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Modern primitive weapons

V Shrake

- Skills and guides - Bushcraft and Survival -



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The construction of modern primitive weapon

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First off, I guess that the title needs a little explanation.

By modern primitive weapons (in this case, a spear and bow) I mean a weapon that would have been recognizable to our Neolithic kin, but shaped with modern steel tools and, in some cases, other modern improvements that will become evident in the course of the article. As for the tools used, while these were, indeed, much better than anything our caveman ancestors would have owned, I still only used those tools I would have with me on a nature jaunt. No power tools or even modern hand tools were used.

Tool list and use:

1. SOG bowie (limbing)
2. German Army Knife [GAK] (light sawing)
3. Swedish Army puukko (barking, shaping, whittling)
4. SAS wire saw (cutting blanks from tree)
5. Leatherman (repair work, as needed)

I also carry with me a 5 inch clip point Cold Steel Voyager, which didn't get used on this project, but could double up for some of the above duties if called upon. Plus, you can never carry too many knives.

The first order of business is choosing the "blanks", or wood, that you'll be working with. For a bow, you'll want a piece that's fairly limber, and as long as your outstretched palm to your other shoulder. This will probably be anywhere from forty-two inches to four feet, depending on your height. I also found that adding around six inches wouldn't be a bad idea. This would give you a bow that's still small enough to manoeuvre through brush, but would also give a bit more flex on the draw. More on that later. Also, try to find a piece that's as straight as possible, has a few branches and knots as possible, and has little taper. You don't want a knotty, twisted up branch that's huge on the bottom and tiny on the top. Why will become evident later.

For a spear, much of the same criteria as choosing a bow blank applies, except that you'll want it to be at least six feet long. A diameter of around an inch to an inch and a quarter would be best for both the bow and spear.

A word of caution is appropriate, here. Count on being frustrated, and to having some of your earlier attempts break or otherwise not live up to expectation. Getting it right the first time would be on the order of a minor miracle; besides, more can be learned from critically analyzing your failures than might be thought. My second bow snapped after it was ninety percent finished, my first was that nasty, knotty piece I warned you to avoid. I learned a few things while making this first spear, as well. Practicing this kind of stuff now, before your life might depend on this skill, is much preferred. Plus, it's just a lot of fun!

We'll start with the spear. It's a logical first weapon to make if you find yourself in a survival situation, as it's easy to make, easy to use relatively well with little training, and can be used for both defense and hunting.

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The easiest spear to make is just a fairly straight stick with a point whittled in one end, possibly fire-hardened. But, it's a good idea to carry along a ready-made spear head in your kit. This can be as simple as a cheap throwing knife, or as elaborate as you want to make it. I carry both a throwing knife and a Cold Steel Bushman in my kit for use as a spear head. The throwing knife is a leaf-bladed, 8.5 inch OAL carbon steel knife with a flat haft, making it easy to split a stick and insert the spear head and lash it in place. The Bushman has a 7 inch blade of SK-5 high carbon steel, with a springy temper; it makes an excellent spear head, as it is big enough to make a large wound, and the socket handle can just be shoved onto an appropriately sized stick and a single screw used to hold it in place. The only drawback to carrying the Bushman is that it takes up considerably more space than the smaller throwing knife.

The stick I chose for a spear shaft was a nice, straight pine sapling, around six feet tall and an inch and a half in diameter at the base. Unfortunately, I failed to take into account that pines taper dramatically, and after removing the bark and the twig-like top portion of the sapling, I was left with a fairly short spear shaft; again, better to find this stuff out now, in training, than for real later on.

