The horn is a noble and melancholy instrument, notwithstanding the frequently quoted hunting fanfares.

~Hector Berlioz
from his *Grand traite d'instrumentation et d'orchestration*

APPLYING NATURAL HORN TECHNIQUE TO MODERN VALVED HORN PERFORMANCE PRACTICE

DOCUMENT

Presented in Partial Fulfillment of the Requirements

for the Degree Doctor of Musical Arts

in the Graduate School of The Ohio State University

By

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* * * * *

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ABSTRACT

The purpose of this study is to recognize and explore the use of natural horn techniques in modern horn playing. Music composed for the horn by the great Classicists, Haydn, Mozart, and Beethoven, contains subtleties for the valveless instrument that can sometimes be accomplished with the valved horn. Natural horn techniques applied to the modern valved horn can also be used in literature intended for the valved instrument. Of the compositions originally written for valved horn, I consider two categories: pieces in which the composer 1) directs the performer to use a natural horn technique, and 2) does not direct such a technique but where the use of the technique can enhance the effect intended by the composer. This document examines the use of techniques specific to the natural horn applied to modern valved horn performance in selected repertoire from the 18th through 20th centuries. Natural horn techniques explored in this document include right hand movements, embouchure flexibility and facility, ornamentation fluidity, oral cavity adjustments, and air stream usage. Also explored are the effects associated with natural horn technique: natural harmonic intonation and varied timbres.

This work is founded in my studies of the natural horn and the valved horn. These studies have been four-fold: 1) through listening to excellent natural horn artists, 2) by reading and using the tutors of the great natural horn teachers, 3) through private lessons and masterclasses on natural horn with Richard Serpahinoff at Indiana University and on valved horn with Charles Waddell at The Ohio State University, 4) by performing

great literature on each horn. This document also includes a performance practice survey of professional horn players from the United States and Europe who have developed natural horn techniques.

Developing advanced technique on each instrument can enliven the performer's interpretation. An increased awareness of *timbre* and *harmonic structure* as related to crooks/keys and a heightened knowledge of the *harmonic series* and its *pitch tendencies* result when interconnecting these instruments. By developing extended techniques through direct experience with the natural horn and its literature, horn players can come to know not only an increased technical facility but also the historical context of their instrument. It is my hope that we, as modern valved horn players, continue to develop the versatility of our instrument. Many of the expressions presented in this document encourage the lyrical and vocal styles in our playing that were so admired in the artistry of the greatest 18th and 19th-century horn virtuosi.

dedicated to my grandfather

Edvin Jorgeson Vik

ACKNOWLEDGMENTS

My work is inspired by the great 20th-century horn player, Hermann Baumann. His performances and demonstrations significantly influenced my development as a young horn player in the early 1980's. In both recorded and live performances, he was the first natural horn player I heard; in his masterclasses he was the first teacher I heard discuss the player's effect upon tone color. With this document I wish to continue those discussions.

I wish to thank my adviser, Charles Waddell, for his encouragement, insight, and guidance. His method of teaching has allowed me to pursue aspects of horn playing which I find exciting, and in the process we have both witnessed new discoveries. His ability to color the modern horn's sound in the context of orchestral repertoire has been a joy to me both as a listener and as a fellow performer.

I wish to thank Richard Seraphinoff for the groundwork and artistry he has provided whereby my natural horn interests have been developed. His knowledge of horn history, abilities on the instrument, craftsmanship in hornmaking, summer natural horn workshops, and studio teaching have greatly influenced the progression of my doctoral studies. I recognize the Committee on Institutional Cooperation (CIC) Traveling Scholar Program, Mr. Serphinoff, Jody Smith at Indiana University, and Shari Breckenridge at The Ohio State University for coordinating natural horn studies as part of my doctoral program.

I wish to recognize my valved horn teachers Bruce Houglum, Dale Clevenger, Kendall Betts, Michael Hatfield, and Charles Waddell. I thank each of them for the knowledge and skills they have woven into my playing.

I am grateful to the survey respondents who gave their time to share ideas on this subject. Their willingness to respond to this topic is a reflection upon their dedication to the horn and its history and to students of the horn. Participants include Andrew Clark, Lowell Greer, Steve Gross, Sören Hermansson, R.J. Kelley, Peter Kurau, Thomas Hiebert, Douglas Hill, John Humphries, Francis Orval, Johnny Pherigo, Hans Pizka, Jean Rife, William J. Rogan, Michelle Stebleton, Louise Schepel, Jeff Snedeker, Richard Seraphinoff, David R. Sprung, Kristin Thelander, Frøydis Ree Wekre, and Gail Williams.

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VITA

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1989-97	Music Preparation and Editing Columbus Symphony Orchestra, Ballet Met, and Opera Columbus
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1998-99	Daylight Winds The Ohio State Graduate Woodwind Quintet
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RECITALS

Doctor of Musical Arts Degree

January 23, 2001 Chamber Music

Jan Bach *Four 2-bit Contraptions for flute and horn*; Wolfgang Plagge *Quintet for horn, two violoncelli, and two pianos, op. 26* (US Premier); Johannes Brahms *Trio for horn, violin, and piano, op.40* (natural horn).

January 9, 2000 Lecture - Demonstration

Beethoven's Horn Sonata: Exploring natural horn and valved horn performance practices. Jacques-François Gallay *Préludes non measurés, op.27, no. 22*; Ludwig van Beethoven *Sonate in F dur für Klavier und Horn, op.17* (natural horn).

December 1, 1999 Featured Soloist

The Ohio State University Symphony Orchestra: Benjamin Britten *Serenade for tenor solo, horn, and strings, op.31* with Gregory B. Rike, tenor.

April 23, 1999 Solo Recital

Robert Schumann *Adagio and Allegro in A_ Major, op. 70*; Three Scandinavian Pieces: Carl Nielsen *Canto Serioso*, Johan Kvandal *Salmetone*, Peter Heise *Fantasistykke, No.2*; Paul Hindemith *Sonata for horn and piano (1939)*; Paul Taffanel *Quintet for Winds* (Graduate Woodwind Quintet).

Master of Music Degree

May 3, 1998 Solo Recital

Nicolas Von Krufft *Sonata in E* (natural horn); Randall E. Faust *Dances for natural horn and percussion*, Vitali Bujanovsky *Scandinavia*; Johan Kvandal *Introduction and Allegro, op.30*; Sigurd Berge *Hornlokk*.

FIELDS OF STUDY

Major Field: Music

Minor Fields: Mathematics and Physics

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INTRODUCTION

Purpose of Study:

The purpose of this document is to discuss aspects of horn sound deeply rooted in the pre-19th-century historical instrument. It is the sound of the horn that inspires players, draws listeners, and stimulates composers. Sound keeps the performer practicing for hours to learn the skills required to play well. To listeners, the horn's sound evokes heroism and nobility, wistfulness and romance; for decades it has been an essential voice for such qualities in motion picture sound tracks. Composers have maintained an ever-changing relationship with an instrument that continues to evolve; their innovations directly affect the sound of the horn.

This inquiry will explore techniques which horn players could use to color the horn's sound. Most of these techniques have their roots in natural horn performance, thus the reason for the manner of my approach: applying natural horn techniques to modern valved horn performance practice. Sound colors are not only characterized by timbre, but also through facility and intonation. Natural horn timbres are largely affected by hand position. The resulting sonority can be muffled, muted, brassy, warm and rich, or open and bright. The player's ability to provide ornamentation through lip trills, turns, and mordents is a result of his or her facility. The ability to arpeggiate fluently and easily throughout the range of the instrument is another example of facile technique. This fluency exhibits itself as aspects of tone color. Intonation, whether it be diatonic, just,

quarter tone or natural harmonic, also colors sound. For the horn, natural harmonic intonation is simply achieved by playing the unadjusted notes of the harmonic series.

As an orchestral player, I find that the right hand and flexibility training on my natural horn has been of great benefit in creating, on my valved horn, the colors and balance desired in the music. As a soloist and chamber player, the benefits and new uses of these techniques are even more pronounced. This document is designed to demonstrate, by providing examples from the literature and professional practice, how natural horn skills can enhance modern valved horn performance.

Method of Study:

My study of natural horn technique has progressed from four main sources. The first and foremost is through listening to great players of this late 18th-century, early 19th-century instrument such as Hermann Baumann, Lowell Greer, Andrew Clark, Michael Thompson and Richard Seraphinoff. The second source is from the tutors, or method books, of the great natural horn teachers, especially those by Louis-François Dauprat, Frédéric Duvernoy, and Jacques-François Gallay. The third source is from private lessons and masterclasses with Richard Seraphinoff, Professor of Natural Horn at Indiana University. Much of this work was made available to me through the Committee on Institutional Cooperation (CIC) Traveling Scholar Program. The fourth source of my development is from field work, that is performing works written for the natural horn encompassing literature from the 18th through 20th centuries. I also credit rehearsing, yet not performing, the natural horn with modern orchestra for providing significant insight and influence upon my performance practice. The most significant of these experiences has been in rehearsing Wolfgang Amadeus Mozart's *Così fan Tutte, K.588* and Ludwig van Beethoven's *Symphony No. 5 in c minor, op.67* with The Ohio State University

Symphony Orchestra . All four of these methods have led me to develop strong skills as a performer and thorough knowledge of the history of my instrument and its literature.

As an extension to these studies, I proposed a survey to some of the world's best horn players who have developed natural horn skills. The survey was embraced by the members of this select community. To them I am most grateful. Each of these players has their own experiences and relationship to the horn, both valved and natural; thus, they present a broad spectrum of ideas and methods. Their comments will offer further insight into this topic.

Technique and Transitions:

Valved horn players position the right hand in the bell to recreate a traditional horn sound; the hand also provides an acoustical aid for the production of sound. It is usually placed in a position that provides the greatest advantage to the entire range of the instrument. For some players, a slight movement of the right hand is used in their playing, most commonly for intonation adjustments. For others, there is no significant dynamic motion of the right hand; it is positioned to play either "open" or "stopped" horn. Although I have heard players talk about changing the hand position to create color effects, there is virtually no written material detailing the technique; the articles on right hand technique in my bibliography address mostly stopped hand positions and possible fingering combinations. The literature does address, although minimally, tone color changes via oral cavity shape.[1] It seems that proper hand technique is more easily addressed in a lesson environment, one to one, as an oral tradition.

In the manner one uses to change pitches lies the essential difference in technique between the natural horn and valved horn player. The natural horn player finds that the

[1]See Eldon Matlick's article "Teaching Horn Tone," *The Instrumentalist*, May1988, p.40.

hand along with the embouchure and oral cavity are the tools that define pitch. The instrument's length is chosen by the performer or composer; once it is in place, the length of the instrument is set. On the valved horn, the length of the instrument changes instantly with the motion of the valves; thus, the player's embouchure and the instrument's length are the valved horn player's tools used to define pitch. In modern valve-horn playing, among players unfamiliar with the natural horn, the notion of using the right hand to define pitch has completely disappeared, yet the capacity to apply this technique continues to exist. If a player discovers the resourcefulness of the right hand, its use can become an added benefit to the technical skills of the player.

During the transition from the valveless to valved instrument, the best players were rooted by their teachers in natural horn technique, two stellar examples being Dennis Brain in England and Philip Farkas in the United States. In the mid-20th century the emphasis on natural horn playing in a student's education seemed to be lost among major schools of teaching, especially in the United States, where there were also relatively few original instruments available to play. New manufactures of natural horns were not readily available due to the limited market. During this time, many of the best players, who then became the best teachers, did not progress along a path that involved a general concept of natural horn playing. As a result, the oral traditions in teaching many of the fine points of natural horn technique were left behind.

In recent years, rediscovery of natural horn methods has given both performers and teachers of the horn insight regarding historical performance practice. Thus, to study the natural horn with an informed teacher can be a significant component in a horn student's development as it combines both increased technical skills and historical insights to the method. In an era dominated by teachers, players, and students of the valved horn, natural horn studies have again become included in the pedagogical approaches of several major teaching studios.

Historical Information:

Prior to the invention of the valve, ca.1814, the horn was one continuous length of tube, whereby adjustments of embouchure and hand position created changes in pitch. The natural horn developed from the 16th-century hunting horn which had a small bell and narrow bore and was played with the bell in the air like a trumpet or trombone. The hand supported the instrument on its exterior and did not cover the sound inside the bell. During the early 17th century the hunting horns were brought into the opera orchestra to imitate the hunt. In combination with its new musical role, the horn's shape changed along with the method in which it was performed. In general, the bell became larger, the bore became wider, the length became longer, the wrap of the circle became smaller, and most significantly, the bell came to easily meet the player's right hand. This change in configuration allowed the player to manipulate the hand in the bell to adjust pitches creating a fully chromatic instrument. The best players began using a hand-stopping technique in the early 1700's, but it is generally accepted that Antoine-Joseph Hampel (1705?-1771), in the mid-1700's advocated a systematic approach to right hand technique and is thus credited for both using and teaching this manner of horn playing.

After the invention of the valve, there was much resistence to its adaptation on the already chromatic, maturely developed hand horn. The first solo for valved horn was composed by Robert Schumann in 1849, *Adagio and Allegro in A-flat, op.70*[2]. Berlioz, Schumann, Brahms, Bruckner, Strauss, and Wagner were all schooled with an understanding of natural horn methods. Beethoven and Schubert, post 1814, were careful to compose music that could be played on hand horn, but could also be effective with the newly invented two-valved instrument. Later, in Germany, the operas of Richard

[2]Originally titled *Romanze and Allegro*, it was published for horn (or violin or violoncello) and piano.

Wagner and the tone poems of Richard Strauss brought the valved horn into the forefront of orchestral sound.

Among the last group of composers and musicians to relinquish the dominance of the hand horn were the French. In the later19th century, Camille Saint-Saëns wrote two pieces for solo natural horn (or violoncello) and orchestra: *Romance in E, op.67* in1866 (pub.1885) and *Romance in F, op.36* in 1874. The Paris Conservatoire continued its natural horn curriculum until 1903. Only two teachers of the valved horn had taught at the Conservatoire before this: Pierre-Joseph Emile Meifred (1791-1867) and François Brémond.(1844-1925). Both Meifred and Brémond were pupils of the great natural horn teachers Louis-François Dauprat (1781-1868) and Jacques-François Gallay (1795-1864), respectively. Meifred taught valved horn in conjunction with natural horn from 1832 until his retirement in 1864, which was also the year of Gallay's death and retirement. In 1891 Brémond became professor of horn at the Conservatoire and began teaching valved horn in 1897. In 1903 when the natural horn curriculum was dropped, Brémond continued teaching only valved horn.

The French were rooted pedagogically in natural horn instruction. Twenty-seven years elapsed between valved horn instructors, while the natural horn curriculum was continuously maintained. During these years, 1864-1897, some of the best horn writing in the 19th century was born: Anton Bruckner's first through ninth symphonies, Johannes Brahms' second through fourth symphonies, Pyotr Il'yich Tchaikovsky's fourth through sixth symphonies, Gustav Mahler's second through fourth symphonies and Richard Strauss' tone poems, *Macbeth, Don Juan, Tod und Verklärung, Till Eulenspiegels lustige Streiche, Also Sprach Zarathustra*, and *Don Quixote*. *Ein Heldenleben*, composed 1897-98, followed closely. This impressive list of compositions provides the staple diet for the professional symphony orchestra.

From my observations, the compulsion to maintain the natural instrument over the valved resulted from two pre-existing conditions. The first was that the natural horn had a lyric, vocal quality that could not be similarly achieved on the valved instrument. The second was that the pedagogical momentum of the highly developed art of horn performance was too strong to support the change. The valve significantly challenged the horn's pedagogical method and its character as an art form.

Regarding the first observation, I offer the following review of Joseph Leugeb's[3] performance from a contemporary source, the *Mercure de France*, May 1770:

> Mr. Leutgeb, first *Cor de Chasse* of his Most Serene Highness, the Archbishop of Salzburg, has presented two concertos as artfully as possible. He draws from this instrument intonations that do not cease to surprise connoisseurs. His talent is above all to sing the *adagio* as perfectly as the most mellow, most interesting, and most accurate voice could do.[4]

Regarding the second condition, one must note the pedagogical differences between the two types of horns. For the natural horn, the right hand changes the sound at the end of the instrument, similar to the oral cavity of a vocalist. For both the horn player and the singer, the source of the sound is a vibration between the breathing apparatus and the system which shapes the sound, that source being the embouchure for the horn player and the vocal folds for the singer. Educating the right hand to shape the sound of the horn can be compared to training the lips and oral cavity to shape the sound of the voice. Today it is clear to see that vocal arts are quite separate from instrumental arts, but for the hand horn player there is a strong connection. This pedagogical connection to vocal arts

[3]Wolfgang Amadeus Mozart wrote many of his most lyrical horn compositions for Leutgeb (1732-1811), who was a good friend of the Mozart family.

[4] M. Seikgeb, premier Cor de Chasse de S.A.S. Monseigneur l'Archevêque de Salkbourg, a donné deux concertos avec tout l'art possible. Il tire de cet instrument des intonations que les connoisseurs ne cessent d'entendre avec surprise. Son mérite est sur-tout de chanter l'*adagio* aussi parfaitement, que la voix la plus moëlleuse, la plus intéressante et la plus juite, pourroit faire.

is found in more than right hand technique. Players of the horn, pre-valved, often studied voice or violin before coming to the horn. Excellent pitch recognition and musicianship were necessary qualities of the performer before beginning the horn. The art of the horn player with a valved instrument was completely redefined when these pre-conditions were no longer *absolutely* necessary, although still desirable.

