Brescian-type purfling, part 1: purfling the edges

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LOOKING AT THE COMPLICATED PURFLING that decorates early Brescian instruments often evokes a sense of wonder at how it might have been done. But now, thanks to work done by John Dilworth, we have a better understanding of the methods used. His examination of original instruments has shown that the purfling was made from ebony for the black outer strips and spindle, a wood that is now seldom used, for the white. These three strips were not pre-glued but instead fitted into the channel as separate pieces; on the original instruments you can sometimes see gaps between the strips.

Ebony is a stiff and brittle wood, difficult to bend in a lamination. However, it is also strong and springy, so working with separate strips enabled makers to create the tight curves of the decorative patterns often seen on the backs of Brescian instruments. The qualities of the materials also mean that the purfling makes flowing curves even when the channel it is glued into is irregular. The result is that even though the purfling of the original instruments is roughly realised, there is still a sense of line and a charm borne of a good technique swiftly applied.

A viola by Helen Michetschläger purfled in the Brescian style

This article explains the technique I have developed for purfling my own Brescian-style instruments, and the process of inlaying non-laminated purfling round the edges.

The specialised purfling tools

[1] As well as the usual tools for fitting purfling, I have some specialised ones that are particularly helpful. From the left in this picture they are: a tool for thicknessing veneer strips; pointed-end tweezers; an old needle file whose end is ground to a chisel shape, the same width as the purfling channel; a pusher made from hardwood to drive the purfling into the channel; a needle in a wooden handle used for marking out the decorative purfling design; and a specialised veneer cutting gauge.

Passing boxwood strips through the veneer thicknessing tool

[2] I buy the thinnest ebony veneer I can find, which comes in sheets about 0.5mm thick. I then scrape the sheets down to the final thickness of 0.3mm using a cabinet scraper. Then I cut the sheet into strips about 2mm wide, first running a plane along the edge of the veneer sheet. The veneer cutting gauge is useful here because it cuts more positively than a normal cutting gauge. I use it to mark the cut and then finish with a scalpel.

As spindle wood is not easily available nowadays, I use the veneer sold as boxwood. The thickness of this is variable, so I pass the strips though the veneer thicknessing tool, aiming for a final thickness of 5mm.

[3] Easing the three purfling strips into the channel

[4] Using the wooden pusher on the purfling

[5] Cutting the purfling to length with a fine-bladed knife

The cut mitres of the C purfling

The pre-mitred ends of the purfling for the upper and lower bouts

[3] If the instrument is to have a double row of purfling or decoration, I prepare the plates to the stage at which the arching is planed but not finalised, and the edge fluting is cut, but not to its full depth. This enables me to finish the edgework and remove the gluey surface of the wood once all the purfling is done.

I cut the outer channel as normal and fit the purfling before I repeat the process for the inner channel, so as not to risk tearing out the short grain between the two rows. I size the channel with thin, hot glue and leave it to dry before starting to fit the purfling. This is for two reasons: the joint is stronger when the wood is sized, and it minimises the swelling of the channel when the purfling is glued in, making it easier to slip all three strips home.

Once the size is dry, I check the channel for width and clean any bumps and splinters. I start by fitting the purfling into the C-bouts, cutting the strips of veneer somewhat longer than will be needed – about 15–20mm overhanging each corner.

After testing the purfling dry in the channel to make sure that the fit is good, I glue just the central portion of the channel, stopping before the curves tighten into the corners. I ease the purfling in, using the pointed tweezers and my free hand to hold the three strips together.

**[4]** Once the purfling is in the channel, I push it right to the bottom using the wooden pusher.

[5] The next stage is to cut the purfling to length in the corners. I ease the dry purfling gently around to the corners, and then cut it to length with the knife. For the moment, I leave the purfling as long as possible – there's no attempt to form the mitre joint – with the aim of cutting the purfling so that the ends of each of the three strips butt against the far side of the joint. I use a fine-bladed knife, cutting away from what will be the point of the mitre. Next I put glue in the joint and push the purfling home. As the purfling is tight in the corner, it holds a good curve.

