

**Palmetto WoodTurners
Hands On Class
and
Club Demonstration**

Making Better Bowls

November 1, 2019

**Respect the
Spindle and Vessel**

November 2, 2019

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Palmetto Woodturners - Mann Tool and Supply

“Frightened and faltering, and there’s something wrong with her speech. But she has just delivered this fine, sane, but somehow taboo rule

What you make from a tree should be at least as miraculous as what you cut down”.

From: The Overstory, A Novel by Richard Powers



Shrink Boxes with Robert F. Lyon

The Vikings of Scandinavia were skilled craftspeople at woodworking of all kinds including turning on the lathe. They stored their goods in a **krympburk**, or shrink box. It is from this tradition, that we make them today. The shrink box is a vessel made from a green (wet) piece of wood or tree branch. The wood is hollowed, and a small kerf or notch (called the **croze**) is cut into the interior sidewall close to the bottom. A dry piece of wood is fitted into the kerf. If all the steps are done correctly, the green wood will shrink around the dry base and create a very snug fit.

The lids are made separately from a dried board, and made to fit tightly enough so the lid “pops” when it’s opened.



Alice laughed. "There's no use trying," she said. "One can't believe impossible things".

'I daresay you haven't had much practice,'
said the Queen. 'When I was your age, I always did it for half-an-hour a day. Why,
sometimes I've believed as many as six impossible things before breakfast.'

Lewis Carroll
THROUGH THE LOOKING GLASS

Those who believe they can do something and
those who believe they can't, both are right.

HENRY FORD

WELCOME TO THE WONDERFUL WORLD OF MATERIALS

An important part of art and craft is the response to and creation with physical materials. In the environment there are three states of matter of which everything is composed: gases, liquids and solids. Matter has physical properties of mass, odor, color, texture, and luster.

The variations of visual contrasts and elements attract us first, then, we perceive such properties as weight, temperature, hardness, smoothness, softness, rough tactility, sharpness or prickliness. The qualities of skin, fur, hair, porcupine quills or fish scales become apparent. By placing one material next to another in sharp contrasts or subtle blends, it is possible to evoke emotions. The artist often reinvents the qualities found in nature and presents new possibilities.

When materials, both created and natural, are placed in the context of objects and environments, it is possible to see how the maker was motivated to express meaning in their work.

When one works with materials and ignores context, there is one less layer of meaning. However, it is not possible to create a thing and not find it in a context of some sort. The context may offer a function or purpose against which the juxtaposition of materials and skill can be evaluated. A lot of creativity can come from an appreciation of materials, how they fit together, how they are worked, their strength, and appropriateness to circumstance.

Thoughts on Woodturning Form and Design

Robert F. Lyon – robertflyon.com

Because of the intrinsic nature of lathe-formed vessels (work created around a central axis), all of our turning will be more or less symmetrical. Accordingly, all lathe turned forms come from one family of forms, the circle. Here we exclude the forms that are distorted by carving and other forms of alteration away from the lathe, and perhaps some off-center turning.

For some, making forms on the lathe that are symmetrical will be viewed as a severe limitation on the possible avenues available for creative expression. However, when viewed in a more confident way, the restriction of form that the lathe presents provides a format that points and directs us in a way that is not possible in a world of limitless possibilities. Our desire to create a form, to shape the wood (and space) in a specific way is often the outgrowth of the materials we use, the time, and place, functional purpose, acquired knowledge, and general imagination we bring to the lathe. Once you have learned to make basic shapes, let your imagination roam, drawing on ideas and forms from the world around us. Let invention be your fundamental criterion for the shape you create. In other words, copy less and create more.

