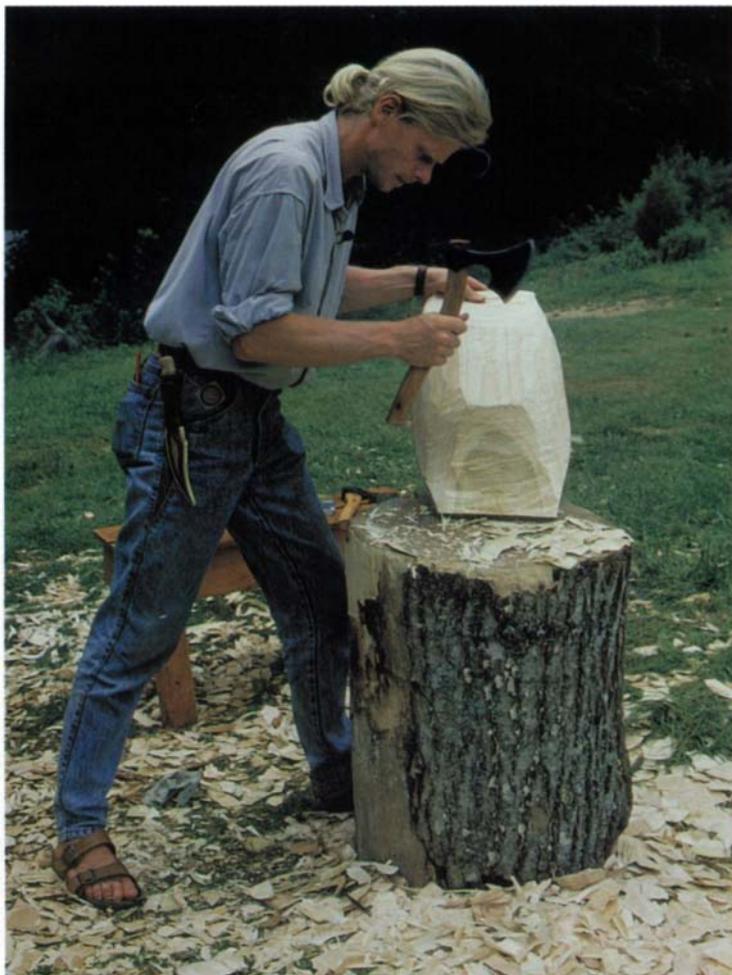


Carving a Dough Bowl

Using ax, adze, knife and gouge

by Wille Sundqvist

My experience with carving is rooted in my very early years in my grandparents' kitchen. My grandfather's workbench was there, and my brother and I often sat at it whittling toys and other important things. In later years I have often pondered the fact that never once did I hear my grandmother complain about the chips and shavings we left behind on the kitchen floor. At one time, the kitchen was the room that was kept warmest, and it was there that people spent the most time, making and repairing things. Women carded wool, spun yarn, wove and knitted, while men made utensils and other implements for the household and farm, including dough bowls. These bowls were very common kitchen objects when I grew up and they are still useful in today's homes.



For a safe stance while hewing, keep your legs wide apart and the blank well forward on the chopping block. This way, if the hatchet slips from the wood, it ends up in the block, not in your leg.

In this article I'll tell you how to carve a dough bowl using mainly an ax, adze, knife and gouge. Deformities in trees, such as burls, can be hollowed to make natural bowls or scoops. Traditional Swedish drinking vessels were made from burls, and sometimes part of the tree trunk was left on the vessel as a handle. Larger troughs or bowls, however, are often made from split round stock. Feeding troughs, several feet in length, were made for livestock. Smaller troughs were used for making cheese, kneading bread and serving food.

Tools and material—You will need an ax or hewing hatchet, a hollowing adze and a couple of gouges to rough out the bowl. For truing surfaces and finish-carving, a knife, drawknife or splitting knife, spokeshave and plane will be helpful. A stable workbench or a low bench with some means of securing the stock is an advantage. And, of course, you will need a chopping block.

The size and sweep of the gouges determine the technique needed to work with them and the type of cut produced. Wide gouges remove more wood, but require more power. A gouge with a deep sweep is good for roughing out; a shallow gouge removes ridges left by the deep gouge. A bent gouge is sometimes necessary to smooth the bottom of the bowl.

Traditionally, softer woods have been used for troughs and bowls. Aspen and birch are among the first choices, but pine and spruce are not uncommon. Almost any kind of wood can be used, except for those that are toxic, contain resins or might otherwise taint food. Alder, tulip poplar and basswood are easy to work; maple, beech, mountain ash, juniper and fruitwood are more challenging.

