## About the IWG:

The Island Woodturners Guild meets from 1:00-4:00 PM on the 4th Saturday of each month (except for July/Aug) at the Central Saanich Senior Citizens' Centre, 1229 Clarke Road, Brentwood Bay, BC.

Visitors are welcome.

## Executive Committee

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Tim Karpiak
Vice President:
Vik Peck

## Secretary:

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## Member at Large:

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 Steve Werner
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 John KilcoyneThe IWG gratefully acknowledges the support of the following companies:
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## THE PRESIDENT'S TURN

I noticed the other day that it was five o'clock in the evening and it was still light outside. This can only mean one thing - Spring is around the corner and it's time to open the doors of the shop and blow out the dust.

I've talked to a few people who, like me, have found that it's been difficult to get out to the shop lately. There always seems to be something more pressing to do. It's certainly not for lack of ideas of what to do. I have a mental list that should keep me going for years. Perhaps with Spring's arrival we'll find that motivation to go out and get some things done. And when you do, please send Virginia pictures so she can put them on the website.

We have some great events to look forward to this spring. Starting with Rob Dunlop showing us how to make some toys. I think it'll be a fun meeting. That meeting will be a virtual one with no attendance at the hall.

I'm not sure how the quickly changing restrictions will affect us but we are watching closely, and I look forward to meetings at the hall once again.

I hope to see everyone on Saturday even if it's only on the screen!

Cheers!

## NEXT (ZOOM) MEETING: SATURDAY FEBRUARY 26: 1:00 p.m.

Our February meeting will begin with a presentation by Rob Dunlop on Turning Toys. A senior member of the Guild, he will demonstrate a variety of tools (he is scary good with a skew!), mounting and turning techniques and jigs.


This will be followed by a show of the results of the Fall Challenge which was to turn a piece bowl, platter, whatever - from green wood. Please forward photograph(s) of your efforts to Virginia (remoteva@gmail.com) by Wednesday February 23.

## REMINDER: SPRING CHALLENGE

This challenge is to create a turning using wood that was obtained from Phil Cottell. Ideally, this will be using one of Phil's rough-turned bowls.


The results will be presented at the May meeting.

## JANUARY RECAP

Gord Kifiak provided an impressive demonstration on various cuts that can be made with a bowl gouge. The emphasis was on how to obtain the best finish (minimal sanding) while avoiding stress and clenched hands. The following are the highlights. (Some of the following photos which illustrate his points are taken from other sources.)


## I. GENERAL POINTS

## A. BLANK ASSESSMENT

Gord began by noting that before turning, one should consider three important characteristics of a blank: hardness, grain direction and grain type.

## 1. Hardness

The international standard for wood hardness is the Janka scale which measures the force in pounds force (lbf) required to embed a steel ball, 11.28 mm in diameter, halfway into the species.


The Janka ratings can range from 4500 lbf for lignum vitae to 70 lbf for balsa. For commonly used local woods, the ratings are as follows:

| Garry Oak (Oregon White Oak): | 1640 |
| :--- | :--- |
| Arbutus (Madrone) | 1460 |
| Big Leaf Maple: | 850 |

You can find the Janka rating for over 600 species at https://www.wood-database.com/

## 2. Grain Direction

There are a variety of grain directions which will affect cutting techniques with a bowl gouge. Straight grain (parallel to the axis of the tree) will be the easiest while spiral (spirals around axis), interlocked (spiral grain that reverses direction) and irregular (swirls or twists) grains will prove more challenging to get a clean cut because the orientation of the end grain changes throughout the blank.

## 3. Grain Type



While there are 3 grain faces on a piece of dressed wood, in most cases, turners will simply distinguish between two of these: end grain and side/face grain. As was evident throughout his demonstration, it is the end grain which will be most susceptible to tear out and thus will be the most important factor in selecting cutting techniques.


## B. MINIMIZING TEAR OUT: GRAIN TYPE AND DIRECTION OF CUT

While it may not be possible in all situations, the best finish will be obtained if you cut with the grain. Gord noted that doing so means that the wood fibres that are being cut are supported by fibres behind it which will minimize tear out.


Using a pair of straws, he graphically illustrated the tear out that will occur if fibres are not supported.

For a typical bowl blank, this means cutting from the tenon to the rim on the outside and the reverse on the inside.


