

On or Off the Leg?

by Howard Hilliard

The choice between playing the horn with the bell on or off the leg is a topic that gives rise to strong opinions. Surveying a comprehensive review of reasons on both sides of the divide allows readers to weigh the artistic and utilitarian factors and arrive at an informed choice. Is one way better or worse as a rule? This question is examined for adults and then again as it pertains to young beginning students.

The horn first became a viable instrument when used in the ceremony of the hunt in Western Europe, where players either played standing or from horseback. When the horn was first admitted into the orchestra during the Baroque period, the instrumentalists (apart from the cellos) typically played standing up. This convention lasted into the second half of the nineteenth century and it wasn't until the end of the century when some of the German orchestras abandoned the practice.

In 1893, one of the members of the Leipzig Gewandhaus Orchestra was quoted as saying, "In the Gewandhaus we are wholly different people than in the theatre; in a black dress coat and standing erect at the desk... a different higher spirit dominates us." The Meiningen orchestra under von Bülow (with the young Richard Strauss as his assistant) also played standing (philharmonia.org/nic-on-performing-brahms-pt-5/). Because the horn was traditionally played standing, playing on the leg when sitting down would have been a departure from holding the bell freely. It was not until the advent of the double horn used extensively in the United States in the twentieth century that the playing position began to change.

History of Playing with the Bell on the Leg

Anton Horner began playing a Kruspe double horn with the Pittsburgh Symphony in 1900. By 1902 he had become first horn of the Philadelphia Orchestra and had the Horner Model Kruspe built to his specifications. He imported and sold this model horn until World War II. The design was copied by several other makers, most notably for the Conn 8D. The IHS website biography of Horner states, "He is credited with having introduced the double horn in the US. Anton Horner founded a distinctively American style of horn playing, and his impact is still with us today."

Among his contributions to horn playing in the United States were two critical innovations connected with the issue of playing with the bell on or off the leg. The first was his design and importation of the large-belled Kruspe double horn. The second was his influence as a leading horn player and a teacher who advocated playing the large double horn on the leg. Prior to the development of the double horn, it was unusual to play the single horn on the leg. Horner's influence as a teacher was amplified through his association with the Curtis Institute of Music from its founding in 1924 until 1942, where he had access to the top students in the country. Horner's sound concept, method of playing, and equipment were spread further still through the subsequent influence of his students, in-

cluding James Chambers, Marc Fischer, Mason Jones, Joseph Eger, Arthur and Harry Berv, and many others.

From our perch in the 21st century, it may seem strange for us to read in the most famous modern treatise on horn playing, *The Art of French Horn Playing* by Phillip Farkas, about "a new method of holding the horn while sitting, with the bottom edge of the bell resting on the outside of the thigh." To many younger observers, playing on the thigh is an old and increasingly discredited method. It is important to bear in mind that this new method broke with tradition and overturned much of the status quo as a result of the drastic change in the weight of the horn and the new tonal possibilities that the larger instruments created. Farkas refers specifically to the heavier repertoire for horn that brought on the adoption of the double horn that prefaces this quote:

Today it is very fatiguing, if not impossible, for the average player to hold the horn "free" for a long day's work. The conception of horn tone has also changed over the years. Holding the horn "free" produced a bright, clear tone. Now the accepted horn tone has a more dark, covered quality.

Farkas advised resting the bell on the outside of the thigh. He is shown in an accompanying photo with his knees fairly close together. He goes on to say, "Some may dispute this method, but from my own observation I would say that eighty percent of our best professional players find this position to be the most practical." In addition to laying out the numbers on the top horn players, he cites a doubling of the weight of the horn due to the gauge of the



Sitting position is demonstrated by Phillip Farkas in The Art of French Horn Playing

metal and a shift away from the single horn. He also notes the shift in weight from the arms and hands to the thigh which allows "the whole body a more relaxed attitude."



Harry Berv, who played in the NBC orchestra for sixteen years under Toscanini and also advocated playing with the bell on the leg, wrote in *A Creative Approach to the French Horn*:

I do not recommend that you practice in the standing position, even though there may be occasions when you will use that position – in marching bands or while playing a solo, for example. The standing position puts unnecessary pressure on both arms. It is clearly less tiring to practice in the sitting position because it permits a more secure grip on the instrument as well as a feeling of total playing security.

The last point on “total playing security” brings us to a benefit that doesn’t come up often because of possible embarrassment. For those who tremble when they are nervous and play off the leg, having a “go-to” horn position that does not shake can be a lifeline. Having the bell on the leg also allows a wider range of hand positions and makes mute changes easier.

