

A Word About Bone Technology: Making Tools and “Jewels” from Animal Bones

Animals were an important source of food for Kentucky’s ancient Native peoples. But animals were much more than that. Animal skins and hides were made into clothes and other useful items, such as bedding and blankets, and bags for carrying personal belongings.



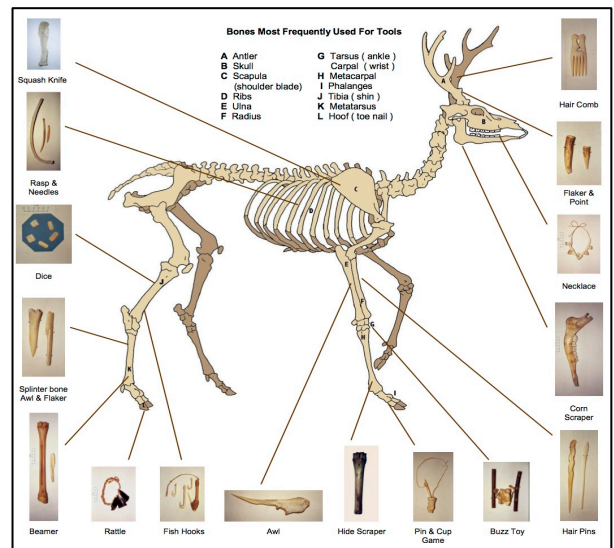
And that’s not all! From the earliest hunter-gatherers to the most recent farming groups, Native peoples all across Kentucky turned animal bones and *antler* (a bony extension that grows from the skull of deer or elk) into tools for daily tasks. They made deer leg bones and turkey leg and wing bones into sharp-pointed *awls* for piercing hide or other materials. They created fishhooks and beautiful hair pins out of deer leg bones. Bird leg and wing bones were shaped into beads of all shapes and sizes. They strung drilled teeth from one or more animals – deer, elk, wolf, dog, and bear – together on cordage to make lovely necklaces. They wore these “jewels” of prehistory in their hair, sewn onto their clothing, and around their necks.

Reproductions of ancient bone and antler tools and “jewels” by Jon Endonino: (top) antler billets; (center) bone awls, pins, and fishhook; (bottom) antler handle with chert knife.

Prehistoric Conservation and Ingenuity!

So, Native people often used multiple parts of an animal, even the inedible parts. When they did so, they were acting as *conservationists*, because they tried to avoid wasting natural resources. Just look at all the parts of a deer skeleton that Native craftspeople used for tools and ornaments! And, they selected specific bones or antler for particular items. Their favorite bone for making awls, for example, was the deer *ulna*, a bone in the front limb.

Native people used some bone and antler tools in the manufacture of others. Lengths of deer antler served as *billets* for shaping chert or flint cobbles into scrapers, knives, drills, arrowheads, and spear points. Flintknappers used antler tip *pressure flakers* to sharpen and resharpen stone tools of all sorts. Archaeologists refer to tools used to make others as *secondary tools*.



Deer bones Native peoples used to make tools and ornaments. Poster by Susan Nelson (2009) available for download at www.susankae.com/free_resources.htm.



Making Bone Tools and Ornaments

To make bone tools and ornaments, Native craftspeople had to know the properties of each animal bone. Which section of bird bone made the best bead? How thin could a deer leg bone be shaped and still function as an awl?

A craftsperson modified a bone’s shape and size in three steps. First came scoring and snapping. Using the sharp edge of a chert tool or flake, he or she *scored* – cut a groove – into and around the bone. This weakened it.

Holding the bone on either side of the groove or using a hammerstone, as pictured at right, the toolmaker applied pressure. *SNAP!* The result was just the right-sized piece of bone for the job. Depending on the type of bone, the spongy bone tissue and the yellow gooey *marrow* inside it were removed during or after this step.

Next came scraping or grinding to shape the piece. Again, using a chert flake, the bone was thinned by careful *scraping*, or dragging the sharp edge of the flake along the bone surface. *Grinding* involved rubbing a piece of bone against a grinding stone like sandstone. Wetting the stone and the bone object with water helped the process and kept bone dust to a minimum.

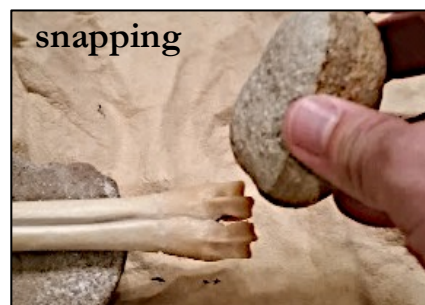
Some bones required very little shaping to be useful. *Splinter awls* found in many Red River Gorge rockshelters are a good example. These long pieces of bone had just one shaped end. The rest of the awl remained rough and jagged.

Native craftspeople spent a lot of time shaping other bone objects. These include the polished and carved bone hairpins worn by groups who lived along the Green and Ohio rivers in west-central Kentucky thousands of years ago. Read “A Hairpin’s Tale” at www.livingarchaeologyweekend.org to learn more about these fascinating artifacts.

Some decorative items and jewelry were further worked by polishing or drilling, the third manufacturing step. *Polishing* was fairly easy to do. The craftsperson simply rubbed the object against wet leather. In only a few minutes, a shine appeared. The longer and harder the toolmaker rubbed, the brighter the shine became.

Bone tools like awls also can become polished through use – at the tip by coming into contact with the animal hides being worked, or at the end where the tool user held it. This kind of polish is different from the polish on ornaments and jewelry.

For certain ornaments – for example, beads or pendants made from animal teeth – the craftsperson *drilled* a suspension hole in the tooth’s root using a pump drill tipped with a chert drill bit.



Photographs of bone tool manufacture courtesy of Jon Endonino.

