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The Northern Light (Boats): Umiak Construction for Sailing Near Newfoundland and Labrador

One of the first things that Peabody Curatorial Assistant Emily Pierce Rose told us when we sat down to look at our model was that we probably shouldn’t touch it if we valued our lives. Actually, she said it more gently, but the warning was real. “Hands off” rules for artifacts are par for the course to prevent accidental damage to fragile objects – but there was an added risk with our model, since years back it had been treated with arsenic for preservation. Yikes!

Unfortunately, this meant that we didn’t get to feel how light the model was. Had we been able to scale it up to life-size and sail in it, though, we would have found that our umiak was constructed for maximum lightness and flexibility to navigate the icy, stormy waters around Newfoundland and Labrador.

Empty umiaks sit only about three or four inches in the water, and their near-weightlessness is due in part to the umiak’s wooden frame (Bruemmer, 1992). Forming the inner ribs of the boat, the frame is the first part of an umiak to be constructed and is often made by steaming and bending pieces of driftwood, usually spruce (Fair, 2005: 236). Take a look at the model: you’ll notice that the frame stems from the keel at the bottom, which continues forward and upward into the stempost, and backwards into the stern. To create a flat and full bottom for the boat so that it can carry huge quantities of cargo and passengers (more on that in my last post), timbers around the keel form the shape of an eye, with the keel making a line along its center (see Figure 1). Timbers are also laid perpendicular to the keel along the length of the boat’s bottom. These alternate with ribbing which stretches upward from the bottom frame to the top timber. The timbers are joined to one another by treenails – or wooden pegs – and together form a light frame which can easily respond to the push and pull of the sea.
On top of the frame, the hull is formed not by wooden planking but by a lighter, more flexible skin cover (which is why arsenic was used to preserve the Peabody model – and why the model sports a red warning label reading “POISON”). Because of the dynamic surface of the skin, the hull of an umiak can bend instead of taking all of the strain at a single point, which would lead to fractures (Fair, 2005: 235). The skin is made from the hides of female or young walruses, whose skin has fewer blemishes than the more aggressive older males (Fair, 2005: 236). Preparation of the skins is a communal affair and takes a considerable amount of time and
effort. First, the blubber is removed; then the two-inch-thick hide is split, traditionally by women; the skins are soaked in seawater for a few days and subsequently cleaned; finally, the pieces of skin are sewn together, usually with caribou leg tendon or sinew thread (Bruemmer, 1992; Fair, 2005: 236, 237). Before the skin cover dries, men use rope made from the hides of young walruses to lash it onto the frame, so that it dries taut across the timbers (Bruemmer, 1992; Fair, 2005: 236, 237). Notice that the rope in Figure 2 is wound around the top timber of the frame, called the gunwale, with the skin wrapped over it to make it more difficult for the rope to come loose (Kaalund, 1983: 100).

While umiak frames were built to last for generations, the outer skin of an umiak was more vulnerable to damage and had to be replaced every one to three years (Fair, 2005: 236). One researcher described how the crew of an umiak in which he was sailing decided to shoot “an attacking walrus through the bottom of the boat. The shot [...] put a small hole in the bottom of the boat but may have saved it from more serious damage,” as small tears in the skin could be covered temporarily with pieces of blubber until longer-lasting patching could be done on land (Bruemmer, 1992). Blubber was also used to coat the skin and make it more waterproof, though after 24-36 hours in the water, the skin of an umiak can grow waterlogged anyway, which limits the possible length of umiak voyages (Fair, 2005: 236).

Because the umiak needed to be versatile in order to perform its various functions (from hunting to family transportation), it was built with several methods of steering and propulsion. This model is equipped with a pole and two oars for rowing (Figure 3) as well as a square sail atop a wooden mast, which could be mounted in a hole cut into a plank on top of the keel (see Figure 1). Look back at Figure 1 and see if you can spot the two stripes of lightened wood on the center plank – that’s where the ropes rested when they tied the mast to the plank for support.
While the top of the sail was strung across a wooden pole perpendicular to the mast, the lower corners of the sail were tied to the boat’s frame. When on land, the mast could be removed so that the umiak could be overturned and used as shelter – another benefit of keeping the craft light. A wooden rudder at the stern helped with steering, and could be controlled with the tiller by someone in the stern. With a large crew working in tandem to guide the vessel, the umiak could make its journeys around Newfoundland and Labrador safely – a model of master craftsmanship on both the micro and macro scale.

FIGURE 3. Oars and pole. Photograph by author.
Bibliography