For years the horn sections of the New York Philharmonic, Philadelphia Orchestra, Cleveland Orchestra, and LA Studios, led respectively by James Chambers, Mason Jones, Myron Bloom, and Vincent De Rosa predominately used Conn 8D or Kruspe horns and mostly played with the bell on the leg.

What has Changed Today?

One might ask what if anything has changed since the passing of that generation of horn players. Is the horn still heavy to hold all day? It’s hard to imagine that under the same conditions anything has changed. Those conditions might include the weight and balance of the horn, how many hours the instrument is held a day, the geometry of the instrument, left hand attachments for ease of grip and the strength of the individual. What about the outcome to the sound from playing on the leg? Farkas posited that the body “seemingly absorbs some of the high overtones which give brightness to the tone.” Julia Rose expressed a similar sentiment with a twist on the projection of the low tones. “The few times I play low horn, I usually play on the leg. This dampens the higher overtones and the lower ones project better for me that way, which is good for a low horn sound.” (juliashornpage.com/faq)

Are their advantages in taking the weight off the arms and by extension upper torso limited to general fatigue? What exactly does this “relaxed (bodily) attitude” that Farkas touches on produce, and is it still desirable? Have shifts in style and preference for a certain kind of sound, or the nature of the artistic demands on working horn players, driven changes in the way one holds the horn? In fact, this last is one area that has changed dramatically.

A generation or two ago world class teachers most likely spent the majority of their lives performing in orchestras. Their status was derived from the fact that they prepared students to play in a symphonic, operatic, Broadway, or studio orchestra. Their livelihood centered on the orchestra. Only two horn players made a living as a soloist (Barry Tuckwell and Hermann Baumann), and they worked primarily outside the United States. The Canadian Brass hadn’t even gotten their white tennis shoes dirty.

Today more and more horn professors gain employment without having played full-time in a major orchestra. These professors play in their faculty quintets and might go on tour to recruit students, perform an annual recital, and assist on their fellow faculty recitals. They do recital exchanges between colleges and go to regional conferences. They are usually expected to play hand horn, be conversant in baroque ornamentation, play jazz, and perform avant-garde compositions. They are familiar with European soloists, who often win their auditions with a concerto and perform in smaller halls where the goal is to *sound loud* but not necessarily *be loud*. Their job is to disseminate information, publish, blog, advocate from their point of view, and reproduce more horn players like themselves. It should come as no surprise that a method for holding the horn that was born in the orchestra should be questioned by many whose performance life does not revolve around the symphonic repertoire.

Playing with the Bell Off the Leg

Most wind players find it advantageous to perform standing for short periods of time. It is generally agreed that the body functions better standing than sitting during physical exertion. Some of the reasons include balance, flow of energy, freedom of movement, and the limitations of conforming to a chair. Beyond physical function, the most obvious advantage is in the visual connection to the audience, the physical command of standing above the orchestra or the piano, and level, eye-to-eye contact with the conductor. Others are freedom of movement and bodily expression for a dynamic connection to the audience and freedom to swivel and aim the bell at different reflective surfaces to change the sound.

Seventy years ago, it was acceptable for a professional soloist to play sitting down in the United States. Early in his career Mason Jones (like his predecessor and teacher, Anton Horner) played as a soloist sitting down. In the early 1950s, Jones would transition to playing standing up when he introduced the US premiere of the Gliere Concerto with the Philadelphia Orchestra; he stood with his right leg on a stool and the bell on his leg. He later conformed to the normal standing position.

The days of only playing with the bell on the leg are over. We have reverted to the previous practice of having horn soloists play standing up. Even in places where it is common to play with the bell on the leg, soloists play standing up – and by extension off the leg. Has this once again become a paradigm? How does that same position translate when sitting down?

With the exception of a few minor differences, playing with the bell off the leg is roughly analogous to playing standing up. Playing off the leg can have liberating effects. Tall players who would have to hunch down to the horn can hold the instrument in an upright posture. The height of the chair does not dictate the posture, from the waist up, when the bell is off the leg. The transition to playing standing up is virtually seamless and you don’t need a chair of any kind to practice.

One of the most important benefits is the critical ability (for a large number of players) to pivot the mouthpiece up and down. For trumpet players who can change the instrument



angle on their lips with relative ease, this practice is taken for granted. With the bell off the leg, horn players can obtain the ideal mouthpiece angle without having to tip the head up or down. Taller players can play more upstream – shorter players more downstream. Because the degree of pivoting increases at the extremes of the registers, those players whose facial structure require more exaggerated movement between registers can see dramatic improvement in their effective range.

