

MUSIC FOR BASSOON BY MARCEL BITSCH (1921–2011):  
A PERFORMANCE GUIDE AND A  
COMPLETE RECORDING OF HIS SOLO BASSOON MUSIC

By

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## ABSTRACT

### I. Written Project:

This research project provides a performance guide to the complete works for bassoon by Marcel Bitsch (1921-2011). He was a professor of harmony and counterpoint at the Paris Conservatoire, a scholar of Bach's music and a prolific composer. His output for bassoon is known by all bassoonists, but very rarely played because of the technical challenges it presents. (In addition to this performance guide, I have also produced a professional recording of all his compositions for bassoon.) This performance guide divides into two parts. In the first section, I present a brief biography of Marcel Bitsch and compile information about all his works for bassoon. The second part features a performance guide that treats note grouping, slur practice, information about alternative fingerings, and tips for reed modification.

### II. Solo Recital, December 3, 2016, Capitol Lakes

*12 Fantasien für Flöte solo, No.3 – Georg P. Telemann*

*Drei Romanzen, Op. 94 – Robert Schumann*

*Premier Solo – Eugène Bourdeau*

*Aria for Bassa – Chung-Kun Hung*

*Sonate, Op.71 – Charles Koechlin*

*Konzertpiece – Franz Berwald*

### III. Chamber Recital, April 21, 2017, Capitol Lakes

*Sonata for Bassoon and Cello, KV.292 – Wolfgang Amadeus Mozart*

*Trio Pathétique – Mikhail Glinka*

*Sonate pour Clarinet et Basson- Francis Poulenc*

*Quartet in G Major, KV. 285 - Wolfgang Amadeus Mozart, transcribed for Bassoon and String trio by Mordechai Rechtman*

### IV. Chamber Recital, December 6, 2017, Capitol Lakes

*Duet Concertino for Clarinet, Bassoon, and Orchestra – Richard Strauss*

*Concertpiece for Clarinet and Bassoon No.1 in F Minor, Op.113 – Felix Mendelssohn*

*Duo pour Hautbois et Basson, W535 – Heitor Villa-Lobos*

*Sonatine pour Hautbois et Basson – André Jolivet*

**V. Lecture Recital, March 30, 2019, Room 1341, Humanities Building**

*“Performance Guide to Marcel Bitsch’s Music for Bassoon”*

**VI. DMA Final Recital, May 4, 2019, Morphy Recital Hall**

*Partita, BWV 1013 – Johann Sebastian Bach*

*Trois Pièces, Op.34 – Charles Koechlin*

*Partita - Marcel Bitsch*

*Récit et Allegro – Noël Gallon*

*Concertino for Two Bassoons and Orchestra – Allan Stephenson*

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## INTRODUCTION

The inspiration for this research comes from my experience of playing Bitsch's *Concertino* for bassoon and piano, written in 1948. Originally a piece written for the competition at the *Conservatoire de Paris*, it is now required in most international bassoon competitions. Playing the piece, I appreciated its beautiful melodies, and spent quite a long time practicing the sixteenth and thirty-second notes in the Allegro Vivace part, which presents such a challenge for bassoonists.<sup>1</sup> Several years later, my professor suggested that I practice Bitsch's *Vingt Etudes*, which were also composed in 1948, the year he completed the *Concertino*.<sup>2</sup> Although these two works exhibit several similarities, the most noticeable lies in his use of numerous high notes.

Bitsch's compositions for bassoon were written for the French bassoon, which, as its name suggests, was the system mostly played in France at that time. For reasons that will be explained later, it would be much easier to perform his works using the French rather than the German system. Before doing the comparison between these two systems, the history of the German bassoon is here briefly discussed. Since the existing bassoon had had weaker volume and inferior intonation, German bassoonist Carl Almenröder (1786-1846) worked on acoustical improvements between 1820 and 1830.<sup>3</sup> The aim of these refinements was to

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<sup>1</sup> Marcel Bitsch, *Concertino pour Basson et Piano* (Paris: Alphonse Leduc, 1955), 4.

