



# Making a Choctaw bow

**Dear Iti Fabvssa,**

I was wondering if you could tell me about the process for making a Choctaw longbow. Any help would be appreciated.

Bess

**Dear Bess,**

Thank you for your great question! January's edition (2010) of "Iti Fabvssa" focused on the form, history, and effectiveness of the Choctaw bow and arrow. Due to space constraints, we had to leave out a description of how Choctaw bows are made. Thanks to you, we can now present that information.

Through time, and in different places, Choctaws have used many different varieties of hardwood to make bows, however two woods in particular have been especially popular. In Mississippi, before Removal, hickory was the most commonly used (c.f. Adair 1775:331). After Removal, Oklahoma Choctaws found themselves in the heart of bois d'ark country, and have come to make most, but not all, of the bows from it. Both hickory and bois d'ark are excellent bow-making materials because these woods have a high density and because

they very quickly snap back to their original shape when they are bent and released. This means that a bow properly made from these woods can shoot an arrow with a lot of speed and force.

Not just any hickory or bois d'ark tree will work for bow-making. Most bow-makers prefer trees that are relatively straight, free of large knots, and free of grain twist. Examining a tree's outer bark can usually tell a lot about the properties of its underlying wood before it is cut. Most bow-makers prefer to select and cut trees during the winter (see Swanton 2001:49) because at this time of year the sap is down, and the outermost growth layer in the wood is dense and hard.

Through time, most Choctaw bow-makers have probably used one of two basic techniques to transform raw wood into a working bow. The older of these two involves doing most of the shaping right after the tree is cut down, while the wood is still green (see Beverley 1705, reproduced in Swanton 1946:577). Green wood is softer and easier to work than is dry, seasoned wood. This difference is night and day if the bow-maker is using stone tools. With the "green wood" technique, the bow is roughed out to near its final shape, and then allowed to quickly dry under controlled conditions that prevent it from warping. The fine-shaping of the bow is done only after the wood has become dry and hard. With this technique, a living tree can be transformed into a powerful, seasoned bow in less than two weeks time. A few Choctaw bow-makers are currently revitalizing this ancient green wood / stone tool technique, using a combination of still-surviving information and personal experimentation. However, for the last three centuries, most Choctaw bow-makers have used metal tools. Today, steel tools are most often combined with a technique that involves cutting wide trees down and splitting them into bow staves. The ends of the staves are sealed to prevent cracking, and the wood is set aside to slowly cure for up



to several years. Bow-making is begun only when the thick pieces of wood are fully dry.

Whether using stone or steel tools, green or seasoned wood, the same basic steps must be accomplished to make a good bow. Bow-makers usually start by shaping the "back" of the bow, the side that faces away from the shooter. Most Choctaw bows were and are made in such a way that the back side of the bow exposes only one growth ring in the wood. This helps to make the bow durable – as a bow is bent, the side facing away from the shooter is experiencing tensional forces that try to pull the wood grain apart. Having only one growth ring exposed on the back side of the bow minimizes inconsistencies in the wood, making it much harder for tension to find a weak spot to pull up a splinter and break the bow.

Hickory bows are made from the sapwood of the tree. To create a hickory bow back that exposes only one growth ring, one simply strips off the outer and inner bark, leaving the outermost growth ring of wood exposed. In other words, the very outer part of the wood becomes the back of the bow. Bois d'ark bows are made from the tree's inner heartwood. The bark and white sapwood must both be removed from the outer part of the tree, exposing the outermost lay-



er of yellow heartwood. This becomes the back of the bow.

After the back of the bow has been shaped, the sides of the bow are usually roughed out. The thickest part of most Choctaw bows is at or near the handle. With the green wood technique, for the entire length of the bow, the sides are uniformly trimmed down only to the intended widest dimension of the finished bow (Baker 1994). This gives the wood a straight, board-like shape that will prevent it from warping sideways as it dries. Only after the wood is fully dry (see below), will the tips of the bow be narrowed down.



Conversely, with the dry wood technique, the bow's tips are usually narrowed as soon as the back of the bow has been shaped.

The "belly" side of the bow is what faces the shooter. It is shaped through a process known as "tillering." Tiller ing is where the skill of the bow-maker really comes into play. Wood must be removed in just the right proportions so that the bow will bend in an even arc. Moreover, just the right total amount of wood must be removed so that the finished bow will have the desired draw length and draw weight. This is accomplished by incrementally shaving off small amounts of wood from the belly side of the bow. Periodically, the bow is carefully bent to evaluate its strength and the shape of the arc it makes. Then, additional wood is removed accordingly. This process is repeated dozens of times, and with each, the bow is bent slightly farther, and slightly farther. With the green wood technique, tillering is completed approximately half way while the wood is green. Then, the emerging bow is lashed down to a flat surface along its entire length to prevent warping and set in the shade until the wood dries. This happens rapidly because by this stage, the bow is already pretty thin. Drying the wood before the later stages of tillering is important because bending the wood too hard or too far while it is green will strain it and cause permanent damage to the bow. After the wood has become fully dry, the

tips of the bow are narrowed down and then tillering is completed. With the dry wood technique, tillering is usually done right after the bow's sides are finished.

During or after tillering, nocks are cut in the bow tips to hold the string. Surviving old Choctaw bows from different parts of Choctaw Nation have different styles of nocks that include several shapes and arrangements of double and pin nocks. After the nocks are cut in, most bows are sanded and/or burnished. The latter is done by rubbing the bow forcefully on all surfaces with a hard, smooth object, such as the side of a deer antler or a smooth rock. These steps make the bow very smooth and pleasant to touch, and can help reduce the chance of the bow breaking.

With the high humidity of Mississippi and Oklahoma, it is necessary to seal the wood in order to protect it from moisture. This is important because shooting a bow that is even slightly too damp (something you can't necessarily discern by touch) can permanently weaken it. One of the most common sealing methods (e.g., Speck 1909:20) is to gently warm the finished bow and repeatedly rub bear or opossum fat into the wood. Bows made from certain woods including hickory, can also be heat-treated as a part of the same process (St. Louis 2008). To do this, the belly side of the bow is held next to a bed of hot coals, close enough to the heat that the wood becomes too hot to touch, but not so close that it scorches.

After half an hour, the belly side of the bow should start to become an even brown color, at which point it is taken away from the fire. This process thoroughly dries the wood and also shrinks the cells on the belly side of the bow, permanently making them less able to absorb water. This makes the bow more springy and powerful. Interestingly, early European accounts tell us that Natives living in the Southeast could make a bow any color they desired and with surfaces so shiny that they were reflective (Garcilaso 1993:305 [1596]). This was probably done by coating the bows in varnish made from tree sap mixed with pigments. This would also help to protect them

from moisture.

As we mentioned in our January article, Choctaw Nation sponsors a team that uses traditional Choctaw bows in inter-tribal archery competitions. Choctaw bow shoots are held on the Tushka Homma Council House Grounds on most second Saturdays.

As a part of these, talented Choctaw bow-maker Les Williston periodically teaches classes on making Choctaw bows. For information about these, please call the Cultural Events Department.

This is by no means the full story on the Choctaw bow. Be on the lookout for future *Iti Fabvssa* articles about making Choctaw bowstrings, arrows, and arrowheads.

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