Turning a Goblet from green (freshly cut) wood. Nick Simpson

This article was in place of a face to face meeting at Highland Woodturners Club.
The subject I was given was green wood turning so I chose to make a small goblet from a branch of Highland Silver Birch from my own small wood.
There are lots of errors in this turning some of which I shall discuss and suggest alternative strategies and some of which you will spot that I have missed.
It is an '*As it happened'* presentation. I hope it is a help to some members.

This is the branch about 100 mm diameter (plus lichen) and 160 mm long.
It is mounted between a steb drive centre and a pointed conical live centre in the tailstock

Always rotate the wood before switching on the lathe to avoid catching an irregular piece of the branch on the tool rest or banjo.

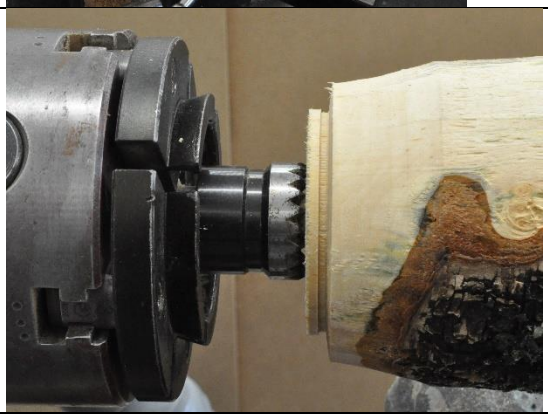
Always start the lathe at a low speed and increase only when safe to do so.

Always wear a face mask or visor.

When turning branch wood, the bark (and lichen) is a serious potential hazard.

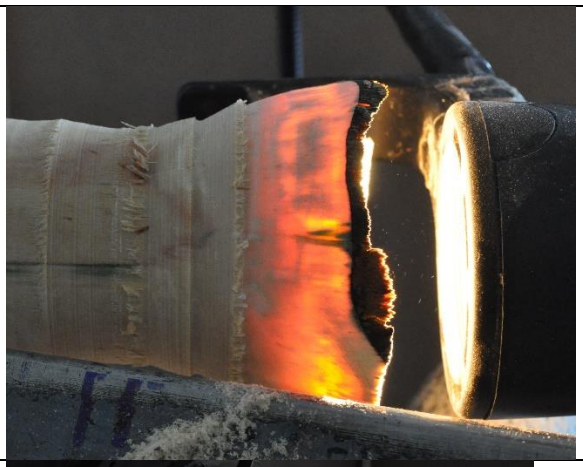
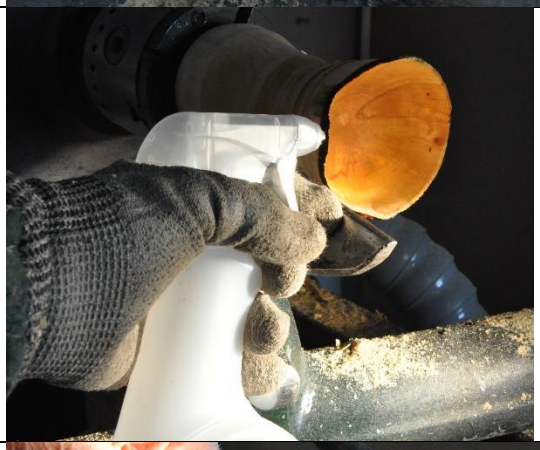
Turn the piece to a cylinder at the headstock end and make a tenon. I have used a 3/8" beading/parting tool to create the tenon.