When you recognize that the invention completely changed the method in which the instrument was taught along with the qualities for which it was praised, it is not difficult to understand why the valved instrument was resisted among the schools of horn playing with the strongest natural horn traditions. In an attempted to combine what he perceived to be the best qualities of the natural and valved horns, Meifred, at the Paris Conservatoire, developed a technique "that combined hand stopping with the use of valves, encouraging the use of open and stopped notes throughout the instrument's range for balance and for expressive effects."[5] This method has not been embraced by horn players for reasons which may exist in several arenas: Meifred's timing of the method (Could it have been too soon after the invention of the valve?), his geographic location (What if the great Austrian horn player, Franz Strauss, had advocated such a style?), or the sheer difficulty in executing the technique.

[5]Snedeker, Jeffrey, "Meifred, (Jean) Joseph (Pierre) Emile," *New Grove Dictionary of Music and Musicians* 2001 ed.

BASIC PRINCIPLES:

This section will provide some definitions for underlying terms, references and concepts found in the following chapters.

Harmonic Series:

Every brass instrument, which can be described as a given length of tubing that is closed on one end and opened into a bell shape on the other, creates a pattern of notes. In music and mathematics, this pattern is called an *harmonic series*. A vibrating string, when continually divided in half, also creates this series.

Click to sound the crook/key:
in F (harmonics 2-16)
in E-flat (harmonics 2-16)
in C basso (harmonics 2-16)
in A (alto) (haromincs 1-12)
in C alto (harmonics 1-12)

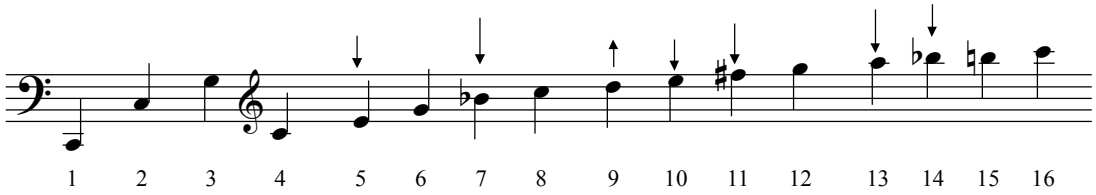

Figure 1.1: The harmonic series built upon the fundamental *C* through the sixteenth partial. The longer arrows represent a greater deviation from equal tempered tuning.

If the first note, the *fundamental*, is at 100 cycles per second, the second is doubled becoming 200 cycles per second, the third is tripled becoming 300 cycles per second, and so on, always an integral multiple of the fundamental frequency. As a result we get pure intervals creating diatonic intonation. Note that once an interval appears (in

relation to its octave "tonic"), it will be present in each succeeding octave and with the same pitch tendency (high or low). Thus, since the first division creates an octave, the octave will continue to appear. The second division creates a perfect 5^{th} which tends to be high in relation to tuning via equal temperament. This tendency will remain in all the successive appearances of this interval per octave. Thus the cycle continues, in each successive octave new partials fill in between the ones present in the previous octave.

When a string of constant length creates the harmonic series, there is no means of adjusting the pitch centers of the partials; the natural intonation is pure. With a tube, the physical properties of the shape of the tube can be adjusted slightly to alter the natural pitch tendencies. These efficiencies (or inefficiencies) in the shape of the instrument in combination with embouchure adjustments can alter the natural harmonic intonation of a tube thereby creating a just or equal tempered system.

Hand Stopping the Horn:

Historically, this has been a controversial issue. When stopping the horn, does the pitch go up or down? Let me state some observations for players of the horn:

1. Without depressing any valves, compare the *open* F horn when played through the harmonic series and the *fully stopped* F horn played through the same series. You will notice that the pitch goes up a semitone.

2. Now play any open note on the F horn and slowly close your hand in the bell. You will notice that the pitch lowers when the hand closes. When the hand is fully stopping the bell, the lowest pitch created in this manner lies a semitone above the next lowest harmonic of the open F horn. For example, if you play second line "g" (notated for Horn in F) and close the hand, you can lower the pitch to "f", which is a semitone above the next lowest harmonic, "e", and likewise, lowering a third space "c" on the F horn will create "b-natural", a semitone above "b-flat".

Thus from observation No.1, it appears that the harmonic series is raised a half step, but from observation No. 2, the player can only lower the series to a semitone above the next lowest harmonic. In the style of the great physicist and teacher Richard Feynman (1918-1988), I propose the following experiment. (Do try this at home.) Play any stopped note on the horn and then, while holding the same valve combination, take the hand out of the bell as the note continues. Try this at all dynamic levels and in different ranges. What do you discover?[6]

I find it a useful tool to recognize the *apparent* upward shift and *actual* lowering of pitch to play fully stopped notes. When learning fingering combinations for stopped horn, the apparent shift is useful; thus, transposition on the F horn down a half step is a consistent model. When you have knowledge of the actual physical process, one can quickly develop alternate fingering combinations which aid intonation and can choose better fingering combinations when creating portamento effects.

Differences between the Natural Horn and the Valved Horn:

The natural horn and the valved horn differ in one significant aspect. The natural horn changes length by changing crooks and the valved horn changes length via a valve mechanism. The speed at which these changes can occur causes them to be played in two different manners. With the natural horn, the player relies on the embouchure and the hand in the bell to instantaneously adjust pitch. With the valved horn the player can

[6] I find that the pitch rises smoothly to the open harmonic just above the stopped note, and when the pitch is lowered to the next lower harmonic, a bump occurs, characteristic of the change between two harmonics. Thus, my conclusion is that stopping the horn always lowers the pitch.

adjust pitch via the embouchure, the length of the instrument (valve combination), and the hand in the bell. The valved horn player, due to the ease in changing the instrument's length, has eliminated the need to adjust pitches via the hand in the bell.

On the natural horn, flexibility with arpeggios, accuracy on harmonics above the 12^{th} partial, facility of the right hand in the bell, adjustments of the oral cavity to affect tone and intonation, accuracy in bending the lower harmonics, and execution of ornaments, for example trills, turns, fluid scales or portions of scales, are all part of the advanced technique of premiere players. With the use of valves, the instrument extends itself far beyond the capacities of the human voice bringing more consistency in sound, a greater range, and a stronger sound throughout that range.

Defining Natural Horn Technique:

Most modern valved horn players have been taught some aspect of natural horn technique, so it is difficult to say exactly what is *natural horn technique* and what is *valved horn technique*. I would like to make the following distinctions: If the technique has its foundation in natural horn performance practice, then it is a natural horn technique. Here are some examples: playing arpeggios without changing valve combinations, changing pitches by adjusting the right hand, playing lip trills, bending pitches with the embouchure, and using natural harmonic intonation. The practice of writing for "Horn in [any key]" is a technique used by composers derived from natural horn practice.

CHAPTER 2

TECHNIQUES SPECIFIC TO THE NATURAL HORN

The musical instrument, horn, comes in several varieties, whether valved or natural. Players of the horn have the capacity to learn valved horn or natural horn technique, although a clear preference for valved horn playing is dominant worldwide. At the same time, there are players who enjoy the methods of the natural horn and perform in that domain; most of these players also perform on the valved horn. This chapter will define the techniques I refer to as *natural horn techniques*. Although every one of these techniques can be used on the valved horn, I prefer to identify these particular techniques as *natural horn techniques* because of their essential nature and historical foundation in natural horn performance practice.

Right Hand Technique:

The skillful use of the right hand is one of the most significant technical differences in performance practice between natural horn players and valved horn players. In valved horn playing we are taught how to form a good hand position. As our skills advance we learn to stop the instrument by fully closing our right hand to seal the bell. Further advancement and refinement lead to the player's ability to adjust intonation with the right hand for both open and stopped pitches. In contrast, the natural horn player begins with the familiarity of a continuum of hand positions which affect a tone's quality in sound and pitch. For both natural horn and valved horn playing, the right hand causes

an acoustic effect upon the standing wave created inside the tube of the instrument by altering the waves' end response.

There are several open hand positions and several stopped hand positions; some positions bridge the definitions of open and stopped. Hand positions are generally described as: open, quarter stopped, half stopped, three-quarter stopped, fully stopped, and fully open. Each change in the opening of the hand causes a change in pitch. Depending on which range or which crook is being played, the hand movements have a greater or lesser influence upon the pitch changes.[1]

For natural horn playing, the hand is always pliable and supple. It is generally quite cupped, covering more of the bell than an open hand position for the valved horn, to enable the player to more easily meld the sound of the open and stopped notes. To create a natural horn hand position cup the hand with fingers together and the thumb snug against the first finger knuckle; there should be no spaces between the fingers or the thumb. The hand, in this position, could be capable of holding a small amount of water, but it should be relaxed enough so that the water could leak slowly out of the hand. The hand should be placed in the bell so that the fingers, from the fingernail to the second knuckle touch the far side of the bell allowing the major weight of the instrument to rest on the thumb and large knuckle of the first finger.[2] Positioning the second knuckles of the fingers provide a hinge, or point of reference for the majority of hand motions that are

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[1]See Dauprat's *Method for Cor Alto and Cor Basse* for hand positions charts. He writes the hand positions for general purpose playing above the notes in the first lesson of Part I (pp.30-31). Later in the eleventh, twelfth, thirteenth lessons of Part I (pp.64-69), he writes a different set of the hand positions which depend on the context of a scale.

[2]The forearm contains two bones, the *ulna* which joins the upper arm at the elbow and the *radial* which provides the swivel action to the forearm but has no weight bearing power. If the weight of the horn rests opposite the ulna bone (the lower of the two forearm bones) there is very little tension in the arm. This method also allows for a minimum amount of work in holding the instrument since the player's skeletal structure is supporting the horn.

used in the bell. The hand should be inserted far enough into the bell to effect the pitch of the instrument. When the hand is gradually inserted to a playing position while the player blows a mid-register long tone, there will come a point when the pitch begins to drop. At this point, the player must fine tune the hand position to gain the desired tone qualities. From this position, the flexible right hand (and wrist) can quickly bend to form a stopped hand position or pull back at the wrist to clear the fingers away from the bell to raise the too-flat seventh or eleventh harmonic. A half-stopped effect is quickly achieved from this basic position by closing the hand and curving the fingers inward. The hand in the bell offers acoustical support to the sounds the player is producing with the embouchure.

I offer here a highly unconventional, yet useful hand position that may have been used *to create echo effects on the natural horn*.[3] This hand position could be described as acoustically inefficient, but it is precisely that inefficiency which makes it a useful hand position. When used, it creates a non-transposing, distant sound; it can also be used to create a pseudo-stopped effect. This hand position is made by again cupping the hand, as if holding water, allowing the fingers and thumb to be close. The cup shape is a bit more angular than for the basic hand position; the large finger knuckles form a peak and the fingers are relatively straight, as is the back of the hand. Place the hand on the near side of the bell so that the cupped hand creates a trapped air space against the bell at approximately the same distance inward as your open hand position. You can change the pitch and tone quality of this "muted" hand effect by moving your middle finger (or fingers) across the bell into the open air column which allows air to move through the

[3]See *Tre kvartetter för fyra Waldhorn (Three Quartets for four natural horns*) by Bernhard Crusell (1775-1838) published by The Hornists Nest in1979, Buffulo, NY. The piece uses open and half-stopped notation to indicate an echo effect <u>not</u> a pitch change, even though it was written for natural horns. The use of a non-transposing mute is an improbable option because of the lack of time to prepare its entrance and exit.

trapped space. This technique is useful in creating a variety of effects depending on the range and volume where it is used and upon the size of the trapped air reservoir.

Experiment with different non-transposing-muted hand shapes with various dynamics and ranges. A different effect is gained if the hand either does not allow air to flow into it (completely sealing the trapped air) or if it allows some air input by lifting the middle finger back away from the bell. Try sliding the middle finger back along the edges of the index and ring fingers. Expand the inflow of air to the cupped hand by lifting two or three fingers away from the inside of the bell. All these methods create a change in the muted sound as well as causing slight adjustments to intonation. I have found this hand position to be useful in producing muted effects when there is no time to put the mute in or to create a stopped effect in the lowest register of the horn when there is no time to insert a brass mute. It also allows low stopped notes to sound *ff* and high *pp* notes to sound more distant.

Flexibility:

Flexibility is the player's ability to move through the range of the instrument with an even sound devoid of any tonal breaks. For any instrument, it is the ability to play a scale, arpeggio, or other passage from the bottom of the range to the top, or vice versa, without any need to pause for a change in body position. In horn playing this is our ability to cover the range of the instrument in a flowing manner, without a break in the sound. There will most certainly be changes in our playing technique in order to accomplish this task.

Most valved horn players already advocate the use of natural horn technique to accomplish flexibility. Philip Farkas in *The Art of French Horn Playing* contains pages of warm-ups that use the open F horn, and the various valve combinations which create Horn in E, in E-flat, in D and in D-flat. Frøydis Ree Wekre in her method *Thoughts on*

Playing the Horn Well writes flexibility studies that use not only the F horn and its lower valve combinations, but uses the upper keys: Horn in F-sharp, in G, in A-flat, in A, and in B-flat alto. Barry Tuckwell's method *Playing the Horn* also uses the natural harmonics "in all valve combinations from open to second and third."[4]

Dauprat in his method does not specifically advocate an arpeggio study to create flexibility. It is assumed. Pages upon pages of arpeggios and scalar studies take the player through the range of the instrument, whether it be a range for *cor basse* or *cor alto*. On the natural horn, the technique of working through the harmonic series is essential wherein it contains the foundation from which the complete scale is formed.

Facility:

Facility is the performer's ability to move quickly while maintaining control within a limited range. This technique includes scalar and arpeggiated passages. On the natural horn, control of facility comes from coordinated motions of the embouchure and the air stream. The precision required to move accurately between neighboring pitches is quickly developed in natural horn playing through the often-scored passages requiring the player to move through the eighth, ninth, and tenth partials.

[4]Barry Tuckwell, *Playing the Horn* (Oxford UP: Oxford,1978) 32.

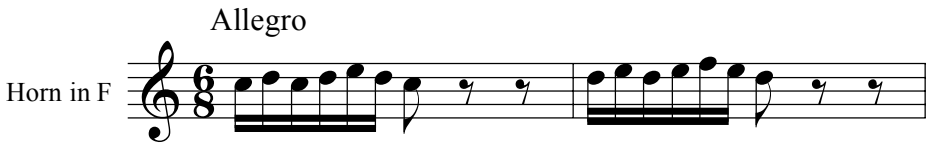

Figure 2.1: Horn 1 from Johann Sebastian Bach *Brandenburg Concerto No. 1 in F, BWV 1046*, Mvt. 3. *Allegro*, mm.1-2.

Progress in facility is made through increased embouchure accuracy, that is buzzing the exact pitch to be played, and through an acute sensitivity to air flow. Quick changes in both embouchure vibration and air stream are necessary for a facile technique.

Ornamentation:

Ornamentation is an artful extension of facility. Quicker and more facile motion is required to create trills and turns which emulate the human voice. Sometime complete scales are treated as ornaments; these are often major scales on the dominant of the key center. The motion here is rarely tongued which gives the responsibility of the rhythmic control to the embouchure and the air. Dauprat recommends that ornamented passages be slurred, but if the player lacks the skill to move through these passages with control, they can be broken with an articulation. The first theme of Beethoven's *Horn Sonata, op. 17* provides a good example of this process. The "turn" in m.18 was out of control rhythmically if I slurred the entire passage when I first began the natural horn. By slurring this figure in groups of two sixteenth notes, it was possible to move through the group with the control that was necessary. Now, however, I am able to play the passage by slurring all six notes in precise rhythm.

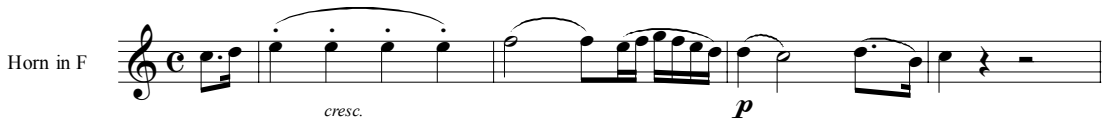

Figure 2.2: Ludwig van Beethoven *Sonata in F for Piano and Horn, op.17,* Mvt.1 *Allegro moderato*, mm.17-20. Click to play.[5]

Trills of all manners can be produced on natural horn. One learns the art of tonal deception in parallel with the ability to trill between neighboring pitches. It is quite easy to trill between two harmonics or two notes with the same hand position. But it is also possible to trill between a stopped note and an open note, for example from second space "a" (half-stopped) to "g" (open). The player must prepare the listener to hear the "a" and the "g" clearly, then as the trill increases in speed, pitch definition becomes less important. A hand position which compromises the two different notes is effective in the quickness of the trill. In this manner, near neighbor trills can be created in the middle and lower registers without the use of valves. Again, the importance of a controlled embouchure and an accurate air stream are essential to ornamentation. In trills, I also apply a motion of my tongue as if saying, "you, you, you, you,..." rapidly. Some players move their jaw slightly in trilling. My trills tend to be lead with vocalization, that is, in the movement of my tongue. It causes the air to change speed, it causes a slight change of pressure between the lips and the mouthpiece, it causes a slight movement of my jaw. My lips remain supportive of the pitches, but do not move in an active manner in the process of trilling, except in the upper register.

