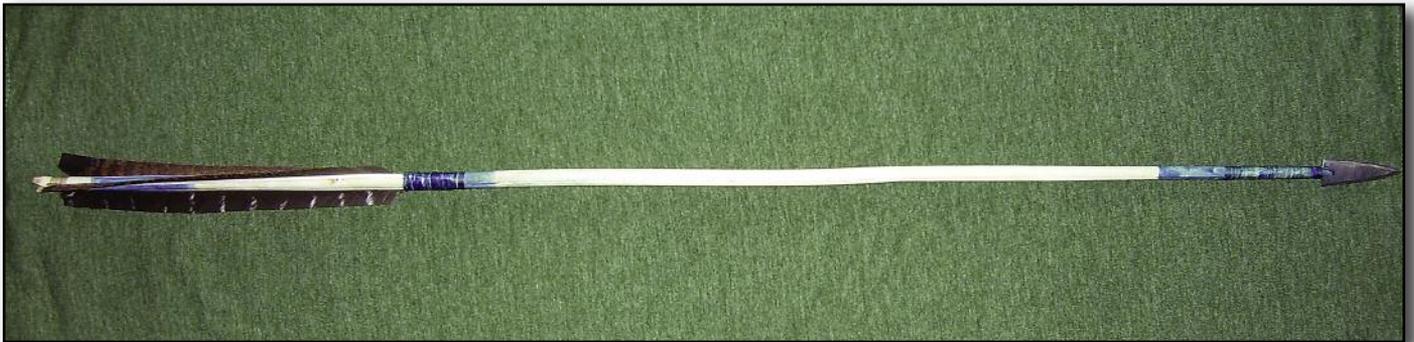


Making Dogwood Arrows the Plains Indian Way



For centuries dogwood was the arrow material of choice for many Plains tribes. Several varieties of dogwood found in the Midwest were used for arrows: gray dogwood, rough-leaved dogwood, and red osier dogwood. In my home state of Georgia, flowering dogwood abounds, but unfortunately finding knot-free shoots straight and long enough for arrows is almost impossible. Indians in pre-historic Georgia preferred river cane, sourwood, and split hickory.

During a visit to Iowa several years ago, I stumbled upon a patch of dogwood and immediately realized that it was a different species than the flowering dogwood back home. Closer inspection revealed why Native Americans utilized it so heavily for arrows. It was very straight, had almost no knots, and was surprisingly dense and stiff, even when green. It was quite common too, on roadsides, field edges, and fence lines. Its dense growth creates a small canopy that shades the shoots from sunlight and keeps small branches from sprouting, reducing strength-robbing knots. A little detective work revealed that I had found gray dogwood, which makes excellent arrows. Its leaves sometimes have a slight reddish tint, and in the fall it produces small, white berries.

The best arrow shoots are usually in the middle of the patch, so I crawl into the center and carefully examine poten-



Top—The finished arrow is a beautiful, unique work of art that would have made any Comanche warrior proud.

Above—The author cuts dogwood shoots from the interior of a dogwood patch.

Right—A distinguishing feature of gray dogwood is the white berries it produces in the fall.





A nice haul of premium dogwood shoots. These shafts will be seasoned with the bark on for several months.

tial shoots from all angles before cutting them. I'm very selective, choosing only the straightest, cleanest shoots. From a distance every shoot may look usable, but closer inspection may reveal kinks and flaws that will render them useless for arrows. Only a small percentage will make the grade. I cut the select few that pass inspection and then move on to the next patch. Use sturdy pruners, as dogwood is hard even when green. I'm also careful to cut only green, living shoots. Dead shoots decay quickly, greatly reducing their strength.

After cutting my shafts, I take them home to let them season. One disadvantage of arrows made from hardwood shoots is their tendency to warp. Some modern archers tie their shoots in bundles and let them season for weeks, but I've had problems with this method. As the shoots dry they shrink, allowing the bindings to loosen, and the shafts will warp, sometimes severely.

I've since discovered a method to seasoning shoots so they don't warp. I leave the bark on the shoots and straighten them as they dry. Instead of tying them into bundles and letting them season on their own, I leave the shoots lying on the floor next to my bed. Every night, I sight down the shafts and bend them straight. At first they

won't hold the corrections because they're still saturated with moisture. But soon the shafts will dry so they keep the corrections I give them. This is a critical time, and I'll straighten them at least twice and sometimes three times each day. Once dry, these shafts will be forever locked into that position, greatly reducing their tendency to warp.

Shafts can be straightened by gently

heating and bending, but they're never as straight as those straightened as they dried. The wood cells of warped shafts will always "remember" the original shape they dried in and will want to return to it. Humidity changes can cause these straight shafts to warp badly.

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When the shafts have dried sufficiently to stay straight and don't require more corrections, I leave them to dry for a few more weeks before putting them in a warm, sunny window. They should be pretty dry at this point, and chances of warping are greatly reduced. Once the shafts are thoroughly dry, it's time to make them into arrows.

