

ON THE WAMPUM TRAIL

Restorative Research in North American Museums

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Of Shells and Ship's Nails

by Margaret Bruchac, June 21, 2014

** Article Update, December 2017: This article was originally published in 2014, when the material assemblages from Fort Shantok were still housed in several disparate locations. During the winter of 2017-18, the Yale collection of material from Fort Shantok was finally repatriated to the Mohegan Tribe. A research article is currently in progress to contextualize this material, alongside other material excavated from the site, as evidence of a densely documented ceremonial complex where all of these activities – shellfishing, wampum-making, pottery-making, feasting, etc. – were integrated into the practice of Mohegan diplomacy.*

There it lies. In an archaeological collections drawer in the [Yale Peabody Museum of Natural History](#) in New Haven, in Connecticut Tier 78, Drawer 4. A single wrought iron nail (perhaps a ship's nail) rests amidst bits of copper and other metal debris, European trade goods, clay pipe fragments, and a rusty jaw harp, all recovered from a layer of earth four centuries past. This material was salvaged from a dig at [Fort Shantok](#) (also called Uncas's Fort, at Trading Cove), a well-known 17th century Mohegan habitation site, in the homelands of the present-day [Mohegan Tribe](#). At first, this nail is almost too ordinary to notice...but its shape is unusual. This common nail, hammered and drawn from quarter-inch [squared iron rod stock](#) (typical of the 17th century) has been re-worked, and the point has been drawn out and narrowed into a tubular shape. Also, the head has been flattened in such a way that it would never hold a wooden seam secure. Who would alter such a good nail? To what purpose?



An iron nail excavated from the Fort Shantok, re-worked to fit into a bow drill or pump drill. Item #10289 housed in archaeological storage at the Yale Peabody Museum of Natural History, Connecticut Tier 78, Drawer 4. Photo by Lise Puyo.

The next drawer of material from the same site holds cracked quahog and whelk shells, pottery shards, charred corn, and evidence of feasting. There is ample evidence of wampum manufacture (well documented in 17th century colonial records) in the form of purple chunks, white columns, and the sandstone blocks used to polish them down to size. The shells are all local species: channeled whelk (*Busycon canaliculatum*), knobbed whelk (*Busycon carica*), and quahog (*Mercenaria mercinaria*). Similar assemblages have been found at Massapequa and elsewhere on Long Island Sound, where whelk and quahog are also abundant and wampum manufacture is documented.

Although many wampum beads have been collected from digs at Shantok, this drawer holds only one. This particular white shell bead has a channel that happens to perfectly match the diameter of the narrowed point of the iron nail.



Stephanie Mach and Lise Puyo examining the Fort Shantok collections at the Yale Peabody Museum of Natural History. Photo by Marge Bruchac.



"1 piece of shell wampum, perforated, Fort Shantok, Mohegan, CT." Item #10221, housed in archaeological storage at the Yale Peabody Museum of Natural History, Connecticut Tier 78, Drawer 5. Photo by Lise Puyo.

Weeks later, at the [Canadian Museum of History](#), far to the north, we examined two bow drills, each crafted from bent wood strung with leather cord. Before European contact, Native hand drills, pump drills, and bow drills just like these were fitted with a stone point serving as a bit to bore holes. The bit was secured in a piece of wood which was wrapped with the cord of the bow (or rubbed with the hands) to rotate it. The speed of rotation generated the necessary heat and friction to bore holes in wood, shell, stone. But the bits in these bow drills at CMH are not stone. Each is fitted with a cast-off wooden spool and...a sharpened nail.



A bow drill fitted with a cast-off industrial spool and an iron nail for a bit. Canadian Museum of History, item #III-H-334 a-c, identified as Huron-Wendat, collected by Frank Speck. Photo by Lise Puyo.

Bow drills are an ancient technology, used for fire-starting as well as for craftwork. Bow drills with nail bits were also used by non-Natives at the [Campbell Brothers' wampum-making "factory"](#) in Pascack, New Jersey. We examined three similar collections of salvage from the Campbell site at the [Peabody Museum of Archaeology and Ethnology at Harvard University](#), the Canadian Museum of History, and the [New York State Museum](#). The raw material (primarily large conch shells from the West Indies formerly used for ship's ballast) was broken up and carved into blanks for making "moon" disks, "hair-pipe" beads, and smaller wampum-sized beads. Collectors at this site have also found a few whelk columns, chunks of quahog shells and cast-off broken beads that shattered during drilling. The disks made from conch shells retain a pinkish sheen, but the beads have an overall dullness that readily distinguishes them from the ivory of

wampum crafted from whelk. Once our eyes had been properly trained, we found it relatively easy to distinguish among the different kinds of white wampum beads found in various collections, whether made from whelk, conch, or porcelain.



Conch shells and blanks collected from the Campbell wampum manufacturing site in New Jersey. Photographed by Lise Puyo. Courtesy New York State Museum, Albany, NY.

