition scale:

Very good

Good

Fair

Poor

Very poor

Treated refers to PEG treatment

*Weymouth canoe does not have a keel, but a keel piece was found near the canoe.

APPENDIX II

FIGURES

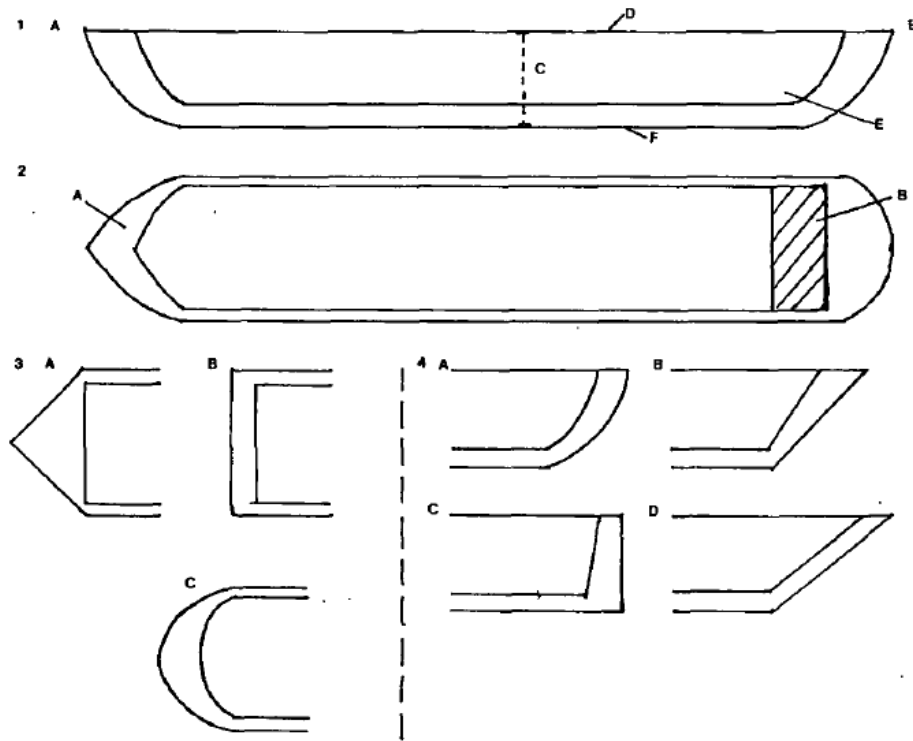


Figure 1. Terminology for logboats. As regional studies of logboats increase in number, the need for standardized terminology also becomes greater. I am indebted to Michael Alford of the North Carolina Maritime Museum, Beaufort, NC, for his suggestions for a standard vocabulary. 1) Profile View. A: Bow (front); B: Stern (back); C: Depth; D: Gunwale (top edge); E: Hull; F: Bottom. 2) Plan View. A: Endpiece; B: Deck or seat. 3) End Shapes. A: Pointed End; B: Truncate or Square End; C: Round or Curved End. 4) End Profiles. A: Spoon; B: Raked; C: Upright; D: Steeply Raked.

Fig. 1. From: Ann Marie Plane, "New England's Logboats: Four Centuries of Watercraft," *Bulletin of the Massachusetts Archaeological Society* 52 (1991): 9. I have tried to use the same terminology that Plane uses here, and the illustration is a useful reference for this paper.