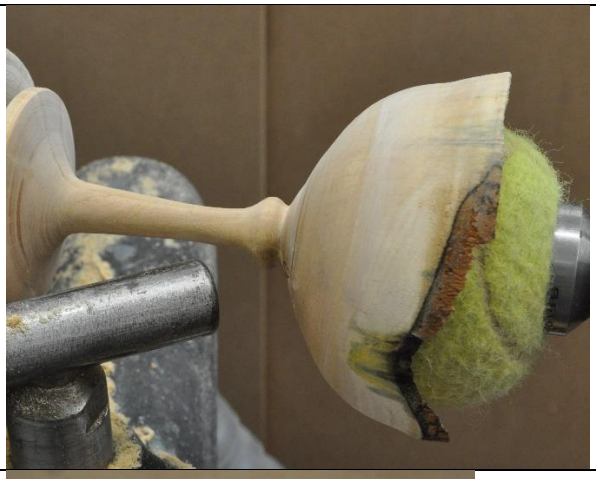
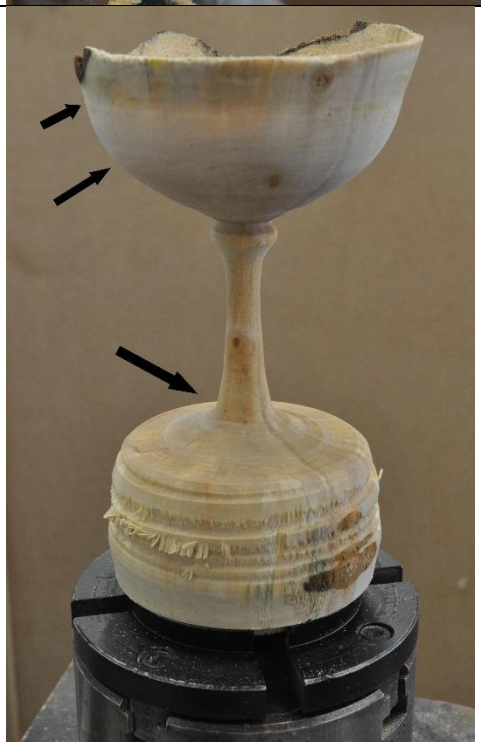
I am using Axminster C jaws which are parallel but have 2mm lip at the outer end where the jaws contact the wood. It is necessary to make a 2mm groove for a safe fit as shown here.

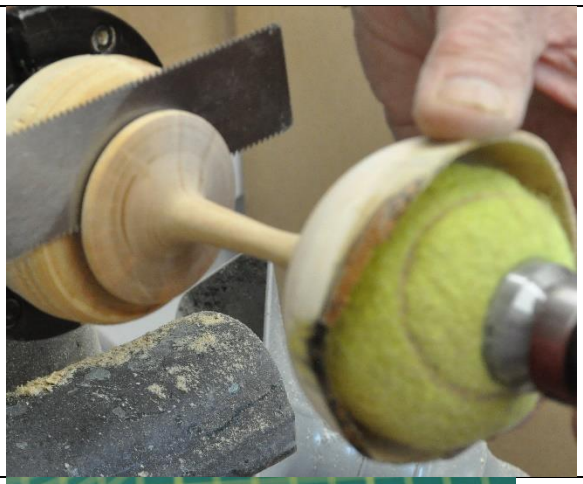


Now mounted in the Axminster C jaws. Use the conical live centre in the tailstock to centre the branch in the jaws before tightening them. Make sure the jaws are firmly closed on the tenon but leave the tailstock in place for now.	
Turn a cylinder but leave 3 cm of bark at the tailstock end. Some of the bulk of the wood can be removed as shown but ensure that a substantial amount remains for stability.	
Check that the jaws are tightly clamping the piece and then remove the tailstock. Start to form the bowl of the goblet with a spindle gouge. The flute should be at the 9 o' clock position and the tool drawn from the centre outwards in a shallow scoping motion. Between 9 and 10 o'clock is a safe aspect for this procedure. If the flute is pointing between 10 and 12 o'clock a catch is possible. The nearer to 12 the more likely this will be.	
Now for some fun!! Continue to form the bowl but keep the flute between 9 and 10 o'clock. It is tempting on soft forgiving wood like this to open the flute (twisting the tool clockwise) but be sensible and avoid a catch. A catch at this stage will drag the piece within the jaws and re-centering may not be possible with this soft wet wood.	