I decided to use the piece anyway, as I didn't see any reason to kill another tree. I attached the Bushman by setting the socket over the stick, and driving it in place. I then used the awl from my GAK to start a hole for the sheet metal screw, and used the straight slot screwdriver to drive it in. The top of the stick was still too small, even after getting rid of the really thin top portion, and there was too much play in the socket. Also, the shaft wasn't anywhere near long enough to balance out the head, making throws difficult. Still, I managed a couple of decent tosses, and the head sank about 3/4 of an inch into a log end. I also tried to use the spear for chopping, by choking up on the shaft. It worked pretty well for a few chops, then the shaft broke right at the point where the screw was. You will definitely want to have a shaft big enough to fill the socket completely, whittling down an oversized shaft until it's a tight fit. That would eliminate the play that caused the wood to fracture around the screw. And increase the length of the shaft to at least six feet, possibly longer; that's an area where a little more experimentation is in order.

As I said, a spear is a good first weapon to try your hand at, but the bow is where most of your effort will be best spent. Let's move on to that.

Try to find a limb from a fire or lightning-killed Juniper, yew, or similar hard, springy wood; the type of wood will depend on your area. Use the wire saw to cut it from the tree, don't hack it or break it free; this will lead to a crack later on. Once you've harvested your prospective bow, you'll need to remove the bark and any small branches that may have been growing. Use your belt knife or hatchet for the limbing, being careful not to gouge the wood or split a knot; this will be a potential weak spot in the finished bow. Use either the belt knife or the puukko to remove the bark, again being careful not to cut too deeply and gouge the wood. You want to remove just the bark, leaving the wood underneath intact. If you're working with a fire or lightning-killed tree, check that the wood hasn't dried too much, leaving small cracks running through the wood. If this is the case, save yourself some effort and choose another blank; the second bow I made broke when almost completed because I ignored the small cracks running through it.

Which brings us back to the "frustration factor" mentioned above. Save yourself some time, ahead of time: go ahead and get two or three bow blanks while you're in the woods.

Once the bark has been removed, you will want to allow the wood to dry out a little. If you're working with a piece of dead, almost-dry wood, just let it set in a cool, dark place for six to eight hours before continuing. If all the wood you have to work with is green, you can either let it set in the dark until it's dried out on its own, or speed matters up by holding your bow blank over the fire. Never leave a piece of green wood to dry in the sun; it will dry too fast and split

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or warp, possibly both. Then you have nothing but firewood for your efforts. If you dry out your bow stave over the fire, hold it well over the flames, letting the heat alone do the work. You can also use this method to work out any bends in your blank. Let the wood heat gradually, allowing the moisture to seep out. In the case of crooked wood, once it's been heated, you can bend it the opposite way over your knee or a convenient rock. Let the wood cool, and it should hold the new shape. Be careful that you don't dry the wood too much over the fire.

After choosing an appropriate piece of wood and limbing/barking/drying, the next step is to actually make that stick look like a bow. For this I used my puukko. You will need to whittle the limbs of the bow, tapering them from a midpoint (called the riser) and keeping the taper constant on both limbs. It's best to start by shaping the upper limb, as the lower will usually (being the lower point on the tree), be thicker and need more work.

To find the midpoint, take a string and measure the length of your bow stave; fold the string in half (never cut a string in a survival situation if you can avoid it), and measure again. This will be the midpoint of your bow. Then, using your hand as a measuring device, grasp the bow, with the bottom edge of your hand at the midpoint; the top of your hand is where the top limb will start. Use your knife to scribe a delicate line at that point. Then do the same for the bottom limb, only having the top portion of your hand at the measured midpoint, and the lower portion denoting the start of the bottom limb.

With the riser thus marked out, start whittling on the top limb. Don't just hack out huge chunks of wood. Use a delicate touch, and try to keep each cut on the same grain level, and run it as long as possible. You don't want a lot of short, deep cuts; rather, make them long and shallow, following the natural grain pattern. Also, keep the limbs round, for strength. Taper the limb down to around 3/4 of an inch at the top, and only slightly smaller than the diameter of the riser in the middle. Keep the taper gradual and consistent. When the upper limb is done, match the taper and dimensions on the bottom limb. Use the same steps and cautions as you did for the top limb. If the limbs aren't kept as close to identical as possible, they won't bend the same, and this will affect arrow flight.

