The Hawaiian Canoe, Part IV

By Tommy Holmes

The Adze

The Polynesian preferred the adze to all other implements. Harder than spring steel, the fine-grained Hawaiian basaltic adze was a wonderfully functional all-purpose tool. With it he sculpted his canoe and shaped his culture. In Hawai'i, a canoe builder's tool kit of adzes was as indispensable to him as medical instruments are to today's surgeon.

Supplying the canoe builder with the tools of his trade was a separate class of adzemakers who were a highly specialized guild of stone craftsmen. Adzes were a primary object of barter between the canoe builder and adzemakers or whoever else might have obtained adzes through exchange.

Most Hawaiian stone adzes came from one of the quarries on Hawai'i, Kaho'olawe, Moloka'i, O'ahu, or Kaua'i. The most important of these quarries was on the southern flank of Mauna Kea. It was not only the largest in Hawai'i but the largest in the entire Pacific region, covering some 7½ square miles, at an elevation of between 11,000 and 12,400 feet. The site was at least 20 miles from the nearest permanent habitation site. Although there were a few shelter caves, fuel and food were totally lacking. Water was available at nearby Lake Waiau, but containers and a tough two-mile hike were necessary. Warm clothing and bedding would have to have been brought, as even summer nights on Mauna Kea are bitterly cold.

The adze-making process consisted of three steps: quarrying, flaking and finally grinding and polishing. Quarrying adze material began with first identifying suitable basaltic material. Pieces of workable size were broken off, usually with a large hammerstone. The adzemaker would then take a smaller hammerstone and flake his piece of raw material, reducing it "to a basic preform, as close as possible to the intended shape and size of the finished adze." The adzemaker then transported his preformed adzes back to his permanent home where he would finish them.

Sometimes at the quarry site, but usually at home, the adzemaker would finish the adze by grinding and polishing the rough edges of the preform on a smooth, flat grindstone. Introducing sand of different coarseness along with water was a common method of increasing the abrasive effect of a grindstone. The final adze would sometimes be mirrorsmooth on all sides and always capable of taking a fine edge.

Successful quarrying and especially flaking required that the adzemaker be a sophisticated geologist. As much as the Hawaiian adzemaker knew of a stone's fault lines, flaking patterns, and imperfections, he still experienced a fairly high discard rate, as indicated by the numerous abandoned preforms strewn about the Mauna Kea quarry site. This was apparently due to a phenomenon called "end shock," whereby when a blow is directed at one side of the preform, a piece is dislodged from the opposite side. Often this happens when there are no detectable imperfections in the rock.

After an adze was completed it was lashed by its tang (projecting tongue) to an "L-shaped" shaft (handle) with coconut sennit. At one end of the haft a heel or wooden tongue was cut to the desired angle. A protective cloth of *tapa, lauhala,* or banana leaf was customarily inserted between the wooden tongue of the haft and the tang of the adze to prevent slippage and protect the lashing from being cut by the sharp edges of the tang of the adze.

The canoe maker's adze kit was made up of a number of different adzes. Most were quadrangular, but some were triangular and trapezoidal. Size and weights ranged from ten- to twelve-pound, foot-long models for hewing *koa* trees, to dainty inch-long affairs that weighed no more than a few ounces.

A master canoe builder was incredibly skillful with his stone adzes. Besides having different shapes, sizes, and weights, adzes had different bevels and were hafted at different angles, affording the canoe builder a range of hewing options within one tool form that a contemporary wood carver requires from his entire tool kit.

To hew out interior portions of the canoe where the width was too narrow to allow the use of an ordinary adze, the Hawaiian canoe builder employed a special socketed or swivel-headed adze. In some cases adzes were made out of seashell and were used for grooving wood in the fitting together of the curve. Another type of adze was made from the *alahe'e,* an extremely hard wood. It was said that such an adze was useful to the canoe maker when working with softwoods, particularly *wiliwili*. There was also the iron adze that was probably washed up on the shores of Hawai'i as part of the residue of some distant shipwreck.

To this day the adze, albeit with a metal blade, has remained one of the favorite, if not the favorite, tools of many Pacific island peoples. Perhaps no other people has aspired to and accomplished so much with such a tool.

Completing the canoe-builder's tool kit were chisels, hammers, clamps and what appear to be caulking tools. Stone

Continued on Page 10

The Hawaiian Canoe

Continued from Page 9

chisels were usually made out of the same stone and in the same manner as adzes. This chisel was employed to make the narrow, lashing holes in the hull rim and in the component parts.

In making the lashing holes, the canoe builder used hammerstones to tap the chisels. Wooden clamps were apparently used to bind down the gunnels and possibly the end pieces while they were being sewn to the canoe hull. Several different forms of clamps exist, varying from straight pieces of wood, to slightly curved pieces, to an S-shaped form.

Caulking tools—straight pieces of wood with one end pointed and the other square, not unlike a tongue-depressor—could have been likely implements in the canoe-builder's tool kit. These may have had a role in the application of some sort of organic caulking compound to the outside lashing holes or other seams to keep water from coming into the canoe.