For decades, scholars of Iroquoia have been imposing strict timelines on the manufacture of Indigenous materials using European technology. Narrow, tubular wampum beads were (they insisted) impossible to craft with the use of stone drill bits. It should be fairly easy to recognize holes bored by stone: the openings appear conical, wider at the ends, narrower where they meet in the middle, after having been bored through from either side.

Stone bits made large holes; metal bits made smaller holes. Hence (it has been argued), Native people were not able to produce uniform tubular wampum beads until after the introduction of Dutch steel drills in the 1630s. This sounded like scientific fact...until I came face to face with this iron nail. There are records of "French awls," but have any "Dutch steel drills" ever been found in Native sites? This Shantok nail suggests that Native people had access to finer wampum making tools at a much earlier date.

Technically, beads were "bored" rather than "drilled," using high-speed rotation and pressure to puncture the shell without shattering, and water to keep the heat and dust in check. New France journals note that by the 1610s, Native people living along the Saint Lawrence seaway were already familiar with (and specifically requesting) awls as trade goods. But the awl was not the first innovation in drilling technology. Nails from ships manned by Breton fisherman (or even Viking adventurers) could have been procured centuries earlier. A Native artisan could just as easily fit an Indigenous bow drill with an awl, or with a simple iron nail.

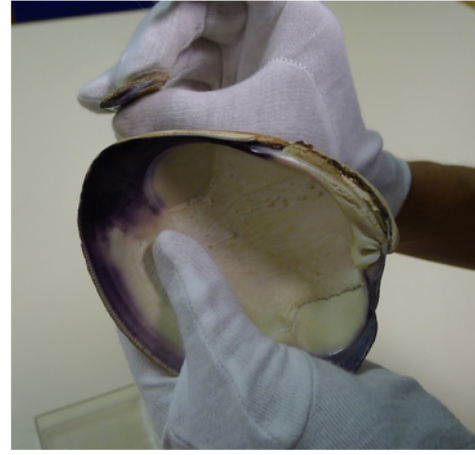


An old disk bead from a California site, showing a conical hole bored by a stone bit. Photographed by Stephanie Mach at the Yale Peabody Museum of Natural History.

This research inspired new observations about old collections. We noted that older wampum beads tend to be smaller and squarish, with large holes. These are presumed to have been bored by stone bits. Yet, we viewed several collections of old beads from archaeological sites with wide variations in hole diameters. Were these bored by stone? By nails? By artisans with differing levels of skill? Have other nails and awls (as metal drill bits) been found in Native sites, but ignored because they were identified as "historic" and sorted into "non-Native" collections?

We examined purple beads that had faded to gray from being deposited in the ground. We found similar beads woven into belts that also held what appeared to be much newer beads. We noticed dramatic differences in the color density of purple shell beads, with shades varying from lavender to nearly black.

Quahogs can live at least 5-6 decades, and the oldest clams produce the densest shell coloration. During the 19th century, however, the New England craze for “little-neck clams” (baby quahogs) rapidly diminished the population, and dense purple shells are now harder to come by.



(left) Close-up photo of old wampum shell beads from an unidentified 17th-18th century New York archaeological site. Note the wide range of hole sizes, variations in color with the faded purple beads, and the striations, cracks, and weathering from exposure. Photographed by Lise Puyo in a private collection in Cornish, New Hampshire. (right) A chunk of purple wampum from a large quahog shell. Only mature mollusks produce dense purple shells. Photographed by Lise Puyo at the New York State Museum.

Observations like these shed some light on the diversity of beads we have observed in the wampum belts surveyed thus far. The material and documentary evidence clearly indicates that wampum beads were circulated widely among Algonkian and Iroquoian nations, and that wampum diplomacy was observed and valued by European colonial leaders. Some wampum belts were made on a particular occasion for a single purpose; others were made for wider circulation or altered to fit new circumstances. We saw belts containing beads that varied in color density, condition, and size, suggesting multiple sources and multiple bead-makers. Some belts were repaired or re-woven, and some newer belts contain older beads. A variety of materials were used in wefts and warps: sinew, plant fiber (dogbane, hemp, milkweed), leather, and linen, with various modes of weaving edges and ends. There is dense evidence of Indigenous curation and repair, including older sinews worn away and patched with twine, leather warp strands re-used from a different belt, and bits of thread and other fibers used in repairs. We found a number of isolated anomalous beads, including glass (white, blue, and red), stone (steatite, catlinite), dentalium, and even bone beads. Although some of these repairs and inclusions may have been expedient, I suspect that none of these choices were accidental.

The material evidence for both Algonkian and Iroquoian culture in the northeast suggests that the inclusion of new tools in old traditions is a marker of both material change and cultural continuity. Europeans and their tools clearly enabled, but did not invent, wampum ceremonialism. Wampum beads need not be “ancient” to be “authentic.” Beads and belts can be made and re-made, damaged and repaired, purposed and re-purposed, woven together and taken apart. These patterns of wampum use and manufacture resonate with other Indigenous traditions that have persisted from the past to the present. All of these wampum beads and belts demonstrate the rich ingenuity of Indigenous philosophies and technologies. All of this evidence deserves our thoughtful attention.