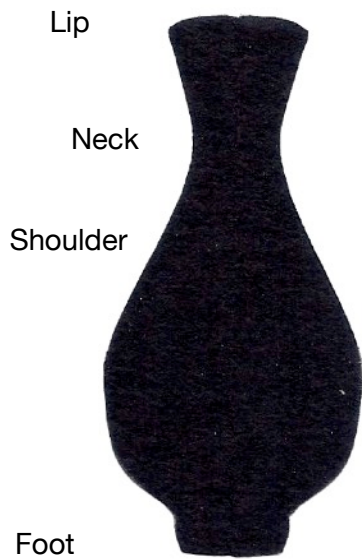
The turned piece, which essentially has been formed around the axis of the lathe, may take a deviation from the round form we are accustomed to seeing. This deviation may take the form of eccentric turning, carving, burning, drilling, and the unintended movement of the wood itself.

Bowls and Hollow Forms

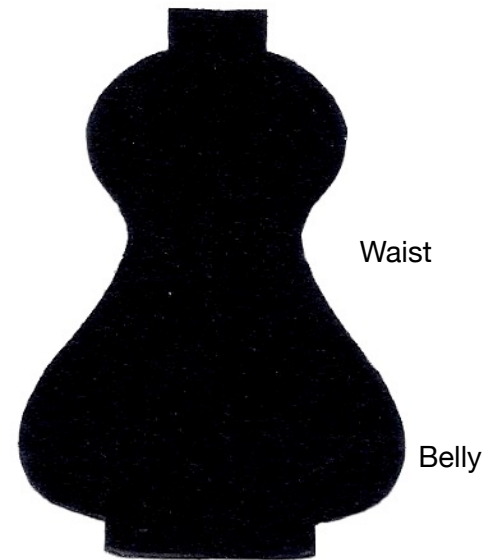
One of the basic functional forms in ceramics, glass, metal and wood is the bowl. The bowl tends to be wide mouthed; it holds its space delicately, because its interior is really part of the exterior and surrounding space. The bowl is often related to the open blossom of a flower, or the two-cupped hands use to drink. Many refer to the two-cupped as the first vessel or bowl, however, according to Greek myth, the first bowl was shaped over the breast of Aphrodite.

The bowl form is basically a hollow hemisphere or variation of the same. Since the bowl is looked down into, the interior becomes an encircled and defined area. Our attention is focused on the color, grain, texture, and general quality of the wood used.

The Chinese potters of the Sung Dynasty were masters of bowl making, and the bowls that they made are often thought of as “more than the sum of their parts”. In other words, they have a sense of completeness. These bowls, which have been very carefully formed, show a strict harmony between lip, profile and foot. On the other hand, Korean and Japanese bowls tend to be more casual and often have form and that suggest rapid and rhythmical forming, with tool marks evident in the final pieces.



You may have noticed that bowls and many other turned vessels have a number of fundamental parts. These include the foot, lip, shoulder, neck, waist and belly. It's not an accident that we have always used anthropomorphic terms to designate these different parts. Thus, many people have felt that these forms have a symbolic resemblance to the human form. It is this relationship proportion that create in the successfully composed piece, a sense of completeness that can be felt but is difficult to describe.



Another source of inspiration for your woodturnings might be right outside your backdoor – Nature. But you'll have to look carefully. To help you see possible wood forms in nature, I recommend the book, *Nature as Designer, A Botanical Art Study* by Bertel Bager, published by Van Nostrand Reinhold Company. In this book you will find a wonderful study of natural forms that could easily be translated into beautiful turned wooden forms. In this book are photos of various fungi and toadstools that resemble ceramic stoneware bowls and other species that stand on the ground like vases, hollow forms and funnels, to name just a few. Additionally, you will find inspiration for texturing.

Besides their obvious functional use, there is the potential for bowls to be used as "sculptural" objects. Many turner today use the bowl as a "canvas" for painting, burning, carving and many other forms of surface decoration. But this is just the beginning. Bowls can be combined with other turned forms, distorted after turning, carved, colored, drawn upon, painted, burned, inlaid, and anything else you can think of. Once the piece is taken from the lather, IT MAY BE JUST THE BEGINNING!