Avoid wood with knots and uneven grain. The pith and some wood close to it should be removed to avoid radial checking. Whether you work with green or dry wood is often a question of what you have access to. Roughing out green wood is easier than dry wood, but you must prevent checking and cracking when it dries. For green-wood bowls, leave the blank $\frac{3}{8}$ in. to $1\frac{1}{4}$ in. larger than you intend the final shape to be, so you can make adjustments after the wood has dried.

Hewing with an ax—To shape an object with an ax, it is necessary to use a technique other than one you would use when felling or limbing trees. When you hew on a chopping block, you don't chop the wood, but shear it. The cut starts at the near corner of the blade edge and slices toward the far corner. This stroke, combined with the momentum gained through the ax's weight, lets you cut with the entire length of the blade edge. This technique applies to axes with short edges, but precision is increased with long-edge axes because the bevel registers on more of the blank's surface.

Because of this shearing action, your feet should be fairly wide

apart. If you hew with your right hand, your right leg should be far back, as shown in the photo on the facing page. This stance keeps your leg out of the path of the ax and also helps you gain power for your stroke. When making a stroke, the ax head should angle upward, with your hand well below it. It's a good idea to support the blank on the far side of the block, especially on full-powered strokes, so if you miss or strike a glancing blow, the ax edge ends up in the block, not in your leg.

Start hewing low on the blank and work upward, but not clear to the top; then turn the blank upside down to work the opposite end. Work carefully in controlled increments. Don't take that last stroke after you've decided you're getting tired and should stop for a rest.

Roughing out the blank—Choose a piece of round stock at least 4 in. longer than the intended bowl. Remove the bark, split the stock down the middle and hew away the pith. Hew a flat on the bark side, approximately parallel with the pith side, and true this with a plane. This flat will become the bottom of the bowl.

On the other side of the blank, lay out the shape of the bowl's

inner rim, leaving a 1-in. margin along the sides and twice that at the ends. The margin can vary depending on the strength of the wood you are using and the shape you are aiming for, but the end walls must be thicker than the side walls to accommodate the weaker endgrain. If the ends will be shaped with handles, leave room for them, too. You can draw the shape freehand or make a symmetrical pattern by folding a piece of paper and drawing half the shape on the fold. Cut out the pattern with the paper still folded.

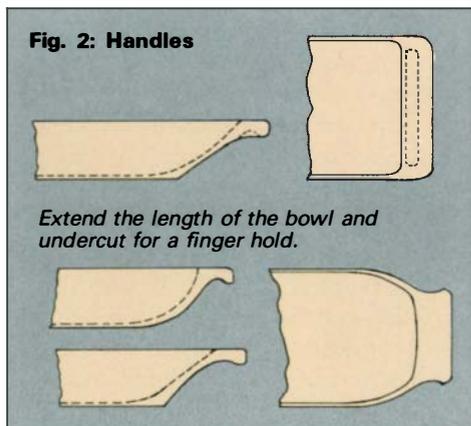
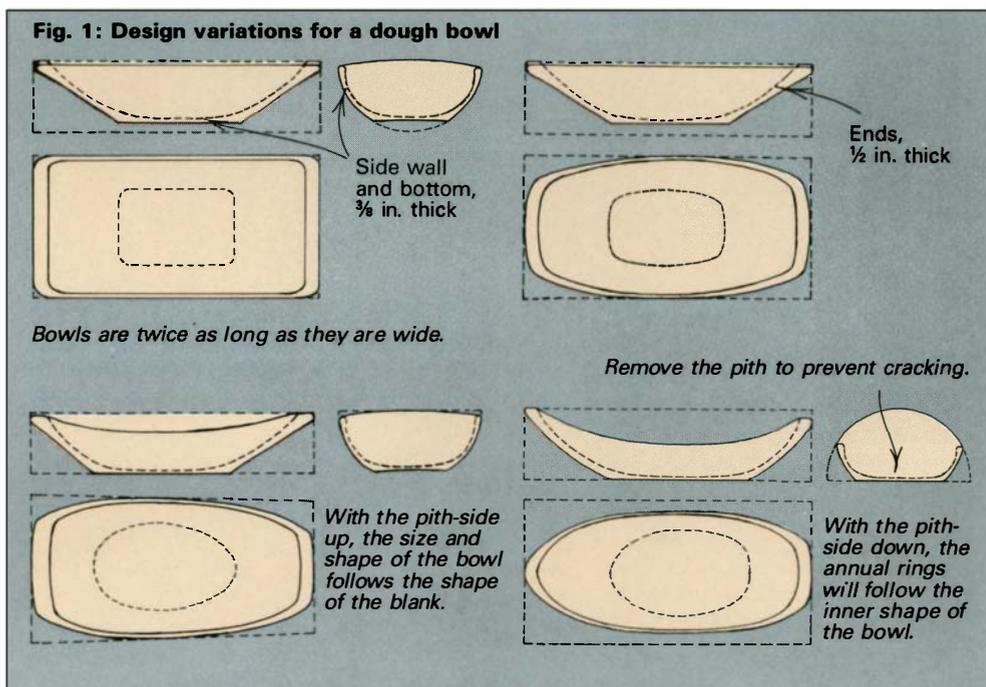
Use a hollowing adze with a short handle to rough out the bowl. The blank can be held at an angle on a chopping block, as shown in the top, left photo on the next page, or secured between the dogs of a cabinetmaker's workbench. But to get a longer, more powerful swing, a low bench with pegs and wedges is ideal (see the top, right photo on the next page). You can straddle the bench or stand to the side to work on the walls of the bowl. You can also secure the blank in a bowl-chopping block, which allows you to work on the blank without having to hold it with your hand.