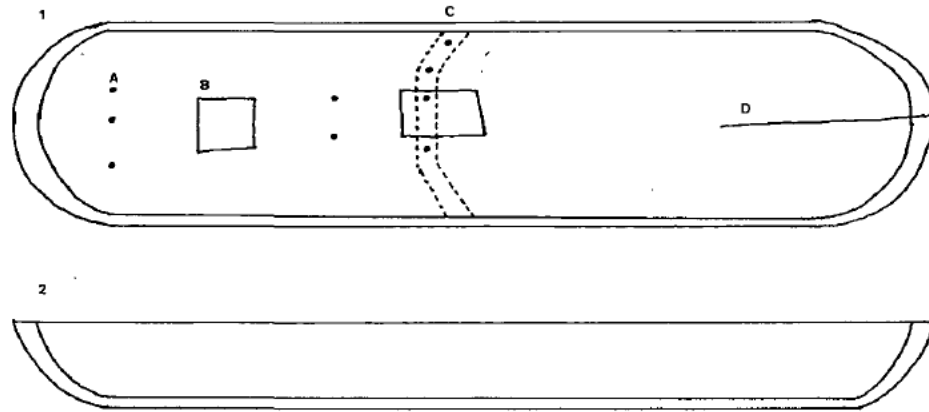


Figure 2a and 2b. Weymouth logboat, photo and plan. This boat was discovered in Weymouth's Great Pond during the drought of 1965. It may have been made with aboriginal technology, but it has several nails associated with it, as well as faint lines marking a possible rib. Perhaps it was an Indian boat with contact period additions made by either Indians or Euro-Americans. A detailed recovery report exists (see Keavitt 1968). The boat was excavated by the Weymouth Historical Commission, and is now located at the Weymouth Historical Society Museum, Tufts Library, Weymouth, MA (photo by Ann Marie Plane). 1) Plan View: A: nail fragments in hull; B: Faint depression in hull; C: Discoloration, nails, possibly from a rib; D: large crack. 2) Profile view: 3.185 m length; 68.6 cm overall width; 29.2 to 29.9 cm depth; all measurements from Keavitt (1968). Locations of features approximate as the canoe is in a closed case.

Fig. 2. From: Plane, "New England's Logboats": 11.

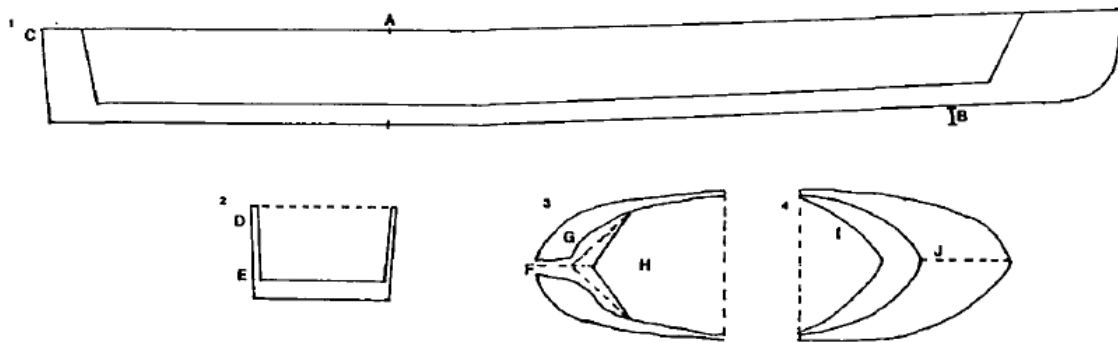


Figure 3a and 3b. Hopkinton logboat, photo and plan. Very well preserved boat found in Hopkinton's Jo-Sylvia Lake (NH) in the early twentieth century. It has overcut marks from an axe and such European maritime features as a pointed bow and a barely discernable stem or keel at the stern. This vessel is now at the New Hampshire Antiquarian Society, Hopkinton, NH (Photo, Robert B. St. George). 1) Profile view: 4.39 m length; 58.4 cm width; 39.4 cm depth at point A; B: This boat has an angled bottom with approximately a 10 cm rise at point B; C: A missing upper portion of the stern has been reconstructed in this drawing. 2) Section view, taken at point A of plan 1. The sides vary in thickness from 1.0 cm at D to 3.8 cm at E; the bottom is 7.6 cm thick. 3) Plan view of stern. F: Location of small projection at the bottom of the stern. The upper portion of the stern, approximately 15.2 cm long, is missing; G: Top of endpiece; H: Floor to chine line (where the floor ends and the endpiece begins its rise); Entire detail: 74.3 cm length. 4) Plan view of Bow. I: Floor to chine line; J: length of endpiece is 38.7 cm.

Fig. 3. From: Plane, "New England's Logboats": 13.

The industry of the Floridians in storing the products of the harvest



Fig. 4. From: Michael Alexander, ed., *Discovering the New World: Based on the Works of Theodore De Bry*, New York: Harper and Row, 1976: 39.

The murder of the Frenchman, Pierre Gambié



Fig. 5. From: Alexander, *Discovering the New World*: 59.