Turning Do's and Don'ts

Robert F. Lyon – robertflyon.com

Do - Choose and prepare your stock carefully, taking care to avoid defects in the wood such as cracks (checks), knots, etc. Straight grain pieces will produce the best results and will be easier to turn when turning spindles. Objects that require crisp detail require a good hardwood. Cherry and walnut are good when a dark wood is required, and maple and excellent light wood choice.

Do – Use a center finder to locate the center of your blank. Using a center finder makes finding the center of a turning blank a snap. If your spindle, or hollow form, will retain a square section, be sure the blank is truly square when preparing the wood.

Don't – Drive the blank onto the spur center when it's mounted in the spindle. This practice will cause damage to your headstock bearings and can harm the Morse taper.

Don't – Use a steel hammer to drive the spur center into the blank. A steel hammer will cause damage to the Morse taper of the spur center. If you want to drive the spur center use a wooden or rubber mallet.

Don't – Apply excess pressure with the tailstock. Just “snug up” the tailstock into the end of the blank and be sure to lock the quill in position. Always use a high-quality live center.

Do – Position the tool rest close and parallel to the blank (1/4” is usually fine). Lock the tool rest and the banjo securely. Always turn the work piece by hand to be sure it clears the tool rest before starting the lathe. Move the tool rest closer as you remove the corners and as the piece gets smaller.

Do – Use a file and sandpaper to keep your tool rest nick and ding free. This will make moving the tool across the rest smooth and easy.

Do – Adjust the tool rest height to match the tool you're using. Most cuts are made above the centerline, so the center point of the lathe is a good place to start.

Do – Check that the tool is on the rest before contacting the turning wood.

Do – Always cut “downhill”, or with the grain. Going uphill is inviting a catch and disaster.

Do – Make sure the only part of the tool that that contacts the wood is the part of the tool that is receiving direct support from the tool rest.

Do – Make sure the bevel of the cutting tool is rubbing the wood behind the cut.

Do – Keep your tools sharp. Be sure you know how to sharpen your tools properly. Dull tools cause chatter and are difficult and dangerous to use.

Do – Use your body to move the tool along the tool rest, not just your arms. This provides solid support and will give you better control of your turning tools.

Don't – Sand with the tool rest in place. You don't want to get your fingers caught between your work piece and the tool rest. Never wrap the sandpaper around your fingers or hands.

Don't – Use cloth to apply finish while the wood is spinning, only use paper towels. Cloth can get caught on the work piece pulling your fingers and hands along with it. It's not worth a trip to the emergency room...!

ALWAYS

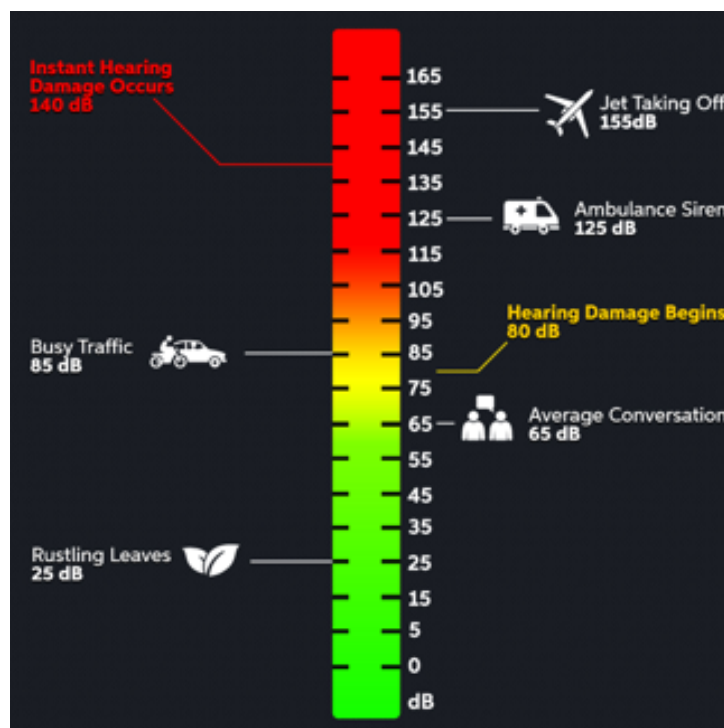
protect your eyes, face and lungs.