The stroke with the adze is that of a pendulum, with your wrist at the center. The knob of the handle is rounded to fit in the palm of your hand, and so there is some tool rotation at the beginning

Dough-bowl design

A bowl made from wood should be designed to be functional. Dough bowls, like the one shown in the photo below, need wide, long bottoms to keep them from tipping, and serving bowls need handles. Basic Scandinavian bowl design is usually worked out from the rectangle of a split bowl blank, as seen in the plan views in figure 1 at right. The bowls are usually at least twice as long as they are wide, and their walls are not very steep. This is especially important for the end-grain walls, which should be thicker than long-grain walls to ensure adequate strength. Handles can be included by extending the length of the bowl and undercutting for a finger hold, as shown in figure 2 below. A common bowl shape has curved corners. If your blank is tapered, a boat-shaped bowl can be an attractive result. Bowls can also be made from a split round, pith-side down. Such bowls will be shallow, but they will be graphically striking because the annual rings will follow the inner shape of the bowl.

—W.S.



Tool marks are still visible on this fruit-filled dough bowl, a traditional Swedish vessel that was carved with a hatchet, adze, gouges and knives from half of a fireplace-size log.



Left: After initially shaping the outside, a hollowing adze excavates the blank that is held at an angle on a chopping block.

Above: Instead of a bowl-chopping block, a low bench fit with pegs and wedges allows the user to hollow the bowl taking longer strokes. Support is added by grasping the adze with both hands.

Right: Check the depth of your bowl periodically, using a straightedge and ruler. The bottom thickness should be finished to about 1/2 in.



Above: Control the gouge by supporting your hands against your body, the blank and the bench. Use two hands on the gouge: one pushing and one pressing the bevel down while restraining stroke travel. Right: When you can, wrap a finger or fingers around the edge of the blank for support.



and end of the stroke from this center, too. You can add support by grasping the adze hand itself, as shown in the top, right photo, or the wrist of that hand. But don't grip the adze handle above the adze hand, as this would inhibit the arc of the stroke. As when hewing, there is also a more powerful one-handed stroke, entering the wood high up and following through on an arc. Snapping your wrist releases the chip.

Work alternately from both ends to keep from cutting up the grain. You can hollow entirely with the adze, or you can remove the rough waste in the middle with an ax. First, use the adze to cut inward from either end, and then chop out the waste with the ax parallel to the sides of the bowl, working from either side toward the middle. As you deepen the hollow, slope the end-grain walls inward, but not too steeply or they will be weak. You can now use the adze to carve down one end and along the bottom to meet the adze strokes on the other end. Check the depth of your bowl with a straightedge and ruler, as shown in the center, right photo, so you

don't cut too deeply. Once you are familiar with the hollowing adze, you'll discover its effectiveness for quickly hollowing a blank.

Shaping the inside—The hollowing adze has a deeply curved edge and it always leaves some chop marks, so a gouge is used to smooth the shape. There are two technical difficulties when working with gouges: powering the stroke and stopping it. A gouge can be tapped with a mallet, but this tends to leave a choppy surface. Powering by hand can yield longer, smoother strokes, as long as you can stop the gouge before it cuts against the grain. The bottom of the bowl curves into and then out of the grain. In addition, any wavy grain will change direction in a flat surface. The gouge must always cut with the grain or the wood will tear; so you must be able to stop the stroke precisely where grain direction changes.