[5] Heidi Wick, horn, Chiann-Yi Liao, piano, Lecture Recital, January 9, 2000, Hughes Hall Auditorium, CD, The Ohio State University Music Library.

Oral Cavity Shape:

Eldon Matlick in his article, "Teaching Horn Tone," [*The Instrumentalist*, May1988, p.40] briefly describes his use of vocalization to develop tone. Many method books also make reference to this technique. In masterclasses, I have heard Francis Orval and Kendall Betts teach the same. Sounding the vowels *ah, ee, o, oo* creates a different shape to the oral cavity. Mr. Betts' approach of saying *ah* and then changing to *oo,* first forms the back of the mouth (the soft palate and the back of the tongue) and then the front of the mouth (the hard palate and the tip of the tongue.) The player doesn't actually sound his or her voice when playing[6] but can use the creation of vowel sounds away from the horn to learn to shape the mouth. The goal is to create the shape of the oral cavity necessary for the desired tone. The technique also affects intonation. The development of this essential technique to control pitch is virtually a necessary outcome of performing without valves.

Air Stream:[7]

In demonstrations, I am often asked by horn players if it is difficult to adjust instantly when changing between horns; these changes can be from natural horn to valved horn or from high crook to low crook. Their questions recognize a key ingredient in natural horn technique: the necessity to match the air stream focus, pressure, and speed to the resistance of a given horn or hand position. This is an axiom in natural horn technique, so essential that I almost overlooked it.

A heavier, more energetic air stream is required for the horn with greater

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[6]The technique of singing and playing simultaneously is used in other contexts. That is not my intention here.

[7]I would like to thank Jean Rife, professor of horn at Massachusetts Institute of Technology, for reminding me of this important element in natural horn technique.

resistance, a lighter, more gentle air stream for the horn with little resistance. In natural horn playing, instantaneous changes in air speed are required to keep a dynamic constant when moving from an open note to a stopped note, or vice-versa. This skill in modern valved horn playing gives the player more options: greater flexibility with dynamics in phrasing and increased dynamic contrast, especially aiding sudden dynamic changes.

EFFECTS of NATURAL HORN TECHNIQUE

Natural Harmonic Intonation:

Natural harmonic intonation is created by using the unadjusted pitches of the natural harmonic series. In valved horn playing we purposely learn valve combinations that avoid using the 7^{th}, 11^{th}, or 13^{th} harmonic. In creating natural harmonic intonation valve combinations that purposefully invoke the use of 7^{th}, 11^{th}, and 13^{th} harmonics are used. Every horn will produce a slightly different intonation since the bore shape of the instrument influences the intonation of the harmonics. Quarter-tone scales can be produced when extending this usage on the valved horn.[8] In most cases when playing the natural harmonics, the hand remains in the bell of the horn in an "open horn" position. See Figure 1.1 for the pitch tendencies of the harmonic series.

Timbre:

Several of the above natural horn techniques have an effect on timbre. Changing the position of the right hand can cause not only changes in pitch but also changes in the sound of the horn. The different hand positions create a continuum of sound whereby a fully-stopped hand position can be made to sound either muffled or brassy, an open hand position can be shaped to sound warm and mellow or bright and clear, and a fully-open

[8]See Douglas Hill's method *Extended Techniques for the Horn: a Practical Handbook for Composers and Performers.*

hand position (hand out of the bell) can sound present and embracing. Many 20th-century compositions make use of the portamento, where the hand moves either open or closed to sound continuously through a half step interval. As a result the timbres of the beginning and ending notes must be different. In 18th-century music, moving though a phrase that used different hand positions resulted in a change of timbre of the notes in the phrase. This technique is rarely, if ever, used in 20th-century music for the valved horn.

Crooks, or different lengths of the horn, can also effect timbre. In an instrument that has terminal crooks, this difference is more pronounced since each length of instrument has its own leadpipe. Music written for *Horn in C basso* will have a much different timbre than that written for *Horn in E-flat* or *Horn in A*. Today we can play the Beethoven symphonies on the same valved horn, but we should take note that *Symphony No. 5 in c minor, op.67* makes use of the C-basso crook, *Symphony No. 7 in A major, op.92* uses the A crook, and *Symphony No. 3 in E-flat major, op.33 "Eroica"* uses the E-flat crook. Each symphony would have a different timbre when performed with the natural horn; an effect of which Beethoven would have been acutely aware.

Different length crooks not only effect timbre; they also effect intonation in relation to a particular harmonic series. That is, the instrument maker designs a leadpipe shape to provide the player the best harmonic series for that length of the instrument. On the valved horn or the *cor solo* (or *Inventionshorn*) the leadpipe shape is constant while the length of tube is made to vary. By using a fixed leadpipe, the horn maintains a greater stability in timbre, but intonation problems with certain valve combinations or crook lengths can result. In general, the *orchestral horn* with terminal crooks should provide better intonation with each change of crook.

Summary:

Several effects can be added to a player's extended techniques when performing on the valved horn with the skills of both the valved horn player and the natural horn player. The ability to create different colors in sound by using both changes in oral cavity shape and changes in hand position becomes more accessible to this player. Controlling intonation when playing stopped horn, playing passages that require rapid changes in air speed, smoothing ornaments by using hand and embouchure techniques all are advantageous to good horn performance skills. Combining skills such as fast dynamic changes along with stopped/open movements or with trills, or in any combination of the above processes, all create an extended technique in horn playing. All of these skills can be developed through practice on the valved horn, but when natural horn techniques are developed in the environment of the original instrument and its literature, the skills must be directly addressed and developed to succeed.

CHAPTER 3

APPLYING NATURAL HORN TECHNIQUES TO MUSIC COMPOSED FOR THE NATURAL HORN PLAYED ON THE VALVED HORN

Before beginning this chapter, I want to make it clear that the performer can choose which instrument, the natural horn or the valved horn, he or she prefers when performing solo repertoire of music which pre-dates the genesis of the valved horn. After that time, if the composer specifies the natural horn for a composition, the natural horn must be used. Thus, in this chapter, I will be looking at the use of the modern valved horn when performing music that pre-dates the invention of the valve. It is most often the case that the performer is required to use the valved horn when performing with ensembles, but as a soloist one can often choose the instrument he or she prefers for a particular composition.

In the following chapters on applications, the examples are organized into topics such as right hand technique, flexibility, facility, ornamentation, air stream, natural harmonic intonation, or timbre. Each example is a point of departure for similar passages or problems in the literature.

Use of Flexibility:

It is often necessary to articulate an arpeggiated passage quickly. This can be done by changing the valves within the passage or by staying with the same valve combination, usually the one that recreates the original crook. Each approach has a

unique resultant sound. By changing valves, each note has more clarity. By playing the passage on one length of tube, the continuum in timbre unites the passage.

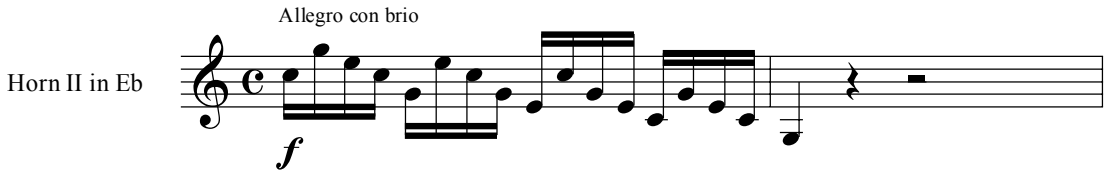


Figure 3.1: Ludwig van Beethoven *Sextet in E-flat, op.81b, Allegro con brio*, m.16.

Use of Facility:

In this example from Mozart's *Così fan Tutte*, the horn creates a sound effect in the aria where Fiordiligi sings of her love in crisis. The horn passage seems to be her beating heart as she sings "caro bene". Again the passage could be played with the valves or with one valve (creating an E-horn) along with slight hand motions. I have found in performing this work, that the speed and agility required as well as the exposed nature of the passage made my decision clear. It was more reliable for me to execute the passage on the E-horn of my valved horn, thus avoiding the awkward fingerings which result in the transposition. It also creates the effect that Mozart intended; the fluidity between the notes is retained by using the same length of tube and the very slight change of timbre on the half stopped "f"'s gives the "heartbeat" a bit of a flutter.

Figure 3.2 : Wolfgang Amadeus Mozart *Così fan Tutte, K.588; No.25 Rondo,* m.76. Soprano, Fiordiligi, sings a solo aria describing her affections. Click to play.[1]

Use of Timbre:

In figure 3.3, the resolution to the "a-flat" at the end of this horn solo would have the added support of the stopped hand to achieve the *subito piano* dynamic change.[2] It can be included when performing the piece. I find the best way to execute the subito piano while maintaining the slur is to stop the note on the F horn. It is not necessary to play the entire passage on the F horn though. I begin by using the double horn fingerings for the passage (creating an F horn timbre) and then on the last high "g", change to the open F horn. That prepares the hand movement to the stopped "a-flat".

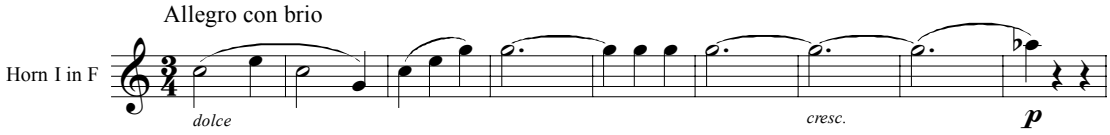


Figure 3.3: Ludwig van Beethoven *Symphony No. 3 in E-flat Major, op.55, Allegro con brio*, m. 408.

[1] *The Ohio State University Opera*, Noel Koran, director, Marshall Haddock, conductor, Sanghee Kim, Fiordiligi, Weigel Hall Auditorium, May 8, 1998.

[2] Ralph Vaughan Williams' *Symphony No. 5 in D Major* contains a similar passage (Movement 4. *Passacaglia* from rehearsal 5 – 6). Although not marked as a stopped note, the sudden *pianissimo* in this symphony works well in the texture if achieved with stopping technique.

This excerpt, Figure 3.4, from Mozart's *Concerto for Horn and Orchestra in E-flat, K.447*, expresses timbral qualities of the horn. Mozart writes whole notes in the solo passage because they are interesting, each has a different timbre. The first note, a fully stopped note, is *a cappella* for one measure. When performing this concerto on the valved horn it is difficult to make sense of this passage because it is no longer clear to the performer or to the audience what the purpose of all these long tones are. We often use dynamic expression to help the passage succeed. Why not consider the composer's intentions by changing the timbre of the notes, as prescribed in the natural horn technique? One captures a glimpse of Mozart's genius and can enjoy of sound textures when this is done well.

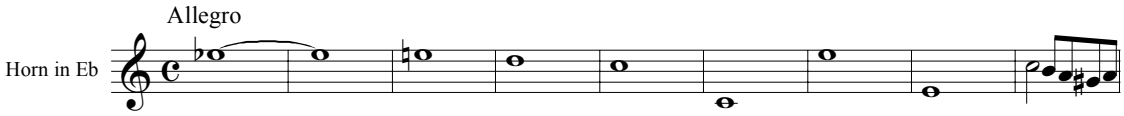


Figure 3.4: Wolfgang Amadeus Mozart *Concerto in E-flat for Horn and Orchestra, K. 447*. Mvt. 1 *Allegro*.mm.95-103.

In the next passage, also by Mozart, the "b-flat" is fully open and the "c-sharp" fully stopped. Classical composers often wrote a "b-flat" for the horn at a *forte* dynamic approximately two-thirds through the sonata form first movement. It often acts in a dominant harmonic structure and is of long duration. The sound of the fully opened bell gives this note a characteristic quality. This is a unique example in the fact that Mozart calls attention to the fully open sound with the "b-flat" and then to the fully stopped sound with the "c-sharp". There is so much delight in the timbre of this passage, that in performing the work on the valved horn, one could consider adding these effects.

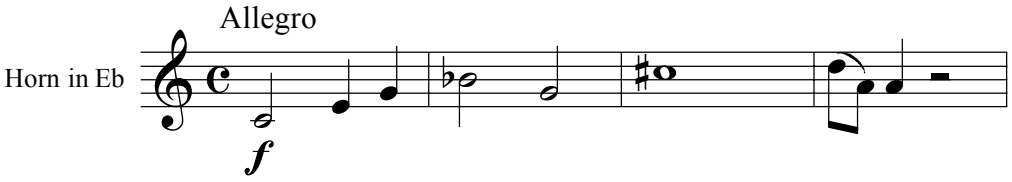


Figure 3.5: Wolfgang Amadeus Mozart's *Quintet in E-flat for Horn, Violin, Two Violas, and Bass (Violoncello), K.407 (386^{c}), Allegro*, mm. 88-91.

There are many passages of the Brahms *Trio for Piano, Violin, and Horn, op.40* that could be played stopped. One of the most successful performances of this piece that I have heard was with William Purvis and the *Tempest Trio*, Bayla Keyes, violin and Mihae Lee, piano.[3] Purvis performed the work on his Engelbert Schmid triple horn and used natural horn technique in some passages. He enjoys playing the work in that manner because of balance issues. When performing with a modern piano and violin, the natural horn is sometimes not strong enough in the forte sections. But, exclusive use of the valved horn gives too much dominance to the horn where Brahms intended the sound to be more subdued. This is but one passage where you could use stopped horn in this work; play the first passage, the melody, with a more veiled open hand (*molto p*) and the second passage, the accompaniment, half-stopped (*pp*).

[3]This performance took place at the Columbus Museum of Art on October 31, 1999 and was sponsored by the Jefferson Academy of Music in Columbus, Ohio.

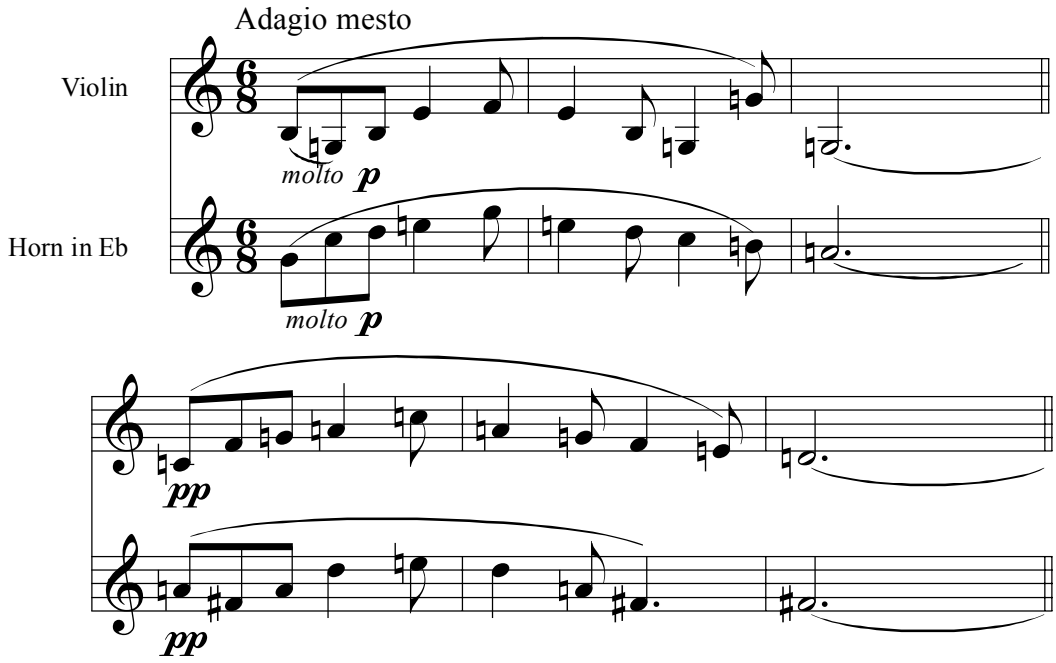


Figure 3.6: Johannes Brahms *Trio for Piano, Violin, and Horn, op.40,* rehearsal letter C.

Use of Texture:

Often in symphonic literature for two horns there are passages where the horns are in octaves and then on written "d"'s the second horn jumps an octave to play unison with the first.[4] In most cases, this is a rather unique textural effect, and should be played as written. But, sometimes it awkwardly calls attention to the change of texture in the orchestration; I find this is especially true in solo accompaniments. In cases such as these, the second horn player on the valved horn could continue the octave displacement.

[4]The "d" above middle "c" is rarely used in Classical orchestral horn writing because of its stopped nature; the "d" an octave higher is an open harmonic.

CHAPTER 4

APPLYING NATURAL HORN TECHNIQUES TO MUSIC COMPOSED FOR THE VALVED HORN WITH CONSIDERATION OF NATURAL HORN TECHNIQUE

Use of Natural Harmonic Intonation:

Two composers of 20th-century music who have successfully used natural harmonic intonation are Benjamin Britten (1913-1976) and György Ligeti (b.1923). In 1943 Britten wrote the *Serenade, op.31* for Peter Pears and Dennis Brain, both of whom inspired the work. The first and last movements of the work, *Prologue* and *Epilogue*, are for solo horn and use conventional notation to indicate the pitches to be played. Britten informs the horn soloist that the passage "should be played on natural harmonics." The printed "a", third bar from the end, is conventionally played as a low "b-flat" (or high "a-sharp") rather than a low "a-natural". This passage can be played on either a natural horn or a valved horn. In a recent performance by Kurt Streit and Dale Clevenger with the Chicago Symphony Orchestra,[1] Mr. Clevenger performed the outer movements on his Geyer natural horn. In a performance with the Ohio State University Orchestra, I chose to use natural horn on the outer movements, as have many other performers. This presents a problem when the conductor wants to segue into the second movement, *Nocturne*; the player must quickly change instruments and styles. Mr. Clevenger reduced the time needed to change instruments by bringing both horns onstage with its own mouthpiece.

