

BACK TO BACK

In what ways do instruments with one- and two-piece backs actually differ?

By Brian Wise

“A one-piece cello back of beautiful, quartered maple is, well, dead sexy,” says Marilyn Wallin, a noted violin maker based in Lincoln, Nebraska. “It draws you in for its rarity, and doesn’t disappoint. It’s just so much of a good thing.”

Other luthiers agree, pointing to the scarcity of available wood large enough for even a one-piece violin or viola back, let alone that of a cello. While there are various other ingredients that can determine the brilliance of an instrument—including the stiffness or density of its wood—the choice between a one- or two-piece back still sparks plenty of debate, with questions over tonal quality, aesthetics, stability, and value.

Methods of Construction

The back of a violin, viola, or cello is usually fashioned from one or two matched pieces of maple, built according to one of three methods. A two-piece back may be fashioned by cutting a log “on the quarter,” creating a pie-shaped wedge. The wedge is then sliced down the middle and opened up like a book (“book-matched”), as the wider edges are glued together to make a wide plank.

Alternatively, one-piece backs may also be quarter-sawn, and will behave much like two-piece, quarter-sawn backs, only there is no need for a center joint. A third type of back is “slab-cut,” meaning that the wood is cut through the log, while avoiding the pith, or center, and capturing more of the annual rings.

Tonal Impact

David Burgess, a luthier from Ann Arbor, Michigan, says that, all things being equal, one- and two-piece backs produce the same tonal result. “Sonically, I would say there is no difference, as long as the grain orientation

A George Yu one-piece back (left) and a Paul Crowley two-piece back



ONE-PIECE BACK IMAGE © GEORGE YU; TWO-PIECE BACK IMAGE COURTESY OF PAUL CROWLEY

is the same,” he says. “The advantage of a two-piece back is one doesn’t need as large of a tree. One has more to choose from if you don’t need a huge tree.”

Andy Fein, a Minnesota maker, agrees that the differences are negligible. “In my many years of listening to stringed instruments, I have not heard any discernible, general tonal differences between one- and two-piece-back instruments,” he writes in an e-mail. “That’s assuming the instrument was made with good, dry wood, graduated and arched well, and has a good setup.”

Some makers say that slab-cut one-piece backs, which can be a little heavier, produce a deeper, rounder sound. But when it comes to quarter-sawn one- and two-piece backs, “they are going to sound the same,” says Paul Crowley, a maker based in Maplewood, New Jersey. “I can’t imagine that the joint has much of an impact acoustically.”

Aesthetics

“The choice is a matter of aesthetics, all other things being equal,” says Louisville, Kentucky, violin maker George Yu. “I like

the single-piece a lot, but you pay a premium for the wood.” One-piece back enthusiasts have bonded over the Instagram hashtag #onepieceback, and often obsess over Cremonese models. “I defer to Stradivari as my authority on the legitimacy of one-piece backs,” says Fein. “He used them in at least one-third of his instruments.”

Because one-piece backs are sourced from a larger tree, a maker may have some leftover wood for other components. “You can always cut the ribs from the same board that the back is going to be made of,” says Wallin. “It’s all the same wood and you don’t have to mess around with color matching with varnish. There’s a harmony because of the width of the flame, and because of the grain.”

But two-piece backs also have their admirers. Philadelphia maker Christopher Germain writes in an e-mail that “if you have highly angled grain, you can book-match [the two pieces] and get a V shape” radiating from the center joint. “If you flip one side, then the flames will continue all the way across. The flames won’t match up, but they can be basically one line, from one side to the other.”

Stability and Longterm Maintenance

On the question of structural stability, Wallin gives a slight edge to two-piece backs. "Slab-sawn one-piece backs don't settle down as fast as two-piece backs," she says. "That is because a one-piece back actually stretches in length as the player is pushing down on the bridge through the top." The length of a violin may expand by up to a millimeter during the first 12 to 18 months of its lifetime.

Burgess agrees that slab-sawn one-piece backs have a greater tendency to distort in shape, particularly amid fluctuating humidity. But in some cases, the center joint on a two-piece back may come unglued over time. "A lot of old instruments have had the center joint redone at one time or another," Burgess adds. "It should last the original owners' life-

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time with no problem, unless they expose it to harsh conditions like super-high humidity, which may expand and contract the wood in such a way that it puts more pressure on the joint.”

Fein is more skeptical about stability differences. "In the 43 years I've been in the field of violin making, I have not seen any difference in the stability of one-piece vs. two-piece backs," he writes.

And Tops?

Tops are almost always cut on the quarter, and there are few advantages to pursuing a

one-piece top. "I can't say that I've noticed a difference," says Crowley. "From a making perspective, having two pieces is nice because I always know where the center line is. I don't think that there is any sonic difference."

Bottom Line

If aesthetes value the beauty of one-piece backs and stability advocates prefer two-piece backs, the jury is out on market value. Julie Reed-Yeboah, owner of Reed Yeboah Fine Violins, estimates that two-piece

quarter-sawn violins account for about two-thirds of fine instruments for sale. But with rare exceptions, she says, "I don't think makers themselves would differentiate [on price] unless it's a special order, such as a copy of an older instrument."

Ultimately, says Wallin, there are other, crucial factors to consider when it comes to selecting backs. "The weight of the wood, the depth of the curl, and the flexibility of the wood are all much more important than whether it's in one or two pieces." ■



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