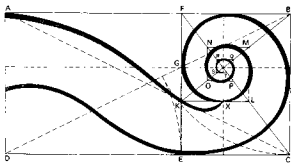


Maker's Bench

Just the Right Piece

by David Folland

From the time I was a young child, I have been fascinated by the beauty and versatility of wood. I have a vivid memory of, as a four year old, digging through my father's board pile, looking for just the right piece of wood for a toy I wanted to make. As I sawed and nailed and carved, I felt deeply the tremendous power of transformation, of taking something apparently plain and ubiquitous and changing it into something beautiful and desirable. (At least to my four-year-old eyes.)

I still feel the same way; to take a piece of maple and a piece of spruce, and turn it into a violin or viola or cello is almost like making magic.

Of course, the spruce and maple that I use to make violins aren't any old boards from my father's woodpile. The wood I use comes from only a few small areas of the world, has been carefully chosen and cut, and then sorted and culled, sorted and culled, until what I begin to make a violin with is literally a one-in-a-million piece of wood.

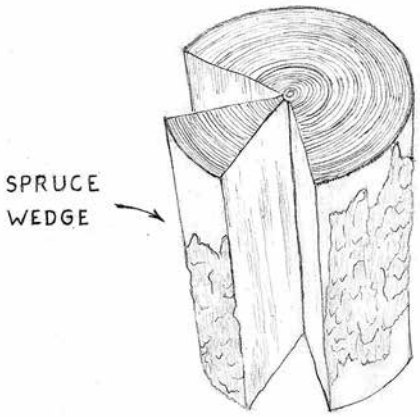
There is much myth and lore about the secrets of the wood used in the great old Italian instruments. There are the "ponding" myths: that is, soaking the wood in various substances such as sheep dung, urine, or salt water. There is the story that the great Venetian instruments were carved from the oars of the Venetian galleys. There is harvesting lore, saying that the woodcutter walked through the forest hitting the trees with his axe, cutting down the ones that rang the most musically. Or, to cut the tree on the second night of a waning moon, ideally accompanied by propitious astrological signs and wonders. When these explanations of the greatness of those old makers fail us, and don't hold up to scrutiny, we resort to throwing up our hands and saying "the wood was just different back then."

Over the last half-century, all of these stories and ideas have been researched, experimented with, and scientifically analyzed. They have been found to have no substance by the vast majority of the world's makers, researchers, and violin experts. In fact, through the fairly recent science of dendrochronology (a study of tree rings), it has been discovered that many of the greatest of the old Italian instruments were made with very freshly cut wood, some with wood cut the same year as they were made and manifestly not treated in any way.

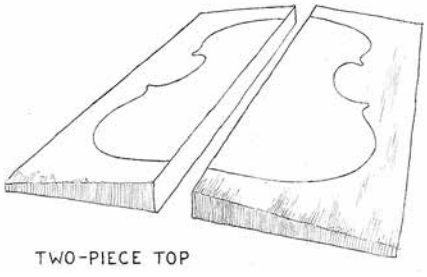
What these great makers had were not secrets or tricks, but a deep knowledge of wood, a generation after generation empirical experience of wood in all its subtlety and variation, and an ability to see with all their senses and pick just the right piece for the task at hand.

When my wood dealer pulls up to my studio in his van full of wood, I know I am in for a long day of hard choices, sorting through every piece of wood, looking for that perfect diamond in a field of lesser gems. I am looking for lightness with strength, good grain orientation and character, color, feel, sparkle and life. Good wood is very expensive. Deciding whether to buy a piece or let it go can be agonizing. But eventually I make my choices, and carry the newly purchased wood up the ladder to my wood loft, and leave it to slowly age and await its day of transformation.

Wood for violin, viola and cello tops is always spruce, and nearly always two-pieces, having a glue joint down the center. The wood comes out of the tree in a split wedge, rather like a piece of firewood.



This wedge is then cut down the middle, opened up like a book, and glued. The resulting top is therefore "quartered" meaning the wood grains are perpendicular to the plane of the ribs, which is its strongest and most stable orientation. It is also "book matched" meaning it is more or less symmetrical from side to side.



Most back wood is maple, usually having "flames" or figure of some kind. This figure is the result of the wavy way the split often grows in maple, with a resulting difference in light refraction, so that the flames flicker and change as you move the wood. Other kinds of wood can be used for the back, such as poplar or willow. These are used more often on violas, cellos and basses, as these woods usually result in a darker, mellower, "woodier" sound. Also, the wood for the backs can be two-piece quartered, like the top, or one piece of wood, either quartered or cut on the "slab".

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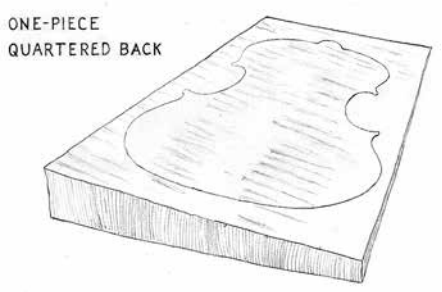
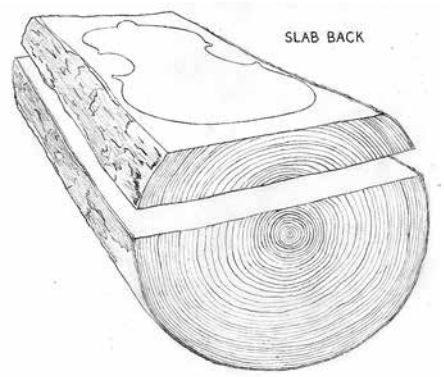
A one-piece quartered back has the same vertical grain orientation as a two piece back, but comes from a large enough tree so that one wedge piece will be wide enough for the entire back. A one-piece slab back is "slabbed" through the log, just like most boards that come from the lumberyard. A slab back, all other things being equal, tends to produce a deeper, rounder, less "edgy" sound. This again works well for violas and cellos. But many great sounding violins have also been made from slab maple. However, slab backs tend to be not as stable as quartered backs, and over time usually exhibit more movement. I have seen 300-year old slab backs that have a bulge the size and shape of a potato in the sound post area.





When the time comes to begin a new violin, viola or cello, my first decision is usually my most difficult decision, namely, what wood will I use for the particular instrument. All subsequent actions arise from, and are dependent on that initial choice. I am usually building an instrument to order for someone. The player and I have already gone through a process of playing and listening to a number of instruments, to determine the tonal and playing characteristics of the violin, viola, or cello I will be making for them. Those tonal and playing characteristics depend to a significant degree, on the wood I will use to make that instrument. I will spend many hours sorting through the wood in my loft, examining, testing, judging. I am looking for the best possible combination of maple and spruce that will result in an instrument the player dreams of. Sometimes the choice is apparent from the start; there is both a top and back that say, "I'm the one," loud and clear. But usually there are a number of pieces that have all the "right stuff," and choosing between them is very hard. In that case, I take them all down from the loft, and set them up around the shop where I can see and handle them as I go about my work. Eventually, consciously and unconsciously, the choice comes to me. I feel in my gut and think in my head, "Yes, it will be *this* piece of spruce, and *that* piece of maple". Then the choice has finally been made. I smile, pick up my plane, and begin.

David Folland is a violin-maker in Northfield, Minnesota. He has won numerous medals and awards for his instruments in major international violin-making competitions. He has built more than 200 violins, violas, and cellos, (and 3 double basses), which are being played in orchestras and conservatories across the United States and in Europe. David is a member of the American Federation of Violin and Bow Makers.

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