

The Enduring Craftsmanship of Wisconsin's Native Peoples: The Ojibwe Birch-bark Canoe

The bark canoe of the Chippeways [Ojibwe] is, perhaps, the most beautiful and light model of all the water crafts that were ever invented. They are generally made complete with the rind of one birch tree, and so ingeniously shaped and sewed together, with roots of the tamarack . . . that they are water-tight, and ride upon the water, as light as a cork. They gracefully lean and dodge about, under the skilful [sic] balance of an Indian . . . but like everything wild, are timid and treacherous under the guidance of [a] white man; and, if he be not an equilibrist, he is sure to get two or three times soused, in his first endeavors at familiar acquaintance with them.

—George Catlin, *Letters and Notes of the Manners, Customs, and Condition of the North American Indian* (1841)

The traditional crafts of Wisconsin Indian tribes are perpetuated by many of their talented craftspeople, several of whom are represented in this year's Festival. Centuries-old traditions continue to flourish and develop, not only in the realm of decorative arts but also in the manufacture of utilitarian objects. Wisconsin Menominee, Potawatomi, and Ojibwe still produce bark containers traditionally used to store wild rice and maple sugar, historically the principal subsistence foods of Woodlands Indians in the western Great Lakes area. And even materials not naturally found, such

as metal and plastic, as they became available were adapted by Indian people to age-old technologies. For example, the traditional birch-bark tray used to "fan" wild rice — that is, to separate the seed from the chaff — is generally made using birch bark, cut and folded into shape, then sewn with split roots. But some Indian people create the same object using heavy cardboard or even pieces of sheet metal riveted together.

Perhaps no single item in the traditional economy combines finesse and craftsmanship better than the birch-bark canoe — historically the principal mode of transportation and cargo-freighting

for Indian peoples in the western Woodlands. Early European travelers in the American wilderness were amazed by this unfamiliar type of boat and rarely failed to comment on its construction. Most scholars generally agree with the 19th-century artist George Catlin that the Ojibwe more than any other people raised canoe-building to a fine art. Although the birch-bark canoe today has been supplanted by wooden, metal, and plastic boats, a handful of Ojibwe craftsmen still retain the important knowledge of all the steps in its traditional manufacture and the skills needed to apply them.

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Fig. 1. Earl Nyholm and Charlie Ashmun tie inner stakes to exterior canoe form-stakes. Note the boulders weighting down the canoe form; also, that the white outer bark of the tree becomes the inside of the canoe.

Photo by Janet Cardle

In the summer of 1997, a film crew from the Smithsonian Center for Folklife Programs & Cultural Studies documented the construction of a traditional Ojibwe canoe. (Currently in production, the film, like this year's *Wisconsin* program, was supported by a grant from the Wisconsin Sesquicentennial Commission.) The master builder, Earl Nyholm, is a professor of the Ojibwe language at Bemidji State University in Minnesota and had demonstrated his canoe-building skills at two of our earlier Festivals. Earl was assisted by his 84-year-old mother, Julia; an apprentice, Mark Wabanikee from Bear Island in Lake Michigan; several of Earl's relatives living on the Bad River Reservation in Wisconsin; and a craftswoman from the Red Cliff Reservation, Diane Defoe, whose birch-bark work is featured in this year's Festival. The five-week-long construction took place on a Lake Superior beach on Madeline Island — the ancestral homeland of the Ojibwe people. The site selected was in fact the location of the first trading post of the Northwest Fur Company in the 18th century; undoubtedly this very beach had witnessed canoe construction in earlier times.

The process began with an exhaustive five-day search for the proper birch tree. The German cartographer Johann Kohl visiting Madeline Island in 1854 to observe the distribution of treaty annuities remarked on the importance of good bark for a canoe:



Fig. 2. This detail of the gunwale assembly shows the tapered end of the thwart inserted into the mortise of the inwale, split jackpine roots for lashing, and double-stitch sewing.

Photo by Janet Cardle



Fig. 3. Canoe-prow assembly with "man-board" — so called because it resembles a human form. A single piece of cedar is used which is split into more than 30 laminations to effect the bends in its form. These are held in place using wiigoob (the inner bark of the basswood tree) and threaded through and inserted over the man-board. Photo by Janet Cardle

[N]ew canoes are being constantly built around me or old ones repaired and I saw them in every stage of perfection. The Indians expend as many bark canoes as we do huntingboots.... The largest and smoothest trees are selected so that the pieces of bark may be as large as possible and prevent too much sewing (Kohl 1860:2829).

Canoe builders have a trained eye for picking out a "canoe birch-bark tree," which ideally

should be some 50–60 inches in diameter. Due to the decimation of forests for lumber and pulpwood, birch trees this size are a rarity today. Furthermore, the tree must be straight, free of "eyes" and lichen growth that might cause the bark to tear under pressure, and must not bifurcate at its top. (Earl suggested that only one in a hundred trees meets these criteria.) After they had rejected for imperfections a number of large trees identified in advance of the builders' arrival on the mainland opposite the island, their search ended in a wilderness preserve on Madeline Island with the discovery of a 54-inch tree.