<sup>2</sup> Marcel Bitsch, *Vingt Étude pour le Basson* (Paris: Alphonse Leduc, 1949).

<sup>3</sup> Sebastian Werr, "Who Actually Played the Almenröder Bassoon? Remarks on the Spread of 'Evolutionary Bassoons' in German-Speaking Countries during the Middle of the Nineteenth Century," in *Celebrating Double Reeds: A Festschrift for William Waterhouse and Philip*

make the instrument sound bigger and play better in tune, especially in orchestra. He widened and shortened the bore of the existing bassoon and enlarged the tone holes of the lower register, placing them further down the bore. As a result, this pivotal enhancement yields a better tone quality, greater projection across the entire range, and a more even intonation.<sup>4</sup> In 1831, Almenröder and Johann Adam Heckel created the Heckel-Almenröder bassoon workshop in Wiesbaden, Germany. Heckel ran the factory while Almenröder continued perfecting the acoustics of the instrument. The German bassoon, or so-called “Heckel System,” is the one generally favored today throughout the world, but, up until the beginning of the twentieth century, both systems co-existed. While Almenröder completely renovated the traditional bassoon, Eugène Jancourt (1815-1901) in France also attempted to improve the existing traditional model. He added several keys and tone holes, but made little improvement on the bore and walls of the instrument. His 22-key bassoon, the so-called “Jancourt System,” closely resembles the modern French bassoon.<sup>5</sup>

Despite the fact that the German bassoon provides a more resonant sound, a more even intonation, and a more effective projection, its resistance makes the high range difficult to control. Compared to the German system, it is relatively easier for French bassoon players to play the notes in the upper register since the French instrument has a thinner wall and a

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*Bate*, ed. Terry Ewell (Baltimore: International Double Reed Society, 2009), 170.

<sup>4</sup> Christin Schillinger, *Bassoon Reed Making: A Pedagogic History* (Bloomington, IN: Indiana University Press, 2016), 41-42.

<sup>5</sup> *Ibid*, 43.

narrower bore.<sup>6</sup> Although it is more difficult to play the notes in the upper register on the German bassoon, it surpasses the French bassoon in its warmer and darker sound. Beginning in 1950, more and more French bassoon players have switched to the other system for this reason.<sup>7</sup> Since it is difficult to execute the high notes on the German bassoon, the use of alternative fingerings and reed adjustments become important tools. In what follows, I provide tips to help bassoonists overcome these difficulties.

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<sup>6</sup> James, B. Kopp, *The Bassoon* (New Haven: Yale University Press, 2012), 156.

<sup>7</sup> Archie Camden, *Bassoon Technique* (London: Oxford University Press, 1962), 2.

## CHAPTER 1

### THE BIOGRAPHY OF MARCEL BITSCH

Bitsch was born in 1921 in Paris. He entered the Paris Conservatoire when he was eighteen years old. Jean Gallon, Noël Gallon, Paul-Marie Masson and Paul-Henri Büsser taught him counterpoint, music analysis, musicology and composition. He was awarded the second prize of the Grand Prix de Rome in 1943 and the first prize of the Grand Prix de Rome in 1945.<sup>8</sup> He started his tenure at the Paris Conservatoire, serving as a professor of composition, harmony, and counterpoint between 1956 and 1988.<sup>9</sup> Within these three decades, he composed numerous pieces in various genres, such as chamber music, comic opera and ballet. The compositions for bassoon were not only written for the annual contest, but were also dedicated to Gustave Dhérin and Maurice Allard, the bassoon professors during the time Bitsch taught at the Paris Conservatoire. Gustave Dhérin held the position of bassoon professor from 1934 to 1957.<sup>10</sup> Bitsch's *Concertino* (1948) was dedicated to him. Bitsch also composed another bassoon masterpiece, the *Partita* (1981), which was dedicated to Maurice Allard who held the position of bassoon professor from 1957 through 1988. Throughout his lifetime, he wrote five compositions for bassoon. Below are the details of

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<sup>8</sup> Kristine Klopfenstein Fletcher, *The Paris Conservatoire and the Contest Solos for Bassoon* (Indianapolis, IN: Indiana University Press, 1988), 72.

