Pitch Pine Tree, Wareham, Mass. (1923)

Cape Cod and Long Island, where these trees still flourish, were once pitch pine forests. Named "Pinus rigida," its cones are sharp and rigid and the bark rough and sometimes quite black (it is also called "black pine"). It is known for being rugged, asymmetrical, and irregular in shape, and for being a phoenix-like tree that can withstand human abuses and the harsh elements of wind, salt water, and even fire. Many have irregular profiles. Source: Digital Commonwealth.

Tar and Turpentine:

The Rise and Fall of the Naval Stores Industry in the Connecticut River Valley, 1643-1715

Peter A. Thomas

Editor's Introduction: *In the seventeenth century, extensive stands of pitch pine covered the middle reaches of the Connecticut River Valley, from Hartford north to Deerfield. Between 1643 and 1715, the extraction of "naval stores"—particularly tar, rosin, and turpentine—from these pine woodlands played a substantial yet largely unrecognized role in the regional economy and the growth of the shipbuilding industry of colonial New England. Locally, naval stores were bartered within a mercantile credit system that brought needed goods to families in the valley and allowed a few valley merchants to settle their debts with English creditors.*

In the early days, tar was exported and used to waterproof ships' hulls and rigging at small shipyards on the coast. Between 1697 and 1717, as some 400 vessels slid down the ways in Boston's shipyards, Boston's merchant fleet extended its tentacles throughout the growing British empire. These ships could not have been built without critical colonial products; the Connecticut River Valley filled an essential niche in the supply chain for naval stores. However, the exploitation of a finite natural resource came at a high cost. By the mid-eighteenth century,

Historical Journal of Massachusetts, Vol. 51 (1), Winter 2023

production essentially ceased, but not before an estimated half a million trees had been spent and the forest ecosystems of many valley towns had been profoundly altered. This article on a little-known but essential colonial-era industry is particularly salient in an era of climate change and ecological crises.

Peter A. Thomas has an M.A. in early American History and a Ph.D. in Anthropology. He is the author of In the Maelstrom of Change: The Indian Trade and Cultural Process in the Middle Connecticut Valley, 1635-1665 *(1990) and the author of over 150 archaeological studies and journal articles in archaeology, ethnohistory, and geomorphology.*

* * * * * *

Some 12,000 years ago, glacial Lake Hitchcock filled the Connecticut Valley for a distance of over 200 miles north of Rocky Hill, Connecticut. Tributary streams transported huge amounts of silt and sand, which they deposited as deltas and other sandy features in the lake bottom. When the lake drained, these sediments were transformed again into floodplains, outwash terraces, and extensive sand plains where coarse, well-drained materials had come to rest. Major climatic changes occurred throughout the subsequent ten millennia. Over time the valley and adjacent uplands hosted successive woodland environments and provided the natural resources for colonial

Connecticut River Valley – Pitch Pine Zone

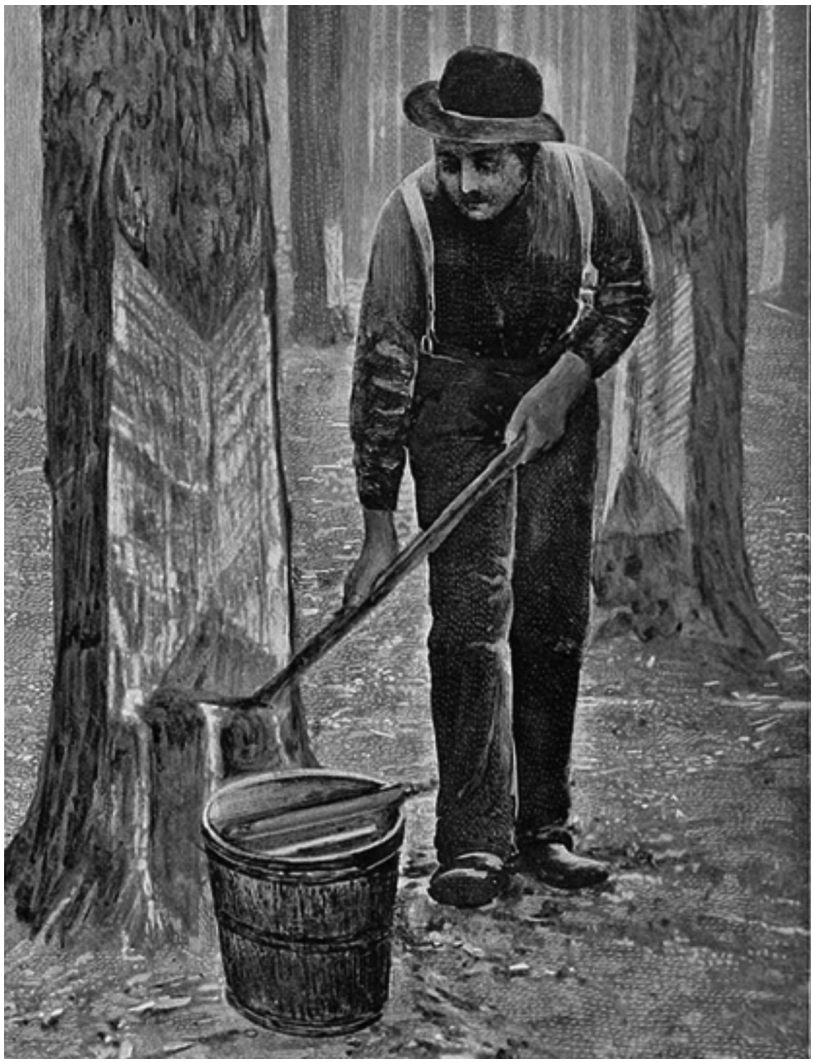
exploitation.[1] Among the many forest resources was pitch pine (*Pinus rigida*), a species that left abundant supplies of candlewood on the forest floor and from which essential supplies of tar, pitch, rosin, and turpentine could be extracted to meet local, regional, and perhaps even international demands.

TECHNOLOGICAL CHANGES IN PRODUCTION

In this study of naval stores—turpentine, tar, pitch, rosin, and "spirits of turpentine"—it will be helpful to recognize that this was an extractive industry that went through significant evolutionary changes. Between 1643 and King Philip's War (1675-1677), the production of naval stores was limited to tar and pitch "sweated" from pitch pine knots (candlewood) and "fat wood" extracted from fallen or cut pitch pine trees.[2] Tar is produced in a kiln, much like that used to make charcoal. It took two men at least three weeks to prepare a site for a kiln, collect resinous knots, limbs, and sections of decaying trunks cut into three-foot lengths to be placed in the stack, cover it with straw and clay, and then intensely monitor the firing and slow "sweating" of the wood to keep it from burning. The liquid tar would flow out of the wood to the bottom of the kiln then exit through a channel or tube into a barrel for subsequent transport.[3]

By roughly 1685, the strategy of "boxing" pitch pine trees evidently reached the Connecticut Valley. Unlike kiln extraction, pine resin can be extracted from standing pitch pines by progressively removing or scarifying narrow strips of bark in a chevron pattern on the trunk of a tree. By cutting a small bowl into the tree at the base of the trunk beneath the scarified incision, it was found that pine resin would run down the trunk and could be collected in significant quantities. The colloquial expression for this process of extracting and harvesting pine resin or pine gum is "boxing." It is important to note that in the seventeenth and early eighteenth century when settlers were boxing tens of thousands of pitch pines in the Connecticut Valley, the word "turpentine" referred to the liquid resin collected from the boxes cut into the trees.[4] The resin was minimally filtered then barreled and shipped elsewhere for final processing. This is the meaning of the term *turpentine* used throughout this article. The distilled and processed clear liquid that we commonly call turpentine today would have been referred to as "spirits of turpentine."

