

# Choosing A Bow:

## *Understanding Weight, Balance, and Strength*

By Roger Treat

A fine handmade wood bow is an object of precise workmanship and beautiful artistry. It is also a tool which, when in skilled hands, is capable of executing the most complex technical detail — a tool that can create sounds from smooth to gritty, produce a full range of volume, and express every emotion. Indeed, the bow gives the fiddle its voice. Finding the right bow can be time-consuming and confusing. I hope this article will both help you understand why a bow feels and plays the way it does, and aid you in the process of choosing the right one.

When selecting a bow to buy there are many things to consider; however, there are two basic questions you must keep asking yourself: Does this bow make my playing easier? And, does this bow make my fiddle sound better? You can often find a bow that brings out a nice sound on your fiddle but is difficult to play or vice versa, so it is important to keep both things in mind.

Every fiddler's playing is unique, even if they play the same style of music. Some players play with a lot of pressure, others very little. Some use the whole bow while some only use the top third or the middle. The music itself is also a factor. Some fiddle styles use off-string techniques, such as bowed triplets or spiccato, while others do not. Regardless of how one plays or what style one plays, it is important to find the best bow for both you and your instrument.

Fine wood bows are made from pernambuco, a species of wood that comes from Brazil. Since no two pieces of wood are identical it is impossible to have two bows that are exactly the same. And so, like players, every bow is unique. The quality and unique structure of the wood in each bow, and how it vibrates with your instrument, has a lot to do with the tone it produces. Besides the quality of the wood itself, there are three factors that affect how a bow feels, plays, and sounds. These are weight, balance, and strength. When selecting a bow it is helpful to understand how these factors work and combine to produce different qualities.

### *Weight*

The weight is how heavy the bow is overall — including the hair and grip. There is a wide range of weights, from 55 to 65 grams, that are considered acceptable for a violin bow. Generally 60 grams is considered an ideal weight and is what most makers shoot for. Personally, I try to keep the bows I make between 58 and 62.5 grams since these weights seem to suit most people.



### *Balance*

The balance is the point at which the bow remains suspended on an object such as a pencil or your finger. It is measured from the point of balance to the end of the stick, not including the button. The balance point ranges from 8.5 to 10 inches, with 9.5 inches considered the optimum.

It is important to understand how the weight and balance combine and affect the overall feel of a bow. The bow will feel heavier the closer the balance point moves toward the tip and lighter the more it moves toward the frog. I've often had people remark how they prefer a light bow when actually their bow was on the heavy side. This of course was because the balance point was closer to the frog.

The balance point also affects how a bow plays. For example, some players find a tip-light bow easier to control; however, it takes more effort and energy to produce the same volume and tone toward the tip. A bow that is overly tip-heavy will take less energy and effort to produce a good tone at the tip but in the long run could be tiring. For these reasons it may be that the balance point is more important than the actual weight of the bow. It should be noted that the balance can be adjusted. This is done by adjusting the grip (the winding) or replacing it with either a lighter or heavier one. (Fiddlers who choke-up on the bow, holding it above the grip, are adjusting the balance with their hand placement. This causes the bow to feel lighter, but also gives the fiddler less bow to work with.)



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## Strength

The third factor is strength. The strength of the stick is felt when the bow is tightened, is on the strings, and pressure is applied with your hand. A bow not only needs to be soft enough so the hair can dig into the string to produce a nice tone, but also stiff enough so the stick doesn't bottom out when pressure is applied, causing it to hit the hair or the string. The strength is due to the bow's camber (curve) and the distribution of weight along the stick. When a well-cambered violin bow is placed hair-side down on a flat surface with the hair loose, the middle of the stick should touch the table or come close. This visual test will give you a general indication whether the bow has enough camber. However, this alone does not indicate that the camber is correct. If there is a flat spot in the camber the bow will shudder when pulled over that spot. A bow with proper camber will draw up evenly when tightened and when played will pull an even tone from one end to the other. It is important that the bow be straight as well since this also affects the strength and how it plays. A bow that is over-cambered when tightened may cause the stick to whip from side to side, as it is under too much tension. A bow without enough camber can feel unresponsive and weak. In general, a stiffer bow will make bouncing bowings easier but tends to have a harder sound. Conversely, a softer bow will tend to have a warmer sound but will make bouncing bowings slightly harder. The trick is to find a bow that is a happy medium between these two.



When a well-cambered violin bow is placed hair-side down on a flat surface with the hair loose, the middle of the stick should touch the table or come close.

## Choosing a Bow

When selecting bows to try, obviously price is also a factor. You should keep in mind that quality handmade bows from a contemporary or deceased maker will increase in value with time. As I mentioned earlier, fine wood bows are made from pernambuco. The frog is generally ebony, and mounted with silver fittings. Fancier materials such as ivory and tortoise shell with gold fittings or fancy inlay only increase the price of the bow but do not affect their playability. I always tell people that once you have selected a few bows to try, start by comparing two — playing one against the other. Pick the one you prefer and try it against yet another. This avoids confusion and you can quickly pare down to a few contenders. When trying bows you should try passages that you know well, are short, and use a variety of techniques. Often, if you pick music that you just learned or is difficult to play, more attention is paid to the music than to the bow's attributes.

## Maintenance

Lastly, a few notes on caring for your bow. Assuming your bow has no cracks or serious repairs it can always be straightened. Camber can be added to a bow that has lost some of its curve or wasn't cambered evenly to begin with. Proper camber can improve even a low quality bow. Of course, only a qualified person should straighten and recamber; it is very easy for an inexperienced person to ruin your bow. Regular rehairing is also advised. If you're a player who breaks a lot of hair on one side it will eventually cause the bow to warp. The weather is also a factor. For example, here in New England the dry heat in homes during the winter causes the hair to shrink; the high humidity in the spring and summer causes it to lengthen. Many problems can be avoided by rehairing your bow twice a year.

This is a lot of information to digest. But hopefully understanding how weight, balance, and strength combine to define each individual bow will help you make an educated choice — a choice that improves your sound, your playing, and ultimately your music.

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