[1]These performances took place on March 15, 16, and 17, 2001 at Orchestra Hall, Chicago, IL, Sir Andrew Davis conducting.

The passage could be played on the open F horn of the valved horn. In intonation it is similarly effective. But, when the player picks up the natural horn to play the passage, the audience is informed that something out of the ordinary is about to happen. When the askew "f"'s and "b-flats" occur, the audience has been somewhat prepared. In an ideal world, it would be nice to take one mouthpiece and horn on stage, let the valved instrument sound the natural harmonics of the opening (by playing only the F horn), and have the audience know that what is coming out of the horn is the intention of the composer and the performer.

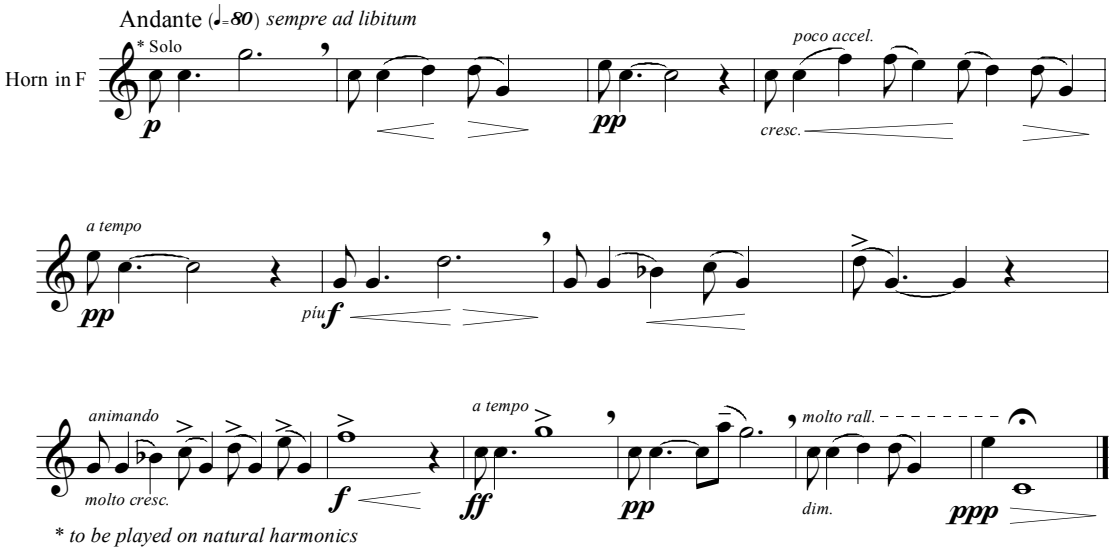


Figure 4.1: Benjamin Britten *Serenade for Tenor Solo, Horn and Strings, op. 31; Prologue.* Click to hear on natural horn or on valve horn (open F horn).[2]

Gregory Ligeti scores boldly for the violin and horn with natural harmonic intonation in his *Trio for Violin, Horn and Piano* written in 1982. It was premiered by Saschko Gawriloff, violin, Hermann Baumann, horn, and Eckart Besch, piano on August 7, 1982. Ligeti composed the work for double horn in F/B-flat or triple horn, *ad libitum*.

[2] Heidi Wick, horn, Weigel Hall Auditorium, recording session, May 28, 2001.

He employs natural horn technique in texture and intonation. He invites the performer to use natural horn techniques beyond those noted in the score, "The natural horn technique can be used in other passages than those for which it is specified, for example throughout the whole first movement."[3] He uses natural harmonic glissandi in a variety of keys (or crooks), the first being in B-natural (H basso) or with all three valves of the F-side depressed, the double horns' longest length. Hand stop, echo stop, straight mute, and bell up with "the hand out of the bell" are also techniques employed; each of these affects timbre. Ligeti uses the notation B (B-flat)----------|to indicate the use of a "crook" for the passage under the bracket. Throughout the work, he uses German key spellings followed by the English translation.

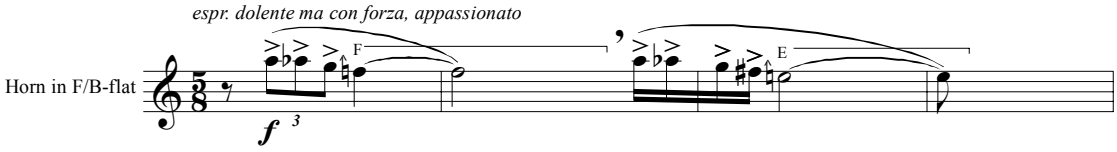


Figure 4.2: Gygöry Ligeti's *Trio for Violin, Horn and Piano (1982), Lamento. Adagio*, m. 51. Click to play.[4]

Brahms' symphonies, written for natural horn, were, and are, rarely performed with that instrumentation. The works are filled with subtleties in timbre and phrasing when conceived in the hand horn style. In his first symphony he quotes an alphorn call for Horn in C.[5] The Austrian public would have been familiar with this passage and its sounding natural harmonics. In the context of performance practice today, we can still

[3]Written as an introduction to the published score.

[4] Wick, recording session, May 28, 2001.

[5]I am reminded by Jeffrey Snedeker in his survey response, that timbre in this passage is important. The C horn has a special darkness to it which should be emulated on the valved horn.

evoke that reference, although in a more limited manner. It is especially characteristic to keep the written "d" and "g" high and the "f-sharp" low, emphasizing the distance between "g" and "f-sharp".[6]

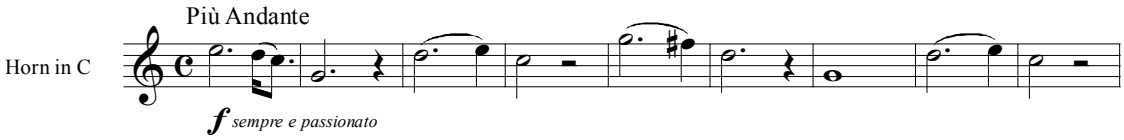


Figure 4.3: Johannes Brahms *Symphony No. 1, Finale,* m.30, Alphorn call.

Ligeti's *Hamburgisches Konzert für Horn solo und Kammerorchester (mit zwei Bassetthörner und vier obligaten Naturhörnern)* composed in 1998/99 not only uses natural horn technique, but requires the use of the natural horn as well as the valved horn in the solo part. It was premiered by Marie Luise Neunecker with the ASKO Ensemble of Amsterdam on January 20th, 2001. From the title alone (chamber orchestra, bassett horns, necessary natural horns), Ligeti's intentions to evoke sounds of the past become clear. Again, most of the natural horn technique in the piece is non-hand related. The use of natural harmonics on four differently crooked (keyed) natural horns is significant. He creates timbre changes only by muting the natural horns and hand stopping the last note played by the four natural horns in the final movement, indicating it should sound a half tone higher.

[6]This example was presented to me by Gene Standley, Principal Horn of the Columbus Symphony Orchestra.

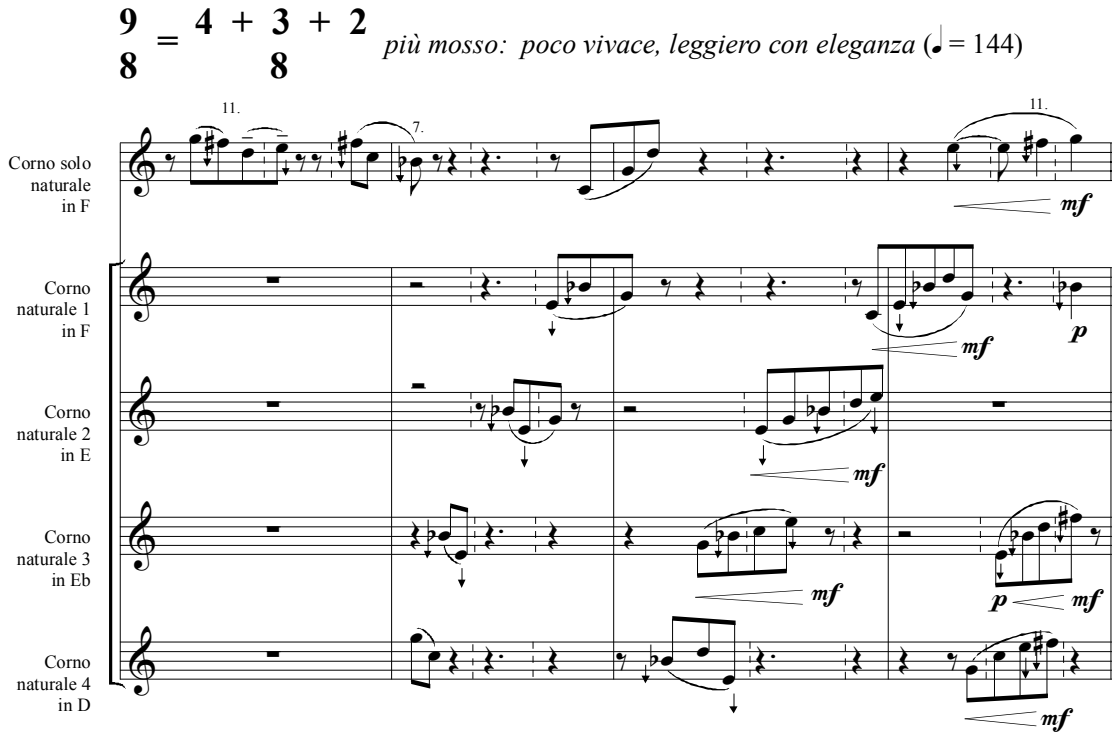


Figure 4.4: György Ligeti *Hamburgisches Konzert für Horn solo und Kammerorchester (mit zwei Bassetthörner und vier obligaten Naturhörnern) (1998/99) III. Aria, Aksak, Hoketus*, mm.23-26.

Use of Portamento (Right Hand Technique):

In these examples the composer effectively scores a right hand portamento. This is not a difficult technique if done properly. Here are some key points for producing the effect. The hand affects pitch on a non-linear scale as it moves away from or toward the bell. Thus, for an even portamento that requires opening the hand, the movement near the bell must start slowly and then gradually speed up. Oppositely, if the portamento goes from open to closed, the hand must move faster at the beginning and the more slowly near the end. To make the gradual transition between two notes smooth, the player must use a single valve combination that allows both the open note and the stopped note to be played in tune. Choosing a valve combination that is either too long or

too short can distract from the composer's intention. The air stream must change to accommodate the increase or decrease in resistance caused by the change in hand position.

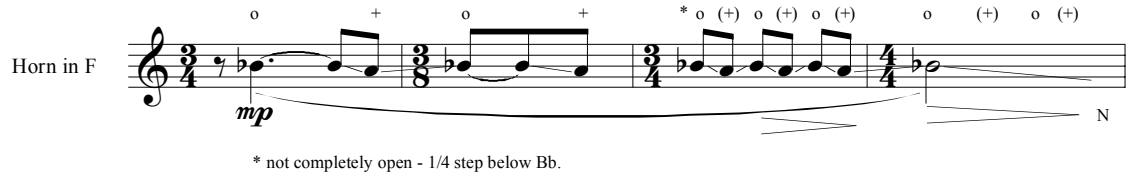


Figure 4.5: John Corigliano *Concerto for Clarinet and Orchestra (1977), I. Cadenzas*, rehearsal letter 8.[7]

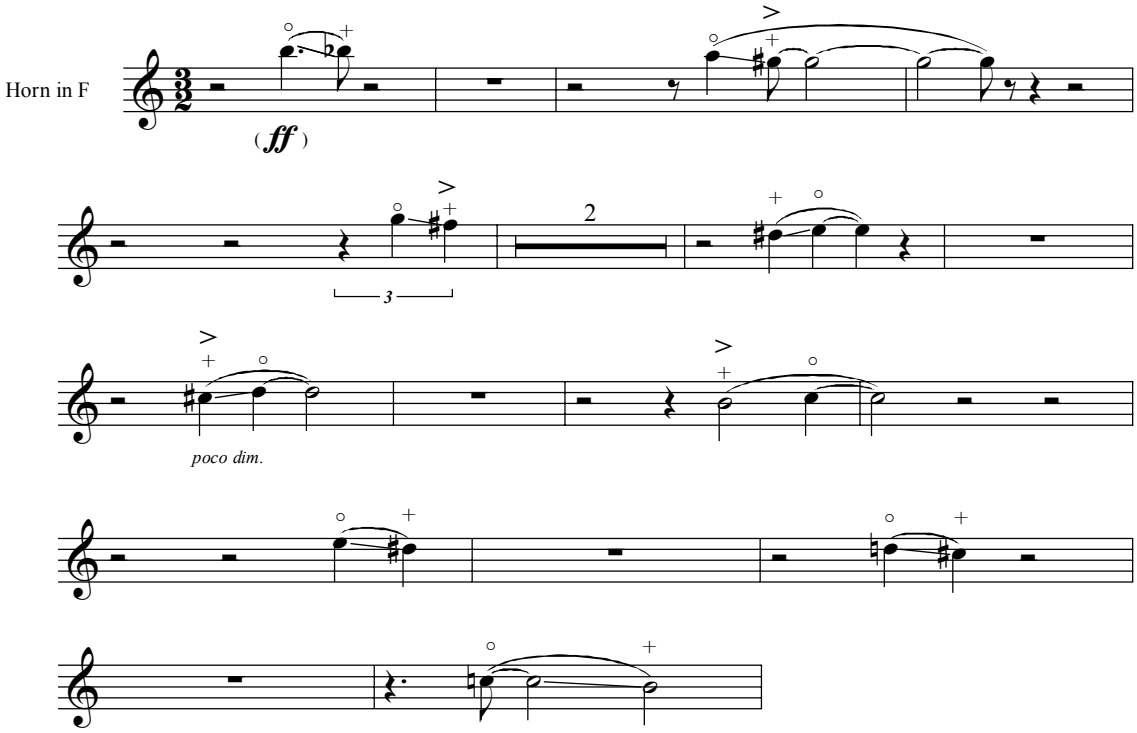


Figure 4.6: Lucas Foss *Symphony No. 3, "Symphony of Sorrows (1991) ," III. Wasteland. "Voices singing out of empty cisterns,"* Horn I, mm.487-504.

[7]The instrumentation includes six horns, one player on stage and five players offstage who "encircle the audience, and should be in low boxes."

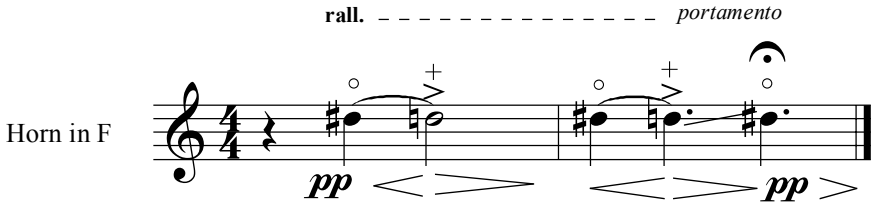


Figure 4.7: Benjamin Britten *Serenade for Tenor Solo, Horn, and Strings, op.31, Elegy*, last two measures.

Use of Timbre and Portamento:

Persichetti's *Parable* uses stopping technique to create timbre changes. Precise and swift are the changes in hand position required for this passage, but once moved, the hand stays in that position for the passage. The passage also uses portamento effectively given the context of the sorrow and pain expressed in the piece.

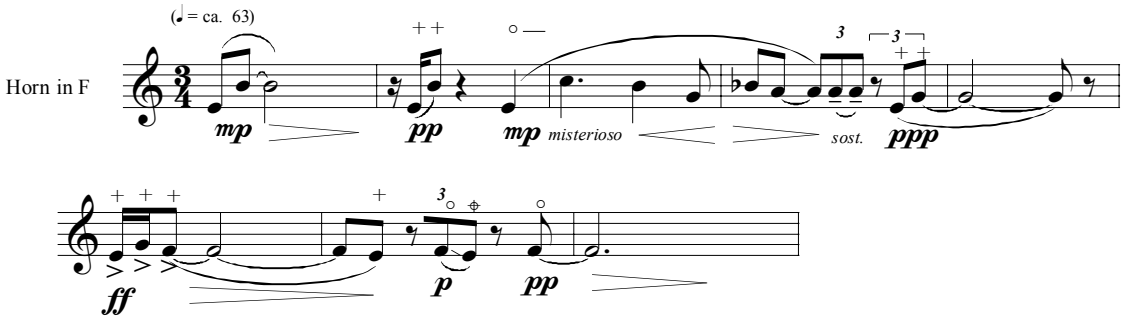


Figure 4.8: Vincent Persichetti *Parable for Solo Horn (Parable VIII), op.120 (1959)*, mm.1-8. Click to play.[8]

[8] Wick, recording session, May 28, 2001.