Fig. 6: From: Alexander, *Discovering the New World*: 76.



Fig. 9. From: Kenneth G. Roberts and Philip Shackleton, *The Canoe: A History of the Craft from Panama to the Arctic*, Toronto: Macmillan of Canada, 1983: 69. While the canoe in Fig. 8 is shown off the coast of Long Island, no dugouts with that form have been recovered in the northeast. This image of a similar dugout from Florida suggests that the artist may have been influenced by an image from another region.



Fig. 10. From: John H. Earl, "Colonial American Ferry," [<http://www.modelboatyard.com/ferry2.html>,] February 9, 2008. While this model is more elaborate than the simple scows discussed in this paper, it provides a good visual for understanding the basic shape of these boats.

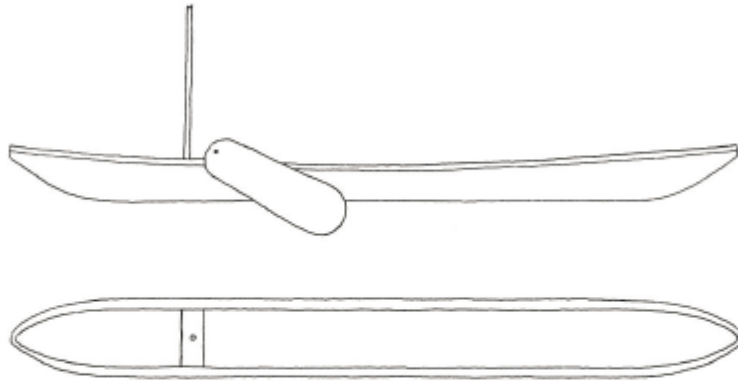


Fig. 1. Connecticut Dugout Canoe. – After Hall, Report on the Ship-Building Industry of the United States, 29. Hall describes a shovelnose canoe (the bow of which would be presumably like that of Fig. 2 A), yet the illustration shows a boat pointed at each end in the European tradition; his description and his illustration would seem to present different steps in the canoe's evolution. This and the other illustrations in this paper are by its author.

Fig. 11. From: Henry Glassie, "The Nature of the New World Artifact: The Instance of the Dugout Canoe," *Schweizerisches Archiv für Volkskunde* 68-69 (1972-1973): 155.



Fig. 12. From: Maynard Bray, *Watercraft*, Mystic, CT: Mystic Seaport Museum, Inc., 1979: 203.

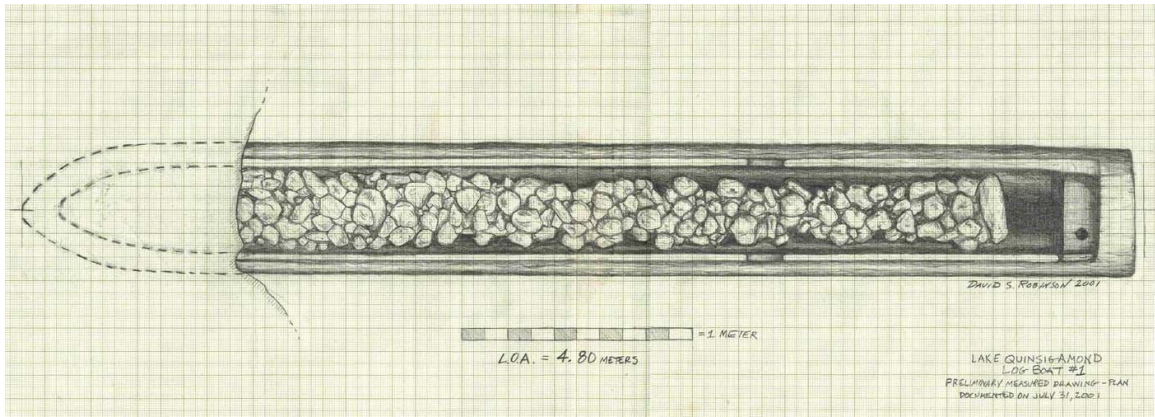


Fig. 13. David S. Robinson, *Lake Quinsigamond Log Boat #1*, July 31, 2001.