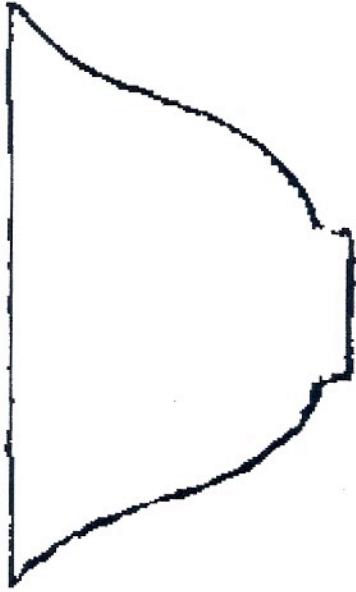
Wear a quality face shield and dust mask while working at the lathe.

A Guide to Protecting Your Hearing

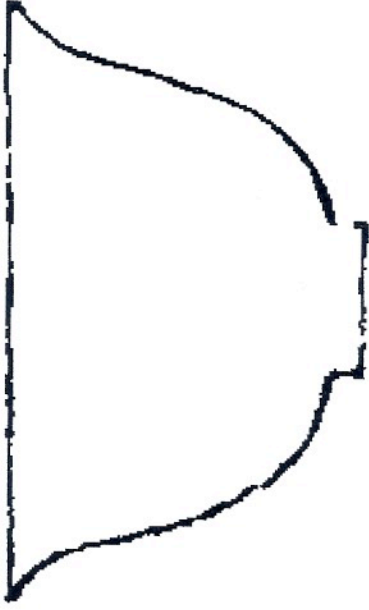
We must understand and respect the most preventable cause of long-term damage — repeated high-level sound exposure. Several factors contribute to this type of degradation, including volume (measured as sound pressure level in decibels, abbreviated dB SPL), frequency distribution, duration of exposure, individual susceptibility (genetics), and age. Defining what's considered safe might surprise you! For reference, consider that baseline ambient noise in a quiet room runs around 40dB, a hair dryer around 90dB, air compressor 92 dB, table saw 93 dB, band saw 104 dB, miter saw 109 dB, chain saw 110 dB, a lawn mower around 110dB, and a rock concert in front of the speakers? That's 120dB or more. The threshold of pain is around 140dB. Within this framework, the National Institute for Occupational Safety and Health (NIOSH) guidelines recommend exposure to 85dB (A-weighted) levels for no more than 8 hours a day. Every 3dB correlates to a doubling in power (volume doubling is typically reported as a 10dB increase, but in terms of the inner ear, we're interested in the power-doubling factor of 3dB), which means that for every 3dB increase, the recommended "safe" listening interval halves. So, at 88dB exposure, by the NIOSH recommendations, the limit is 4 hours. At the 110dB range (such as mowing your lawn) it's 30 seconds. That 120dB rock concert? The limit is 7 seconds! That's right — after 7 seconds, you risk permanent hearing damage. Ongoing exposure of the cochlea's hair cells to these high SPLs causes physical wear and destruction, and ultimately they can no longer carry the sound movement to the nerve cells.

When you purchase earmuffs or earplugs, they'll have a noise reduction rating (NNR) on the package. You can't simply subtract that number from the decibels you're exposed to as NIOSH recommends you adjust those numbers for real-world use as follows. Earmuffs subtract 25% from the manufacturer's labeled NNR. Formable foam earplugs, subtract 50%. All other earplugs, such as those on cord, subtract 70%.