Use of Right Hand Technique:

In Paul Dukas'(1865-1935) *Villanelle (1906)* the composer uses several natural horn techniques.[9] It was written as graduation piece for the horn students at the Paris Conservatoire. The *Villanelle*, written just three years after the formal end of the natural horn curriculum, offers the best example of using a dynamic hand technique on the valved horn. The entire opening is written for horn without valves and must be played on the valved horn because there is not enough time to change instruments. When performing this piece I discovered how my concept of each instrument, valve and natural horn, differs. In the natural horn, my hand position is at the ready for changes, more closed to make the timbre changes between open and stopped notes less apparent. If I begin the opening of the *Villanelle* with my typical natural horn hand position, it is a success. It took some time to recognize the difference though. If the player tries to learn hand horn technique by learning to play the opening of *Villanelle* without valves, it is as if he or she has attempted a three meter dive before jumping off the edge of the pool. Dukas' writing for valveless horn technique is advanced, typical of the level of technique required of some of the great natural horn pieces.

[9]Bozza's (1905-1991) *En Forêt (1941)*, a more typical valved horn solo also composed for the Paris Conservatoire as a graduation piece, uses several natural horn techniques as a result of its reference to the history of horn music, especially references to the forest and the hunt. These techniques include stopping the horn to create an echo effect, glissandi, trills with crescendi, and disjunct interval horn calls. The use of 6/8 time and *Recitativo* also contribute to an historical context within the structure.

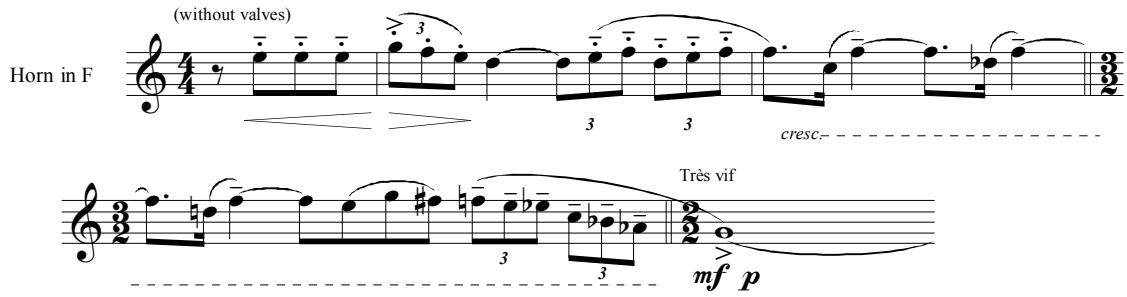


Figure 4.9: Paul Dukas *Villanelle (1906)*, mm.46-49.

Uses of Timbre and Air Stream:

One passage in the *Villanelle* makes use of echo horn. At the end of this passage, in the midst of a long note, Dukas requests the player change from stopped to open horn, "open (*pp!*)". Anticipating the player's folly he writes in parenthesis *pp!*. This feat is a natural horn technique, changing air stream flow to keep the dynamic constant (and *pp!*), combined with a valve technique, as a valve change is required to keep the pitch the same. The coordination of this maneuver must be impeccable.

Figure 4.10: Paul Dukas *Villanelle (1906)*, mm.164-168.

Use of Right Hand Technique and Ornamentation:

Australian composer Kevin Purcell (b.1959) in his *Symphony No. 2: The Enchanter of Caer-Myrddin (1992)* dramatizes Merlin's dreamlike state through a *timbral tremolo*. The horn section "trills" between a stopped note to a half-stopped note. This is much like the skill required for the change in the Dukas, except the change must happen more rapidly. Although he indicates "as fast as possible," he desires the effect to be dreamlike, so not too fast. He writes, "In no circumstance should the tremolo actually exist between two 'real' and separate notes, for example the half step is the smallest [interval]."

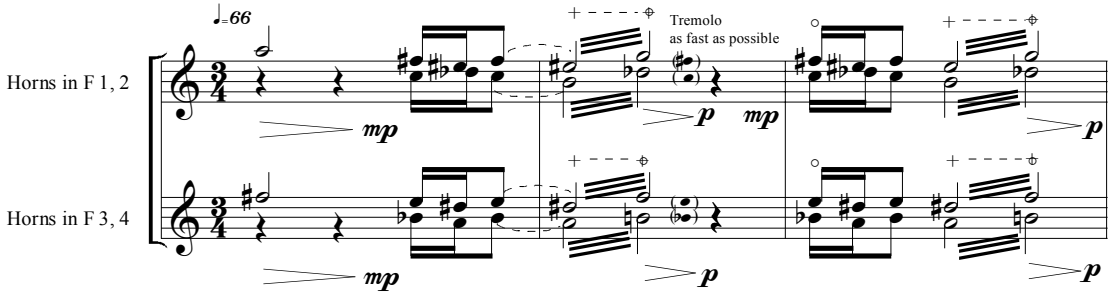


Figure 4.11: Kevin Purcell *Symphony No. 2: The Enchanter of Caer-Myrddin (1992), I. The Apothecary Dreams*, rehearsal letter B. Click to hear horn 2 only.[10]

[10] Wick, recording session, May 28, 2001.

CHAPTER 5

APPLYING NATURAL HORN TECHNIQUE TO MUSIC COMPOSED FOR THE VALVED HORN WITHOUT CONSIDERATION OF NATURAL HORN TECHNIQUE

It is with this chapter that I offer the most innovative and possibly controversial applications of natural horn technique to horn repertoire. In the previous chapters, I have indicated methods that are effective and reliable in horn performance practice, and hope that by these examples I will encourage composers to write music that would facilitate practices from the history of the horn. With these examples, the composer may or may not have been conscious of the historical context or the abilities available to the players. My point of departure is that the composers wrote what they desired to hear and left it to the performer to create the sound. In most cases, I am representing choices that have worked for me. Again, these examples represent a class of similar passages and act as a point of departure in the literature.

Use of Flexibility:

In Kodály's *Dances of Galanta*, the context of the tempo, *Allegro molto vivace*, the crescendo, and the harmonic arpeggiated motion indicate to me to look for a fingering combination that will allow the passage to be played with few or no changes in valves. For horns II and IV that is simply the open F horn. If horns I and III play on the passage on the open F horn the "f-sharp" would be low; also, the player is working higher in the harmonic series. Since the motion is so rapid, the slight intonation problems may not be

noticeable in the context of the passage. The performer would have to decide if he or she was comfortable on the higher harmonics and comfortable with the intonations. Notice how every note in this passage is in the harmonic series and only the "f-sharp", the 11th harmonic, is too flat. The final "b-flat" in horn I lies conveniently low within the dominant seventh chord.

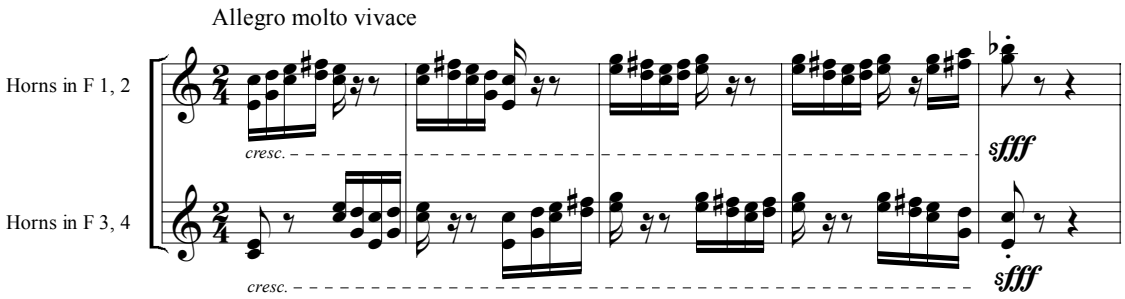


Figure 5.1: Zoltán Kodály's *Dances of Galanta*, m.597.

Use of Facility:

This passages from Janácek's *Concertino* has similarities to Mozart's *Così fan Tutte*. Although the Janácek part is in F, every note in the first two measures is provided with a flat, essentially creating Horn in E. Due to the difficulty created in the cross fingering combination at the tempo *Allegro (quarter note equals 144)*, some type of alternative solution to this passage can be sought. It is also important to make the passage sound easy and bring the crescendo up as much as possible. Here is my solution: I begin the passage on one length of instrument, for me B-flat horn with second and third valves, use the right hand to adjust for the half-step interval to the written "b-flat", and then in the third measure, where the crescendo and accelerando begin, apply valve technique with an alternate fingering for the "c-sharp", B-flat horn with first valve. The passage has worked well in the context of "Horn in G-flat", putting the seventh harmonic

as the first note in the passage. It may be more successful to another player with a different instrument to play the first two measures as "Horn in E". The solution I describe takes the tension out of the passage. Knowing of and successfully using a similar technique in *Così fan Tutte* probably influenced my solution in performing this passage. It is an easy woodwind line. Why it is scored in the horn and not in the clarinet or bassoon is a good question for the composer. With the horn leading, this orchestration makes a unique sound, a frenzied crescendo building to a powerful resolution. With this approach I have, most importantly, maintained the composer's intention, and I have increased the reliability in performing the passage.

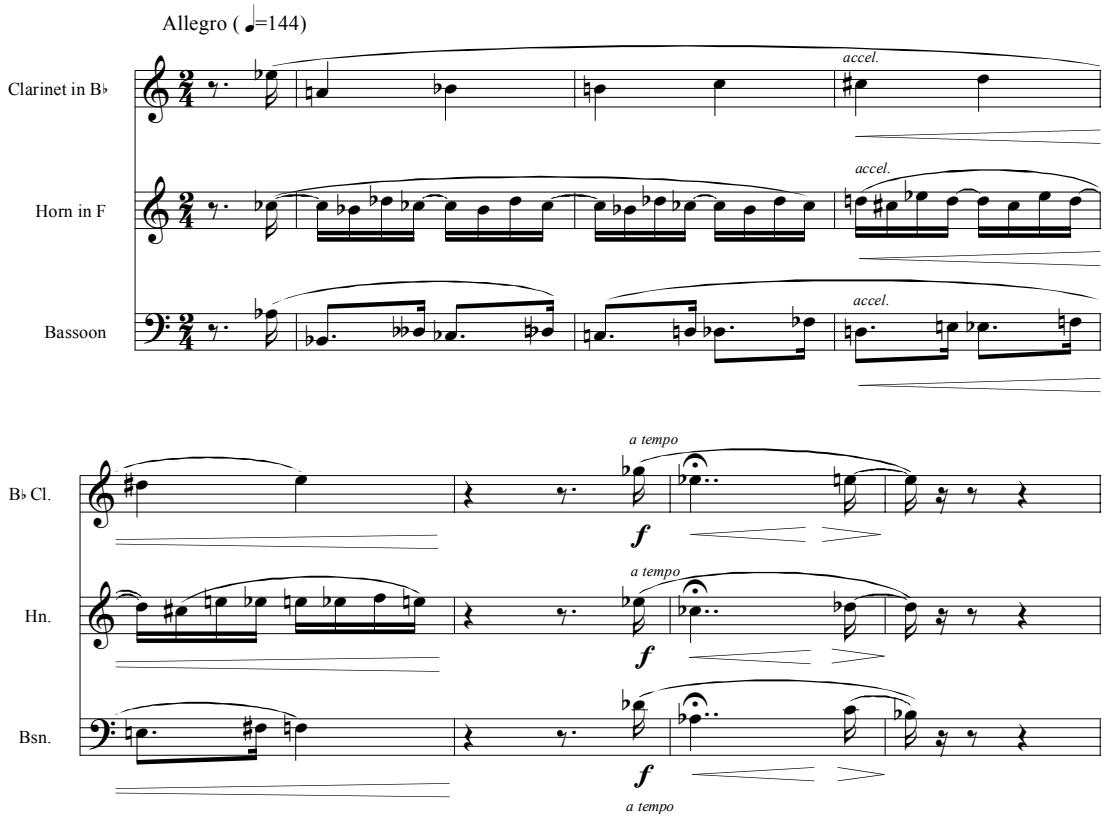


Figure 5.2: Leos Janácek's *Concertino, IV. Allegro.* (quarter note = 144). Click to play.[1]

[1] *Faculty Chamber Music Recital*, Gail Lehto, clarinet, Heidi Wick, horn, Christopher Weait, bassoon, Weigel Hall Auditorium, January 25, 1999.

Use of Ornamentation:

Jan Bach's (b.1937) *Four 2-bit Contraptions for Flute and Horn* is full of pyrotechnics for the soloists, adding to the humor of the piece. The second movement, *Calliope, With delusions of grandeur, the organ of the Big Top attempts a Romantic waltz*, contains huge leaps for both horn and flute with clear delineation in dynamic for each range, *forte* for low notes, *piano* for high notes. Somehow, the horn sounds like the elephant in this piece. In measure six, and again in the return material (ABA structure), the horn has a *turn* on the upper *piano* notes; mixed with the "grande" leaps, this is a challenge. The effect I like is created by beginning the turn with the valves and ending it as a "lip trill". I begin the first three notes on the B-flat horn, which helps get the turn started *piano* and in time. The last three notes I play on the open F horn creating the fluidity of the turn.

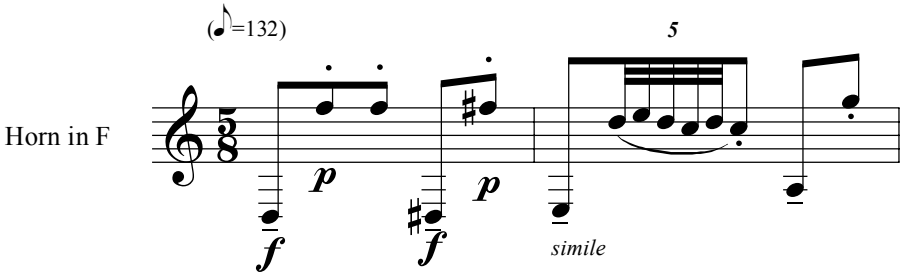


Figure 5.3: Jan Bach *Four 2-bit Contraptions, II. Calliope*, mm.5-6. Click to play.[2]

[2] *Chamber Music Recital*, Beth Chaussé, flute, Heidi Wick, horn, Weigel Hall Auditorium, January 23, 2001, CD, The Ohio State University Music Library.

Another example in ornamentation is taken from Camille Saint-Saëns' *Morceau de Concert, op.94*. This piece, written for valve horn, calls for a quick tonic scale to high "c". The passage can be fingered, but at the tempo of the piece, it is also effective to play all the notes on the open F horn until the "a". At that point the B-flat horn can be engaged and the scale continued through the "b" to the "c". A similar passage was written by Mozart in his *Quintet in E-flat for Piano, Oboe, Clarinet, Bassoon, and Horn, K.452.* The natural horn player would apply similar technique in performing this passage, except when playing the Mozart passage on the E-flat crook, no relief would be available by instantly engaging a shorter crook.

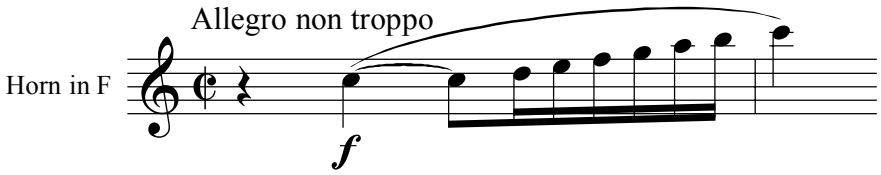


Figure 5.4: Camille Saint-Saëns *Morceau de Concert, op.94, Allegro non troppo*, seven measures after rehearsal 10.

Use of Air Stream:

From Stravinsky's *Petrushka*, *1911* and *1947(rev.)*, we a unique passage. Four horns play the same rhythm and make extreme contrast in dynamics from, *subito p crescendo sf*, and repeat. The air stream dynamics must be intense to perform this passage. This is a difficult effect as can be witnessed by listening to various recordings. All four horns must act together for the best results.

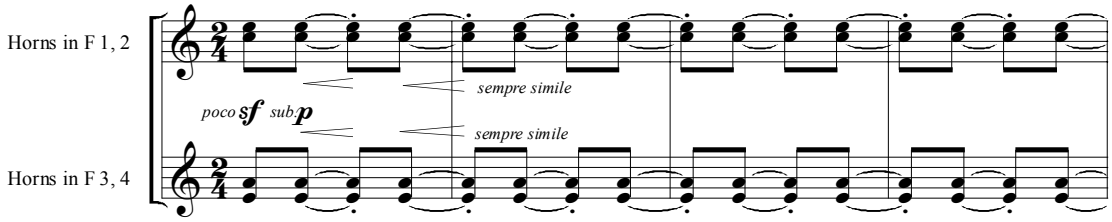


Figure 5.5: Igor Stravinsky *Petrushka (1911) Danse russe,* rehearsal 42.

Use of Timbre:

These examples all use hand position changes to affect timbre. Norwegian composer Wolfgang Plagge (b.1960) in *Monoceros: Das Einhorn, op.51* creates the moods of an emotional beast. In this passage, where the *pianissimo* begins, I stop the horn (no need to change the valve combination if using the open B-flat horn on the high "f" preceding.) I continue with the horn stopped until the "d-sharp". When I begin this phrase on the "d-sharp" I make sure my open volume matches the stopped volume just played, thus a change in timbre results but not a change in volume. I continue *pp*, as marked, until the *crescendo* begins at the end of the triplets, making a *molto crescendo* on the sixteenth notes. Dramatic dynamics envision a powerful monster. I finish the phrase with a stopped "f-sharp", which contrasts the diminuendo in dynamic and timbre.

