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SCHOOL OF MUSIC

THE NATURAL HORN AND THE BEETHOVEN HORN SONATA  
FOR THE VALVED HORN PLAYER

KALILA STEEN  
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Reviewed and approved\* by the following:

Lisa Botontrager  
Professor of Music  
Thesis Supervisor

Charles Youmans  
Associate Professor of Music  
Honors Adviser

\* Signatures on file in the Schreyer Honors College

## **ABSTRACT**

This document serves as a practical guide for the modern player learning to play the natural horn. The document begins with an overview and history of the natural to help players understand what composers' intended when writing horn parts. In addition, the document discusses how a valved horn player should adjust performance techniques when playing the natural horn. This section concludes with the benefits of studying the natural horn. The final section provides an analysis of Beethoven's Horn Sonata useful to a performer of both the natural and valved horns.

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# THE NATURAL HORN AND THE BEETHOVEN HORN SONATA FOR THE VALVED HORN PLAYER

by Kalila Steen

## The Natural Horn

Technology and innovation have spoiled the valved horn players of the modern era. The natural horn is a difficult beast to overcome, as structurally it is a very simple instrument. Of course, the first thing to note about the natural horn is the lack of valves. Horn players can play open notes on the overtone series, but to play the notes in between the overtones a player must manipulate the space in the bell with the right hand. I have small hands and play on a horn with a somewhat large bell, which causes me to play many notes quite sharp. To help overcome this problem, I spread my palm as much as possible in order to make the notes flat enough. I also concentrate on lipping the notes down to their appropriate pitch. When I fail to make these changes, notes such as F and A flat in the middle range can often sound like F-sharp and A natural, respectively. The natural horn is very sensitive to different hand positions within the bell and usually subtle wrist movement is required to achieve the desired pitch.

Because some notes are played open, fully stopped, or someplace in-between, the timbre of the horn changes throughout the range. In valved horn playing, stopping notes is used to achieve a harsh, aggressive, distinct sound. However, natural horn players must attempt to make a clean, even sound throughout the range. Achieving a smooth tone that changes little throughout the range is important to provide unity to the sound. One way to help even out the sound is to make the open notes somewhat less open than they would be on the valved horn. As a result, the overall sound of the horn is a little muffled, but the audience is less likely to hear the sharp changes in timbre when stopped notes are played. In addition, stopped notes on the valved horn are often played very loudly not only to project the muffled sound, but also to achieve edginess. The natural horn player must resist blowing too hard on a stopped note or else the sound will become too harsh and the range will sound uneven.

Despite these suggestions, making a perfectly smooth sound throughout the range is quite a challenge. Luckily, Beethoven recognized the inherent differences in the character of each note and wrote to complement these traits. For example, the first three bars of the first movement is a loud horn call, which immediately catches the audience's attention. To ensure a strong, solid sound, Beethoven wrote only notes that are played open. This way, the sound can project to its full potential. Similarly, the fantastic fanfare in the last seven bars also only contains open notes. Here, the piece reaches one of the few fortissimo moments for a strong, exciting finish. In fact, all fortissimos in this movement are written for open notes.

Beethoven also strategically used stopped notes throughout the movement. Beethoven uses chromaticism on strong beats, such as in measures 15 and 17. In each instance, these chromatic notes must be played fully stopped. Here, the stopped notes highlight the dissonance and the following open note emphasizes the resolution. Furthermore, the first forte section within the development is littered with chromaticism. The stopped sound here aggressively signals the beginning of the development. Finally, stopped notes are also used for quiet moments. For example, measure 36 begins softly on an open D and becomes even quieter as the line descends to the stopped C# and B. The stopped notes here help the line quietly fade away into nothing.