S Curve

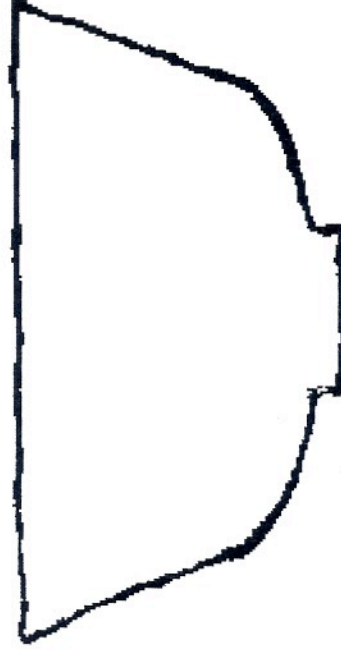


Modified S

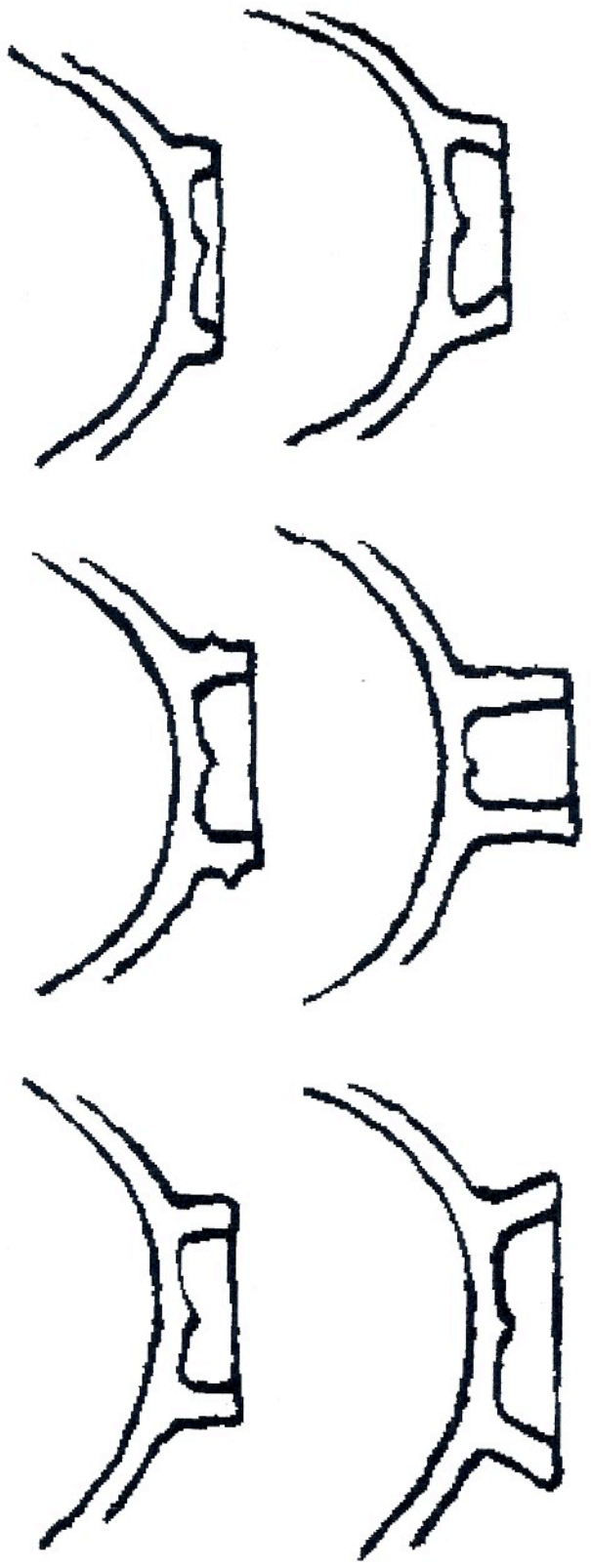
Possible profile curves of bowls



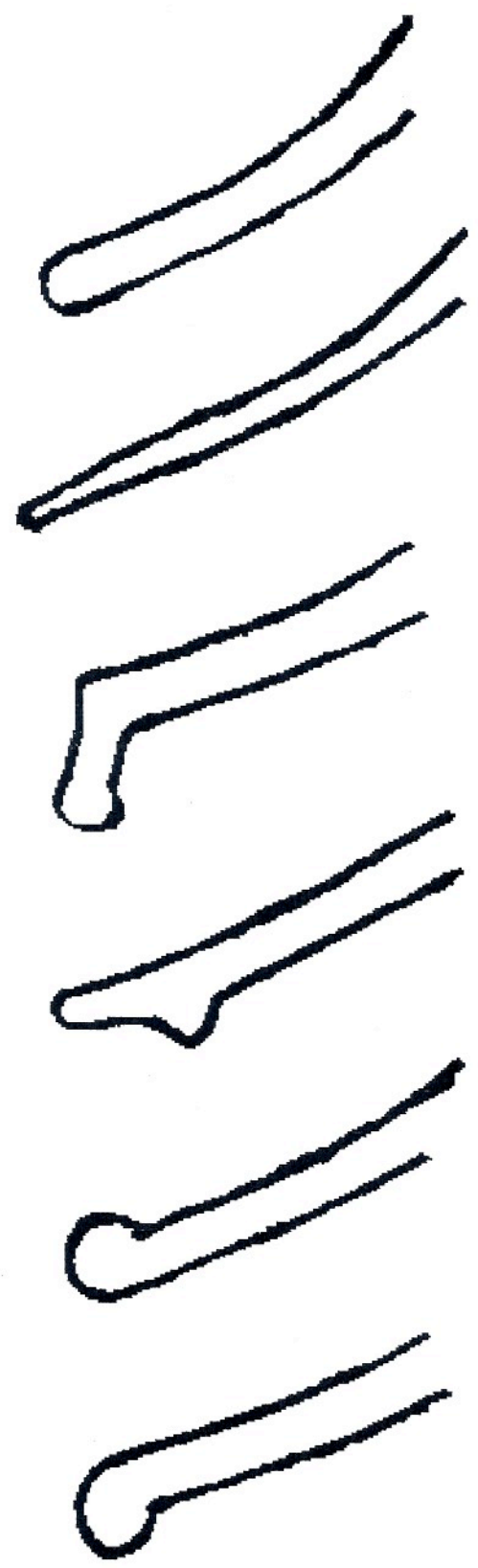
Parabola