(Canoe builders need a single large piece to run the bottom length of the vessel; if the bark is not wide enough to reach the gunwales on either side, it requires "piecing"; that is, bark must be added along the gunwales at the widest part of the canoe. Such "pieced" bark requires double-stitch sewing to the bottom strip, which is very time consuming. Thus the harvest of large birch by the dominant society

hastened the decline of the craft — one reason there are so few today building bark canoes.)

The builders made their incisions to remove the bark. (Some builders will fell the tree, but Earl likes to take his bark from a standing tree. The removal of bark does not kill the tree immediately since the exposed cadmium layer will heal, although the tree will eventually die.) Timing is critical, for there is only about a five-day window of opportunity in late June, dependent on both day- and nighttime temperatures, when the bark is ripe for taking. After two circumference incisions, the final cut was a straight vertical joining them. The bark of this birch

virtually sprang off the tree with a loud zipping noise; several days later it would have been irremovable.

To begin canoe construction a flat rectangular bed of sand was spread out evenly and picked over for rocks and twigs. At the site a wigwam framework was improvised over this building area to accommodate tarps (see Fig. 6). These kept the canoe out of direct sunlight and thus prevented materials from drying too quickly; bark, for example, will curl. On the level bed of sand, Earl spread out the piece of bottom bark with its exterior (the white side) facing upward. (Miniature canoes made for sale to tourists mistakenly give the impression

that the outside of the tree becomes the exterior of the canoe.) An elliptical wooden canoe form with pointed ends was placed on top of the bottom bark and weighted down with rocks to stabilize it. Ojibwe believe that their culture hero, the legendary Wenabozho, invented the canoe for them, and Indians can point to a pile of rocks on one of the Apostle Islands, saying these were the ones he used in weighting down the form of the first canoe.

The bark was brought up outside the length of the canoe and large birch canoe stakes driven into the ground along each side the length of the canoe to begin to form its shape (see Fig. 1).



Fig. 4. Earl Nyholm bends canoe ribs, using two at a time to guard against breakage. Photo by Janet Cardle

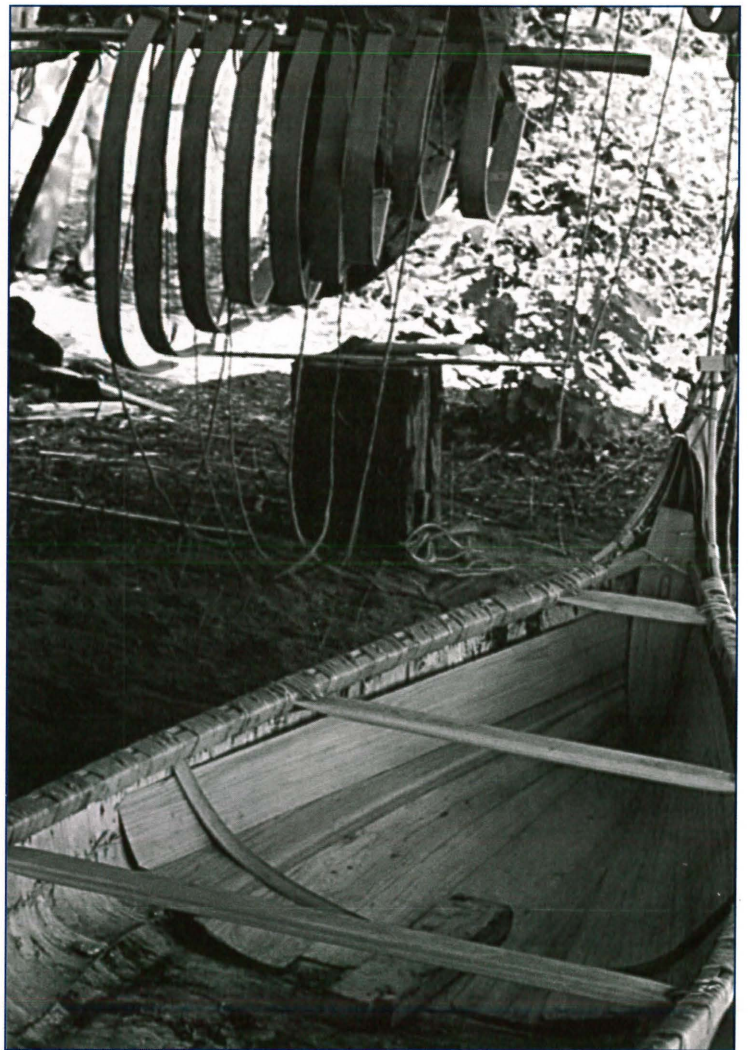


Fig. 5. View of the interior of the canoe with some of the thin cedar planking in place. Note the hanging bent and dried ribs which will be reinserted once the flooring is completely set in place. Photo by Janet Cardle

The ends of the bottom piece were clamped together using “Indian clothespins” made of cedar. The outer stakes were then tied to the inner stakes with “Indian string” (pieces of the inner bark of the basswood tree; see Fig. 1).