You can control power with the gouge by locking your arms against your sides and/or the blank and pushing with your entire body, as shown in the bottom, left photo. You can also rest your



Above: After shaping the rim, taper the outside ends of the bowl, first chopping off the corners of the blank and then the remaining wood until the outside shape parallels the inside. Right: Fine-tune the width of the rim as you smooth the inside gouge marks with a wider, flatter gouge.



elbow against your hip to power the stroke. As when using an ax, if you are working at a standard-height bench, your stance should be wide and the stroke should be initiated from your legs. A low bench, on the other hand, permits you to kneel or sit, but your legs should still be spread wide and you should power the stroke with your upper body.

You should have two hands on the gouge: one pushing forward and the other pressing the bevel down as well as resisting too much travel in the stroke. Keep your hand positioned on the chest, with an arm on the knee, or a forearm or wrist on the blank so that power is controlled through the stroke. Along the sides of the bowl you can hook your thumb or fingers over the rim for guidance, as shown in the bottom, right photo on the facing page. You should take repeated cuts at a controlled depth, and stop at the same place each time.

Roughing the outside—If you are working with green wood, it is best to rough-hew the outside of the bowl as soon as you have hollowed the inside so that the blank will dry evenly and be less likely to crack. Even so, if you ever put the blank aside for a while, keep it from drying too rapidly by storing it in a plastic bag with some shavings. Shape the rim along the sides first, working from the middle toward each end. Hew as close as possible to the layout line. Next, chop the corners off the back of the blank, and then angle the ends as in the left photo above. With both ends tapered to an angle that corresponds to the end-grain walls on the inside of the bowl, begin shaping the outside to match the long-grain walls. Here you are trying to duplicate the inside shape of the bowl, and you must stop periodically to test the thickness with your thumb and fingers.

Smoothing the bowl—To smooth the outside surfaces roughed out by the ax, clamp the bowl upside down on a bench and work it with a drawknife or spokeshave, taking long strokes for a smooth, continuous cut. Position a block of wood inside to support the bowl above the bench's surface. You can finalize the shape of the bottom at this time.

Before smoothing the inside of the bowl, it's a good idea to refine the shape of the rim. You can use a block plane or knife to carve the perimeter. With the bowl held on the chopping block, use a block plane or spokeshave to smooth the surface of the rim.

Now you can adjust the width of the rim as you smooth the inside of the bowl with a wider, flatter gouge, such as the one in the above photo at right. The gouge marks you leave can be the final surface of the bowl. Aim for long, smooth strokes that produce a pleasantly sculpted surface. Alternately, you can sand the bowl, but green wood must first be allowed to dry.

Green wood carves easily, but it's fibrous; so when you try to smooth it, it tends to fray. Drying it makes it hard and crisp and easier to cut. But you must take measures to keep the blank from drying too fast, which causes it to check and crack. I learned an excellent drying method at a workshop at the Sätergläntan School in 1974. The instructor, Birger Lindén, had carved a spoon from very green wood. It was evening. He rubbed its surface with a boiled potato and laid it on a warm radiator. The next morning the spoon was completely dry, without checks or cracks, and the potato residue didn't make further carving difficult. Be particularly careful to rub the potato into the end-grain areas, especially on the bowl's ends, both inside and out. If drying is not retarded, moisture will leave these areas too quickly and cause checks and cracks.

Finally, an old recipe for finishing cooking utensils is merely to boil them in milk for a couple of hours. The casein, which is sometimes used in water-resistant, water-base paint or glue, is absorbed into the wood, protecting and preserving it. Raw linseed oil (found in art-supply stores) or walnut oil (from health-food stores) are edible finishes and should be applied two or three times, with about a week between applications. These oils take a long time to cure, but the process can be hastened by heating the oil in a double boiler or by immersing the oil container in water that is already hot, and then keeping the oiled utensil warm until it dries. □

Wille Sundqvist teaches traditional Swedish woodworking and is a retired Provincial Handcrafts Consultant in Västerbotten, Sweden. He is teaching a carving class at Country Workshops, 90 Mill Creek Road, Marshall, N.C. 28753, this July. This article has been adapted from Swedish Carving Techniques, ©1990, published by The Taunton Press. Sculptor's adzes and knives are available from Kestral Tool, Route 1, Box 1762, Lopez, Wash. 98261; some Swedish original and American reproductions of these tools are also available from Country Workshops.