However, in most cases, a bowl blank will be a side-grain blank which means that it will have both side grain and end grain. To minimize tear out he recommended a number of steps to consider getting a clean cut including:

## a. sharpen frequently,

Gord indicated that he rarely does more than 3 or 4 full cuts before stopping and examining the wood. With experience this will give you a good idea of how long you can wait before sharpening. Regardless, it is essential that you sharpen for your final cut.
b. take light cuts,
c. move the gouge slowly while ensuring that cuttings are clearing the flute,
d. increase the lathe speed but not beyond a level you are comfortable with.
e. use bevel supported cuts, if possible at all times. Be bevel aware.
f. use a steeper cut angle which is more in line with the rotational direction of the wood by dropping the handle.
g. stop frequently and check the results.

## II. CUT CATEGORIES

Rather than distinguishing cuts by reference to their turning application, Gord prefers to categorize cuts by reference to the placement of the tool. Accordingly, he noted two broad categories: bevel-supported cuts (which will provide the best finish) and those with no bevel support. As a variant on the ABC mantra, Gord prefers Anchor, Heel/Bevel, Cut.

## A. Bevel-Supported Cuts

There are two types of bevel-supported cuts: a push cut and a pull cut.

## 1. Push Cut

This is the most commonly used cut with a bowl gouge. Gord noted that it is the easiest cut to control, can quickly remove wood when used for shaping and produces the best surface when a fine cut is used.

The steps for making a push cut are as follows:

a. With the tool anchored on the rest, lower the handle and apply the heel of the tool lightly to the turning.
b. Slowly raise the handle while rotating the tool until the bevel contacts the wood and continue the rotation until the edge starts cutting.
c. Slowly glide the tool across the turning to complete the cut.

## Points to Note

a. As a general rule, position the tool approximately 45 -degrees to the work. (Avoid placing the tool in a near-parallel position to the turning (right) as this will produce very high torque.)


However, even in this position there can be a considerable amount of torque. He recommends reducing the size of the cut which means less torque, greater control and enhanced safety.
b. The same concern arises if you are cutting out on the wing. In this case, ensure that you rotate the tool so that the fulcrum point on the tool rest is directly under cutting area.
c. Making a hard entry cut such as when starting at the rim to hollow the inside of a bowl deserves special mention as there is no bevel support initially. He recommends the following process:
i. Place the gouge on the rest with the face completely closed i.e., the flute facing 3 o'clock.
ii. Engage the wood using only the tip of the gouge and create a "ledge" of approximately $1 / 32$ ".
iii. Without stopping, advance the cut while rotating the tool to open up the flute and drop the handle.
iv. Proceed with the push cut.

For short, slow-motion videos of Gord making a push cut, click on the following links:
On Face Grain: https://youtu.be/OvvNsWZnqaw
On a Spindle: https://youtu.be/9Q0F6zBrarA

## 2. Pull Cut

As the name implies, in a pull cut the handle precedes the cutting edge. While Gord estimates that he only uses this cut $5 \%$ of the time, it can be useful in certain circumstances such as turning the outside of the bowl near the tenon. Lefthanders may use this cut more often as a push cut can be more difficult for them.


Gord noted that a pull cut can be used to remove wood very fast which means that it can be used initially before moving to a push cut for a better finish.

The steps for a pull cut as the same a push cut with the directions reversed.
a. With the tool anchored on the rest, lower the handle and apply the heel of the tool lightly to the turning.
b. Rotate the tool until the bevel is engaged and then slowly rotate the tool until the cutting edge engages with the wood (right).
c. Slowly draw the tool across the turning to complete the cut.


## Points to Note

a. Never cut with the tip of the tool on a pull cut.
b. Gord recommends using a red marker to draw a line in the bottom of the flute. If the red line is fully visible in the centre of the tool, you have opened the flute too far.



At the same time, he emphasized the importance of not using too much of the wing of the cutting edge (left) which will produce too aggressive a cut. Rather, you should use the cutting edge just slightly off the tip.
c. Throughout his presentation, Gord demonstrated the importance of the right hand and the relative unimportance of the left hand. The right hand is used to control the direction and speed of the cut as well as rotating the handle which determines how aggressive the cut is.

While the left hand may be used to position the tool at the beginning of the cut and to maintain a light pressure on the tool rest, that is it. Gord noted that too much pressure from the left hand will lead to a "non-gliding" situation.