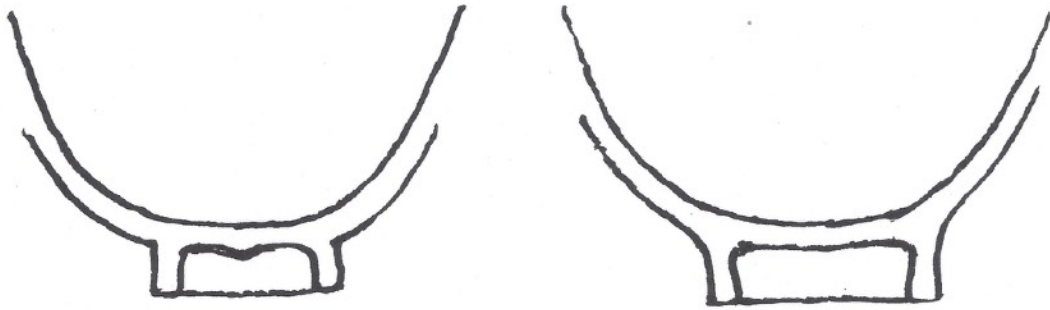
Straight & Curved



Possible solutions for the feet and rims of bowls and other vessels



Relating the foot to the contour of the bowl



Shapes from Platter to Bowl

