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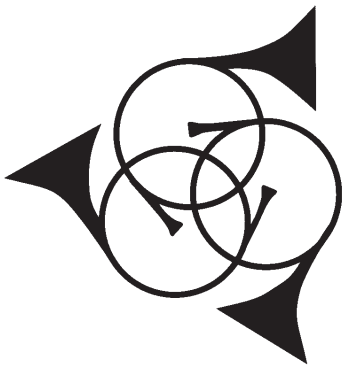

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on the cover: Trompiguares with Radegundis Tavares (right) performing *Suíte de Frevos* arranged by Chiquito and transcribed by Tavares and Luiz– with unnamed dancers!

The International Horn Society recommends that HORN be recognized as the correct English label for our instrument.
[From the Minutes of the First IHS General Meeting, June 15, 1971, Tallahassee, Florida, USA]

To Stop or Not to Stop – That is the Question

by Ricardo Matosinhos

Rest assured that this is not another article on how to stop a horn or if the hand lowers or raises the pitch. *The Horn Call* already has 22 articles on that subject.

It is not uncommon for horn players to receive a part where they are asked to play a stopped passage with the mute already in the bell, to play an impossible hand glissando, or produce some awkward to impossible task with the hand. This essay aims to clarify when and how a horn player should use the hand in the bell in these situations. After a brief history about what is offered in instrumentation and orchestration books (since these are the main sources for composers and arrangers), I will turn to what horn players have to say on this subject. The question of repertoire written for the natural horn where certain notes were indeed played as half or fully stopped is also addressed.

In order to appreciate the stopped sound, it is necessary to go back in time. Playing natural horn was based on the available overtones on a given tube length. The use of the hand in the bell, attributed to Anton Hampel (1710-1771), opened a set of possibilities that elevated the horn to a solo instrument.[1] Hampel found that as you close the bell with the hand, the pitch drops and the sound becomes muffled, which allows one to play pitches that are not available on the overtone series. Using the right hand permits one to easily lower the pitch by at least a half step and, depending on the harmonic, this distance can be as much a perfect 4th, especially when also bending the pitch with the embouchure. Examples of difficult natural horn passages include the 4th horn solo in Beethoven's 9th Symphony and the augmented 4th in the cadenza of the Carl Maria von Weber Concertino.

Completely stopping the tubing can also make the tone "brassy" even at a relatively soft dynamic level. The overtones that are about a whole step apart, from the 7th through 11th partials, can also be played in a hybrid way as stopped or half-stopped pitches, which enables the right hand to be used as an expressive device rather than to simply make the tone louder or softer. Instead of being considered as an imperfection of the instrument, these tone color differences were explored by composers as compositional resources.

The first valve mechanisms started to appear at the beginning of the 19th century and, for the first time, it was possible to play a chromatic scale with a uniform tone color. With valves, the brassy and slightly nasal tone color produced when performing a fully stopped pitch was no longer a result of modifying the harmonic series. Therefore, if a composer wanted that color on the valve horn, it became necessary to notate the color in the part. As Berlioz mentions, the emergence of valves forced composers to make a clear distinction between open and stopped notes. Berlioz also stated that the word *bouché* should be used together with 1/2 or 2/3 stopped to clarifying how much the bell should be closed, and which notes are then supposed to be "open."

Playing music that was written for natural horn on modern valve horns became problematic. On this subject (Berlioz and Macdonald 2004, 182), mention an incident that occurred in 1838 during a rehearsal, when Berlioz scolded a second horn player for playing a pitch open that would have been stopped on natural horn. The hornist replied, "I'm playing what's there. Why do you suspect the orchestra like this?" Macdonald explains that the second horn player was Joseph Meifred (1791-1867), a valve horn virtuoso, and that the dispute with Berlioz was raised on a passage that was supposed to be played bouché that Meifred played open on his valve horn.

Turning to orchestration and instrumentation textbooks, there is chaos about these techniques, with some sources either confused or just incorrect in their knowledge of the horn. I omitted these quotations from this article because they can confuse readers as to what is correct and incorrect; however, the sources appear in the bibliography.