An inexperienced axman could box about fifty trees a day. Boxes could collect one to two quarts of resin (turpentine) within a three-to-four-week period. Most trees may have been actively used for two to four years, but after ten years of harvesting resin the majority of turpentined trees had lost



Extracting Resin

A chevron-shaped scar was cut to extract the resin to make turpentine. Even as New England forests were exhausted, the naval stores industry flourished in the south, often using slave or forced labor, where it remained a major industry until the late nineteenth century. Many photographs can be found online that illustrate techniques from this later time period. This 1897 drawing depicts a Louisiana worker "dipping" resin.

Source: Charles T. Mohr, *The Timber Pines of the Southern United States* (Washington, DC: Government Printing Office, 1897) Plate 8, p. 68.

their vitality and trunks were weakened, prone to insect infestations and disease, and very susceptible to wind damage.[5] In consequence, men engaged in collecting turpentine needed to move to new stands at a steady pace.

The art of boxing pitch pines to collect turpentine and the subsequent process of boiling the resin to drive off the volatile compounds to produce a solid rosin did not reach the Connecticut Valley until the early 1680s. This was an important innovation. Liquid turpentine placed in barrels often leaked in transit. By boiling it, the volume could be reduced by a third and the solid rosin produced precluded any leakage.[6]

By 1700 a significant technological innovation had come about. Primitive distilleries were introduced in Boston that could extract spirits of turpentine—a clear liquid extract. Of equal importance, various experiments had demonstrated that turpentine (the liquid resin) could be transformed into other products. It could be altered to make tar by placing it in an open container and setting it alight; when the burning substance reached the right consistency, a lid was placed on the container to staunch the fire. It could be boiled directly to produce rosin. Tar, when boiled with rosin or a small quantity of spirits of turpentine in a large iron pot, produced pitch.[7] Thus, William Douglass, writing in the early eighteenth century, could justifiably refer to pitch pine as "the mother of turpentine, tar, pitch, oil of turpentine and rosin."[8] Both turpentine and rosin have a wide variety of uses, ranging from caulking seams of ships, waterproofing ships' hulls and rigging, and greasing axles to manufacturing varnish, paint and soap, and even for external and internal medicine.[9]

Barrels of turpentine which Connecticut Valley merchants sent down river to the coast could not have been more versatile. And nowhere was it needed more than in the shipyards. A treatise on naval shipping, and particularly the need for tar and pitch to both build and then maintain vessels of various sizes, was published in England in 1717.[10] The author makes clear that not only did ships' bottoms, sides, and decks have to be made waterproof during construction, but that these surfaces needed to be cleaned, re-surfaced, and often re-painted every one to three years. A ship's rigging also needed to be coated in tar or other preservative.

TOWN POLITICS OF TAR & TURPENTINE PRODUCTION: ENFIELD AS A CASE STUDY

Pitch pine existed in all towns along the Connecticut River, but individual stands ranged from small to extensive, were of varied density, and were not always accessible due to frontier warfare or inadequate road systems. Demand

for naval stores was subject to fluctuation; the level of production depended upon the ability to adopt new extractive techniques and the availability of an adequate labor force, while the encroachment of poachers on town lands became a common problem. It would be fair to say that the significance of collecting candlewood for extracting tar, boxing trees to collect turpentine, or keeping poachers away sparked different responses among colonial towns. Experiences in the Town of Enfield provide an enlightening case study of many of these common concerns.

Of note, Enfield was not directly subjected to the same threats that the frontier town of Deerfield experienced during Queen Anne's War (1702-1714). Located some fifty miles downriver, no Indian raid reached Enfield, so such a concern was not a factor that could adversely affect production. However, the possibility of poaching was likely. As the early settlements in the Valley grew and residents looked to the woodlands to exploit their resources, border disputes could turn contentious between neighboring towns over the rights to gather such commodities as candlewood, extract tar from pitch pines, or collect pine gum. Feuds between Windsor and Springfield, Windsor and Enfield (once the latter settlement broke off from Springfield as a town), Suffield and Simsbury, and Hatfield and Northampton, are examples of these inter-town conflicts.[11] The clandestine removal of forest products across town boundaries was not, however, unique to these towns. Rather, poaching occurred on the common lands of virtually every town in the Valley, as large segments of such towns remained unoccupied, particularly during the early years when settlement was confined to small villages and agricultural fields were located nearby.[12]

Disputes between Enfield and Windsor stemmed from the fact that a settlement in 1713 only partially resolved the boundary line between the Massachusetts Bay and Connecticut colonies established by an earlier survey in 1642. The surrounding uncertainty over property rights helps explain why ordinances regulating the privilege of collecting turpentine within the Town of Enfield were so elaborate.

First settled in 1679 by the Pease brothers, who emigrated from Salem, Massachusetts, Enfield expanded to a community of twenty-five families by 1680 and was incorporated as a town by the General Court of Massachusetts Bay in 1683.[13] The town meeting records indicate that for the first seventeen years, the proprietors laid out roads, established their home lots and planting fields, procured a minister, and tried to induce others to join their community. There is no record of regulating the exploitation of pines, even though from later documents it is clear that Enfield was blessed with extensive stands of pitch pine.[14]

At a town meeting on April 1, 1700, the proprietors granted Samuel Osband [Osborn] "liberty to make one hundred thousand of boxes on the common at the Lower end of the town; provided he indemnify ye [sic] town".[15] Samuel was a long-time resident of neighboring Windsor, settled in 1635. Reading between the lines, while he had no intention of moving to Enfield, he was evidently intent on monopolizing the pine gum industry. Osborn's intentions apparently led to a number of heated discussions among Enfield's proprietors over the rights of an outsider to control their town's resources.

