

The line of splitting

If we carefully observe all of Nicolle Amati's instruments, even without a great deal of foreknowledge, it is not difficult to see the unprecedented skill with which he moved through the wood. There is practically not one instrument he made without great attention to the way the wood splits, it's inner line of splitting.

There is not a tree that grows absolutely straight, maple especially - slight movement to the left or right is a more or less regular characteristic of this tree.

We have to cut our bridges at the natural line of splitting or they would otherwise warp and wouldn't conduct sound with optimal speed. This means that the percentage of wood that can be used for bridges is not more than 30% of the whole tree, the rest is used to heat the space we work in, it is very calorie dense and burns beautifully.

Curves of Amati's instruments follow the movement inherent within the wood. Doesn't this obviously mean that it is impossible to copy instruments (amongst which the most copied ones are Guarneri's and Stradivari's) because the curves they created on their instruments were dictated by the piece of wood they used.

If the head and the neck of the instrument are not cut along the exact line of natural way the wood splits, regardless how dry the wood is, cutting through the grain will cause the neck to warp. This warp, after just a few months, may not be obvious to the naked eye, but if it exists - the balance of pressure the strings exert on the bridge changes and with it the complete balance of pressure on the upper and lower board of the instrument. Tone you managed to organize within the instrument will change over time and the musician will come to your workshop unhappy.

And what about the bottom board? Twenty years ago I witnessed a simple experiment done with maple wood: Two very thin strips of wood were cut; one along the natural line the wood splits and the other with a tiny deviation from that line; both strips were exactly the same length, width and thickness and both cut from the same piece of wood. Equal bending showed that one of them had a propensity to break. Guess which one?

Now, if the bottom board of the instrument is cut without respect for the wood's natural line of splitting, it will be stiff and unable to optimally conduct the vibrations of the upper board (membrane) and the instrument will not be able to manifest a wide, carrying tone; this tone doesn't have it's echo, it's possibilities are narrowed and the instrument can't sound as beautifully as the instruments of the old masters.

Let's get back to Amati: he always recognized this natural inner line of splitting inherent in the wood and skillfully used it's gentle movements in his search for curves of his instruments. He also, skillfully, led by this idea, selected the upper boards : always seeking the movement within the wood which would allow him to make the curve without injury (wood elasticity).

If we assume that everything that was previously stated is correct, then it becomes impossible to make a copy of one of the old masters and this shouldn't even be attempted. Isn't it obvious that Amati had no old master to copy ! From the 7th century ?! Of course not !! He just allowed himself to follow the nature of that specific piece of wood that evolved in his hands into an instrument !

To find this movement within the wood and use it to build the instrument - of course is not easy. But I personally don't know a master who after seriously pondering this theme, forgot everything, and then went back to the old way of thinking. I assume that this way of finding the form, for a master, is a great adventure and when found, a great source of pleasure.

Milo Stamm