<sup>9</sup> Bitsch, *Vingt Étude*, the Last Page of the Score.

<sup>10</sup> Michael Burns, "Music Written for Bassoon by Bassoonists: An Overview," *The Double Reed* 24, no.2 (2001): 59, accessed December 1, 2018, [http://www.academia.edu/344329/Music\\_Written\\_for\\_Bassoon\\_by\\_Bassoonists](http://www.academia.edu/344329/Music_Written_for_Bassoon_by_Bassoonists).

these five pieces.

	Year	Dedicatee	Duration	Publisher	Level
Vingt Étude	1948	N/A	N/A	Alphonse Leduc	7, 8
Concertino	1948	Gustave Dhérin	7.5 Minutes	Alphonse Leduc	8
Partita	1981	Maurice Allard	10 Minutes	Alphonse Leduc	8
Rondoletto	1949	N/A	2 Minutes	Alphonse Leduc	3
Passpied	N/A	N/A	1.5 Minutes	Noël	N/A

Table 1-1. Compositions for Bassoon by Marcel Bitsch.<sup>11</sup>

The publisher Alphonse Leduc indicates the degree of difficulty of each work.

Kristine Klopfenstein Fletcher in *The Paris Conservatoire and the Contest Solos for Bassoon*

states that:

The difficulty rating is based on the nine-degree European classification system: 1, 2, and 3 = easy; 4, 5, and 6 = moderate; 7, 8, and 9 = difficult. An “L” following the number indicates the rating assigned by the publisher Leduc.<sup>12</sup>

Most of Bitsch’s works for bassoon are rated higher than degree 7, which means that most of his works are difficult to perform. Although the degree of difficulty depends on personal perception, it can inform performers which piece might be suitable for them.

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<sup>11</sup> Fletcher, 73.

<sup>12</sup> Ibid, 48.

## CHAPTER 2

### PERFORMANCE GUIDE – HOW TO PRACTICE EFFICIENTLY

Throughout the bassoon's history, numerous studies, etudes, and pedagogical materials have centered on the practice of fundamental technique. There are several well-known studies for bassoon, such as the *42 Caprices* by Etienne Ozi, *26 Melodic Studies* by Eugene Jancourt, *Opus 8, No.1 and No.2* by Julius Weissenborn, and *25 Studies in Scales and Chords* and *50 Concert Studies* by Ludwig Milde. These four composers not only wrote music, they also performed it. Since they understand the bassoon quite well, most of their etudes focus on fundamental building blocks, such as scales, arpeggios, articulations, meters, rhythm, and melodies. However, Bitsch's etudes contain numerous technical challenges such as long-phrase shaping, large-interval leaps, wide slurs, fast staccato, and clarity of response in the extreme high register. Eric Fassbender, the Professor of Bassoon at the University of Nevada-Reno, points out that:

The *Vingt Étude* by Marcel Bitsch belongs to the highest level of difficulty, particularly in negotiating the highest range of the instrument. A few of the slower etudes have diverse rhythmic content, but even in the more rhythmically static studies the technical requirements will make a steady tempo challenging to attain.<sup>13</sup>

Since Bitsch wrote with the French bassoon in mind, he did not expect that the high E and F would be challenging to reach. There are numerous examples of French pieces written

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<sup>13</sup> Eric J. Fassbender, "Etudes for the Bassoon: An Annotated Bibliography and Pedagogical Guide" (DMA diss., University of Nevada, Las Vegas, 2017), 42, accessed February 25, 2019, <https://search.proquest.com/docview/1978550743/?pq-origsite=primo>.