Because open notes project well and chromatic notes can be difficult to play, composers often called for horns written in the tonic key of the piece. Crooks were developed to change the key of the instrument. Crooks are tubing of various lengths that can be inserted into the natural horn in order to raise or lower the overtone series. Changing keys through using crooks eased the difficulties of natural horn and allowed for increased musical flexibility. In addition, different length crooks changed the color of the instrument. For example, a B flat basso crook is twice the length of a B flat alto crook and the longer crook produces a much darker, warmer sound. Early nineteenth century composers, such as Beethoven, often preferred the middle length F, E, and E flat crooks for their tonal color. Indeed, Beethoven's Horn Sonata is in the key of F. The horn section in an ensemble was often divided into high horn players and low horn players that could better specialize in the problems posed by the different length crooks. The advent of the double horn has eliminated the division of high horn or low horn players and modern players are expected to be competent in the entire range of the horn.

In addition to the lack of valves, the valved horn player must adjust to the amount of air required to play the natural horn. Modern valved horns are much larger than the natural horn. In addition, natural horns have smaller bores. Therefore, less air is required to play the natural horn. The player must be careful not to over-blow or else the sound will be edgy. The overall sound of the natural horn is warmer and quieter than the valved horn. The large orchestral sound of the Conn 8D is simply not an option for the natural horn. Fortes played on the natural horn must be considerably softer than fortes played on the valved horn. As a result, the dynamic range is smaller making musicianship a more difficult task.

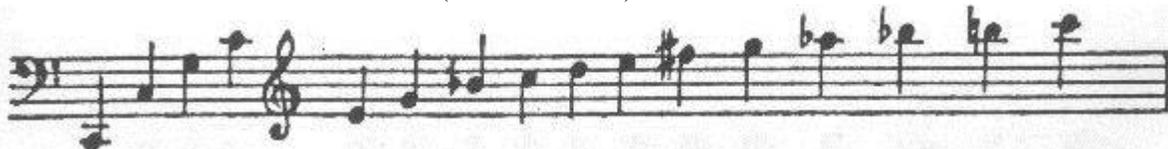
Furthermore, written slurs cannot be as easily achieved playing the natural horn. Slurring in close overtones, especially in the upper register, requires more controlled air and a centered embouchure. Slurring across notes like C to D and to E in the middle-high register is cumbersome. This is simple enough task on the valved horn, but quite tricky on the natural horn since it is difficult to center the close overtones. As a result, it is easy for a player to think vertically when playing. In other words, players concentrate on achieving a centered pitch and lose the fluid sound between the notes as a result. Therefore, each note sounds like an entity onto itself with little connection to the surrounding notes. Ideally, a player must aim for a horizontal, connected sound to form true phrases in the music. In very fast passages, the most accurate way to solve this issue of thinking vertically in slurred passages is to simply tongue the notes. For example, the very end of the exposition section in the Beethoven Sonata has a slur written from high E to high F#. These two notes are sixteenth notes and the F# is a somewhat unstable note on the natural horn that is difficult to center. Here, tonguing the notes is the best option to achieve a good sound.

Slurring notes between stopped and open notes is difficult to achieve, as well. A true slur would make the audience aware that a change in timbre has occurred and the audible "scoop" between pitches will be apparent. The wrist cannot move quickly enough to prevent the scooping sound. To hide this, a light tongue is necessary. Another solution is to make a soft air accent between the notes without tonguing. This is easier said than done as this technique makes note accuracy more cumbersome. Furthermore, it is difficult to make an air accent that hides the scooping sound while making the making the line of music sound uninterrupted by the air accent.

Occasionally, manipulating the pitch with the right hand is not a viable option to reach the desired pitch. Instead, liberally lipping the pitch is necessary. This is most common when the overtone series becomes very spread in the middle-low to low range of the horn. For example, the Beethoven Sonata measures 160-166 involves playing a low C, then a low G,

followed by a C again. The C falls on the open overtone series. However, the next lowest note in the overtone series is Fundamental C, which completely bypasses the low G (see Figure 1).