For short, slow-motion videos of Gord making a pull cut, click on the following links:
On Face Grain: https://youtu.be/ JryXO-zJbY On a Spindle: $\quad$ https://youtu.be/hx4-7rDCOMM

## B. Unsupported Cuts

Gord demonstrated two similar types of scraping cuts: basic scraping cut and shear scraping cut. These cuts should only be used on the outside of a bowl.


Both of these use the lower wing of the gouge which involves rolling the tool over so that the upper wing is close to but not touching the surface of the wood. As is the case with a conventional scraper, the cutting edge can be moved back and forth on the surface.

Warning: While neither of these cuts have any bevel support, they are safe cuts so long as the top wing is close to the surface. If the top wing does make contact with the wood, it will simply push the tool away from the surface. However, if the tool is opened up so that the top wing is away from the wood, applying the lower wing will produce a nasty catch.

The only difference between these two scraping cuts is the position of the tool handle.

## 1. "Basic" Scraping Cut

In a basic scraping cut, the tool is held in a relatively horizontal position and, when cutting on the wing, can remove wood quickly such as when making a tenon.

However, even when used with a light touch, it will leave a relatively rough surface. For a better finish, you should shear scrape.


## 2. Shear Scraping Cut

In this cut, the upper wing must also remain close to the wood, but the tool rest is lowered, and the handle is dropped down producing a steeper cutting angle. Unlike a push cut, the tool should be perpendicular to the workpiece.


As Gord demonstrated, it is a very light cut and should produce very fine, "fluffy" shavings.

This cut is done by the burr on the cutting edge and this burr will rarely last longer than 45 - 60 seconds on dry wood. You must resharpen frequently.

## III. KEY POINTS

1. Effective cutting is a function of muscle memory which in turn is a function of practice. Gord urged members to avoid rapidly hollowing the inside (or outside) of a bowl. Rather, take the opportunity when roughing out to practice making a succession of "finish cuts" to the best of your ability.
2. Anchor, Heel/Bevel, Cut.
3. The sweet spot on a bowl gouge will generally be approximately $1 / 4$ " off the tip.
4. Red flags for New Turners
a. Never cut directly into end grain.
b. Never open the flute beyond 45 degrees.
c. Never have the handle higher than the tip.

## 5. Feedback

When cutting, there are various types of feedback you should keep in mind including:
a. changes in the sound sounds from tool or wood
b. types of shavings

- saw dust means you are cutting end grain - larger shavings will mean more tear out - fine shavings with a curl indicate a good finishing cut (little tear out).

c. if you feel vibration through the tool, it will likely signal either a problem with mounting the blank or how the tool is cutting the wood.

6. Stop frequently to check finish and assess why good or bad.
7. If you find that you are taking too big of a cut, stop and divide it in half.
8. A death grip on the tool will produce a rough cut. Lighten up.

## A PLEA FROM THE EXECUTIVE: THIRD TIME LUCKY?

This is the third request in the last 6 months for volunteers. In anticipation of a relaxation of COVID restrictions, we need members willing to help with the $A / V$ setup and operation (ideally 3 or 4 to share the workload), take photographs of demonstrations and show and tell (ideally 2 to share) and one member to serve on the Executive. No prior experience is required.


Of 125 members, there are approximately $25-30$ who regularly help out in a variety of ways including service on the Executive, delivering demonstrations, mentoring, helping with setup and assuming responsibilities for administrative and related matters. That leaves over 90 members who don't! Please step up.

## WIT PRESENTS: TANIA RADDA

Women in Turning (WIT), a committee of the AAW, is offering a free webinar for AAW members featuring Tania Radda.

An outstanding artist, her work combines turning, carving, colour and the use of compressed wood to create work that is both fantastical and technically challenging.

This session is NOT a demonstration. Rather, it is a discussion intended to motivate and inspire.


The form for pre-registration for this session can be found at: https://www.woodturner.org/Woodturner/WIT/WIT-Presents-Registration.aspx

## "JOHN BEAVER" WAVE BOWL

The following note provides a basic introduction on how to turn a "John Beaver" wave bowl. Over 10 years ago, John produced his first wave bowl, and, from a relatively simple starting point, has proceeded to produce sophisticated and stunning variations.


## Introduction

It is possible to make a wave bowl by using a bandsaw to cut a curve in the side of a square blank, inserting a piece of contrasting wood (the wave) between the two cut parts of the bowl, gluing the three pieces together, and then turning the piece. While this works well for producing a simple form, it is limited in its ability to produce more ambitious forms. Accordingly, the process discussed in this note relies upon a bowl cutting jig to cut one or more waves. Beyond enabling one to produce more sophisticated forms, it will also provide more accurate results.