For example, when a composer uses the French term cuivré it indicates he wants a "brassy" sound, not a stopped sound. *Cuivré* (French) and *schmeternd* (German) simply mean "brassy" and most of the time composers are probably asking for a "hunting horn" tone quality. However, a soft passage marked "brassy" will not have that effect unless the performer plays the passage stopped. Despite the fact that cuivré does not imply that the right hand is stopped, the tone color similarities sometimes confuse composers and orchestrators into thinking that "stopped" and "brassy" are the same. It is important to mention that the brassy degree can vary and can be obtained both open, stopped, muted, or even with "*en echo*" sound.

The hand in the bell can be used in two basic positions with different characteristics:

Stopped: +, *bouché* (French), *chiuso* (Italian), or *gestopf* (German)

Half stopped: echo-horn, ½ stopped, ¾ stopped, *en echo* (French), *eco* (Italian) *gedämpft* (German)

The stopped sound is "nasal" and "buzzy" even in soft dynamics, and the half-stopped sound is more "muffled," "misty," or "distant" and retains this characteristic tone even in louder dynamics. In theory, the stopped horn color is created by the hornist fully closing the bell, transposing a half-step down (on the F horn), and blowing faster air to get the desired brassiness.[2] As horn players know, fully closing the bell is difficult, a half step may be cut off the open F horn but every fingering has a different length of tubing so the percentage cut off varies from note to note. Often using the flat 7th partial, which is coincidentally a half step above the printed note, is usually better in tune. Half-stopped is theoretically created by the hand lowering a half-step above the printed pitch down a half-step. Since it is difficult to get an exact hand position that drops the pitch by a half step, many hornists assume a stopped

horn hand position and adjust the air speed and oral cavity to create sound intended by the composer.

The terminology for mutes includes: *sourdine* (French), *sordino* (Italian), *mit dämpfer* (German).

In orchestration texts some of these definitions became confused. For example, *gedämpft* (half-stopped) and *mit dämpfer* (with mute) are often mistaken because of the similarity of the words – both the hand and a mute "dampen" the sound.

Some textbook authors passed on the idea of two distinct hand techniques – one for the natural horn and another for the modern horn; however, acoustically the natural horn and valve horn behave in the same way – they require the same hand technique. The only difference is that on the modern horn, the composer must be specific about which notes are to be performed stopped or half-stopped.

The hand glissando is an effect that hornists have been able to produce for centuries but it has been made popular in the 20th century as a jazz effect, copying what trumpet and trombone players do with a plunger mute. The effect can be used in a variety of ways that range from interesting to spectacular. The hand glissando can be achieved beginning with an open hand position sliding quickly or slowly, depending on the effect, to a closed position or from a closed position to open. What composers often do not understand is that the hand glissando works best between two pitches that are the same location on the harmonic series. When the hornist has to cross over to another series, there will be an obvious "bump" between the notated pitches.

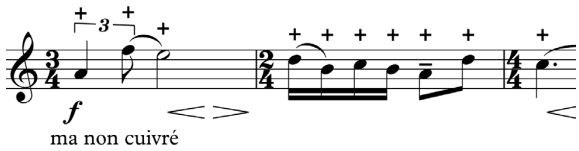
One of the problems faced by the modern valve horn player when approaching natural horn music is, "How authentic should my interpretation be?" Sprung (1996) believes that 19th-century composers did not necessarily intend all stopped notes to sound stopped in the modern sense. Sprung presents some ways to effectively find which notes should sound stopped, even if they are not indicated in the score. He suggests that other factors such as dynamics and orchestration influence to the desired dramatic effect. Even in compositions from the 20th century to the present, some passages related to the way the hand is used in the bell raise interpretative questions.

To some extent, these problems may arise from the confusion caused by contradicting orchestration treatises and some might be misprints. Nevertheless, the last word about the musical result is left to the performer, since it is usually not possible to ask the composer.

According to horn player Michael Thompson (*1954), in reference to bar 150 of *Villanelle* by Paul Dukas (1865-1935), "the difference in 'echo horn' and 'stopped horn' is not so much a difference in fingering, but a difference in effect [...] Thompson would play the work with the effect that the composer wanted, but that the fingerings were his own business!" (Faust 1992).

