Cello

The Kreisler Highway

by David Carter

I was fortunate as a young string player to grow up in Duluth, which then as now had an active string program, many fine teachers and diverse performance opportunities. One of my fond memories was taking part in the UMD Honors Orchestra. I had reason to think about that experience recently and especially to remember one conductor who worked with the group, Mr. Stanley Nosal. Though it has been at least 25 years, I remember Nosal's great flowing beard, his use of phonetics for rhythm ("apple-PIE, pumpkin-PIE," as we were doing Brandenburg 3), and especially the phrase, "Bow in the Kreisler Highway." At that time I had only recently discovered that Kreisler was not an auto maker (!) and had even heard some of his recordings, borrowed from the Duluth Library. So the name and even the sound were kind of in my ears. As Nosal explained, the Kreisler Highway meant you placed your bow between the top edge of the f-hole and the bridge to create maximum resonance.

This certainly has been something that I have constantly urged my students to do: bow closer to the bridge while relaxing the thumb and shoulder. In fact I found out just how constantly I say "bow closer to the bridge" when I recently suggested to three different students to move their bow closer to the fingerboard to get a different color. Without thinking each of these cellists moved their bow closer to the bridge! (It illustrated the point that one of the barriers to effective listening is when we presuppose what the speaker is going to say. I think this also applies to teachers, who presuppose what a given student will do based on past experiences.)

Why does the Kreisler Highway work? One reason is that an increasing number of high overtones are stifled the farther you bow from the bridge. This continues until you reach the exact center of the string, and the fundamental is the only component of the sound. It creates a hollow, dead sound. Activating the higher overtones creates more brilliance, and (if I remember my college acoustics correctly) this can increase projection. Moving closer and closer to the bridge finally results in so much resistance in the string that the fundamental stops sounding, and only the overtones remain, resulting in the ponticello sound. This resistance of the string, when combined with the speed and weight of the bow stroke, helps create the desired sound. Each factor affects the others, so you cannot change, for example, the bow speed without also changing the pressure and soundpoint. It is also helpful to play with quite flat hair, positioning the stick directly above the hair, when striving for that full sound.

My experience as a teacher has been that often students seek a soundpoint without much resistance (easier to play, they think), and then press down to achieve the desired loudness. The trouble is that the resulting sound will not project as effectively and that pressing down near the fingerboard, as we all know, makes an unpleasant sound. The trouble is that students often get used to the soft sound of a high soundpoint, and cannot accurately evaluate how their sound projects. I often refer skeptical students to the Yo-Yo Ma at Tanglewood video, where he can be seen bowing almost on top of the bridge, it seems, during a Beethoven sonata. Of course, he gets a rich clear sound, and the students can watch it again and again to prove it.

So the Kreisler Highway is a good thing, and in forte playing it helps make a full, open, resonant sound. Even in piano it is useful in solo passages and chamber music when projection is needed. There certainly are times when this is not called for, so a disclaimer might be needed: "Warning! Use caution in soft orchestral playing. Bowing in the Kreisler Highway may cause excessive projection." For a full sound, though, rosin your bow, loosen your thumb and relax your shoulder; it's time to bow in the Kreisler Highway!

David Carter is Associate Professor of Music at St. Olaf College in Northfield. He is a graduate of the University of Minnesota, Indiana University, and the University of Illinois at Champaign-Urbana. 𝄽

Originally published in MNSOTA's *String Notes* — Spring 2003 (Vol. 5, No. 3)