Differences in bell position produce differences in sound. For most horn players, the sound tends to be clearer and brighter and have more presence off the leg, with less emphasis on the lower harmonics. Gustav Mahler and other composers instruct the horns to play with the bell “in the air” or “up high” in very loud sections. While some scholars think that Mahler’s intent was primarily theatrical, most horn players acknowledge the change to the timbre. Playing with the bell “up” or “in the air” increases the distance of the bell from the body, augmenting the effect of playing off the leg (depending on the direction of the bell).

Aids for Supporting the Horn

A number of devices have been invented over the years to support the horn, shifting the weight of the instrument off the arms but not placing the bell directly on the thigh. Bob Watt of the Los Angeles Philharmonic used and marketed what he called a “Watt lifter” which was two crescent-shaped pieces of Plexiglas that clamped on the bell wire to raise the instrument higher off the leg. A lighter and more sophisticated version of this was developed by Pip Eastop, a member of the faculty of the Royal College of Music. Eventually this led to the “Pip Stick,” which is attached to underside of the body of the horn and rests on the thigh. Several versions have come out of the Netherlands. One is called the “Horn Stick.”

Interestingly, these devices have come from countries where the horn is generally played off the leg; the sound is usually clear and somewhat bright, and the average height is tall. It is evident that these devices are indicative of a problem looking for a solution – not a regional preference for placing the bell on the leg.

Playing Both On and Off the Leg

More and more horn players play both on and off the leg, including Chicago Symphony principal Dale Clevenger and associate principal Daniel Gingrich. Players have a surprising number of reasons for playing on the knee. Some find it easier to play low notes on the leg or feel the sound is more appropriate for low notes. On the lowest notes of the horn, the hand is not needed in the bell for intonation. A favorite trick of low horn players to get some extra sound in loud tutti passages is taking the hand out of the bell altogether, which is difficult when holding the bell off the leg. Those who prefer the sound with the hand on the bottom of the bell (in certain situations) have no choice but to play on the leg.

Some players put the bell on the leg only for long concerts or operas. Many play on the leg or use support devices to practice longer. Some might play a triple horn (but not their double) on the leg. Others play on the leg for the reason Berv stated; i.e., to produce a “feeling of total playing security” – but only

when they have a challenging passage or piece. Sometimes the motive is to match the section leader. Still others are always in a state of flux and experimentation and use variation as an impetus to improvement. These are the same players who aren’t afraid to experiment with hand positions and use a wide range of sounds in expressing their artistic imagination. In Ellen Campbell’s article (“Thoughts on Holding the Horn”) in the 2002 *TUBA Journal*, she states. “I am one of those horn players who was taught to hold the horn on the leg but changed later. I am now very uncomfortable with the horn on the knee, but will do so at times when it helps achieve the playing demands of a passage.”

The production and perception of sound

One of the trickiest areas to quantify is the effect of the bell position on the sound, because correlation is not causation and it is not possible to directly trace the results of holding the bell off the leg to what causes which effects. Factors include the effect of weight being transferred through the arms onto the upper torso and breathing apparatus, the general muscular tension and its dampening effect on tone, and the efficiency of one position versus another to promote particular frequencies.

Another set of considerations encompasses how one perceives sound (psychoacoustics).

At the first International Horn Workshop in 1969 (see hornociety.org), John Barrows was prompted to comment on the large-belled Conn, “I don’t like the Conn because I think it is a delusion. I think you can turn yourself on with a Conn 8D very easily. You play with a ... deluge of sound. It’s tremendous. It has great psychological value. If you think you are good – then you’re good.” In real life, horn players compensate for what they hear. They perceive sound differently depending of the position of the bell to the ear and how the sound radiates from large bells in a wider pattern versus the more directional smaller bells.

Large-belled instruments generally produce stronger low frequencies. It is almost universally accepted that playing off the leg gives the instrument more presence. That presence can be ascribed to stronger mid and high overtones. If that is the case, the correlation between playing off the leg with a brighter instrument and on the leg with a larger instrument might be the result of using a position that reinforces the instrument’s characteristic sound. Though hard to prove causality, it appears that the “deluge of sound” from the Conn that Barrows refers to is connected to the propagation of low frequencies that one can feel from a close by but dissipates at a distance. Higher harmonics can be heard with more presence at a distance but not necessarily felt with the same intensity close up. This is confirmed by audibility curves (see Figure 1) that show the lower harmonics on a bigger horn are at a disadvantage at lower volume levels and distance.¹ Phenomena like this can provide a fertile field for the psychoacoustician where audibility trumps decibels.