By March 1702, townsmen had evidently reached a consensus on how to proceed. First, they would deal with Osborn. At a town meeting, a vote was passed that stated that no one had "liberty to hire any person in town to git tirpytine upon any pretense." If anyone tried, they would be run out of town. If that didn't work and the offender persisted in trespassing, the selectmen were "empowered to seize all their turpentine for use by the town."[16]

Less than a month later, they reversed their decision and agreed to allow "liberty to git tirpytine," but only under the following conditions:

- No resident was allowed to collect turpentine within two and a half miles of the village street;
- No person had liberty to collect turpentine unless he was a proprietor with legal rights to the common lands, or unless a person who was currently a resident had purchased such rights from a proprietor;
- Any resident of Enfield who had not been granted proprietary rights to the commons or had not purchased such right was prohibited from boxing trees; failure to comply would lead to forfeiture;
- Those residents that did meet the criteria could "make up to 1,500 boxes for turpentine of an ordinary size" on thirty acres of common land the town had set aside;
- In the future, eligible individuals could request additional grants of land of various sizes with a specified allotment of boxes. If the allotted quota were exceeded, the fine would be "20s[hillings] of money" for every hundred boxes;
- Everyone operating under this system was required to present a list of parcels with the number of boxes proposed by the last day of May each year. The selectmen were given the power to ensure that the conditions of each grant were met.[17]

These ordinances were clearly designed to protect resident proprietors who had rights to the town's common lands.

Between 1702 and 1714, twenty-four men were granted rights to thirty-seven parcels of woodland of unspecified size.[18] The number of pitch pines granted for boxing exceeds 66,000. This represented a substantial expenditure of time and labor. If we assume that a box cut at the base of a pitch pine tree could hold about a quart of resin and could be emptied four times a season, then roughly every thirty-three trees would produce one 31.5-gallon barrel of turpentine. A stand of 1,500 trees would yield about forty-five barrels, while a composite total of Enfield's allocation of 66,000 trees was likely to have yielded 2,000 barrels over a twelve-year period.

As in other valley towns, the extraction of turpentine from boxed trees in Enfield was undoubtedly a family affair. The Terry, Pease, and Keebee families each received a total of five grants over the course of eight to ten years, with a quota of 8,550, 5,400+ and 5,500 boxes per family, respectively. These families had direct proprietary rights to common lands and could undoubtedly call on a sizeable number of family members to help in the operation. Aside from being prominent early settlers, members of these families were also voted in as selectmen or held military office in the county militia.

Thomas Jones was allotted four grants, and William Bement three; all others received one or two. These were men who held their own rights to the commons, but who might from time to time supplement their allocations by purchasing others' rights. For example, Goodman Morgan was awarded a single grant by buying up the rights of two other proprietors to cut 4,200 boxes, as well as 7,000 boxes he had on his own account.

In Enfield, as elsewhere, town politics was very much at play. The town's proprietors protected their rights to resources recovered on common lands, while outsiders or recent residents with no proprietary rights were excluded.

DEMISE OF THE INDUSTRY

Throughout the Connecticut Valley, communities witnessed the negative impacts that the extraction of tar, rosin, and turpentine by relatively few families had on their woodlands. They reacted, although within different time frames. Windsor outlawed tar burning in 1696, Glastonbury by 1700, and Hartford in 1709.[19] The last grant issued in Enfield for boxing pines to recover turpentine was in 1714.[20] Even on the northern frontier, Deerfield's residents came to recognize the damage that had been done. Vast acreages in the town had been virtually stripped of pitch pine in less than a decade by relatively few individuals. Like the older towns down-valley had done before them, Deerfield put an abrupt halt to turpentine production. At a

town meeting on March 7, 1715, "The town then voted yt [that] from this time forward no person whomsoever shall cut a tree for turpentine within ye Bounds of yt township of Deerfield."[21] Hadley and particularly Springfield, where extensive pine plains existed, appear to be exceptions. Both towns allowed the extraction of turpentine until at least the mid-1720s.[22]

Based on what the surviving records tell us, it seems likely that within the Connecticut Valley, between Middletown, Connecticut, to the south and Deerfield, Massachusetts, to the north, some 500,000 pitch pine trees were either cut to extract tar or boxed to produce rosin and turpentine within less than 70 years. The need for green lumber, including pitch pine for framing, flooring, and sheathing of structures and furniture production, accelerated during this period, as did the number of sawmills.[23] Competition for access to a wider variety of forest products resulted. To compound matters, boxing pines to force the trees to exude resin produced effective results for two to four years. Trees were then abandoned but often left standing. Once this happened, the remaining trunk dried out and the wood became dry and brittle, while the exterior of the trees was coated with so much pitch that they gummed up the saws when mills attempted to cut them for lumber.[24] The two industries were simply incompatible. As communities expanded, the woodlands themselves were cleared for agricultural purposes, starting new cycles of landscape change and a new era of pitch pine decline.[25]

THE DOMESTIC MARKET FOR NAVAL STORES

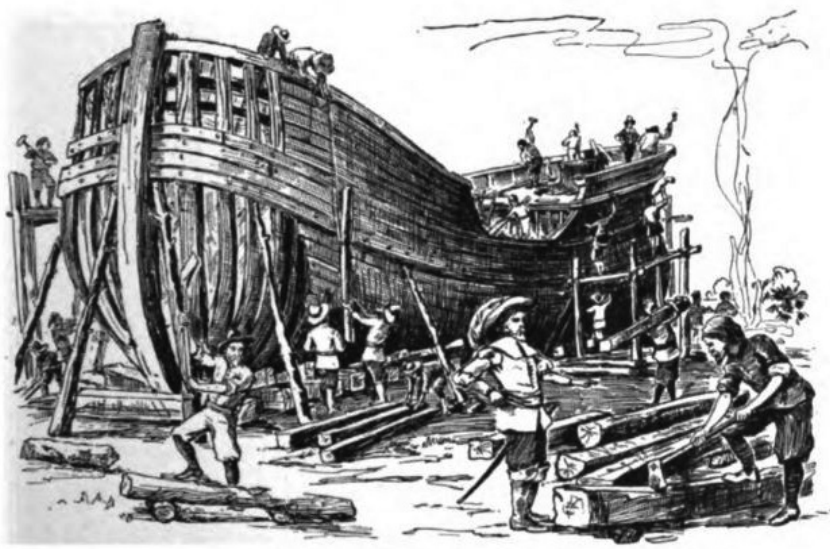
The foregoing description of the various processes involved in the extraction of pine commodities and some of the political approaches used to control access to such resources leave an important remaining question: Where did this volume of tar, pitch, rosin, and turpentine go, or in other words, what market or other factors provided the incentives to extract these raw materials for export beyond the Connecticut Valley?

In much of the historic literature, tar, pitch, rosin, and turpentine are classified as naval stores, and rightly so. By extension, it has been inferred that much of the incentive to make New England a productive source of naval stores was brought on by European wars that prevented the English navy from securing in sufficient quantities such critical commodities for ship construction and maintenance. The Naval Stores Act of 1705 specifically incentivized such production. To stimulate production and offset the cost of shipping such products across the Atlantic, the Board of Trade authorized a subsidy to be paid for naval goods originating in New England.[26] While there is some logic to this theory, the timing of the extraction cycles in the

Connecticut Valley between the late 1680s and about 1715 indicate that an imperial design was neither the sole motivation, nor perhaps a significant incentive at all. Identifying and exploring an alternative rationale requires looking closer to home.