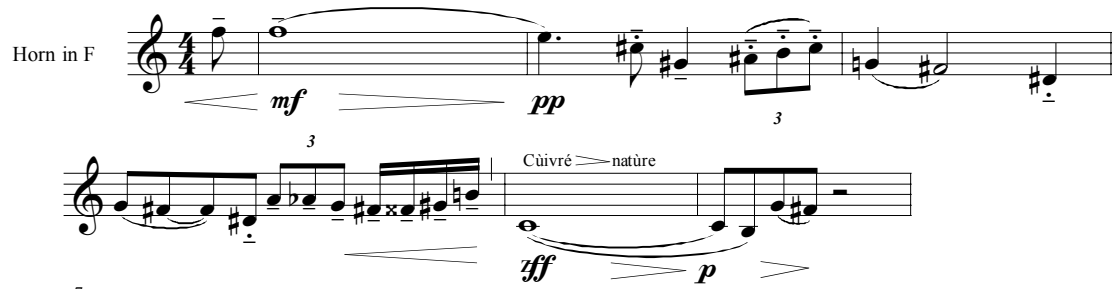


Figure 5.6: Wolfgang Plagge *Monoceros: Das Einhorn, op.51*, mm.32-37. Click to play.[3]

Bernhard Krol's (b.1920) *Laudatio for Solo Horn* indicates *gedämpft*[4], an echo horn effect. In this phrase the timbre changes rapidly if the hand is taken suddenly opened as the composer has indicated. Richard Seraphinoff connects the *mf offen* passage with the previous phrase by opening the hand slowly, in the style of portamento, through the ascending notes in measure nineteen. The valve combinations must be worked out to make the passage in tune with the rate of change made by the hand. The open timbre is definitely established by the "c" and "b-flat" before the *f* motive begins.

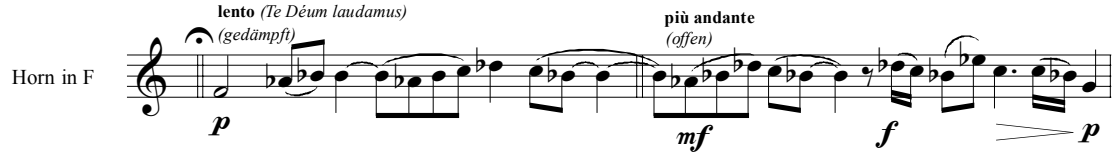


Figure 5.7: Bernhard Krol, *Laudatio for Solo Horn*, mm.18-19.

[3] Wick, recording session, May 28, 2001.
[4] *Gestopft* is fully stopped horn, a brassy sound results. *Gedämpft* is half stopped and creates an echo effect; it is soft and not buzzy. *Mit Dämpfer* is with straight mute.

In Plagge's *Horn Concerto*, there are several low, stopped notes, for only one of which there is time to insert a brass mute. I find it useful to employ the non-transposing, muted hand position (see Chapter 2: right hand technique) for this passages. The notes are uniquely marked with both *ouvert* and + on each note. The non-transposing muted hand position can actually satisfy both of those qualities. Maybe it is what he had in mind? The change in timbre along with octave displacement and dynamic contrast is effective.

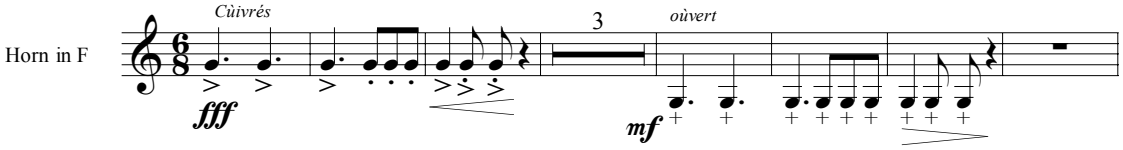


Figure 5.8: Wolfgang Plagge *Concerto for Horn and Orchestra, op.49, III. Tarantella*, rehearsal 54. Click to play.[5]

In the second movement of Plagge's *Concerto for Horn and Orchestra, op.49*, he uses stopped and open timbres in the *Poco piu mosso* middle section. The work is centered on the concert pitch "c". At the end of this climactic section is a *ff cuivrés* motive followed by a stopped *f* motive which are the final notes for the solo in this *piu mosso* section. It is possible to play the cuivrés notes with the hand fully out of the bell by using the flat seventh harmonic fingerings; thus, on the F horn second valve for the "a" and first and second valve for the "g"'s.

[5] Wick, recording session, May 28, 2001.

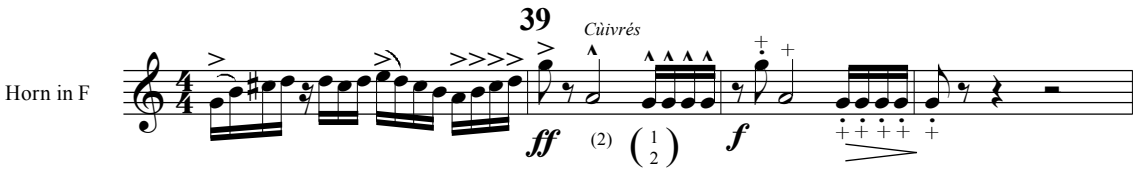
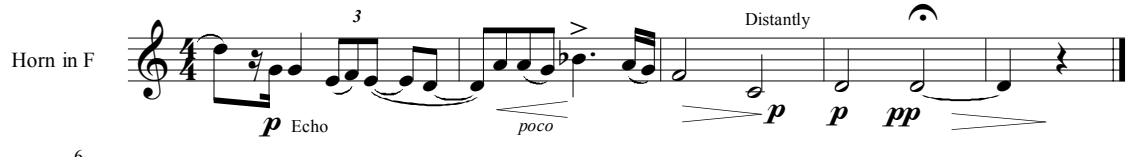


Figure 5.9: Wolfgang Plagge *Concerto for Horn and Orchestra, op.49, II. Adagio - molto sostenuto*, before rehearsal 39. Click to play.[6]

This excerpt from Johan Kvandal's (1919-1999) *Salmetone for Solo Horn* closes his piece and provides my final example of natural horn technique applications. The passage evokes the seventh harmonic sounds *à la* Mozart's *Horn Quintet* and *Concerti* with the *poco crescendo* and one could hardly pass up the opportunity to play the last note (or notes), *Distantly*, half stopped or echo horn.



5.10: Johan Kvandal *Salmetone for Solo Horn,* last measures. Click to play.[7]

[6] Wick, recording session, May 28, 2001.
[7] Wick, Sacred Heart Church, Columbus, OH, June 8, 2000, CD.

CHAPTER 6

SURVEY RESPONSES

With the assistance of Richard Seraphinoff and Charles Waddell, I chose twenty-nine professional horn players whom I knew to have significant experience with the natural horn. Of those twenty-nine, two (Hermann Baumann and Barry Tuckwell) bowed out gracefully, and twenty-two agreed to participate. All the surveys were returned; it was an outstanding success. I receive twenty-two excellent responses, each with different ideas and opinions on this subject. These differences may be the result of the many and varied paths that have led these performers to their interest and study of the natural horn. Most players have come to the natural horn after learning the valved horn, although at least one player began studies on natural horn and one studied them in parallel.

The surveys came from players throughout the United States and Europe. In the United States, responses came from California, Washington, Florida, Wisconsin, Michigan, Indiana, Ohio, Illinois, New Jersey, New York, and Massachusetts. In Europe, they came from Belgium, Germany, The Netherlands, Norway, and England.

My mission in this survey was to gather information concerning performance practice techniques. Thus, I will not do any kind of statistical analysis of the data. It serves the work of this document to share the information I have gathered. Some sections will begin with a summary, properly marked. The participants' responses will be stated and credited, if so desired by that writer. I will present the responses collectively, beginning each section with the question that was addressed to the participants in *italics*.

RELATING SKILLS (natural horn to valved horn):

Q1.1 *Through hand horn playing you have developed special skills. Which of these skills have had a direct effect upon your valved horn playing? (List those beneficial or detrimental.)*

Summary: The most common responses included improved right hand technique, embouchure strength, tone, articulation, flexibility, accuracy, intonation, and air stream. Insights to historical context of repertoire, harmonic structure, tone color and timbre, and phrasing were often mentioned. The following responses were given by the participants. In presenting them, I have chosen to divide the responses into categories.

Right Hand Technique:

Just for stopped sounds. That's it.

Right hand adjustments of intonation (L.G.)[1]

My right hand used to be "stupid". Now I play using both hands. (L.G.)

More ability with the right hand in various forms of hand-stopping. More relaxed right hand. (T.H.)

Flexible hand positions. (D.H.)

Aside from hand technique, the [horn playing] skills are identical. (See Methode by Dauprat and Meifred's addition for valves.) (R.J.K.)

It has refined my right hand for hand stopping and intonation on valve horn. (J.P.)

Motor skills in my right hand have improved. (W.R.)

Stopped horn is cleaner, clearer, more efficient. (J.S.)

[1]See appendix for a list of participants identified by their initials.

I never hand stopped well until I studied natural horn. Not only is my stopped horn better, my understanding of stopping technique is due directly to natural horn study. Natural horn makes it easy to understand that stopping brings the pitch down to one-half step above the next lower overtone. I am not afraid to use my right hand to alter pitch or timbre on valved horn, something that I notice my students hesitate to do. (M.S.)

Improved stopped horn technique. (K.T.)

More awareness of hand position. (F.R.W.)

[see R.S. comment under *Ornamentation*]

Embouchure:

Firming up embouchure in low register from playing on long crooks (i.e. C and B-flat basso). (A.C.)

Flattening of embouchure in high register from playing high Baroque parts with the hand out of the bell. (A.C.)

"Cementing" of otherwise "soggy" notes. Since all horns have a gremlin somewhere, this is valuable. (L.G.)

Increased precision and reliance of buzz. (P.K.)

Lip technique, lipping up and down. (H.P.)

Strength. (J.P.)

Not always relying on a lot of air, but using a flexible lip and careful embouchure. (L.S.)

The ability to play clean attacks on a longer horn, and play with reasonable accuracy high in the overtone series. These both translate into better valve horn accuracy. (R.S.)

Accuracy improved from increased dependence on accurate lip buzz. (J.S.)

The air stream is not the only part of playing that is more focused on natural horn; I feel that my aperture must also be more controlled, more tight. The "bullseye" is narrower on natural horn, so you must have more accurate input. This translates to better accuracy on the valved horn. It is easy, however, to use a too-focused aperture on valved horn which creates a less resonant tone. (M.S.)

Increased accuracy. (K.T.)

Increased accuracy (going from longer tubings to shorter tubings). (F.R.W.)

Hand horn benefited sensitivity of embouchure and aperture. (G.W.)

Flexibility:

Flexibility of sound. (H.P.)

I feel that my lip slurs became better after working on natural horn – I am forced to practice more of them! (M.S.)

Improved flexibility. (K.T.)

More flexibility. (F.R.W.)

Ornamentation:

Better lip trills and ornamentation. (L.S.)

The ability to use the hand to make some alternate fingerings, trills, dynamics, and other effects easier, or possible. (R.S.)

Use of half-step lip trills and other "lipped" ornamentation (grace notes, etc.). (K.T.)

Air Stream:

Increased efficiency of air control (air speed) to expedite register changes with minimum embouchure change. (P.K.)

In my experience, people are much to hung up on right hand technique, just as people are much too hung up on embouchure issues. Right hand is easy. The real challenge is air. Every crook is different, requiring a different amount, speed, size of air. Low B-flat and C crooks are hungry, and need huge amounts of air, not too fast. High crooks speak readily, but can't take too much air. And we have to adjust on a dime. The French 19th-century pieces, with all their hand-stopping are in many ways less difficult than a Mozart opera. Conductors do not understand this. (J.R.)

On natural horn, I feel that you must use a more direct, focused air stream. This is sometimes helpful, and sometimes detrimental to my valved horn playing. When I want a classical sound, I use the same sort of technique as on natural horn; when I play Brahms, this is not helpful! (M.S.)

Tone:

Attention to tone. (T.H.)

Tone color control. (D.H.)

Well focused tone. (J.P.)

Color/Timbre:

Decisions on when to play a note hand stopped for dramatic effect if it would have been taken for granted by the composer. (A.C.)

Awareness of color tone of different crooks. (J.H.)

Awareness of which notes were originally stopped. (J.H.)

Enhanced understanding of the way the various iterations (crooks/keys) of the instrument were originally intended to accomodate and enhance musical/artistic content. When a player looks at a "C", he/she benefits from the knowledge of just what timbre that harmonic should exhibit, as a function of the complete overtone series of a given horn. Also, is a notated pitch "open", or subject to some degree of occlusion? Pitch is only tuned frequency, but timbre tells the entire tonal story of the instrument and the phrase. (R.J.K.)

I love the sounds, the various ways using different crooks changes the sound of the orchestra, the balance in pieces such as Brahms' Trio. (J.R.)

Awareness for special effects of stopped notes and extra open notes. (L.S.)

Using the colour of the tonalities (high crooks should sound small but clear). (L.S.)

Concept of sound has become more refined – I am aware of a wider color/timbre palette on the horn. (J.S.)

Timbre shifts required on the natural horn inevitably effect phrasing choices (can easily be overdone, though). (J.S.)

[see S.G. comments under *Interpretation*]

Articulation:

Articulations, for example in Classical period (Mozart, Rosetti, Haydn).

Musical decisions of when to slur/not slur dictated by possibilities of performing repertoire on natural horn. (A.C.)

Better attack, and natural slurs. (H.P.)

Precision in attack and articulation; differentiation in articulation (working on modern horn with conductors like Harnoncourt and Koopman who are very precise in asking for specific articulations that are easier on the natural horn). (L.S.)

The ability to be more subtle and expressive with articulations. (R.S.)

Refinement and awareness of how articulation can vary – arose out of working with different crooks. Led [me] to smoother legato, clearer staccato (vs. accented). (J.S.)

Interpretation:

Valuable skills include shading or coloring the tone to fit the key the composer requires. Of further help are the perceptions provided by natural horn articulation and phrasing. I've found this helpful in Mozart, in particular. (S.G.)

I've developed more taste through natural horn study over a 20 year period. (L.G.)

Knowledge of composers' intentions. (D.H.)

Application of lightness of style to interpretation and technique in valve horn playing. (P.K.)

Giving me insight into what the composer may have been hearing and guiding me to new ways of looking at pieces. (J.R.)

..., greater interpretive insight, especially in regard to the application of interpolated stopped effects at significant points, a finer sense of nuance. (W.R.)

Awareness of different styles (classical/baroque/romantic) and having the appropriate sound. (L.S.)

Admiration for the skills of composers like Mozart and Beethoven in writing for the natural horn. (L.S.)

I feel that I have a better understanding of classical style from studying natural horn. When looking at a part, it is automatic now for me to hear the tonal colors of the instrument for which a piece was written, something I could not do before studying natural horn. Also, the repertoire for the instrument (mostly classical) gave me reason to study more classical music than I would have otherwise. The 20thc. repertoire for natural horn allows one to explore the hand technique which so often occurs in modern valved horn repertoire. (M.S.)

Hand horn especially benefitted styles of the period. (G.W.)

Knowledge of Harmonic Series:

Intonation improved, primarily from understanding behaviors of harmonic series, and awareness of control offered by using the right hand more actively. (J.S.)

Many horn students fail to grasp the overtone series and how it influences everything that we do on horn. Natural horn study forces you to recognize the overtones and their place in our musical life. (M.S.)

Range:

Production of top notes - groping for all those notes which are so close together on natural horn must help valve horn playing. (J.H.)

Ear Training:

I have developed a better sense of intervals and harmonics in different keys. (S.H.)

Better sense of pitch as well as intonation and attention to horn tone. (T.H.)

Listening. (D.H.)

Intonation. (J.P.)

Recognition of tonalities and chords. (H.P.)

Improved awareness of intonation [and] improved accuracy,....(W.R.)

Awareness of tonality and more careful intonation.

The ability to play in tune when many notes need to be adjusted with embouchure and hand. (R.S.)

Playing at classical pitch makes you aware of the importance of pitch in accuracy! Learning to buzz at a different frequency taught me how much we rely on the small variances in our embouchure. Also, when the right hand (natural horn) is so active in creating pitch/intonation, you become stronger at relative pitch. Again, you also become accustomed to correcting pitch with your right hand. (M.S.)

Hand horn benefited ear training. (G.W.)

Understanding of Transposition:

Understanding why we transpose and how we can do that more easily are significant reasons for studying natural horn. I transposed vertically before I played natural horn; now, I combine solfeggio and linear interval thought to transpose. Knowing where my notes are in relationship to the key is very important – something that every natural horn player MUST know, but which valved horn players can more-or-less get away without knowing. Even while playing valved horn now, I insist on original parts and use my ear more than I ever did before studying natural horn. (M.S.)

General comments:

My natural horn experience probably did not change my valve horn playing any more than, or as much as, my piano study, or my yoga study, or listening to voice lessons has. I think it is very valuable, but …(J.R.)

Negative Effects:

Hindering the ability to play very loud on valve horn. (A.C.)

After a long period of hand horn playing, you really need to practice to get a large bore double to play in tune. (J.H.)

When I go back to valve horn playing after playing natural horn, I have to remind myself to use a greater volume of air on the valve horn. (J.P.)