With the rough shaping done, now is when your prowess as a primitive bowyer will matter most: the final finishing. Now, you will want to ensure that you have no nasty nicks, and that the grain levels are consistent. If they aren't, or you have nicks, that will be weak points in the bow, and areas where it will be most likely to break. To smooth out any rough spots, use the puukko. Holding it at an 85 to 90 degree angle to the wood, using just the edge as a scraper, apply moderate pressure, and run the knife over the entire bow stave, in long, smooth, strokes. You will be getting tiny curls of wood rising from the knife's edge, smoothing out any small imperfections and, in effect, polishing the wood. Keep this up until the limbs and riser are smooth to the touch, and there are no nicks or gouges. Try an experimental bend of the bow with your hands, cupping the tip of the top limb with one hand and using the other to push outward on the riser. Don't bend it too hard, or it might break, but stress it about as much as you would while drawing. Pay attention to any ominous creaks or groans, and make sure that both limbs are flexing equally. If the bow passes this test, you're almost done. This is the point where my second bow failed.

Next, you'll need to carve a couple of notches to keep your string from sliding. Remove just enough wood to make the notch, and keep the grain pattern in mind. Generally, a notch carved a half inch from the ends of the limbs, and on the outer face, will be adequate. Smooth out the notches, and set the string in place, but don't string the bow. Just set the loop in place and yank against it, in the direction the strain would be if the bow were strung. If the string holds without slipping, you have a good notch.

The last step to bow making is adding a preservative to keep the bow from drying out, or absorbing excessive moisture from the atmosphere. For this, we'll use animal fat. Any kind of fat will work, and if you don't have fat available when the bow is finished, save some from your first kill. I used the fat from a domestic rabbit I butchered, but wild rabbits generally aren't a good source of fat; use what's available in your area, or even vegetable oil "for training purposes only". Just take a handful of fat, and rub it into the bow, limbs, riser and all. Keep coating it until you

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think it can't absorb any more, then set the bow in that cool, dark place again. Let it set for a few days to soak up as much fat as it can absorb; wipe off any fat that may still be present, and you're ready to test the bow.

Get a bow string that's at least six inches longer than your proposed bow length. On my first try, I used a braided nylon cord, 1/8 inch in diameter, that I had salvaged from a pair of Venetian blinds. It was much too long at fifty inches, but instead of cutting it, I wrapped the extra around the bottom limb, just above the string notch. I then passed the end of the string through the loop around the limb, and drew it tight. This took up the slack in the string, but allowed me to keep that extra length in case I make a longer bow in the future. The top limb was strung as usual.

The bow shot well, with a good pull, probably around 30-35 pounds. Not a longbow, but adequate for subsistence hunting. However, I wasn't able to get a full draw and cheek weld, so on my next bow, I'm going to make it about six inches longer. This bow is 40 inches long, while I should have gotten one about 42 inches, and, as I said, 46 to 48 inches would have given the limbs more flex and strength. But sometimes you take the longest piece of decent wood you can get, even if it's a little short.

On the subject of strings. While the nylon string I used would work, and is a good example of scrounging materials, it did stretch a little with each shot, meaning some energy was lost. If you are better at cordage making than I, you could make your string from sinew or any number of natural products. As for me, I'm going to buy a couple of modern bow strings and keep them in my kits, just in case. You could also keep some simple broadheads, fletchings, and lashing material such as dental floss in your survival kit. The less you have to improvise in a survival situation, the better your odds of making it through. Obviously, having the skills to do the entire weapon, from start to finish, with only natural tools and materials is an enviable goal, but you have to remain realistic. Survival means staying alive. Even if you have to "cheat" a little.

Post-scriptum :Original article at [OldJimbo's site](#).