The potential for shipbuilding in the New England colonies was recognized from the very beginning. The thirty-ton pinnace *Virginia* was constructed in the Popham colony at the mouth of the Kennebec River during the winter of 1608. Six shipwrights were carried aboard the *Arabella*, the flagship of the Winthrop fleet, that arrived in Boston Bay in 1630. The first vessel crafted in the Massachusetts Bay Colony was Winthrop's *Blessing of the Bay*, a bark of thirty tons launched at Medford in 1631.

From these early days, shipbuilders constructed a variety of vessels used for fishing and coastal transport.[27] Before mid-century, barks (two masted vessels of 12-100 tons), pinnaces (lightly built vessels propelled by oars or sail), ketches (employed for off-shore fishing and cargo transport), and shallops (open, strongly built, double-ended work boats propelled by either oars or



Colonial Ship Building

Source: E. L. Bogart, *Economic History of the United States* (NY: Longmans, Green & Co, 1911), p. 51.

sails used for in-shore fishing and limited coastal trading) were the most common types of vessels frequenting harbors up and down the coast. During the latter half of the seventeenth century, when tar and turpentine production peaked in the Connecticut Valley, shallops and ketches were the major in-shore and off-shore vessels used by Massachusetts fishermen. Other types of vessels exhibiting a variety of hull, sail, and rigging configurations were also constructed to facilitate maritime coastal and West Indies commerce—pinks, schooners, sloops, and brigantines.

By 1676 Massachusetts merchants had accumulated a fleet of more than 700 colonial-built vessels. Thirty of these, ranging between 100 and 250 tons, were involved in transatlantic trade with England, southern Europe, and the Wine Islands. The remaining crafts, ranging from six to fifty tons, worked the trade routes with Newfoundland and the West Indies or served as coastal traders or in fishing. In the following decade, English merchants expanded their purchase of New England-built vessels and colonial merchants realized that such vessels, sometimes loaded with colonial raw materials, could be sold in England as a means of settling their debts with merchants from whom they obtained finished European goods for sale in their communities.[28]

Between 1686-1715, archival records containing the names of vessels sailing from Boston reveal that some 960 sloops alone left the harbor.[29] Furthermore, a register of Massachusetts shipping indicates that New England shipwrights built at least 1,434 vessels totaling 76,000 tons between 1697 and 1714, not including fishing and coasting craft.[30] Such data suggest a substantial need for naval stores for both construction and maintenance in the shipyards of the Massachusetts Bay colony well before and during the period of the turpentine craze in the Connecticut Valley.

Shipbuilding in the lower Connecticut Valley, itself, lagged well behind. Although ocean-going vessels could navigate up the Connecticut River as far as Hartford, Connecticut, the shallows near the mouth and the need of larger vessels to ride the tides to enter the channel meant that vessels had to have fairly shallow drafts. One vessel was owned in Wethersfield in 1649, and small vessels were owned by several Hartford merchants. In 1669 merchants Richard Lord and John Blackleach bought the *America*, which carried merchandise to Boston. Only one ship was registered at Hartford in 1680; the sloop *Tryal* in 1709. The first wharf to handle commercial traffic was built at Hartford in 1702. Little or no traffic went directly to England; rather, provisions were sent to Boston or New York, where goods were received in return.[31]

Several small shipyards did spring up to build small craft or make repairs, but the first sloop to be built in Windsor was not launched until 1723. The

need for naval stores in the Connecticut Valley was minimal at best. As the head of navigation for cargo vessels, Hartford, particularly with its new wharf constructed in 1702, became the export center for the tar, pitch, rosin, and turpentine produced in nearby communities and in all towns upriver in the Massachusetts Bay colony.

On the other hand, Boston, with its busy harbor and major shipyards, was the major commercial center of New England's coastal, Caribbean, and trans-Atlantic maritime trade. Smaller shipyards had also sprung up in New London and New Haven, Connecticut; Newport, Portsmouth, and Providence, Rhode Island; and Scituate, Salem, Newbury, and Falmouth in the Massachusetts Bay colony. Construction of new vessels and the repair of aging ones were constantly required.[32]

But there is an additional factor to consider. During the period of peak production of naval stores in the Connecticut Valley, England and her New England colonies were at war with various European powers for twenty-one years and at peace for only five of these years.

COLONIAL WARS & THE VALLEY'S TRADE

Two intercolonial wars, King William's War (1688-1698) and Queen Anne's War (1702-1713), were a plague on commerce, including significant losses of commercial and fishing vessels. New England responded. During King William's War (1688-1698), Major Benjamin Church sailed from Boston to harass French settlements along the coast of Maine in 1686; in 1690, Sir William Phips, provincial governor of Massachusetts Bay, led two naval expeditions against French Canada. The first, undertaken in May, subdued Port Royal, capital of Arcadia (Nova Scotia); the second involved a fleet of thirty-four ships and over 2,000 men. It took eight weeks for the fleet to reach Quebec. The siege failed; 230 men were killed, and two transport ships were lost during the engagement and more on the voyage home.

During Queen Anne's War (1702-1713), New Englanders constantly pressured the mother country to bring the continental war to New France. Port Royal, Nova Scotia, had become particularly obnoxious as a refuge for French privateers. Vessels based here had captured thirty-five ships, mostly from Boston, and taken 500 prisoners in 1708 alone. French privateers based at Placentia, Newfoundland, also harassed New England's fishing and merchant fleets, taking some 102 prizes. Expeditions against Port Royal were mounted in 1704, twice in 1707, and in 1710. Only the latter succeeded, having sent a fleet of thirty-six vessels, including four English men-of-war, the Massachusetts provincial galley, and thirty-one smaller transport and

support vessels.[33] In 1711 an English fleet of twelve ships of the line, several frigates, two bomb vessels, and more than thirty transport vessels to carry 5,000 troops left England on a secret mission to attack Quebec. Stopping at Boston, Massachusetts Bay added two fully outfitted vessels and an additional 1,160 troops. Lack of pilots, inadequate stores of food, and insufficient gun powder doomed the expedition.[34]

Such heavy losses of fishing and merchant vessels to privateers, as well as during military engagements, particularly during Queen Anne's War, needed to be replaced. Boston merchant ships used for trade with colonies in the West Indies were also captured or lost. An ever-expanding coastal trade with other colonies, as well as between New England and the Caribbean, encouraged construction of even more vessels as well as the repair of foreign-owned or Royal Navy ships temporarily docked in Boston.

Between 1697 and 1714, the shipyards in Boston and in smaller ports along the coast saw a boom in ship construction unlike any that had previously occurred or would happen in the near future. As many as 140 ships were being launched each year.[35] Steven Pitt provides a detailed analysis of the shipbuilding boom in Boston that almost exactly coincided with the peak and waning of turpentine fever in the Connecticut Valley.