When recording in a studio, resting the bell on the leg can be advantageous with a large-belled instrument that produces a rich sound when close to a microphone. One might also find that job security as a first horn player is better when you thrill the conductor on the podium as opposed to the audience in the cheap seats or play in a hall that reinforces some of those lower



frequencies without losing clarity. Conversely, many halls are black holes for low harmonics and leave you exhausted from playing ever louder with nothing to show for it. On the other side of the spectrum are halls that have so much reverberation that the extra resonance (in the lower frequencies) merely raises the audibility threshold with a wash of background reverberation and negates what is coming out of the bell. In that kind of hall, the clarity of a small instrument seems louder.

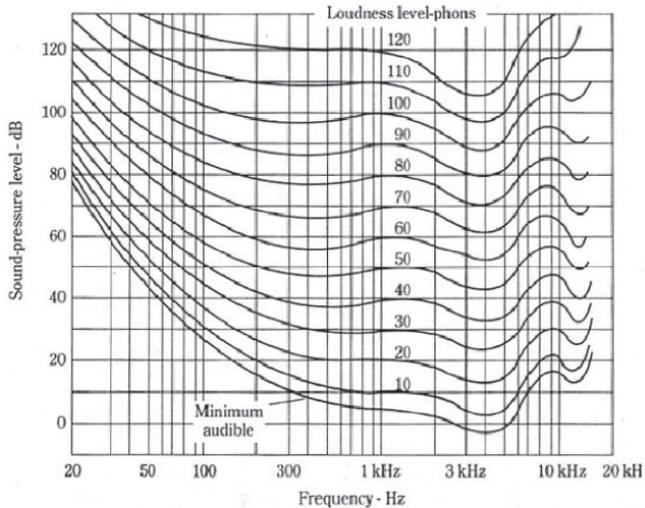


Figure 1. Fletcher-Munson equal-loudness contour

The manner in which humans perceive sound combined with the acoustical environment determine the relative advantage of playing on the leg – particularly with a large bell. Playing a smaller instrument off the leg avoids the harmonics that face the greatest bass loss and concentrates on the most acoustically dependable portion of the sound spectrum.

Young Horn Players

Holding the double horn is not just about making a positive choice; it also involves avoiding negative consequences. If holding the instrument were easy, we wouldn't have anything to debate. Schools wouldn't have to make a choice between an unreliable three-valve F horn and a double horn too large and heavy for their beginners. Elite European manufacturers like Paxman, Hoyer, and Otto would not produce single F and B \flat horns in a smaller child's wrap, not to mention the acoustically challenged compensating horns.

For young players, all the same issues raised for adults are in play to one degree or another. With the exception of growing in height, few issues are exclusive to children; but the ones cited here affect them disproportionately. Because both stature and strength can change dramatically, the option of playing on the leg should be evaluated both as a temporary choice and a permanent one for the young player.

On the positive side of the ledger are the following reasons to play on the leg:

1. The child is small and/or weak and has no chance of holding the horn off the leg for any length of time.
2. Even if the child heroically holds the horn up, it isn't stable. The horn droops and lots of notes are missed because of the moving instrument.

3. The child can't hold the right hand in the bell properly while holding the instrument off the leg (compromising both pitch and tone). Holding the right hand wrong is almost a given. See "Horn Hand Position," by Howard Hilliard in *The Instrumentalist* (February 2010) for an understanding of the difficulty of the right hand position for young students.

4. The strain on the muscles from the weight of the horn sets up unproductive tension, with only a superficial similarity to the posture and way in which a strong adult would use the muscles to hold the horn.

5. The young horn player gets marginal benefit from pivoting the instrument because of the narrower range.

6. The child struggles to hold the horn with the left hand and the hand slips away from the finger hook, causing fingering difficulty.

7. The child doesn't enjoy practicing and/or has shorter practice sessions because of the physical strain.

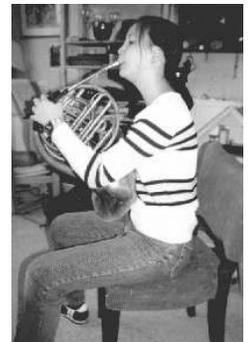
8. The child says it's comfortable to hold up the horn but the sound is less full and resonant.