It is sometimes difficult for me, when using the valved horn and playing a piece I have studied on the natural horn, to remember to use the valves. (W.R.)

Natural horn playing emphasizes the more subtle, detailed aspects of air, projection, and articulation, and I always have to shift gears back to bigger, warmer air, and a sound more appropriate to a large orchestra. This ability goes away if not practiced regularly. That is to say, you can't play with a big projecting sound if you don't practice that way. (R.S.)

I do not feel that there have been any detrimental effects from learning natural horn – except for the early onset of fatigue in the practice room! (M.S.) [see M.S. comments under embouchure and air stream]

Q1.2 *What, if any, natural horn specific techniques have you used in your valved horn playing?*

[See comments from Q1.1.]

Articulations - classical period (Mozart, Rosetti, Haydn)

Hand-stopping, use of free-blowing air, accuracy.

I often hear people struggling to create or maintain a high level of performing without any help from the right hand. (L.G.)

Using parts of the right hand more specifically and selectively, even including the palm and fingers. Another is a gentler use of air, as opposed to the more forthright approach to volume and sound found in late Romantic literature. (S.G.)

Quick changes between open and stopped notes. Several composers have written works for me with passages that deal with this technique (S.H.)

1) Occasionally I use a partially-stopped hand position for a particularly sensitive quiet note. 2) Glissandos in jazz and contemporary music. (T.H.)

Stopped horn, echo horn, hand glissandi. (D.H.)

I use a narrow rim mouthpiece on both modern and old instruments, though my "modern" mouthpiece has a conventional, modern cup shape. I find the narrow rim aids cleaner tonguing. (J.H.)

The modern horn is just a collection of much more cylindrical natural horns than the original concept, and should be approached as such, if one desires complete knowledge of the instrument and its capabilities. (R.J.K.)

Increased cognizance of color changes on natural horn applicable to interpretation on valve horn. (P.K.)

Hand-stopping is the answer. A more refined right hand technique in general. (J.P.)

The crossover from natural to modern horn was difficult for me to learn, but it was an air issue. At the beginning, I spent weeks just on Classical horn, or then again on Baroque horn, and then back to valved. Now I can easily switch from one crook to another or one horn to another. This experience was invaluable to me because now I can pick up a student's valved horn and feel how they need to be blowing, often guiding them to great efficiency and heal their playing. (J.R.)

I apply tacitly understood dramatically significant stopped effects where I feel the composer wanted a change in timbre, either by actually stopping a note that is not necessarily indicated "stopped" or by emphasizing a more metallic timbre in my tone. I apply stopping technique to valved horn compositions only when called for by the composer. [For both compositions,] the timbre change is specified by the composer. (W.R.)

Using less air and more lip on high notes. Using large amount of air on low notes/low crooks. Better trills and ornamentation. Trying to approach high parts on the normal horn in the same "easy, light" way as on the high crooks of the natural horn. (L.S.)

Tonguing of slurs sometimes, so that they are secure, but sound slurred. Half stopping (echo horn) for soft or veiled passages. Use of the hand to make whole or half step lip trills work on overtones where the next higher note is a minor third or bigger. (R.S.)

Technically, I use none (doesn't fit the horn itself), however, knowledge of natural horn has allowed for some useful and clever effects in certain tricky passages, e.g., high A-flat in Beethoven 3/ 1st movement. This can be overdone or overemphasized. On the other hand, the harmonic series on valved horns behaves similarly, so alternate fingerings, etc. can be put to good use. (J.S.)

Also, awareness of the colors brought by different crooks effect approaches to style and ensemble blend. (J.S.)

When pitch is just slightly high, I will curl my fingers in order to bring the pitch down and to make the timbre more round. (M.S.)

Half-step lip trills. (K.T.)

"Lipped" ornamentation- neighbor tone triplets. (K.T.)

In modern music, sometimes stopped horn is asked for or hand glisses. Also some composers require you to stay on one fingering (i.e. one specific tube length or one specific natural horn) while performing certain passages on the double horn. (F.R.W.)

Q1.3 *Can you give specific examples of these techniques from the horn literature? Please consider music intended for the natural horn as well as pieces composed expressly for valved horn.*

Mozart Symphony No. 41, slow movement, G-flat7 chord, handstopped written "e-flat" and "d-flat". (A.C.)

I use my right hand at all times in all literature, or better said, I do not disenfranchise my now-educated right hand just because the music is from the non-natural horn eras of music composition. (L.G.)

Brahms Symphonies, especially. (S.G.)

See above, possibly any exposed quiet note in a symphony or opera. (T.H.)

Mozart horn concerti: Mozart uses the limitations of the hand horn so superbly that it is impossible to phrase badly if you understand the instrument for which he was writing. (J.H.)

Parts written for low crooks (D, C, B-flat basso) should generally be played at gentle versions of indicated dynamics, because the instruments had much more subtle blending characteristics than the modern horn, and were usually functioning in the texture of the ensemble, rather than Mahlerian lead voicing, for example. (R.J.K.)

There is no stopped horn indication in any of Brahms' autograph manuscripts. (Because he detested the homogeneity of the valved horn, he did not write for it. Thus any indication for the use of the hand belies editor's tinkering and obscures Brahms' true intent.) (R.J.K.)

On natural-horn pieces, virtually the entire repertoire for the instrument (Mozart, Haydn, Beethoven, Rosetti, Schubert, etc.) On pieces for modern horn, certain natural horn elements can be revealed and developed in the [Wolfgang] Plagge *Sonata*, Britten *Serenad*e, and [Lar-Erik] Larsson *Concertino*, for example. (P.K.)

A-horn movements in Haydn's Creation and B-flat basso movements in the same piece. [see L.S. comment for Q1.2]

Brahms Trio, 3rd movement, half stopping to play under the violin. [see figure 3.6]. Mozart Concerti trills on second space "a' in E-flat, play open F horn with hand a little closed. Natural horn articulations have very much influenced my articulation of many passages in baroque and classical music. I'm not sure if this is due to the fluidity of the natural horn, or musical shaping ideas that I get from playing with other early instrument players. (R.S.)

Beethoven 3/ 1st movement, high A-flat. Using open F horn at end of 1st movement of Beethoven horn sonata. Dynamics/phrasing choices in Mozart concertos. More open tone color in "hunting horn" styled passages in various symphonies. Use of A crook changed my attitude toward how Beethoven 7 should sound – lighter, not so blasty. Use of C crook for tone color of Brahms 1/IV. (J.S.)

Weber *Concertino*, Dauprat *Sonata, op.3*, Gallay *Concerto*, Cherubini *Sonata*; many examples from complete classical repertoire use half-step lip trills. Plus most <u>all</u> half-step trills middle F and up. (K.T.)

Mozart articulations. Brahms *Trio* phrasing and intensity of phrases, many others, but in general an excellent reference if one doesn't perform it on the natural horn. (G.W.)

See "Stopped notes on the horn: some aesthetic considerations." By William Rogan. *Historic Brass Society Journal*, vol.8, 1996, pp.53-68.

LITERTURE:

Shlomo Biederman - *Concerto for Horn and Orchestra (1999)*, especially the second movement. World premier by Thomas Hiebert and Tulare County Symphony, Spring, 1999.

Johannes Brahms – *Trio for Piano, Violin, and Horn, op.40*

Benjamin Britten - *Serenade for Tenor Solo, Horn and Strings, op.31*

Anders Eliasson (b.1947) – *Concerto per corno ed archi: "Farfalle e ferro"*. Recorded by Sören Hermansson, Caprice CAP21422, Stockholm, 1995. Ostrobothnian Chamber Orchestra, Juha Kangas, conducting. Recorded Dec. 8-9, 1992. Written for Sören Hermansson.

Lars- Erik Larsson, *Concertino for Horn and Strings, op.45, no.5 (1955)*

György Ligeti *Trio for violin, horn and piano (1982)*

György Ligeti *Hamburg Concerto for Horn and Chamber Orchestra (1998/99)*

Folke Rabe (b.1935) – *Naturen flocken och släkten [Nature, herd, and relatives]: Concerto for Horn and String Orchestra (1991)*. Reimers: Stockholm. Recorded by Sören Hermansson, Phono Suecia PSCD67, Stockholm, 1994. Written for Sören Hermansson.

Lowell Shaw - *Fripperies*

See "Selected Scores" (pp.94-95) from Douglas Hill's *Extended Techniques for the Horn: a Practical Handbook for Composers and Performers.*

RIGHT HAND TECHNIQUE:

In general, the comments indicate that the players' right hand technique used in valve horn playing has been enhanced by their hand horn skills. There are a variety of responses as to how this usage has translated into practice. It is best to let the players speak for themselves.

Q2.1 *How does your right hand position for open horn playing compare between the two instruments, natural horn and valved horn?*

It depends on which instrument you are playing (model) on natural horn, and the size of the bell of your modern horn also. So, I cannot be exact in this question, but I can tell you that my hand is more open with the modern horn.

Depends on repertoire, but more or less the same, bearing in mind that in the different bell shapes and sizes it is quite hard to say precisely. (A.C.)

Natural horn - more covered on open notes, less covered on stopped notes. (L.G.)

Valve horn position is more covered, with less of a right angle in the hand. The fingers are also more rigidly together [for valve horn]. (S.G.) [Steven Gross plays a Baroque horn with a small bell and valved horns with large and medium bell shapes.]

The same. (S.H.)

It depends on the piece and the key, but in general for natural horn (for works from the latter 18th and 19th centuries) I use a slightly more closed position than with the valve horn. (T.H.)

[Modern horn] - more open, out slightly farther. (D.H.)

It's rather more open on the valve horn than on the hand horn. As most, but not all, the French 19th century hand-horn tutors ask players to even out the difference between open and stopped notes, one has to put the hand a little further into the bell. On the valve horn such a position would lead to poor tone and flatness in the top register. (J.H.)

There is no scientific reason to vary hand position to accommodate anything but personal tonal ideals and differing bell diameters. (R.J.K.)

More closed and further in the bell for natural horn. (P.K.)

I try to use essentially the same right hand position for both. (J.P.)

Modern horn is more open, hand a bit more out than on natural horn. The natural horn requires the right hand deeper inserted to the bell, to camouflage the quality differences between open and "manipulated" pitches; this is a rule that works with rather small hands. I had to camouflage here, as my hand does not fit deep into the bell because of the size of the hand. (H.P.)

Not at all, but the hand must be flexible to correct pitch and do muting and stopping. (H.P.)

I use fingers more on natural horn, otherwise the same. (J.R.)

It is essentially the same, although more covered for playing the natural horn, and as I hold the natural horn relatively higher than the valve horn, the effect is that the left hand compensates isometrically for the movement in the right hand. (W.R.)

Very much alike (on modern horn I prefer an open clear sound). (L.S.)

Identical in most cases. (R.S.)

Natural horn position tends to be more closed. (J.S.)

I maintain that the "open" hand position for natural horn and valve horn should be the same. I believe the hand technique for natural horn should be exactly the same, the primary difference being that gradations of closure are used instead of all open or all stopped as is mostly the case on the valve horn. Of course, on the natural horn, in a lot of cases, but not always, the idea was (and is) to minimize the sonic difference between the open notes and those that were closed to a greater or lesser extent, whereas stopped notes on music written for valve horn were meant to sound as "stopped" as possible. When playing the 7th mode of resonance (i.e. the B-flat "harmonic") on the natural horn, the right hand is normally taken completely out of the bell. (D.S.)

My valved horn hand position is further out and the palm is more open than on natural horn. Also, I rotate the hand slightly counter-clockwise. (M.S.)

Modern horn - quite straight; very little cup; rigid. Natural horn - more cupped and closed; very flexible. (K.T.)

This depends on the music for natural horn. When there are many written "a"'s, for example, and they are best played open, I tune the natural horn very high and close off a lot with the hand, so that I am able to open enough whenever the "a" is coming. In this case, the hand position on the natural horn would be more "closed" than on the modern valve horn. (F.R.W.)

Q2.2 *Has your right hand position changed for your valved horn playing as a result of developing natural horn technique?*

I develop more accuracy with articulations.

Not particularly, and in [either] case there is no one position. (A.C.)

It did for a while, but I found there was no future in having an educated right hand (veiled) in a world (section) of players with "dead-fish" right hands. Now I use the standard open hand position but adjust pitches with right hand. (L.G.)

Yes, see S.G. response to Q2.1. (S.G.)

Not for me personally; however, I have had several students that had to adjust somewhat when it came to the position of the hand. It's very important to be able to play fully stopped without having to move the hand more into the bell. (S.H.)

Not much, it is just more relaxed. (T.H.)

Not extensively, perhaps subtly. (D.H.)

Not really, though in common with many valve horn players, I use it to correct intonation. (J.H.)

See R.J.K. response to Q2.1. (R.J.K.)

No. (P.K.)

My right hand position for valve horn is a bit straighter and farther in the bell than before I learned natural horn. (J.P.)

It has not changed at all, as I was taught hand horn first, as it should be. It does not matter if the student uses a single F natural horn or a Viennese single F without using the valves. The dimensions are quite identical. (H.P.)

No. (J.R.)

Yes. I have found that my right hand technique has become more economical in that all activity centers in the wrist and heel of my hand, with a minimum of motion. (W.R.)

No. (L.S.)

I learned both instruments at the same time, so the hand position for both developed together. (R.S.)

Not really, but I move it around a lot more than I did previously. (J.S.)

No, except if a segue stopped passage is coming up, I then revert to a hand horn position. (M.S.)

No. (K.T.)

Not really. (F.R.W.)

It changed with more variety from the knowledge and usage of hand horn. (G.W.)

Q2.3 *Do you use a variety of "open" horn hand positions? If yes, please explain your method.*

Yes, see Francis Orval's method of natural horn edited by Marc Reift.

Yes, this is complicated to explain; it depends on which horn I use. (A.C.)

Yes. Also six different stopped horn positions. Three open valve horn positions. I really can't explain, it must be shown in a lesson. The technique/aesthetic needs to be developed. (L.G.)

No. (S.H.)

Yes: it depends on the intonation (if I want to bring the pitch up or down) and if I'm playing loudly or softly; for loud playing I lean towards more open positions, for soft playing I lean towards more closed positions. (T.H.)

Yes, for color and blend, depending on position of bell in relationship to my body, and for projection especially in Brass Quintet and for subdued sounds in the Woodwind Quintet and other such chamber groupings. (D.H.)

Yes. To correct intonation, in the same way that I use a variety of stopped hand positions. As 7^{th} harmonics are very flat, a wide open position is necessary, likewise as 5^{th} and 10^{th} harmonics are slightly under, the hand comes out. As 9^{th} harmonics are sharp, the hand goes in a little. (J.H.)

Refinement of pitch on any horn rests on the flexible approach to subtle hand manipulation. The harmonic series always needs our help to overcome "non-musical" aspects of the mathematics of physics, and the hand is a much more easily regulated (and significantly less tiring) means of tempering pitch than is "blowing" notes sharper or flatter. On any horn. (R.J.K.)

Yes, for reasons of color and intonation. (P.K.)

I generally minimize hand changes in valve horn playing because of the resulting unevenness of tone. I do a little for pitch purpose, mostly on fifth harmonics and in extreme low register (opening more). (J.P.)

No, in principle no, but there are some fine adjustments according to the music, the hall, the style (Italian music likes it more bright, so more open, other music requires darker sound, so more closed). This is very individual and depends rather upon musicality than hand technique or different positions of the hand. All these adjustments are variable. It is not good to fix everything by describing the one or the other position. (H.P.)

Not at all, but the hand must be flexible to correct pitch and do muting and stopping. (H.P. in a later response.)

What does "open" mean? I look for good intonation, guided by intonation relative to stopped notes. (J.R.)

Yes. Given that the horn is essentially out of tune, it is necessary to correct for intonation at all times. My familiarity with the natural horn has facilitated this for me. Once again, I keep motion to a minimum, moving the heel of my hand through a supple wrist action. (W.R.)

No, apart from intonation correction or (very seldom) playing 2nd horn to a 1st horn with a very much darker sound than my usual colleagues. (L.S.)

They would vary only in the amount of openness for the purpose of color changes or more or less projection, though sometimes my hand is more cupped, and sometimes more straight. This would also be for color and volume on the valve horn, but would help with intonation on hand horn, since many open notes need to be fixed slightly. (R.S.)

Yes. It will vary based on phrasing or intonation, and occasionally in a general sense according to the style of a particular piece. I try to make this an intuitive part of what I am doing, rather than a rationalized, "standard" approach. What I DON'T have is a "Mozart" hand position vs. a "Beethoven" position, etc., etc. (J.S.)

Most of the time I use my "standard" right hand position on valved horn. When a stopped passage immediately follows open playing, however, I move my hand to a natural horn position (further in and rotated slightly). I try to open the hand more than I would on natural horn in order to compensate for the pitch/timbral differences between this new position and my normal hand position. (M.S.)

Sometimes I will cover more with my right hand in order to produce a darker or less projecting sound. I do not do this often. Again, when pitch is just slightly high, I will curl my fingers in order to bring the pitch down and to make the timbre more round; this a natural horn technique. (M.S.)

Modern horn - no. Natural horn - just "open" and "more than open" (for "b-flat", high "f-sharp" etc.) (K.T.)

On the natural horn, yes, of course. On the modern horn I prefer to change less and secure the intonation mostly with the lips and through the choice of fingerings. (F.R.W.)