> Shipbuilding was the backbone of Boston's early entry into the wider Atlantic world and source of its employment for scores of local tradesmen. From 1697 to 1714, Bostonians constructed 406 vessels amounting to 28,230 tons of shipping capacity. Of these vessels, 70% (284) remained in the hands of Boston merchants, representing an impressive expansion in the city's maritime capabilities from the previous twenty-two years (1674-1696), when Bostonians produced only 30 vessels totaling 1,685 tons. Meanwhile, vessel entrances more than doubled over a seven-year period, rising from 251 in 1707 to 525 in 1714. Vessel clearance also increased dramatically, from 298 in 1707 to 550 in 1714.[36]

A treatise on naval shipping, and particularly the need for tar and pitch to both build and then maintain vessels of various sizes, was published in England in 1717.[37] Sutherland makes it clear that not only did ships' bottoms, sides, and decks have to be made waterproof during construction, but that these surfaces needed to be cleaned, re-surfaced, and often re-painted every one to three years. Using Sutherland's minimal size of Royal Navy vessels as a measure to gauge the quantities of pitch and tar necessary to construct the 406 ships built in Boston between 1697 and 1714 (provided by Pitt above),

approximately 1,116 barrels of pitch and 508 barrels of tar would have been required. Assuming that each vessel was cleaned, scraped, re-coated with pitch and tar, then repainted every two years, and that thirty ships were launched each year, an additional 9,360 barrels would have been required, yielding a total of over 11,000 barrels. How the Connecticut Valley's turpentine and rosin fit into this mix is yet to be precisely determined, but it would have certainly filled a critical need.

With the end of Queen Anne's War in 1713, both Boston and London merchants decreased their orders for new vessels. In 1717 Bostonians learned that a large Spanish fleet had attacked and destroyed an English settlement in the West Indies that had been a major supplier of logwood, with an estimated value of £20,000 annually, which Boston merchants had long exported to Europe. This sent Boston's economy into a downward spiral that seems to have continued until mid-century.[38] A Boston resident of the time, William Douglass recorded the declining number of top-sail vessels under construction in Boston: 1738 – 41 vessels (6,324 tons); 1743 – 30; 1746 – 20; 1749 – 15 (2,450 tons).[39] However, Cullon makes it abundantly clear that ship construction in New England as a whole actually expanded. Newer shipyards in Newburyport, Portsmouth, Salem, and Scituate on the North, Merrimac, Piscataqua and other rivers prospered and expanded because they had ready access to lumber and other naval stores from nearby sources just upriver. Boston merchants were not unaware. They continued to profit by extending credit to these new concerns.

THE NAVAL STORES ACT OF 1705

While it is true that the Naval Stores Act of 1705 was designed to encourage increased production of tar, pitch, rosin, and turpentine for the Royal Navy, it is evident that production of large quantities of rosin and turpentine in the Connecticut Valley began in the late 1680s and was well established for more than a decade before the act even passed. Just as New England farmers had turned to spinning and making their own woolen garments, thus helping to reduce the need for finished woolen goods produced by manufacturing firms located in the emerging industrial centers in England, so too had English settlers begun to furnish naval stores for the colonial shipping industry.[40]

As Williams notes in his study of British mercantilism and naval stores, "Prior to 1705 England used very few barrels of colonial naval stores. During the first nine years of the bounty system (1705-1713), England annually imported an average of 7,239 barrels of colonial tar and pitch."[41] This is some six times the quantities needed annually in the Boston shipyards.

Given the timing of heavy turpentine production (1697-1714), the numerous barrels of tar, rosin, and turpentine exported from the Connecticut Valley were undoubtedly used in shipyards on this side of the Atlantic. It is also noteworthy that England's bounty system continued in full force until 1725, yet all towns in the Valley greatly curtailed or ceased their production of turpentine and tar some ten years earlier. Such evidence suggests we need to look elsewhere for the source of trans-Atlantic exports of ships stores.

Ironically the subsidies placed on the export of tar, rosin, and turpentine by the Naval Stores Act of 1705 applied only to the English colonies north of Delaware. The act also stipulated that such stores were to be carried to England only in English or English colonial ships. Contrary to the Board of Trade's expectations, producers of naval stores in the Carolinas found that they could cash in on the subsidies by selling their tar and turpentine to northern merchants. Vessels sailing from Boston and other northern ports picked up barrels of tar and turpentine, transported them back to New

North Carolina Naval Stores

Unlike the Connecticut River Valley, North Carolina's naval store industry began in the early 1700s and lasted until after the Civil War. By 1768 North Carolina accounted for 60% of the naval stores produced in the colonies. Photo c. 1890s.

England ports, then shipped them to England where the Crown's subsidy would be paid.[42]

The Carolina colonies began early and vastly outstripped New England in the production of naval stores (except for masts). In 1714, at the end of the turpentine frenzy in the Valley, 11,639 barrels of naval stores arrived in England from the colonies. This jumped to 25,279 barrels the following year, and after 1716, colonial tar and pitch flooded the English market. Between 1716 and 1724, England procured a yearly average of 61,488 barrels of tar and pitch. By 1768 England imported 135,000 barrels of colonial turpentine, tar, and pitch.[43] New England merchants remained major players in the trans-Atlantic export of such commodities with their merchant fleets, but were not direct suppliers. Naval stores from the South, where both suitable pine and slaves were available, became so cheap that they were used in northern shipyards, as well as carried to England.[44] (See final image.)

ASSESSING THE MULTIPLE EFFECTS OF NAVAL STORES PRODUCTION IN THE VALLEY

Based on today's landscape, it would be extremely difficult to realize the role pitch pine played in the early colonial history of the Connecticut Valley. Motzkin, Patterson, and Foster calculate that only 12% of the pine plains in the Massachusetts portion of the valley have survived from the 9,000 hectares (22,240 acres; 34.75 square miles) or more that existed at the time of early European settlement.[45] E. Gluck estimates that 95% of the pitch pine-scrub oak barrens have disappeared in Connecticut.[46] Yet historical data collected from the valley indicates that pitch pine was a significant forest resource from which substantial quantities of tar, pitch, rosin, and turpentine were produced between 1643 and about 1715. The sheer number of trees that were granted for boxing is also consistent with the likelihood that stands of mature pitch pine, rather than open barrens, characterized many areas.

Currently, only a handful of significant pitch pine-scrub oak communities remain in the Connecticut Valley. One of these is located on Montague Plains, across the river from the town of Deerfield and the first stand of pitch pines in that town to produce rosin in 1699.[47] Its survival likely stems in part from the fact that this sand plain was remote from all early colonial settlements and was not divided among the proprietors of Sunderland until 1745, long after the turpentine boom had passed.[48] Trees here may never have been boxed. Today, undeveloped portions of the Montague sandplain include a 1,750-acre state wildlife management area and unique ecological area, operated by the Massachusetts Division of Fisheries and Wildlife.[49]

Clearly the history of the naval stores industry in the Connecticut Valley is complex, involving colonial wars, town and individual responses to various opportunities, and the growth and economic impacts of other colonial industries. An additional factor is the significant evolution of the naval stores industry itself during the same period. Between 1643 and King Philip's War (1675-1677), the production of naval stores was limited to tar and pitch "sweated" from pitch pine knots (candlewood) and fat wood extracted from fallen or cut trees, collected, and laboriously stacked in a kiln. Within the Massachusetts Bay colony settlements, this was then barreled and sent down river in canoes to Windsor or Hartford.