[6] Once both ends of the C purfling are glued in place, I cut the mitres – there is no need to wait for the glue to dry. For this I use the same knife as above, but cut towards the point of the mitre, so as not to damage the short-grained point of the front that lies inside the mitre. I clean out the waste wood with the point of the knife and a purfling pick.
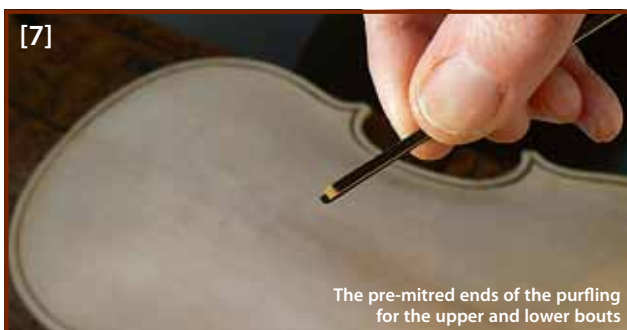
[7] The ends of the purfling for the upper and lower bouts are mitred before they are glued into the corners. I cut the three strips separately using a chisel – the outer black has the steepest mitre, the white a little less, and the inner black is the bluntest. I test the three strips dry to make sure the mitres are the right length and that they line up properly in the channel. With practice, you can gently push any of the strips separately until you're happy with the alignment.

[8] Fitting the three strips of purfling into the glued channel, starting at the corner

[9] A scarf joint is cut using the small improvised chisel

[10] Cutting the waste ends of the purfling

[8] Once the joint looks good dry, I put glue into the corner and for about the first 50mm of the channel. Holding the three strips together in the same position that they fitted dry, I ease the purfling into place and push it home. Then I continue gluing and fitting the rest of the length of purfling; I usually do this in two more sections.

[9] It is necessary to cut a scarf joint in the purfling on the upper and lower bouts of the back to join the strips leading from each of the corners. I fit the purfling for the first of the bouts about 20 or 30mm longer than I will need, and glue it to just a bit further than where I plan to make the joint. Waiting only a few minutes (if the glue has set it's difficult to get the waste out of the channel), I then cut through the purfling at an angle of about 45 degrees using the small chisel made from a needle file. I pull out the waste wood and clean the joint, checking that the angle is crisp and well cut.

[10] When I've purfled the other half of the back, I leave the last 80 or 100mm of the purfling in the bouts unglued. I can then push it into the channel dry and mark with a knife where the scarf joint will be. Holding the waste ends of the purfling together, I twist the purfling on to a small cutting board and cut with a chisel at the same 45 degree angle. Then I glue the purfling in place.

If I'm double-purfling the instrument, I will now cut the inner row and fit it as described above, but making the channel shallower than for the outer row. If there is to be a decorative pattern on the back, I'll start that before I finalise the inner row.

If you've only worked with pre-glued purfling, this can seem a more complex procedure, but there is a spontaneity and flexibility about working in this way that I find really attractive. You also have more time than you think – if something's not going right, you can pull the purfling out of the channel and try again. And the method really comes into its own for making decorative purfling patterns in the back.

Helen Michetschläger continues her examination of Brescian purfling with a description of making decorative patterns in the August 2010 issue.
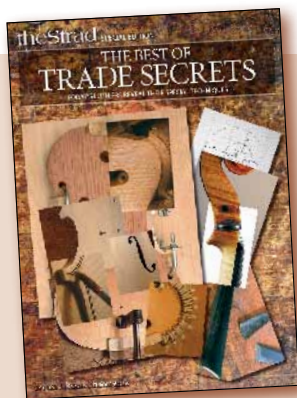
NEXT MONTH JAMES HAM EXPLAINS HOW TO REINFORCE A CRACK BENEATH AN EXISTING BASS-BAR