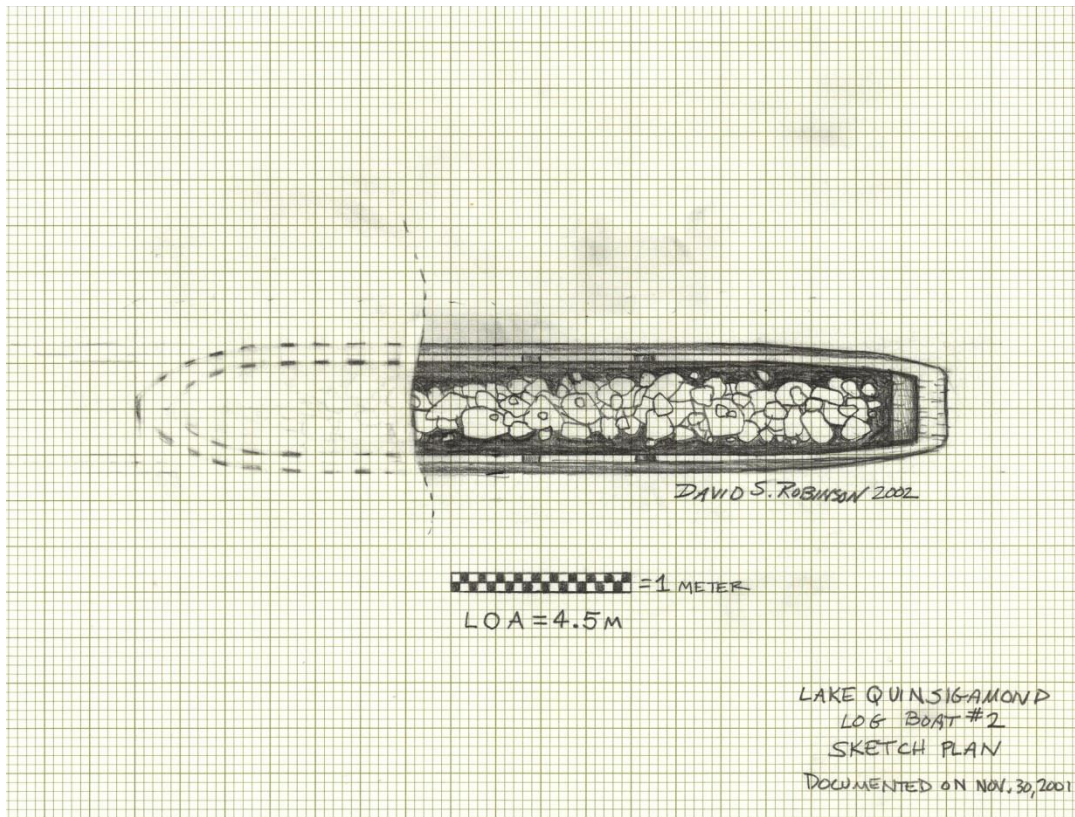


Fig. 14. David S. Robinson, *Lake Quinsigamond Log Boat #2*, November 30, 2001.