* * * * *

By about 1685 the strategy of boxing pitch pine trees evidently reached the Connecticut Valley. Tar production did not cease, but now a new, much cleaner and more easily transported, solid product could be created—rosin. In 1695 Huguenot emigres or perhaps someone else, introduced a significant technological change. Early distilleries that could extract spirits of turpentine from turpentine were introduced in Boston. New England could now produce two types of turpentine. Equally significant, barrels of turpentine could also be transformed directly into tar, pitch, or rosin. It is unlikely coincidental that a pier was built in Hartford in 1702 to facilitate the loading of coastal ships, that Enfield began its boxing of trees, that Deerfield changed the purpose of its grants from producing rosin to extracting turpentine between 1702 and 1703, and that from this point on, no one ever looked back. The export of common turpentine from the Connecticut Valley reached its zenith between roughly 1697 and 1715, then abruptly plummeted.

Variables other than technological innovations were also at play. Population growth and settlement expansion fostered increased opportunity. Insufficient data exists to estimate the quantity of tar extracted during the period between 1643 and the outbreak of King Philip's War in 1675. At the inception of the war, only 310 English families, with a total population of 1,720 men, women and children, lived in seven towns strung out along sixty-six miles of the Connecticut River within the bounds of the Massachusetts Bay colony. The population living in the larger towns downstream in Connecticut may have been double that. Given the limited number of families who were settled in fewer than a dozen towns bordering the Connecticut River, as well as the intensity of work required to extract tar in kilns, production was likely limited to a few thousand barrels.

Estimates of the quantity of turpentine produced by boxing are also difficult to make, but if we accept the estimate of 2,000 barrels of turpentine

produced in Enfield, Connecticut, between 1702 and 1714, the 5,000 barrels that Joseph Parsons shipped from Northampton between 1696 and 1706, and add another 9,000 barrels as the quantity produced by the remaining towns in the valley, particularly with the opening up of extensive pine barrens in Springfield where thousands of acres were allotted, we arrive at an estimate that over 500,000 trees were boxed between 1685 and 1715 to produce some 16,000 barrels of rosin and turpentine. Although logging, land clearing for agricultural pursuits, urban sprawl, and intermittent fires all contributed to greatly reduce the extensive pitch-pine woodlands that once existed in the Connecticut Valley, the scale of tar and turpentine production in the river towns during the late seventeenth and early eighteenth centuries likely precipitated a downward spiral from which the woodlands would never recover.

It also seems evident that the decline did not affect all towns in the same way. Motzkin, Patterson, and Foster found no evidence that pine plains survived into the nineteenth century in Deerfield, Hadley, Northfield, or Northampton. Limited pine plains were recorded in Hatfield and Whately. Fairly extensive plains survived into the nineteenth and twentieth centuries in Springfield, Chicopee, Westfield, and Montague, perhaps with the help of periodic fires to spark regeneration of some of these pitch pine woodlands.[50] Farther south in Connecticut, Reverend Timothy Dwight observed early changes in pine forest composition during his travels in 1796: "From Windsor the road, leaving Connecticut river, proceeds to Suffield over a plain of yellow pines, about five miles in extent. At the entrance upon this plain, the pines for near a mile were, many years since, entirely cut off; and in their place has sprung up a forest of oaks."[51]

Such a commitment to resource extraction, even by a small proportion of each town's residents, would have exerted heavy pressure on the woodlands of many towns. Towns responded in various ways. Some towns, such as Enfield, repeatedly granted proprietors the right to box pines on the common lands, in part to prevent the extraction of rosin and turpentine by men living in neighboring towns. It is not surprising in this context that members of the Pease and Terry families who received multiple grants for boxing pines in Enfield were also chosen as members of the town's committee to settle its boundary feud with Windsor. Some towns, like Hadley, Northampton, and Springfield, leased out common lands for a price, which helped to fill the proprietors' coffers or meet town expenses.[52] Others, like Hatfield, divided up its common lands early on and tried to restrict proprietors to extracting turpentine on their own lots.[53] Deerfield, located on the very edge of English settlement and the only town standing between their neighbors to the south

and the French and Indian raiders from the north, seems to have consented to grant to a few courageous, or perhaps just desperate, families rights to extract rosin or eventually turpentine. Such attempts were periodically interrupted.[54] In the end, as colonial demand for naval stores waned and the demand for pine lumber swelled, all towns in the Valley prohibited the use of pines for turpentine extraction. For those families who rode the turpentine boom, boxing pines produced a valuable commodity that they could use to pay debts and acquire goods in a cash-poor economy. Unfortunately this incentive also led to poaching on a town's common lands in more than one community.

Some tar, rosin, and turpentine were extracted and undoubtedly used locally. For example, in 1702, Windsor granted some men liberty to get turpentine out of already boxed trees on the condition that they deliver a quarter of it, "barrels and all to the townsmen for the town's use."[55] That such resources were among the few commodities that could be exchanged for essential goods imported into the Connecticut Valley, meant that most naval stores made their way down the Great River to the wharf at Hartford, where it was stored in ocean-going vessels and transported to Boston. Here, in the early days, tar was used to waterproof ships' hulls and rigging. Between 1697 and 1717, tar, pitch, rosin, turpentine, and spirits of turpentine distilled by Boston processors became essential commodities, as the city's shipyards were in the midst of a growth surge.

These naval stores acquired from New England's interior settlements, including Deerfield, Hatfield, Hadley, Northampton, Springfield, Westfield, and Enfield, were bartered to bring needed goods to families in the valley and filled the homes of a few elite merchants, like John Pynchon, Joseph Parsons, and Samuel Porter, with luxury imports. For two decades, between roughly 1697 and 1717, Boston's merchant fleet dominated the town's economy and extended their reach to ports in the Caribbean and across the Atlantic. Still other vessels were christened in smaller ports like Salem and Portsmouth. Not only that, but by 1715 some forty to fifty vessels made in Massachusetts Bay shipyards were being sold directly to merchants in England.[56] These fleets could not have been built without the help of colonial resources. The Connecticut Valley was an essential link in the supply chain. The Royal Navy and the Naval Stores Act of 1705 be damned. The mother country could get her tar and turpentine elsewhere.

This article is an abridged version of a lengthier, in-depth study of the techniques used in tar and turpentine production, numerous town responses to manage their pitch pine resources, and the significance of colonially-derived, naval stores in the maritime history of Massachusetts Bay. This expanded study can be found on the HJM website.

