

# The Color and Tone in violin family Instruments

A long time ago, I wrote musings on elements that make up sound, response, and playability in violin instruments. I concluded, at the time, that it really starts with the wood itself (as in species, grade, climate). After working in the business as a dealer and player for more than 23 years, I can safely say this has been strongly affirmed in my mind as fact. It has gotten to the point that I can basically hear the instrument's sound in my ears before the instrument is played, just by looking it over. I know that, scientifically, very little has been quantified about these tonalities. But I can say definitively that we all hear the subjective differences in fairly similar ways. We try to quantify with terms like; bright, warm, sweet, dry. Whatever the term, we tend to hear these differences clearly as players, and listeners alike.

**The body:** Nothing affects the overall resonance and tone of the violin more than the acoustic body itself. Everything else, from strings to set up, serves to move the tone and response in a direction. These things will not make an entirely different sounding instrument, but merely make it a little brighter or darker, more responsive or less, but not something completely different. Similarly, "playing in" a violin will enhance its sound and response, but it's soul and character are pre-determined by the wood itself.

I see the top as the amplifier of the sound. The flexibility will enhance the vibration up and down the top, so higher grade wood will create a more responsive, and potentially louder violin. More to the tone of the violin is the back. I refer to the back of the instrument as the "color" of the sound. The wood most often used for the back is a maple variety, but sometimes sycamore, walnut or poplar. These wood varieties really effect the clarity and overall tone of the instrument. A softer wood will create darker sounds whereas harder wood will sound brighter. Wood that is too soft can be over played, and sound scratchy or give up the tone altogether when played too firmly, especially playing higher pitches above the octave on the low strings. Wood that sounds too bright is harsh, thin, and piercing... not rich and pleasant.

**Common types of back material and tone:** The most common, and often preferred maple, comes from the Eastern Mediterranean areas in and near Bosnia. This Bosnian maple is also commonly used for bridges. It is a balanced sound, tending toward bright, and has nice clarity that projects well without being too harsh. This wood is typical in the German instruments pre-WWII. Also common in Pre-WWII instruments, mostly French, is maple from the Vosges forest near Mirecourt in the French Alps. This is what gives the French sound that is typically

darker and more broad than the German instruments. Older instruments (mid 19<sup>th</sup> century and earlier), tended to have softer backs, sometimes sycamore, walnut or poplar. This contributes greatly to the dark and warm tone, but general lack of projection of sound in these instruments. The Chinese Maple has become very common since the early 1990s. It is typically a bit softer, and gives a warm, but nice response. It can be more easily “over played” by more advanced players who learn to bow closer to the bridge for projection, but lends itself nicely to the advancing player because of its warmth and response. North American Maples have been used, but generally fell out of favor for bowed instruments. Western Big Leaf is too soft for most players preference, and is a warm but “squishy” sound. Sugar maples from the Northeast are typically too hard, and lack complexity and warmth desired.

**Finishes:** The Varnish, Lacquer or other finishes used also affect the tonal complexity and response. The most common in Pre-WWII instruments, and many mid to upper level contemporary instruments, is an alcohol based Pine Shellac varnish. This is flexible, easy to apply, and can be touched up and repaired nicely. It allows the wood to vibrate, and looks very nice and rich. Another varnish, less common, is oil based. This is said to sound richer and visually has more depth. It takes much longer to dry however, so it is not practical to use if the desire is to finish an instrument for use in a short period of time or to use less labor. Lacquers are the fastest to apply, but are very stiff and tend to mute the overtones of the instrument. They are most common on lower priced instruments where speed of manufacture is necessary.

In conclusion, many years in the business has affirmed my findings that the wood itself is primarily responsible for the instrument’s individual tone, especially the material used in the back of the violin. I look forward to scientific studies on acoustics that may affirm and quantify this information in the future.

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22 May, 2020