While this note contains instructions on how to make the jig as well as steps in the assembly, you can purchase plans (\$20) for the jig from John Beaver's Esty page at: https://www.etsy.com/listing/963546315/bowl-cutting-iigplans?ref=shop home active $3 \& c r t=1$ or plans plus a link to a demonstration video (\$40) at: https://www.etsy.com/listing/993031798/john-beavers-wave-bowl-demo-linkand?ref=shop home active 1

The process is not particularly intuitive, and many sources recommend making a trial run using a blank of "junk" wood. This will enable you to better understand the variables as well as identifying adjustments to the jig.

## Step 1

The first step is to make the bowl cutting jig and a platform with a pivot pin. The rough turned bowl in a chuck will be secured to the upright portion and a hole in the base will be placed on a pin in a separate platform to provide a pivot point for turning the jig and the bowl through an arc at the bandsaw. The photo (right) shows the completion of the arc cut.


John's original plan for the jig, and the one cited in most articles, consists of two parts made from 3/4" plywood. The top part consists of vertical and horizontal pieces of plywood glued at right angles and strengthened by two brackets. The lower part (white portion, left photo) which is secured to the top part with wing nuts, has a set of holes in the centre which are used as pivot points for different radii cuts.


These photos show the jig secured with a pivot pin on a separate board (brown).


The problem with this design is that the lower part of this jig will reduce the diameter of the maximum cut by $3 / 4 "+$ which will already be reduced by the combined thickness of the horizontal upper part and the board with the pivot pin. This is a particular concern if your bandsaw can only cut a maximum of 6 ".

Accordingly, you should consider adopting the following design by Mike Neal. (For those with limited metal working skills, $3 / 4^{\prime \prime}$ plywood can be used.)


To adjust the height to cut various sizes of bowls, the vertical piece has a centre slot (red arrow) sized to fit a threaded rod which will fit in your chuck.


You will also need a platform with a pivot pin clamped to your bandsaw table.


You can use a circle cutting jig if you have one. The photo (left) shows Mike's circle cutting jig (still experiencing heavy seas!). The pivot pin (right) can be moved for different radii.


Alternatively, you can make a simple plate using a piece of plywood with a runner which fits in the slot of the bandsaw table. In the centre of the plywood drill a series of $1 / 4$ " holes in a straight line approximately $1^{\prime \prime}$ apart which will hold a pivot pin. (right) The platform will need to be clamped to the bandsaw table with the centre of the holes aligned with the front edge of the bandsaw blade


## Step 2

Now to turning.
For your first effort, it is recommended that you use a blank which is $4^{\prime \prime}-6^{\prime \prime}$ in diameter and least $3^{\prime \prime}-4 \prime$ high. If the cutting capacity of your bandsaw is less than $6^{\prime \prime}$ reduce the diameter of the blank accordingly.

With the blank mounted between centres, turn the outside of the bowl using the form in the photo (right) as a rough guide. A slightly closed top/inward curve at the rim will make the wave more visible. Add a tenon and mount the form in a 4-jaw chuck.


Rough hollow the blank ensuring that you leave relatively thick sides (approx. 3/4") and leave the bowl mounted in the chuck when you are done.

## Step 3

It will be necessary to align the grain on the 2 cut pieces when they are subsequently glued back together with the contrasting wave in between. To accomplish this, two small "posts" are glued on opposite sides of the inside of the bowl (right) prior to cutting the "wave" and a 1/4" vertical hole is drilled through them. For gluing up, 1/4" dowels will be used as "registration" pins.


The two "posts" should be approximately 1 " square and long enough to reach from the rim of the bowl to below the bottom of the intended wave.

To obtain a good glue joint, the edges of the posts need to match the inside profile of the bowl. You could use a profile gauge or alternatively scribe a line using a compass and sand to the required curve.

Note: A simpler approach is to hollow the top portion of the bowl in a straight line which will finesse the need to match an inside curve.

The 2 posts are glued in place using either wood glue or hot melt glue. If the latter, ensure that you add a bead of glue around the edges of the posts where they meet the bowl. Once the glue has dried, drill $1 / 4$ " holes in each post as vertical as possible. Cut two lengths of $1 / 4$ " dowel and check that they are a snug fit in the post holes.