Note that "echo-horn" often appears subtly masked with the "+", which is commonly used for stopped horn. On the second page of the *Horn-Lokk* by Sigurd Berge (1929-2002) the composer indicates "+" at forte together with the expression "*ma non cuivré*."

Horn-Lokk (Berge 1973) mm. 25-28.



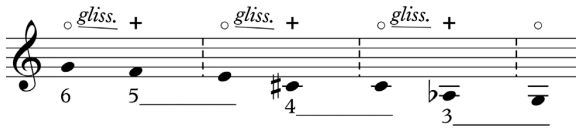
If it was notated at a piano dynamic level, this could be accepted as a fully stopped sound, since the brass edginess only starts to rise around mezzo-piano. However, it is impossible to perform this passage at the written dynamic, character, and with the indicated technique, unless it is played half-stopped. In some cases, a solution to this type of problem can be to play the passage on the B♭ side of the horn, where the brassy sound will appear only at stronger dynamics. This approach presents a technical downside since the intonation on the B♭ side will be too high. However, by lowering the intonation with the lips, it is possible to be in tune and at the same time help to delay the brassy sound.

As far as the first page of *Villanelle*, Pervin (2011) suggests that it is difficult to achieve the tone color of the F horn on the B♭ horn and especially the f alto of a triple horn; however, it is possible through practicing.

Another example of confusing right hand technique is related to the hand glissando. The usual way of performing a hand glissando is to play the bottom note half-stopped and the top note open, allowing a smooth transition between the two sounds. For example, in the 1st, 3rd, and 4th movements of *Le monde minuscle* by Daniel Schnyder (*1961), several indications of glissando between open and stopped notes (indicated by the symbol +) in fact should be half-stopped, since with stopped notes the transition will not be smooth and a click will be heard when bridging the overtones.

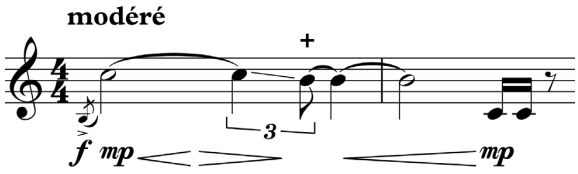
A fully stopped glissando as described by (Hill 1996, 23) is possible; however, using this technique depends on the intervals available on the overtone series, which allow a smooth glissando between a given overtone and ½ step above the overtone below.

Gradual transition is possible between an open and a stopped sound, but limited to the intervals of a given harmonic series. Example for some of the overtones of the F horn.



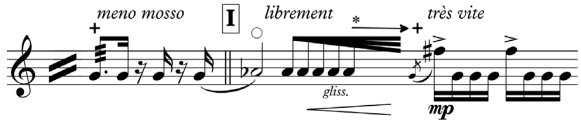
At the beginning of the first movement Schnyder's *Le monde minuscle* is a passage that fits in this exception, since the b' can be played half-stopped (by lowering the 8th overtone of the F horn) or stopped (by raising the 7th overtone of the F horn). Note that although this is possible, the intonation will be a little bit too low if played stopped.

Le monde minuscle, I. "la danse du microbe"(Schnyder 1995), b. 1



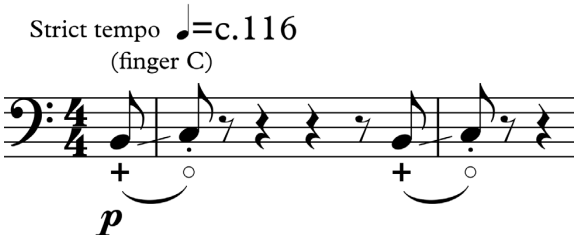
It is possible to play a glissando on stopped horn, as seen in the above example, and the composer gives the impression that he knows the difference between these two techniques. In the third movement it becomes clear that there is a discrepancy between the techniques. The composer wrote the following performance note explaining the asterisk: "gradually increasing in speed while simultaneously closing the hand in the bell, achieving a full hand-stopped position for the written G." (Schnyder 1995, 4).