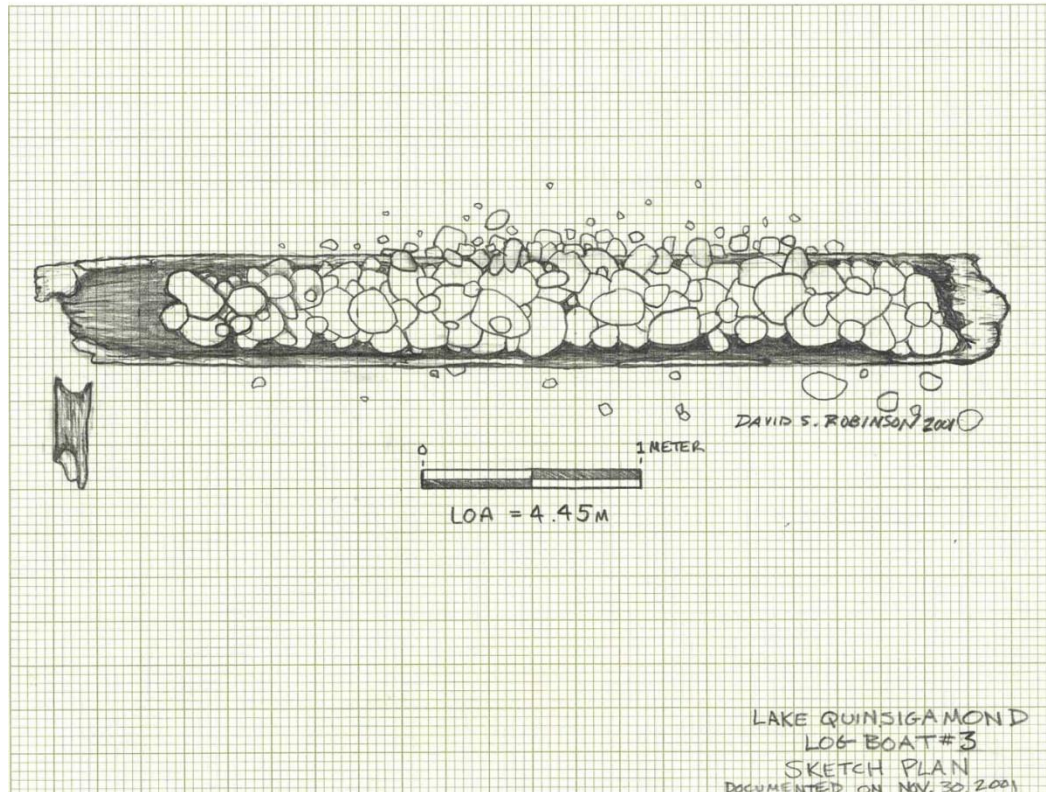


Fig. 15. David S. Robinson, *Lake Quinsigamond Log Boat #3*, November 30, 2001.

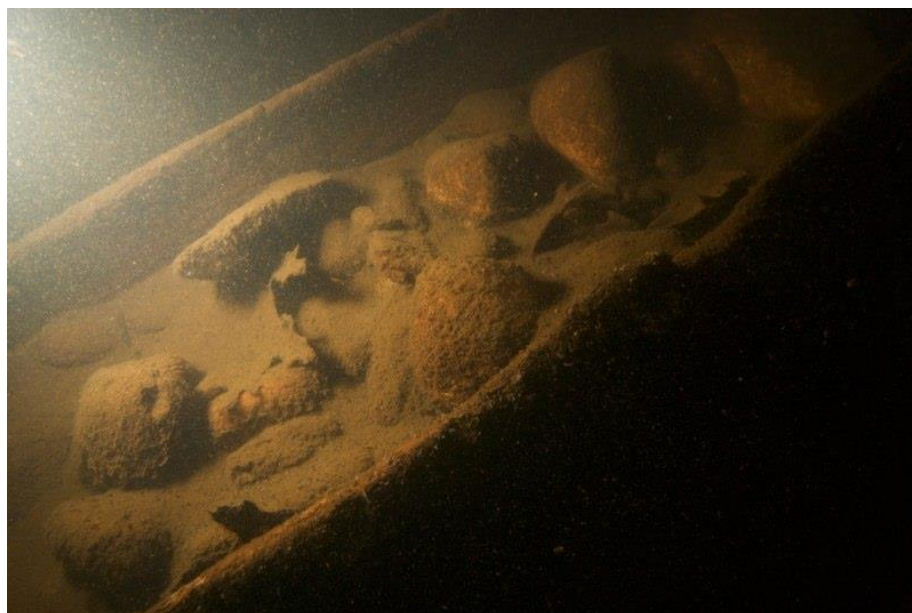


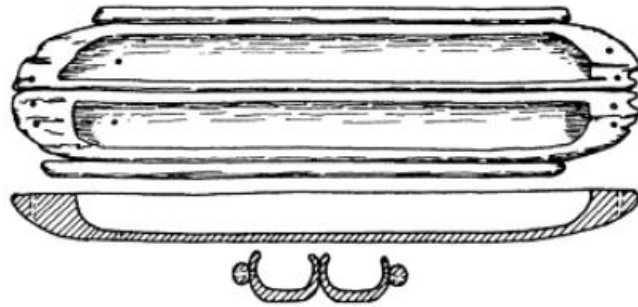
Fig. 16. Underwater photo of Project Mishoon Dugout #1. From: Cheryl Stedtler, "Mishoon #1." Project Mishoon. [<http://projectmishoon.homestead.com/mishoonphotos.html>.] Accessed February 20, 2014.