## Step 4

You are now ready to cut the wave.

With the bowl still in the chuck, mount it in the bowl cutting jig ensuring that it is securely fastened. Then set the jig to the desired radius. Most sources recommend that you start with a radius that matches the diameter of the bowl i.e., a $6^{\prime \prime}$ radius for a $6^{\prime \prime}$ bowl.

The cut begins at the bottom of the wave and, if applicable, should be aligned with the bowl's grain. For your first attempt, set the jig so that the bottom of the wave will be approximately $2 / 3$ from the rim and the top of the wave $1 / 3$ from the rim.

For the best finish, you should use a narrow blade (1/4") with a high TPI and rotate the bowl through the blade with a slow but steady motion.

## Option: Recessed Wave

A single cut is sufficient for a wave which is flush with the outside of the bowl. However, if you wish to make a bowl with a recessed wave (right), you can advance the carriage (1/4" or more) and make a second cut. This will produce a curved piece whose perimeter can be sanded down 1/8" or more and coloured to produce a recessed wing.


You should apply a film finish to the outside of this wing and the exposed sides of the original bowl which will make it easier to remove any glue squeeze out.

## Step 5

The next step is to select the wood for the wing.

If you opt for a piece of solid wood, you will need to drill two oversized holes in the wing material which align with the holes in the post so that you can insert the $1 / 4$ " dowels. The piece will then have to be steamed to avoid cracking when it is clamped between the two pieces of the original bowl. John recommends that it should be no thicker than $1 / 4$ ". As for steaming, John recommends wrapping the wood in a wet towel and heating it in a microwave for approximately one minute at high heat. Depending upon the radius of the cut, some experimentation may be required to obtain a wing that will not crack when clamped between the two pieces of the bowl.

Note: Always wear gloves when removing the wood from the microwave.

You can improve your chances of success by considering the following:
a. White oak, red oak and beech are preferred species for bending.
b. Air dried wood will bend far easier than kiln dried; and
c. Soaking the wood in warm water for a few hours or even overnight before steaming will help.

Once you have steamed the wood, insert the dowels through the three pieces and clamp the assembly together without glue. Once the wood is dry, apply glue and use multiple clamps to hold the pieces.

Option: Veneer: Rather than using solid wood, many turners opt for the more forgiving option of using multiple layers of veneer which finesses the need for steaming.

## Step 8

Once the glue has set, remount the chuck and bowl on your lathe and complete the turning.

## Caution: Contrasting Wood

To highlight the wave, most turners will use a piece of wood which contrasts with that of the bowl wood. For example, walnut may be used for the wave in a maple bowl. However, when it comes time to sand the piece, the darker dust from the walnut will embed itself in the lighter maple. To minimize this, it is recommended that before you do any sanding, apply one or more coats of sanding sealer such as Zinnser's Bull's Eye SealCoat to the lighter wood. An alcohol-based, wax-free shellac, it will penetrate well and dry very quickly. You will likely need to reapply coats as the sanding progresses.


## NEWSLETTER INDEX

The Index for Newsletter articles is now available on the Guild's website. You can access it at https://www.islandwoodturners.ca/for-members-only/. After an immense amount of work, our webmaster Virginia has added a hyperlink to each entry which will direct you to the relevant edition.

To access the Index, click on the link above. You will be met with a screen (right) called For Members Only and you will need to $\log$ in.

| ISLAND WOODTURNERS GUILD |  |
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# For Members Only 

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Quick Access Below. Use the Members Area Menu above or in the sidebar to access other Members Only Pages.

Print Your Membership Card Your card expires at the end of October each year.
Membership Users Manual
Membership Perks (Your card can get you discounts at some of these retailers)
Manage Your Password/Profile Click on your name and make your changes. If you want to have a chat with another member, click on their name and you can message them. If you want it to be private - click on private message.

Index to Newsletters
Archived Newsletters
Current Newsletters

You will automatically be directed to a page entitled For Members Only. (left)

Scroll down until you see Index to Newsletters and click on this link (left).

## PARTING OFF

A lot of members to thank this month. First and most importantly, thanks to Gord for his informative and detailed demonstration. He invested an immense amount of time preparing for this and it showed. Thanks also to Virginia for her work on the website and assistance to Groups 2 and 5 and Mike for his help with the note on Wave Bowls. And last, but not least, thanks to the members of the Executive for stepping up.

## CONCLUDING THOT