Notes

1. For information about past climatic, geological, and vegetational changes since the glacial period, see: J. C. Bernabo and T. Webb, III, "Changing patterns in the Holocene pollen record of northeastern North America: A mapped summary," *Quaternary Research* 8 (1977), 64–96; Mary Lou Curran and Dena F. Dincauze, "Paleoindians and Paleo-Lakes: New Data from the Connecticut Drainage," *Annals of the New York Academy of Sciences* 288: 1 (2006), 333-348; K. Gajewski, "Late Holocene Climate Changes in Eastern North America Estimated from Pollen Data," *Quaternary Research* 29:3 (1988), 255-262; R. H. Jahns, "Geologic Features of the Connecticut Valley, MA, as Related to Recent Floods," *U.S. Geological Survey, Water Supply Paper 996* (Washington, D.C.; U.S. Government Printing Office, 1947); J. Gordon Ogden, "The Late Quaternary Paleoenvironmental Record of Northeastern North America," *Annals of the New York Academy of Sciences* 228:1 (1977), 16-34; Peter A. Thomas, "Landscape Changes and Archaeological Modeling within the Riverside Archaeological District," paper presented at a Conference on Glacial Lake Hitchcock and Its Primal Inhabitants, Deerfield, MA (June 2016); Peter A. Thomas, "The Ancient Falls in 1676: Understanding the Early Riverside Environment," in Pamela L. Shoemaker and Lynn Stowe Tomb, eds., *Riverside: Life Along the Connecticut in Gill, Massachusetts* (Town of Gill, MA: Historical Commission, 2016); Marinus Westveld, et al, "Natural Forest Vegetation Zones of New England," *Journal of Forestry* 54 (1956), 332-338.

2. For descriptions of candlewood, see: John Winthrop, Jr., "Of the Manner of Making Pitch and Tar in New England, July 9, 1662," in Thomas Birch, *History of the Royal Society of London* (London, 1756), 101; Sylvester Judd and Lucius M. Boltwood, *History of Hadley, Including the Early History of Hatfield, South Hadley, Amherst and Granby, with Family Genealogies* (Northampton, MA: Metcalf & Co., 1863), 300, 302, 303fn; Harry A. Wright, *Indian Deeds of Hampden County, Being Copies of All Land Transfers from the Indians Recorded in the County of Hampden, Massachusetts, and Some Deeds from Other Sources Together with Notes and Translations of Indian Place Names* (Springfield, MA, 1905), 24; George Bliss, in his *Sketches of the History of Springfield* (1828), quoted in Judd and Boltwood, *History of Hadley*.

3. For more information about the early days of tar manufacture in Connecticut, see: Winthrop, "Making Pitch and Tar in New England, July 9, 1662"; Noah A. Phelps, *History of Simsbury, Granby and Canton* (Hartford: Case, Tiffany and Burnham, 1845), 89. For information about the manufacturing process for making tar, see: James P. Barnett, *Naval Stores: A History of an Early Industry Created from the South's*

Forests. *Gen. Tech. Rep. SRS-240* (Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station, 2019), 12-13; Emery Gluck, "Yankee Tarheels: Remembering the Pitch Pine Industry of Colonial America," *Northern Woodlands Magazine*, June 30, 2015; and David Cecelski, "Pitch Pines and Tar Burners: A 1792 Account," *Coastal Review Online*, July 5, 2018.

4. J. C. Loudon, *Arboretum et Fruticetum Britannicum, or The Trees and Shrubs of Britain*. Vol. IV. (London: Longman, Brown, Green and Longmans, 1844), 2174; Sylvester Judd, unpublished manuscript volume "Connecticut," 4, p. 69 (located at the Forbes Library, Northampton, MA).

5. Barnett, *Naval Stores*, 14-15.

6. For information about the early production of rosin in the Connecticut Valley, see Stephen Innis, *Labor in a New Land: Economy and Society in Seventeenth-Century Springfield.* (Princeton, NJ: Princeton University Press, 1983), 90-92; and Carl Bridenbaugh and Juliette Tomlinson, eds., *The Pynchon Papers (Vol. 2): Selections from the Account Books of John Pynchon, 1651–1697* (Boston: Publications of the Colonial Society of Massachusetts 61), 112.

7. William Sutherland, "Prices of the Shipbuilding Adjusted: or, the Mystery of Ship-Building Unveiled. Being a Brief Explanation of the Value of the Labouring Part in Ship-Building," Part 2 of *Britain's Glory; or Shipbuilding Unvail'd,* (London, 1717), 185-189; Ward, "Naval Stores," 288.

8. William Douglass, *A Summary, Historical and Political, of the First Planting, Progressive Improvements, and Present State of the British Settlements in North-America*. Vol. 1 (London: R. and J. Dodsley, 1760), 537.

9. Ward, "Naval Stores," 288.

10. Sutherland, "Prices of the Shipbuilding Adjusted," 185-189.

11. See Strother E. Roberts, "The Fight for a New England Turpentine Trade: Empire, Markets and the Colonial Landscape at the Turn of the Eighteenth Century," *The New England Quarterly*, 92 no. 3: (391-430); Henry M. Burt, *The First Century of the History of Springfield; The Official Records from 1636 to 1736*. Vol. II (Springfield, Henry M. Burt, 1899), 493-495; and James R. Trumbull, *A History of Northampton from Its Settlement in 1654* (Northampton, MA: Gazette Printing Co, 1898), 446-452.

12. Burt, *History of Springfield*, 475, 499; Town of Hatfield, "Records of the Proprietors of Hatfield." Original bound manuscript, Town Clerk's Office, Hatfield. Digital copy photographed by Peter A. Thomas (Deerfield, MA: Pocumtuck Valley Memorial Association Library, 1684-1767), 152-153.

13. Ruth Bridge, ed., *The Challenge of Change: Three Centuries of Enfield, Connecticut History* (Canaan, NH: Phoenix Publishing for the Enfield Historical Society, 1976), 17.

14. Francis Olcott Allen, *The History of Enfield, Connecticut Compiled from All the Public Records Known to Exist, Covering from the Beginning to 1850*. Vol. 1 (Lancaster, PA: Wickersham Printing Co., 1900).