Figure 1: Overtone Series of the Natural Horn (Source: Ericson)



Here, the player must lip down a fourth to reach the G. This is among the most unstable notes on the natural horn. To achieve the pitch, I lip down, lower the back of my throat, and slightly jut my lower jaw forward. Keeping steady air and hearing the pitch in the head before playing it is vital.

The difficulties the natural horn presents make for a tedious practice session, but inevitably strengthens several attributes of valved horn playing. The most noticeable skill gained from playing the natural horn is an increase in control and precision. For example, flat, unstable open notes on the natural horn, such as middle-high B flat and high F#, require a more attentive ear and more control to play in tune than when played on a valved horn player. However, the overtone series on a double horn are purposefully spread and centering pitch poses with a wider overtone series poses few problems. Furthermore, a natural horn player develops a better sense of pitch. When learning the natural horn, much time is spent in front of a tuner fiddling with different right hand positions to achieve the desired pitch. After the proper positions have been discovered, correctly utilizing them in the context of the music forces the player to develop a better sense of pitch. Of course, playing the natural horn also improves hand-stopping techniques. The player learns about the subtleties of stopped-horn playing. Finally, the valved horn player can appreciate the sound the composer originally intended when writing the music when the fundamentals of natural horn playing are understood. Realizing that certain notes would have sounded open or stopped on the natural horn gives a player insight on the type of sound the composer desired.

## Beethoven Horn Sonata

Ludwig van Beethoven (1770-1827) wrote the Horn Sonata in F in 1800 for his friend and virtuoso horn player Giovanni Punto. Beethoven had not achieved the height of his fame at this time, as evidenced by a quote from a contemporary critic: “Who is this Beethovener? His name is not well known in musical circles. Of course Punto is very well known.” (Amacher, 2005)

### Movement #1 on Natural Horn:

The form of the first movement is a standard sonata form, and the overall style is quite light and delightful. The recording by Hermann Baumann on his CD “Perspectives” exemplifies these characteristics and the subtle use of vibrato accentuates the playfulness of the first movement.

The strong opening should grab the attention of the audience immediately, the player making sure all the notes, including the low C, are equally loud. The main theme should be playful and the staccato notes should have a dance-like, uplifting quality. The player should lean

dynamically in and out of the chromatic quarter notes in the theme. At m. 32 the music becomes veiled with the repeated stopped quarter notes. This passage should be played about mezzo piano in order to ensure mm. 34-37 are perceived as a softer dynamic. Measures 47-51 build in dynamic intensity and a quick breath should be taken after the first beat in m. 50. The player should be careful to correctly subdivide the dotted-eight sixteenth notes from mm. 52-54. It is helpful to begin m. 74 at mezzo forte so a noticeable crescendo to the high G can be made. Lightly tonguing the high E and F# on the natural horn makes for a much more even line than slurring.

The development begins with a minor-mode variation on the second theme from the exposition. The minor modality gives the line a cautious, timid character before angrily emerging at a forte with variations on the opening horn call. The end of the development comes when the opening horn call is played in its original key at m. 102.

Much of the recapitulation contains similar music from the exposition. One of the most difficult portions of the movement occurs at mm. 132-138. This high, quiet, sustained passage requires a great deal of air support. In addition, mm. 160-166 proves problematic on the natural since the low G must be played by lipping down a fourth. Measure 166-172 quietly presents a peaceful memory of a melody in the exposition. These reminiscent bars are followed by a startlingly fantastic fanfare to the end. Measure 177 should begin as quietly as possible and end as loud as possible with clean tone. A quick breath should be taken at the beginning of m. 177 and the player should try to thinking of playing horizontally to the low C in m. 179. The final three notes should have a slight tenuto to signal the finality of the movement.

### Movement #2 on Valved Horn:

The second movement is brief yet the tempo is a slow *Andante*. Beethoven takes the first theme from the exposition and makes a sullen, almost death-march-like movement from it. It is helpful to think of the eighth note as receiving a full beat value for the purposes of subdividing. Although many notes are marked staccato in this movement, the notes should still retain full value while remaining separated from the surrounding notes. The climax of comes at m.10 on the high F.