9. The child seldom has a compelling reason to stand to play a solo.

10. The child will not need to give cues and establish a physical communication with the audience.

The rationale for playing with the bell off the leg, as a child, is essentially an indictment against playing with the bell on the leg. Many horn players, including children, play with a downstream embouchure that has more upper lip in the mouthpiece. When a small child first tries to hold an adult size horn on the leg, the child will have to play with the leadpipe parallel to the floor unless he sits on the edge of his seat and lowers his knee or puts his leg out quite far to the side and takes on more weight with the left arm. Beside the inherent discomfort of sitting on the edge of a chair for any length of time, the horn will tend to slip off the knee. The other solution requires the horn to be held across the chest and the right leg well away from the body. Either of these solutions has the disadvantage of changing as the child grows in relation to the chair and horn. In addition to excessive pressure on the upper lip, having the wrong angle will tend to push the young horn player into using less upper lip in the mouthpiece, which usually results in a trumpet mouthpiece placement and the sound that goes along with it.

One of the strongest arguments for playing off the leg for a child is the interaction with the chair. Even adults who play on the leg must contend with the mouthpiece height changing depending on the chair – when one joins the Vienna Philharmonic a first priority is a custom fitted chair. A child, who is growing, must contend with adult size chairs of various sizes and a changing body. Holding the horn free solves these problems. However all the issues previously discussed haven't gone away. Although not exclusive to children, the difficulty in playing with braces can occasionally be ameliorated by playing off



A young hornist with the bell on the leg straining the neck to find a good mouthpiece angle



On of Off the Leg?

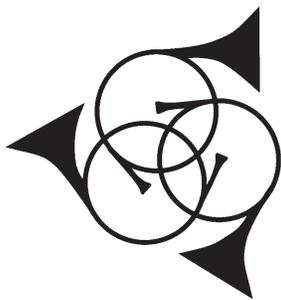
the leg – sometimes with astonishing results. Braces can force an extreme downstream angle because of the mouthpiece placement. For some with braces, playing off the leg provides mouthpiece angle options that are vital – but have marginal benefit in the absence of braces.

Conclusion

At a certain point horn players who wish to perform professionally should ask themselves, "What is it that I want to achieve? If I'm not achieving all of my goals, am I willing to part with my orthodoxy or my teacher's orthodoxy? Does one size or position fit all when it comes to holding the horn?" Teachers, especially those with young students, should ask themselves the same questions and whether their preferences are equally valid for both the short and long term. When it comes to holding the horn, the legitimacy of the means depends wholly on the preferred outcome and the effectiveness in achieving that result in the desired timeframe.

¹For very soft sounds, near the threshold of hearing, the ear strongly discriminates against low frequencies. For mid-range sounds around 60 phons (decibels), the discrimination is not so pronounced and for very loud sounds in the neighborhood of 120 phons, the hearing response is more nearly flat." (hyperphysics.phy-astr.gsu.edu/hbase/sound/eqloud.html#c2). "One of the implications of this aspect of human hearing is that you will perceive a progressive loss of bass frequencies as a given sound becomes softer and softer. For example if you are listening to a recording of an orchestra and you turn the volume down, you will find that the bass instruments are less and less prominent."

Howard Hilliard earned BM and MM degrees at the University of Southern California. At the invitation of conductor Zubin Mehta, he was principal horn in L'Orchestra del Maggio Musicale Fiorentino for over six years. While there, the orchestra recorded on major classical labels, including the original "Three Tenors" concert from Rome. After returning to the US, he earned the DMA degree from the University of North Texas. He has performed with I Solisti Fiorentini, Solisti dell'Ensemble Cameristico Pistoiese, Orquesta Sinfonica de la UANL (Monterrey, Mexico), Boston Civic Symphony, North Shore Symphony, Dallas Chamber Orchestra, Plano Symphony, East Texas Symphony, Waco Symphony Orchestra, Irving Symphony, Dallas and Texas Wind Symphonies, Corpus Christi Symphony, Riverside County Philharmonic, West Side Symphony, Burbank Chamber Orchestra, Glendale Chamber Orchestra, American Youth Symphony, and Desert Symphony. He is currently the principal horn of the San Angelo Symphony, and Garland/Las Colinas/Arlington Symphony. In addition to being an active freelancer in the Dallas/Fort Worth metroplex, he teaches horn and trumpet, repairs and customizes horns, and publishes both pedagogical articles and sheet music.



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