Because the bottom bark was not sufficiently wide to reach completely from gunwale to gunwale at the canoe’s midpoint, a strip of added bark had to be sewn (“pieced”) on either side for a length of perhaps three feet. All sewing is entrusted to the women, using roots of the jackpine tree which are split and kept in water until needed. Julia and Diane attended to this task, laborious and time consuming as each stitch must be doubled for strength, that is, brought over and under each side of the overlapped bark (see Fig. 2). To accommodate the stitches, an awl was used to poke holes through the bark. (In his famous poem “Hiawatha,” Longfellow, basing his information on Henry Schoolcraft’s Ojibwe

research, extolled the creation of the canoe from natural resources: “All the forest’s life was in it,/All its mystery and magic,/All the lightness of a birch-tree,/All the toughness of the cedar,/All the larch’s sinew supple.”)

After the added pieces were sewn, the long, thin, cedar gunwales were created, both an outwale and inwale, the latter being mortised to receive the tapered butt ends of three cedar thwarts which serve to hold the top of the canoe apart (see Fig. 3). Once in place, the gunwales had to be lashed to each other and to the bark for the full perimeter of the vessel. At this point Earl, as the master craftsman, completed the all-important finishing work at both ends by inserting an elaborately constructed cedar prow-piece (Fig. 3).

(Thomas McKenney, touring the area around Madeline Island in the mid-19th century, praised the Indian talent in using only natural materials in canoe

construction: “The Indians make no use of nails and screws, but everything is sewn and tied together. But the seams, stitches, and knots, are so regular, firm, and artistic, that nothing better could be asked for” [1827].)

The next and crucial step in construction involved bending and inserting the cedar ribs, which give the canoe its final rounded shape. About 40 thin cedar ribs had been soaking for several days to make them more pliable. Still, boiling water must be poured over them to increase their pliancy. Rib-bending is a most frustrating time for every canoe builder. Despite all the soaking and heating, the ribs are still quite brittle and easily broken. (Canoe-builders always prepare additional ribs, knowing they can expect to break several in the bending process.) Wearing a special pair of moccasins, Earl stood each time on a pair of ribs and through exertion gradually pulled up on either end (Fig. 4) until



Fig. 6. The 14-foot canoe, inverted for “gumming” (“pitching”) all cut and sewn areas on the bark, is ready for launching.

Photo by Janet Cardle

he achieved the proper bend, at which point he carried it to the canoe to insert it in place. Once all the ribs were intact, the canoe was allowed to dry for a day; then the ribs were removed and thin cedar planking, constituting "flooring," installed along the length of the craft and held in place by reinserting the ribs (see Fig. 5).

Finally, a gunwale cap was installed over the gunwale assembly with birchwood pegs; the cap offers protection to the lashing holding it together. The canoe was then inverted for "pitching" (see Fig. 6). Places where the bark had been cut and sewn had to be made watertight. Pitch for this purpose, made from spruce gum and deer tallow, was heated and melted down, with black charcoal from a maple log added for coloring. (Black is a popular choice in the Ojibwe repertoire of colors.) Like a bicyclist's patch kit, Ojibwe canoers always kept a small supply of pitch with them in the boat in case repairs were needed.

Once the pitch dried, the canoe was ready to launch. Wearing beautiful Ojibwe black velvet vests adorned in typical curvilinear beadwork representing flowers and leaves, Earl and Julia climbed aboard and paddled off into the sunset to provide the Smithsonian cameraman his final shot for the film.

The 14-foot canoe Earl built for the filming was fairly typical of a "family-size" two-man vessel; during the fur trade much larger ones were built for long-distance freighting on the Great Lakes. (McKenney [1827:146] described a 30-foot canoe which by his estimation could carry 2,000 pounds.) Kohl in 1854 was amazed at how much Indians could pack into a canoe and describes a family from 150 miles in the interior of Wisconsin arriving on Madeline Island. As the father and one son glided the canoe into an inlet, he observed that

the wife, with her other children, two boys and two girls, was buried beneath a pile of parcels and boxes. Among them lay a dog, with three pups, and on top of all the plunder, was a large cage, with two tamed falcons in it. The gunwale of the boat was only a few inches above the water, and in this way all these beings, and animals, and lumber, had made a seven day's voyage (Kohl 1860:35).

Works Cited and Suggested Reading

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