Q2.4 *Please comment on the firmness or suppleness of the right hand for horn technique.*

Relaxed is best, for obvious long term reasons. (A.C.)

Right hand is always relaxed. (That's simple.) (L.G.)

Obviously much more supple. We have become "right hand illiterate" on the valve horn. (S.G.)

Of course you have to be more flexible with the right hand playing natural horn. (S.H.)

The right hand should be as relaxed as possible given that it must support the instrument (when standing or if the bell is off the knee – my normal positions) and make full closure of the bell on fully stopped notes. (T.H.)

Keep the shaping but avoid tension or flexing. (D.H.)

Obviously hand and wrist need to be fairly supple, but as I believe one should be aiming for the minimum movement possible, athleticism is not a primary consideration! (J.H.)

[See R.J.K. response to Q2.3]

Fingers generally together, but hand in relaxed supple position. "Firmness" should not imply or engender tension. (P.K.)

Suppleness is the key. If it's too rigid it will not conform to the shape of the bell adequately. (J.P.)

If the hand is placed in the right way, it remains very flexible and a superb last tool for intonation adjustments. (H.P.)

Need both. Not rigid, not floppy. (J.R.)

See above [response to Q2.3]. It is essential that the wrist be supple and activity be kept to a minimum. (W.R.)

I tend to use a fairly firm hand, and I do not have a great skill in the suppleness and little movements. (L.S.)

The hand has to be alive and flexible all the time on hand horn, and though it doesn't move as much on valve horn, it still is sensitive and free, not rigid in the bell. (R.S.)

The right hand must be able to move in and out of the bell very easily (thus the horn is held with the left). It must be free to move on every note if needed, but coordinated enough that these movements are accomplished smoothly and deliberately, not forced or jerky. In general, it is better if the wrist is kept straight, but even then it should be able to adapt to what is required. I have experimented with the Orval six positions (especially moving the thumb around) and find them to be occasionally useful as well. (J.S.)

I play with a relaxed, yet firm right hand. I do not believe that there should be any more tension than is necessary to hold the instrument and to use the right hand appropriately. (M.S.)

Extremely supple and fluid; no definite "positions", just glide past the position in a chromatic or diatonic passage [for natural horn playing]. (K.T.)

On natural horn it needs to be very supple and flexible, not firm and/or uptight. For certain notes a hole between the thumb and the next finger can be an advantage, on natural horn, that is. (F.R.W.)

I feel the hand has to be supple and soft with ability to use the hand for more color and presence. (G.W.)

[See Francis Orval's natural horn method.]

Q2.5 *To the best of your ability, please describe how you teach right hand technique on the modern horn.*

It depends on which model and which horn you are playing (small or large bell, for example). Also, it depends on the size of your hand. But, I don't recommend to close too much because then the sound has a tendency to be "stuffy".

I show the positions and play the sounds. Hand further in, but open. Normal position with slight "palming" of sound. Out a good deal but cupped over air column. (L.G.)

The standard "Mr. Farkas" approach taught nearly everywhere, with some new practices from natural horn. (S.G.)

Make sure you can play fully stopped without moving the hand more into the bell. Practise quick open-stopped-open passages daily. Go through Mahler symphonies for instance, he uses this technique frequently. (S.H.)

The right hand should be cupped as if for swimming, in a relaxed position and should be place at approximately "1:00" in the bell to be able to support the instrument easily. To stop one needs to move mainly at the wrist. (T.H.)

Start with the hand shaped as if swimming, thumb pulled back a little, placed in the bell up to the thumb knuckle with the middle finger at "4:00", or at "2:00" if off the leg or standing. (D.H.)

Hand slightly cupped, fingers together, no gap between thumb and index fingers, bell of the horn supported on a point just to the left of the thumb knuckle. No air to escape through the fingers, etc. Don't let hand collapse. Maintain gap of c.1.5 inches between palm of hand and near side of bell. (J.H.)

Demonstrate, then demand compliance. (R.J.K.)

Keep hand naturally aligned with wrist. Fingers together, no space or gaps. Hand inserted vertically in bell, thumb knuckle aligned with other knuckles; keep top of fingers in contact with inner wall of bell (from nails to large knuckles). (P.K.)

Hand fairly straight; fingers together; no gap between thumb and index finger; depending on hand size, keep palm relatively "tall"; slide hand in on far side of bell until palm/thumb contact bell; fingernail against bell but knuckles not necessarily. (J.P.)

Insert the right hand very relaxed, not turned to any specific direction outwards or inwards. Open the hand like catching a tennis ball, the fingers nearly closed (side by side), the thumb bent, the horn bell's weight resting on the knuckle of the thumb, (seems uncomfortable but allows a very fast action of the right hand, closing the bell more or less by bending the palm and fast reaction for stopped or hand muted); fingers 3,4, and 5 verse the wall or on the wall [of the bell]. No special teaching method, but permanent admonition to the students to keep the right right-hand position. (H.P.)

Fingers together, bring the hand to where it is in tune with stopped notes, check sound so student is getting sound s/he wants. Usually I play a few well chosen positions for them, find what they like, then show them what I did. Back of hand against bell, so no air leakage. Every person's hand is different, so we make allowances. (J.R.)

I introduce the historic and aesthetic properties of the horn to my students, familiarizing them with a consensus of approaches to stopping the horn, based on a survey of hand positions recommended by nineteenth century teachers and compiled by Reginald Morley-Pegge (*The French Horn*). Using that chart as a guide, I have my students experiment with the technique on their valve horns, using music composed for the natural horn. Even if they are not that successful at the attempt, the experience is normally productive for making them aware of the aesthetics and history of the natural instrument and music composed for it, and it helps in teaching right hand flexibly. (W.R.)

Show a picture from an old method. Show a "handshake" with the thumb on top of the fairly straight hand. Show how stopped horn can be achieved by moving the hand as little as possible, just closing it. (L.S.)

I don't talk about it too much, except for establishing a good position from the beginning. Sometimes I ask students for different colors with hand positions, or to fix intonation. The most often made comment about hand position is to open more so as to not muffle the sound. I also like to make sure that there are no holes or leaks between the fingers. The sound should come out of one place only. When teaching stopped horn, the main point is creating a good seal which makes good intonation possible. And then there is the echo horn part of the Dukas Villanelle where we talk about half stopping and intonation. (R.S.)

Wrist straight, shake-hands position (palm perpendicular to ground), positioned in bell so three knuckles touch (middle of thumb, middle of forefinger, base of forefinger) and the sound passes across the palm. This way it is the same whether you sit or stand. (J.S.)

The right hand should be shaped somewhat cupped but with the fingers flat as if you were going to hold water in it. It should be inserted vertically in the far side of the bell, with the fingers against the bell wall up to the knuckles which should act like a hinge. The weight of the bell is primarily on the first joint of the thumb. To lower the pitch by closing the bell, one should simply be able to "close the door" and be able to achieve a tight seal. I strongly oppose the practice one sometimes encounters of stuffing the hand into the bell for stopped notes. (D.S.)

Fingers together and straight; thumb lined up next to 1st finger (no spaces); very slightly cupped-like swimming (quite straight); place back of hand against back wall of bell; thumb at "one o'clock". (K.T.)

Place the right hand inside the bell in such a way that the horn kind of prolongs that part of the bell most far away from the body, as a continuing "wall". Keep the fingers closed, i.e. no hole between the thumb and the next finger. (Dick Merewhether wrote something about this in his book*, The Horn, the Horn,…*, and the problem in the extreme range if this hole is there.) Play an open "g" on the F horn, middle range. Then stop the bell with the hand and play it again, this time fingering a half step under (still on the F horn). The intonation should match, and thus tell you how open/closed you should have your right hand during open playing. This is all based on a standing position or an off-leg position, so that the right hand also helps hold the instrument. The problem is to find the spot where the sound is nice and ringing, resonant and yet clear. (Remember, I play in Europe!) (F.R.W.)

The hand should have the ability to hold water, or similar to a swimmers crawl, but in *ff* playing open up even more. (G.W.)

Q2.6 *Are there any etudes or exercises you use to reinforce proper right hand technique in valved horn playing?*

Summary: Several players commented that they use no particular etudes or exercises to teach proper right hand technique recognizing that it is a constant function in playing which must always be practiced correctly.

[See S.H. and R.J.K. comments to Q2.4.]

16 Etudes for Valved Horn or Hand Horn by Andrew Clark, pub. Mitre Music. (A.C.)

No, only excerpts: Borodin *Polovetsian Danse*, Mahler *Symphonies*, Schreker *Chamber Symphony*, et alia. (L.G.)

Anything that is not too low (etudes, solos, etc.) can be used. One can request that an entire etude be performed stopped; one can also request that phrases be performed alternating open with stopped. (T.H.)

Reynolds *48 Etudes*, the one with the stopped technique. Also one or two of the Maxime-Alphonse (Book 4 or 5) etudes which have rapid changes between "+" and "o" notes. (P.K.)

I use a half-note chromatic scale exercise repeating the notes, first open then hand-stopped to work quick and efficient movement to and from hand stopped positions. (J.P.)

No, other than those etudes which include right hand technique as simply part of the etude. (W.R.)

Not really, apart from the usual open and stopped etudes (e.g. Maxime Alphonse part 2) and letting students study normal etudes stopped as well (also for transposition and fingerings on the F horn). (L.S.)

Nothing in particular that is specifically for right hand on valve horn. I have never used them, but there are some etudes in the D. Ceccarossi Method that have lots of stopped and echo passages. (R.S.)

Only some hand horn exercises, including using Robert Getchell First Book of Practical Studies – helps the student understand how much effect the hand has on intonation and tone color. I have all students do these eventually. (J.S.)

Make sure stopped horn works perfectly with excellent intonation and quality. Open should sound open. (K.T.)

Not really. I probably should find some. (F.R.W.)

INSTRUMENTS:

Q3.1-2

On which make of valved horn do you play most often?
Is the bell shape small, medium, or large?

Type of Horn	Bell Size
Alexander 102 – compensating	Medium
Alexander 103	Medium
Alexander 107 B-flat/F-alto (2)	Medium
Alexander 200	Medium
Alexander 307 - full triple	Medium
Conn 8D (2)	Large
Conn 28D	Medium
Conn 12D	
Geyer (2)	Medium
Holton 104 (2) Tuckwell model	Large
Holton 179 –modified large Lawson leadpipe	Large
Holton 279	Large
Kortesmaki (Karl Hill) – Geyer wrap	Small
Paxman 20L	Large
Paxman 20M	Medium
Paxman B-flat/F-alto	Large
Rauch	Medium
E. Schmid double (2)	Medium
Yamaha 667VS	Medium
Yamaha – Schmidt 863	Medium

Q3.3-4

On which make of natural horn (classical period) do you play?
Is the bell shape small, medium, or large by today's standards?

Type of Horn	Bell Size
Bauer (orginal instrument)	Large
Besson (London) 1875	Large
Courtois (2)	Small
Courtois Neveu, c.1830	Small
Finke	Small
Greer Baroque Horn (2)	Small
Greer Bohemian Model	Large
Halari c.1830 Paris	Small
Huschauer, c.1770	Small
Jungwirth	Small-Medium
McCracken	Small
Meinl-Lauber (2)	Small
Millereau	Small
Paxman	Small
Raoux (3)	Small
Raoux – rue Serpent, c.1850	Medium
Rauch – Raoux	Small
Reynolds Contempora (formerly a valved horn)	Medium-Large
Schmid	Small-Medium
Seraphinoff – Baroque Horn	Small
Seraphinoff – Courtois c.1820	Small-Medium
Seraphinoff – Courtois cor basse	Large
Seraphinoff – Halari (2)	Small
Seraphinoff – Raoux 1825 orchestral (3)	Small
Seraphinoff – Raoux cor solo	Small
Webb-Halstead	Small-Medium

Q3.5 *Compare the bell sizes of these two main instruments (valved and natural horns).*

Summary: Most of the players use a valve horn with a medium to large bell and a natural horn with a small bell. Two players uses a Classical horn with a medium sized bell. One uses a large bell Classical horn by Bauer (original instrument). Two use large bell horns by contemporary manufactures Bohemian model by Greer and Contempora by Reynolds, formerly a valved horn.

> Size is not the only factor here: profile, thickness, and method of manufacture count, too. Each decision on what to use is based on different criteria such as repertoire, programme, and other work. (A.C.)

Q3.6 *Was your choice of valved horn influenced by your natural horn playing?*

Summary: Most participants said, "No." They recognize the two different functions and do not relate the qualities in the instruments. A few commented on some influence; their comments follow.

In a way yes. I was raised on the Conn 8D.
(Now plays Alexander/Geyer/ Holton models.)

Not particularly. Perhaps subconsciously.

No, not directly.

In terms of seeking a compact, well-focused sound, yes, but I was not trying to replicate the feel of my natural horn.

I play on a Geyer type bell for choice of sound.

Q3.7 *If not, would your natural horn experience be a consideration on a future valved horn purchase?*

[See summary Q3.6.]

Only to an extent that natural horn playing has influenced my tonal and expressive preferences.

Indirectly, the sound of the natural horn is the timbre I prefer, so I would look again for a medium bore horn.

COMPOSERS/COMPOSITIONS

Q4.1 *John Corigliano's* ***Clarinet Concerto*** *and Benjamin Britten's* ***Elegy*** *from* ***Serenade for Tenor, Horn and Strings*** *use right hand portamento. This is a dynamic hand technique. What other composers/compositions have you encountered, for the valved horn, that require a dynamic right hand technique.*

Jan Bach *Laudes for Brass Quintet (1971)*
Lots of jazz, including Fripperies, Julius Watkins, Vincent Chauncy
Shlomo Biederman Concerto for Horn and Orchestra
Dana Wilson "Deep Remembering"
Douglas Hill solo pieces
Persichetti Parable
Schuller *Horn Concerto No. 2 (1975/76)*
Kirchner
Alec Wilder
Edgar Cosma Sonata
Randall Faust
Thea Musgrave
Folke Rabe Horn Concerto
Anders Eliasson Horn Concerto
Wagner Ring
Fred Fox Connex for Brass Choir
Mark Schultz Dragons in the Sky, etc.
Buyanofsky España
Amram Blues and Variations for Monk

PERSONAL INFORMATION:

Q5 *What percentage of your performing time is given to the natural horn?*

	responses
less than 10%	9/22
10 - 25%	7/22
25 - 50%	2/22
50 - 75%	2/22
75 - 90%	0/22
more than 90%	1/22

(One did not respond to this question.)

RESPONSE RATE:

Out of twenty-nine horn players invited to participate in this survey, twenty-two responded positively. One hundred percent of the surveys were returned in time to meet my publication deadline. This is without contest EXCELLENT participation. [See Acknowledgments, pg.v].

CHAPTER 7

SUMMARY

Making Choices:

The composer is interested in capturing the listener's attention; the performer is no less interested in this result. Maintaining the composer's intent is the performer's best guide in finding solutions to performance questions. The performer uses a variety of methods to come to conclusions in regard to performance decisions; the two greatest influences being 1) the performer's skills and preferences for those skills, and 2) the performers intellect in regard to the history of the composition. For a given work, knowledge of the following can help guide decisions: for whom was the work composed, where the performance was to take place (what venue and what country), what year was it composed, for what instrument was it composed, and what were the notational practices of the day. Answers to all or any of these questions can lead to effective solutions in performance choices.

There are several influences that contribute to a final performance decision. The most prominent being a successful presentation, thus choosing the most reliable approach is necessary. This is weighed with the information gained by answering the above questions along with a careful interpretation of the score. History of horn literature and context is significant in interpreting not only literature from earlier periods, but also in discovering historical references in modern music. That is the impetus which led me to the selection of many of the examples in Chapter 5. My purpose is to serve the

composer's intent while integrating an audience's expectation, in regard to intonation, accuracy, and euphony, with my own performance skills.

Conclusions:

Not only knowledge of but also skills upon the natural horn give the performer greater choices which enable the best performance. By applying an established natural horn technique the performer in these examples can more easily and reliably facilitate the music (*Così fan Tutte*, *Dances of Galanta,* Janácek *Concertino*), enhance dramatic effects (Mozart *Horn Concerto* and *Quintet*, Stravinsky *Petrushka*), enchant tonality with unadjusted harmonics (Britten's *Serenade* and Ligeti's *Horn Trio* and *Hamburg Concerto*), sing *sotto voce* on the instrument (Plagge's *Monoceros*), and let all the sound resound (Plagge's *Horn Concerto*). These examples provide a springboard for applying natural horn techniques to repertoire for the horn. All of the above applications use old techniques in new ways, thus to the performer who learns this process, it represents a new approach. From my experience, players who have some experience with the natural horn embrace these applications; those who do not, dismiss them. My hope is that by way of a renewed interest in the natural horn, these techniques will be embraced by players of the horn.

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Hans Pizka, Kirchheim, Germany (H.P.)

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Richard Seraphinoff, Indiana University, Bloomington, IN (R.S.)

Jeffrey Snedeker, Central Washington University, Ellensburg, WA (J.S.)

David Sprung, San Francisco Opera Orchestra (on leave), Palm Coast, FL (D.S.)

Michelle Stebleton, Florida State University, Tallahassee, FL (M.S.)

Kristin Thelander, University of Iowa, Iowa City, IA (K.T.)

Frøydis Ree Wekre, Norwegian State Academy of Music, Oslo, Norwary (F.R.W.)

Gail Williams, Northwestern University, Evanston, IL (G.W.)