Fig. 17. Bow of Mountain Pond dugout. From: Connecticut Office of State Archaeology, “Dugout Canoe,” in “Underwater Archaeology,” Connecticut Museum of Natural History, [<http://www.mnh.uconn.edu/underwater/Dugout.html>,] accessed February 20, 2014.



Fig. 18. West Hill Pond dugout. From: Bill Adamsen, “340 Year Old Chestnut Canoe,” Connecticut Chapter of the American Chestnut Foundation, [<http://ctacf.org/index.cfm/2009/2/10/340-Year-Old-Solid-Chestnut-Canoe>,] February 10, 2009.



5-4 Drawing of a double dug-out from Surnuimäki, Finland, with stabilisers (T. I. Itkonen, Kansatieteellinen Arkisto, Helsinki, 1941)

Fig. 19. Double dugout from Finland. From: Paul Johnstone, *The Sea-craft of Prehistory*, Cambridge, MA: Harvard University Press, 1980: 49.



Fig. 20. From: Roberts and Shackleton, *The Canoe*: 72. This double dugout is from Florida and is of Eurocolonial construction. It is remarkably similar in appearance to the Haffenreffer Half dugout.



Fig. 21. The Agawam dugout, both pictures taken from the stern. Photo credit: Kayla Pittman, 2013.



Fig. 22. Oyster-tonging dugout #1. From: Bray, *Watercraft*: 202.



Fig. 23. Oyster-tonging dugout #2. From: Bray, *Watercraft*: 202.



Fig. 24. Weymouth canoe display. From: Paul Soulellis, "Untitled,"
[<http://www.flickr.com/photos/soulellis/6916020524/sizes/m/>,] April 7, 2012.



Fig. 25. Murals near the Weymouth canoe exhibit. From: Soulellis, "Untitled (1)."

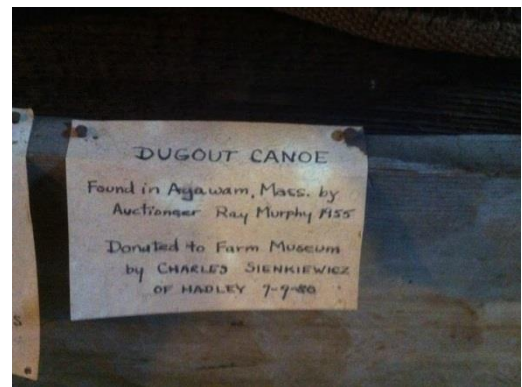




Fig. 26. Agawam canoe interpretive materials, nailed to canoe's gunwale. Photo credit: Kayla Pittman, 2013.



BETHEL

DUGOUT CANOE

The canoe while on display at the Connecticut State Museum of Natural History at UConn.



UNDERWATER ARCHAEOLOGY

CONNECTICUT OFFICE OF STATE ARCHAEOLOGY

During a drought in 1911, workers who were pumping water from Mountain Pond in Bethel discovered a Native American canoe. The vessel, which measures slightly more than 14 feet, was carved from a solid piece of American chestnut. It was constructed using a scorch and strip technique in which the builder used controlled burning and chiseling tools to carve out the center of the log.

This late 16th to early 17th century canoe was sunk in about 40 feet of water by loading it with stones. Some witnesses claim that other types of artifacts were in the canoe; however, none were precisely described or recovered. The canoe may have been placed in the pond for winter storage, or it is possible that its owner traveled to another area by land and stored it for use on his way back. The identity of the Native Americans who made the canoe is not known; however, Ramapo or Titicus villages were in the region during this time. The Paugessett tribe also inhabited the area.

The submerged condition of the canoe enhanced its preservation. In fact, all of the Native American canoes discovered in New England have been found under water. The Bethel canoe is one of three found in Connecticut, and is now a part of the anthropology collections at the Connecticut State Museum of Natural History at the University of Connecticut.

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1590 Theodor De Bray engraving of the making of a dugout canoe.




Fig. 27. Screenshot of Mountain Pond dugout online exhibit. From: Connecticut Office of State Archaeology, “Dugout Canoe.”

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