### Movement #3 on Valved Horn:

The third movement is in rondo form and has a vivacious, playful character. Dynamic contrast is vital to this movement. The piece shifts quickly from piano to forte and vice versa. It is important for the second beat of m. 7 to have a strong, loud accent while the surrounding notes are played more delicately. In addition, m. 10 should begin at mezzo forte and crescendo. This dynamic level helps ensure that measure 12 will sound noticeably quieter by comparison. These segments are repeated several times throughout the piece, and these moieties of the theme should be played the same way each time they appear.

The first change of mood occurs at m. 65. Instead of short and playful, the music is now slurred, connected, and sweet. Herman Baumann's recording is filled with expressive vibrato at this point, especially in m. 81. A slight retardando should even be employed at m. 84 before returning to a tempo in the next measure. Another retardando can be used in m.104 before the music begins a variation of the main theme. Measures 124-131 should be triple tongued. This section should begin piano and crescendo to fortissimo by the end. The most difficult part of this section is making the low G on each downbeat speak as well as the middle G. It is best to try to tongue the low G with a "Thaw" articulation instead of "Too".

The most difficult rhythmic portion of the entire sonata is undoubtedly at mm. 142-145. This must be practiced slowly in order to properly subdivide the triplets and sixteenth notes. In addition, alternate fingerings can be used to increase accuracy; playing these measures exclusively on the B flat side of the horn is very useful here. The player should take a quick breath after the first beat in m. 147 in order to sustain the lip trill in m. 149. The D should be trilled to the E using the open side of the F horn.

The last great change in character of the movement occurs in the last ten bars of the piece. The opening theme is played at pianissimo, except the high F has no sforzando this time. It should sound sweet and lamenting as the audience is reminded of the theme for the last time. Suddenly, the *Allegro Molto* ushers in a ferocious ending. The player should always aim for the quarter note to keep the phrase going. The third to last bar should be played on the B flat side of the horn, and the player should crescendo to the low C. The last two measures can be slowed slightly to indicate the finality of the piece.

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# VITA

## KALILA STEEN

206 Sabra Way, Danville, PA 17821  
kalilasteen@gmail.com  
570.854.0929

Education: **The Pennsylvania State University**, University Park, PA August 2007 – May 2011

- Schreyer Honors College, Eberly College of Science
- Expected: BS in Pre-Medicine
- Expected: Honors in Music Performance

Research: **Weis Center for Research**, Danville, PA Summer 2009

- Laboratory research assistant
- Discovered proof of a new step in a biochemical pathway
- Transfected cells, imaged, cells, and analyzed photographs
- Formally presented results to VP of Research at Weis

**Geisinger Medical Center**, Danville, PA Summer 2008

- Clinical researcher
- Developed and conducted a clinical normothermia study
- Statistically analyzed results
- Formally presented results to Head of Surgery and Anesthesiology

Activities: **Mount Nittany Medical Center**

- Volunteered almost 200 hours caring for patients
- Cared for patients in the ER, physical therapy, and surgical center

**Eberly College of Science Student Council**

- President
- Serve as a link between science students and Dean Freed to promote community
- Headed a committee that recommended the distribution of \$100,000 of IT funds

**Chabad Jewish Student Organization**

- Treasurer
- Organized the 2009 Jewish Life Festival, a \$14,000 rock concert

**Center Pennsylvania Youth Orchestra**

- Volunteer musician
- Instructs high school French horn players in an orchestral setting

Honors: Eberly College of Science Class Marshal

Phi Beta Kappa Member

John W. White Graduate Fellowship

The Evan Pugh Senior Award

Pre-Medicine Scholarship

Duffy Pre-Medicine Endowment

The Evan Pugh Junior Award

The President Sparks Award

The President's Freshman Award