The final smooth shape to the inside of the bowl can be formed with a scraper. I am using a 1” negative rake round nosed scraper. Remember to keep a scraper’s handle up so that the business end is ‘trailing’ to avoid a catch. This is less important with a scraper which has a negative rake grind.	
Now finish the inside with abrasive of your choice but do not let the wood dry out. Abrasive paper strip is often the best solution because the damp wood will clog the mesh of abrading systems like Abranet.	
Now for the outside. Move the tool rest alongside the cylinder and carefully start to remove wood from the outside of the goblet with your freshly sharpened spindle gouge. Try to keep the bark intact. Remove wood from the area 20mm or so from the free edge and carefully work towards the free edge taking fine cuts. Because the branch is not circular there are areas where the bark can be seen at the edge in this picture.	

I have been taking very light cuts at the free edge with a sharp tool but a large area of bark has separated and has been lost. But some is retained and that will give it character! We can see the thickness of the goblet wall by turning off the workshop lights and bringing up a light source as shown.	
It is important to prevent the thin walls from drying out which will make them brittle. Regular spraying with water will help to prevent this happening. Continue to remove wood from the wall of the goblet with your spindle gouge. You must keep your tools sharp so make frequent trips to the sharpener.	
The light source shows how thin the wall has become. As the wall gets thinner the colour changes from brown to dark red to orange and then yellow when about 1-2mm thick. You should gradually thin the walls working from the free edge towards the base of the goblet. As the walls get thinner, they become more unstable. It may not be possible to go back to rectify mistakes. The wetter the wood the more pliable and responsive to very fine cuts with a freshly sharpened tool.	
Ok. That's as good as it's going to get. Now to turn the stem with your spindle gouge. Starting with a bead at the base of the goblet bowl. You need to remove the bulk of the wood where the stem will appear. As the stem gets thinner the unsupported bowl of the goblet will cause the whole to become unstable and wobble. One easy way to reduce this is to	

bring up the tailstock and compress a tennis ball between the live centre and the goblet. Do not apply too much pressure or the stem may tend to buckle as it gets thinner. This gem I got from the late and much missed Walter Vasey	
The stem should look like this after the wood has been turned away. There seem to be some imperfections but what can we do? **Suggestion:** Keep the piece in the jaws and unscrew the chuck. Place the chuck on a flat surface so that the piece is in its intended position.	
Now we can easily see at least 3 flaws indicated by the arrows. The top arrow suggests that the wall is thinner at this point than areas above and below. This has probably occurred in my attempt to keep some of the bark above the arrow but not kept the cut going further down. I should have resharpened the gouge. The second arrow shows a definite angle instead of a flowing curve on the outside of the bowl. The third arrow shows a horrible sharp angle where the stem meets the base. Can we do anything about these? Return the chuck to the lathe and bring up tennis ball and tailstock and resharpen the gouge. Above the top arrow – this is probably a lost cause because the wall at the arrow is too thin to maintain stability. Below the top arrow – Spray generously with water and taking fine cuts this area should become thinner. Middle arrow – the wall is still quite thick here so after wetting more can be removed by fine push and shear cuts. Bottom arrow – reshape this area with your spindle gouge.	

Now that those problems have been sorted, we can part off the goblet starting with a parting tool with the lathe spinning and finishing with the lathe stopped using a fine saw.	
This has left a small nib which can be removed by any sharp tool. In this case I am using a power carving chisel.	
Looking down on the goblet straight off the lathe. The wood is still very wet and will distort if left to dry naturally. Some, if not all, of the drying distortions can be ameliorated by a spell or two in a microwave.	

It is important to ensure that the microwave is on the lowest setting. Place the goblet on a couple of thin sticks so that air can circulate underneath. Switch on for 20 seconds or so and then open the door. There may be some steam escaping. Allow the piece to cool and repeat the process. Do not be tempted to hurry this process. Fires can and do happen. Use repeated cycles until you are happy that the piece is lighter and stable. Some people perform repeated weighings to ensure that all moisture has been driven away.	 Note: Old microwave in my shed not in the kitchen. If a fire occurs Unplug the microwave before spraying any water on the piece.
This is how the goblet looked after its session in the microwave.	
And finally…….. Don't forget to dry all your tools and the lathe bed before packing away. A thin coat of camellia oil will then keep all your equipment in good order. I hope you have gained something from this presentation. Have fun Nick