15. Allen, *History of Enfield*, 282, 300.

16. Ibid., 291.
17. Ibid., 291-293.
18. Statistics of individual grants and quantities of boxed trees compiled from Allen, *History of Enfield*, 301-318.
19. Emery Gluck, "Yankee Tarheels."
20. Allen, *History of Enfield*, 318.
21. Town of Deerfield, "Proprietors' and Town Meeting Records, 1680-1795," original bound manuscript (South Deerfield, MA: Town Clerk's Office). Digital copy photographed by Peter A. Thomas (Deerfield, MA: Pocumtuck Valley Memorial Association Library), 100.
22. Judd and Boltwood, *History of Hadley*, 303.
23. William A. Flynt, "The Timbers Are Talking: Developing Chronologies and Dating Historic Structures in the Connecticut River Valley," in Anne Grady and William Flynt, eds., *Tree Ring Dating in the Northeast: Dendrochronology and the Study of Historical Forests, Climate, Cultures and Structures* (Proceedings of a Symposium held at Historic Deerfield, MA, May 19-20, 2005), 89.
24. Roberts, "New England Turpentine Trade," 403.
25. See G. Motzkin, W. A. Patterson III, and D. R. Foster, "A Historical Perspective on Pitch Pine-Scrub Oak Communities in the Connecticut Valley of Massachusetts," *Ecosystems* 2 (1999), 255-275, for an excellent discussion of these transformations over the next three centuries.
26. Eleanor L. Lord, *Industrial Experiments in the British Colonies of North America* (Baltimore: The John Hopkins Press, 1898); Justin Williams, "English Mercantilism and Carolina Naval Stores, 1705-1776." *Journal of Southern History*, 1:2 (1935), 169-185; and David Kirby, "The Royal Navy's Quest for Pitch and Tar during the Reign of Queen Anne," *Scandinavian Economic History Review*, 22:2 (1974), 97-116.
27. William A. Baker, "Vessel Types of Colonial Massachusetts" in *Seafaring in Colonial Massachusetts* (Boston, MA: Colonial Society of Massachusetts, 1980), 29.
28. Joseph F. Cullon, "Colonial Shipwrights and Their World: Men, Women and Markets in Early New England" (University of Wisconsin-Madison: Ph. D. Dissertation, 2003), 12-14.
29. Baker, "Vessel Types."
30. Cullon, *Colonial Shipwright*s, 15.
31. William D. Love, *The Colonial History of Hartford gathered from the original records* (Hartford: Published by the Author, 1914), 298-300, 338; Henry R. Stiles, *The History of Ancient Windsor, Connecticut, including East Windsor, South Windsor and Ellington, prior to 1768* (NY: Charles B. Norton, 1859), 484.
32. See Cullon, *Colonial Shipwrights*, for a greatly expanded perspective on the evolution of shipbuilding, the complex maritime economies that developed in these coastal ports, and the need of these facilities to tap vast quantities of timber and other raw materials from interior settlements.
33. Douglass, *A Summary,* 308

34. Donald F. Chard, “The Impact of French Privateering on New England, 1689-1713," *American Neptune* 35:3 (1975), 153–165; Donald F. Chard, “The Price and Profits of Accommodation: Massachusetts-Louisburg Trade, 1713-1744” in *Seafaring in Colonial Massachusetts* (op. cit.), 131-150; Douglass, 311-312; Adam J. Lyons, “The Expedition to Quebec: Politics and the Limitations of Global Strategy in the Reign of Queen Anne,” (University of Birmingham, England: Ph.D. Dissertation, 2010); Howard Peckham, *The Colonial Wars, 1689–1762* (Chicago: University of Chicago Press, 1964).
35. Lawrence H. Gipson, *The Coming of the Revolution, 1763-1775* (NY: Harper & Row, 1954), 15.
36. Steven J. J. Pitt, "Building and Outfitting Ships in Colonial Boston," *Early American Studies* 13:4 (2015), 882.
37. Sutherland, “Prices of the Shipbuilding Adjusted,” 185-189.
38. Pitt, “Building and Outfitting Ships,” 890.
39. Douglass, *A Summary,* 539-540.
40. Curtis Nettles, “The Menace of Colonial Manufacturing, 1690-1720,” *New England Quarterly*, 4:2 (1931), 230-269.
41. Justin Williams, “English Mercantilism and Carolina Naval Stores, 1705-1776,” *Journal of Southern History*, 1:2 (1935), 175.
42. Lord, *Industrial Experiments*, 56-70.
43. Williams, “English Mercantilism,” 174-176.
44. Ward, “Naval Stores,” 287; Betty J. Nash, “Tar and Turpentine,” *Economic History*, 15:4 (2011), 45-47.
45. Motzkin et al, “A Historical Perspective on Pitch Pine,” 267.
46. Gluck, “Yankee Tarheels.”
47. Motzkin et al, “A Historical Perspective on Pitch Pine.”
48. Edward P. Pressey, *History of Montague: A Typical Puritan Town* (Montague, MA: The New Clairvaux Press, 1910), 86.
49. Massachusetts Audubon Society, “Montague Sandplains,” www.massaudubon.org; Glenn Motzkin, “The Vegetation of Montague Plains Wildlife Management Area, 1993-2016: Changes over 23 years and Responses to Management” (Final report submitted to: Natural Heritage and Endangered Species Program and Biodiversity Initiative; Massachusetts Division of Fisheries and Wildlife Westborough, MA, 2016).
50. Motzkin et al, “A Historical Perspective on Pitch Pine,” Table 1.
51. Timothy Dwight, T*ravels in New England and New York*. Vol.1. (New Haven, CT: Timothy Dwight Printer, 1821), 305.
52. Judd and Boltwood, *History of Hadley*; James R. Trumbull, *A History of Northampton from Its Settlement in 1654*. (Northampton, MA: Press of Gazette Printing Co, 1898); Henry M. Burt, *The First Century of the History of Springfield; The Official Records from 1636 to 1736*. Vol. II (Springfield, MA: Henry M. Burt Printer, 1899).

53. Town of Hatfield, "Town Meeting Records, 1661-1702," Vol. 2. Original bound manuscript (Hatfield, Town Clerk's Office). Digital copy photographed by Peter A. Thomas (Deerfield, MA: Pocumtuck Valley Memorial Association Library), 152-153; also "Town Meeting Records, 1702-1741," Vol. 3. Original bound manuscript (Hatfield, Town Clerk's Office). Digital copy photographed by Peter A. Thomas (Deerfield, MA: Pocumtuck Valley Memorial Association Library).
54. Town of Deerfield, "Proprietors' and Town Meeting Records, 1680-1795."
55. Henry R. Stiles, *The History of Ancient Windsor, Connecticut, including East Windsor, South Windsor and Ellington, prior to 1768* (NY: Charles B. Norton, 1895), 210.
56. Lawrence H. Gipson, *The Coming of the Revolution, 1763-1775* (New York: Harper & Row Publishers, 1954), 15.

TO BE SOLD BY

JOHN GORE,

At his Shop the Sign of the PAINTER'S ARMS,
in Queen-Street,
(Wholesale and Retail, at the very lowest Rates,)

Lintseed Oil, by the Barrel or small Quantity, boil'd Oil, Nut Oil, cold-drawn Oil, Spirits Turpentine, Varnish and Rozin, white and brown hard Varnish, Lacquer for Brass and Silver, very good red, black and yellow Paints. *All the above is the Produce & Manufacture of North-America.*

At the same Place may be had,

An Assortment of Colours, imported before the Agreement of the Merchants for Non-importation took Place.

*** Coach and Carpet Painting done in the best and neatest Manner.

Three very beautiful rich Wilton Carpets, three Yards square each, to be Sold.

Massachusetts Gazette and Boston Weekly News-Letter

(Nov. 30, 1769)

Boston merchant John Gore advertised linseed oil along with turpentine, varnish, lacquer, and "very good red, black and yellow Paints." He highlights that "All the above is the Produce & Manufacture of North-America." He also notes that he carried an additional "Assortment of Colours" but carefully explains that they had been "imported before the Agreement of the Merchants for Non-importation took Place." In other words, in 1769 merchant Gore still had inventory imported from England to sell but he wanted to reassure his customers that he had not violated the boycott that Boston merchants had called for in protest of the Townshend Act. The irony of this boycott is that the raw turpentine had likely been carried in Boston-registered ships from the Carolinas to England for processing, then shipped back to Boston in colonial vessels for sale as an English commodity.