Le monde minuscle, III. "l'insecte et le pachiderme"(Schnyder 1995), rehearsal letter "I"



The gradual transition in a glissando is possible, with the proper intonation, only when played half-stopped. However, it contradicts the indication of "stopped," that would result in a cut caused by the harmonic shift and a different fingering (F2) necessary to play a g' stopped. When played on the F side of the horn (F2+3) as written, it will be too low because it is the 7th overtone, and on the B♭ side (2+3) it will be about one full step below. It is possible to correct the intonation using the right hand while playing echo tone, but when stopped the hand is in a fixed position and is not available to move. Another example of this technique can be found in the beginning of the third movement of *Graham's Crackers* by Dana Wilson (*1946).

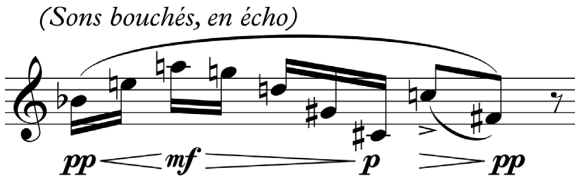
Graham's Crackers, III. Samba"(Wilson 2005)



In this example, the composer writes the stopped with an ascending glissando, which is not technically possible, since stopping a c would result on a c# not a B as indicated. Additionally, as mentioned before, the stopped horn would not permit a gradual transition. It should be also noted that the echo indication appears sometimes in situations where it is not related to the echo sound but rather as an interpretative idea of a distance on a softer dynamic. Del Mar (2009) states that a true echo tone can be obtained open and that a good horn player should be able to perform a wonderful echo without muffling the sound.

The bouché and echo definitions get mixed up as well. For example, in *Appel Intestellaire* from the *Des Canyons aux Etoiles* by Olivier Messiaen (1908-1992), Bourgue and Fako (1996) mention that, at first, Messiaen wrote it muted in order to produce an echo effect. However, after realizing that the performer had just a small amount of time to insert the mute and the sudden movement would break the spirit of the piece, he chose another solution. Bourgue related that he demonstrated it as an echo and as stopped, and Messiaen selected the second option for its richness of tone color.

Appel Intestellaire from *Des Canyons aux Etoiles* by Olivier Messiaen (Messiaen 1978)



It becomes increasingly more difficult to play with a stopped sound in the low range of the horn. As mentioned by Norman Del Mar (2009), the sound starts to lose the brassy quality that is its raison d'être, approaching the echo tone color. Del Mar suggests that the composer might intend to have an echo sound and, in this case, the horn player should play ½ step above. Del Mar, who was a horn player too, also mentions the possibility of using a mute as an alternative to the muffled sound with a degree of edginess, or even as able to simulate the aggressive and brassy sound of the stopped horn in the entire range without forcing the player to transpose. On the other hand, using a mute requires time enough to insert it and remove it, so sometimes, if the passage is high enough, horn players choose to play it stopped rather than muted. The brass stopping mute is also a possibility as it allows a nice sound, close to the stopped one even in the low range.

In conclusion, horn players should consciously make interpretative decisions based on what they believe are the composer's intensions even if they are not clearly notated in the score, and even if they require the use of playing techniques other that those written. This idea is the same as suggested by Sprung when he discussed the use of the right hand in 19th-century works. Performers should exam the context of each decision, noting the dynamic level, the tone color, if a smooth glissando is desired, and what other alternatives might be better solutions. This way, composers and horn players can row together in the same boat, presenting their musical ideas to the public despite the technical difficulties presented by the right hand in the bell.

When the composer is not available, the intention of a given passage and the interpretative decisions should always be guided by good judgment and musical taste.

Ricardo Matosinhos is a Portuguese horn player, pedagogue, and composer who studied horn with Ivan Kučera and Bohdan Šebestik and now teaches at the Acadmia de Música de Costa Cabral and Escola Superior de Música, Artes e Espetáculo in Oporto Portugal.

Notes

1. This attribution to Hampel appears to be exaggerated, since the right hand technique was already being used by trumpet players to correct intonation earlier. Tuckwell (2002, 26-27 and Morley-Pegge (1973, 87) both state, "What seems more likely is that Hampel extended and codified a technique about which at least something must have been known much earlier."

2. That is a controversial topic and often debated, with a series of articles published in *The Horn Call* from the first edition back in 1971. Both "uppers" and "downers" present their arguments, but there is agreement that the sound becomes brassy when performing fully stopped.

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