I first scrape the bark off with a knife held at a right angle to the shaft. The bark should flake off easily, indicating that the shafts are completely dry. With the bark removed, I sight down the shaft to check for straightness and then begin reducing the diameter with the fine-toothed side of a farrier's rasp. This removes slight wiggles and takes off the high points without gouging the wood, as can happen with a carpenter's plane. I then wrap a piece of 100-grit sandpaper around the shaft and run it up and down. Then I sand the shafts with progressively finer grits of sandpaper. Prehistoric arrowsmiths accomplished the same results by using two pieces of grooved sandstone and progressively finer grits of sand.

Native Americans made lengthwise grooves, usually three, down the entire length of the shaft. When the shafts are heated and straightened, the corner of each groove is exposed to more heat and becomes hardened. These hardened ridges are stiffer than interior wood and prevent warping. Most Plains arrows in museums have these grooves, and many are still straight over a century later.

To make the grooving tool, I cut a section of broomstick four inches long. In the middle of this stick, I carve a small triangular notch. Then I hammer a small nail through the broomstick until just the tip of the nail is protrud-



The bark is scraped off the dried shoots with a knife held at right angles.



The fine teeth of a farrier's rasp reduce the shaft to the desired diameter without gouging the wood.

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Three lengthwise grooves in the shaft help prevent warping when the shaft is heated and straightened.



Hide glue is applied to the underside of the feathers, and they are held against the shaft with thin thread. Once dry, the thread is removed and the feathers are trimmed.



Gently pulling the quill as the feather is wrapped will prevent the feather from lifting away from the shaft with humidity changes.



The feathers are bound to the shaft and are now ready to be glued.

ing right in the center of the notch. The shaft is then held on a flat surface, the notch is placed on one end of the shaft so the tip of the nail is pressing into the wood, and the tool is dragged down the entire length of the shaft, gouging a small groove. I repeat the process so all three grooves are equidistant. I then gently heat the shaft over my gas stove and straighten out any imperfections. Even if the shafts are perfectly straight, I still heat them to harden those grooves and prevent future warping.

To secure the feathers, I use thin strands of sinew. I first soak, then chew the sinew until it's thoroughly saturated. To ensure the wrappings don't slide on the smoothed shaft, I gently score the areas where the sinew wraps will be with a stone flake so the sinew has a surface to grab. Then I begin securing the feathers.

I start with the rear portion of the feathers closest to the nock and place the feathers as evenly as possible. After wrapping the sinew around the shaft I hold the sinew in my teeth, freeing my hands to place the feathers and secure one feather at a time until all three are in place. I wrap them a few times, check their alignment, and continue wrapping until they are secure. On the last wrap, I tuck the sinew underneath itself and cut the excess.

One problem with this primitive method of fletching is that the feathers can lift away from the shaft with humidity changes. I've seen this in



The thread has been removed and the feathers trimmed.

numerous museum examples, and my early arrows suffered the same problem, but there is a little trick to correct it. I now wet the underside of the quill with water to saturate it. This expands the quill and makes it stretch out. When I wrap the front of the feathers with sinew, I gently pull the quill forward to stretch the feather slightly. With each revolution I pull the quill, ensuring the feathers are stretched to their maximum length. Be sure not to pull the quill too hard, otherwise it can break. Place the front of the feathers with a slight offset to make the arrow spin in flight and improve accuracy. When half of the sinew has been used, I cut the leading edge of the quills at a forward angle so no protrusions will cut the hand when the arrow is shot. Then

finish wrapping the sinew, making sure the sinew covers the end of the quills and continues down the shaft.

The last step is to glue the feathers down. Though some Indians left their feathers loose, I prefer to glue them to the shaft. Glued feathers are more rigid and grab the air, stabilizing the arrow quicker, and they're quieter in flight. Use hide glue or even slightly diluted wood glue. I push each feather sideways and dab glue on the underside of the quill with a toothpick. To ensure a tight bond, I then split the web of the feather and wrap a spiral of thin thread to hold the feathers tight against the shaft. Once the wrapping is completed, set the arrow aside to let the glue dry.

Once dry, remove the thread. Use scissors to cut the feathers down, giving



The metal trade point is secured with sinew and decorated with laundry bluing, a common feature of many southern Plains arrows.

them a sleek, streamlined appearance. At this point the shaft is finished. The tip can be left blunt, sharpened to a point, or tipped with a field point or a broadhead of bone, stone, or metal. I wanted my arrow to closely match the 1860s era arrows I'd seen in museums, so I decided to tip the arrow with a small metal trade point. I cut the arrowhead from a discarded circular saw blade with a cutting torch and then used a grinder to shape it, giving it a narrow stem that fit down into the shaft. To mount the point, I cut a small slot in the front of the arrow with a hacksaw and taper the leading edge of the shaft for maximum penetration. The point was fitted into the slot, wrapped securely with sinew, and allowed to dry. I then dyed the first few inches of the arrow with laundry bluing, and finally the arrow was complete.

This process provided insight into how skilled the Plains Indians were at arrow making. Dogwood arrows are very dense and carry a lot of momentum, giving them excellent penetration. How many buffalo, deer, and enemies fell to dogwood shafts is lost to history, but I feel a special connection to those ancient people when I make arrows from the same materials they did.

A frequent contributor to our Primitive column, Billy Berger lives in Acworth, Georgia.



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