prior to the *Vingt Étude* that use the extreme high register of the instrument. Camille Saint-Saëns (1835-1921) in his *Sonate pour Basson et Piano, Op.168* (1921) wrote high E in the last measure of the second movement.<sup>14</sup> The well-known solo for the first bassoon in the *Piano Concerto in G Major* (1931) by Maurice Ravel (1875-1937) reaches a high-E in measures 99–100.<sup>15</sup> Henri Dutilleux (1916-2013) in his work *Sarabande et Cortège pour Basson et Piano* (1942) even wrote a high F in the cadenza.<sup>16</sup> Compared to the studies by Ozi, Jancourt, Weissenborn, and Milde, Bitsch's etudes not only focus on the response in the high register, but also highlight the artistic value of each single etude. For instance, in Etude No.7, Bitsch uses the *Allemande* dance style, common in J. S. Bach's time. The *Allemande* originated in Germany in the mid-sixteenth century and is felt in a duple-meter with a moderate tempo.<sup>17</sup> Etude No.7 is filled with sixteenth notes but cannot be performed too fast according to the style of the *Allemande*, though it was entitled Allegro. Etude No.4 centers on not only the study of arpeggios and the rhythm of triplet notes but also the pentatonic scale. In addition, Etudes like No. 6, 20, and the middle part of No. 8 focus on the practice of improvisatory style. This style rarely appears in most bassoon studies. It provides a great

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<sup>14</sup> Camille Saint-Saëns, *Sonata for Bassoon and Piano, Op.168* (Paris: Durand et Cie., 1921), 14.

<sup>15</sup> Maurice Ravel, *Piano Concerto in G Major* (Paris: Durand et Cie., 1932), 14.

<sup>16</sup> Henri Dutilleux, *Sarabande et Cortège pour Basson et Piano* (Paris: Alphonse Leduc, 1942), 8.

<sup>17</sup> Victor N. Mansure, "The Allemandes of Johann Sebastian Bach: A Stylistic Study" (DMA diss., University of Oregon, 1992), 1, accessed February 26, 2019, <https://search.proquest.com/docview/304030945/?pq-origsite=primo>.

opportunity for bassoonists to practice musical flexibly and creatively.

Table 2–1 indicates the style and technical challenges of each etude:

Etude	Study
No.1	Long-phrase shaping, long slurs.
No.2	Leaps of octave interval, clarity of staccato.
No.3	Wide-range slurs, clarity of staccato, articulations.
No.4	Rhythm, arpeggios, articulations, pentatonic scale.
No.5	Rhythm, grace notes.
No.6	Cadenza-like, articulations, slurs, leaps of large interval.
No.7	<i>Allemande</i> style, articulations, slurs.
No.8	Long-phrase shaping, long slurs.
No.9	Rhythm, clarity of staccato, embellishments.
No.10	Articulations.
No.11	Major triad and arpeggios, dexterity of fingering, slurs.
No.12	Same note repetition, articulations.
No.13	Spanish dance style, leaps of large interval, rhythm.
No.14	Grace notes, six-degree slurs with dynamic changes.
No.15	Seven-degree slurs with dynamic changes.
No.16	Articulations, rubato, pentatonic.
No.17	Rhythm, trills, grace notes, articulations.
No.18	Dexterity of fingering, long slurs.

No.19	Articulations, rhythm.
No.20	Cadenza-like, same note repetitions, slurs.

Table 2-1. The Study of Vingt Étude.

In addition, sixteenth and thirty-second notes require extra practice because the fingering technique is complex. Therefore, wise practicing is a significant point to discuss. To begin with, I will introduce the concept of note grouping practice.

### 1. Note Grouping Practice

When we encounter a difficult passage with running sixteenth or thirty-second notes, we tend to practice in a slower tempo at first. After making sure that the notes are clearly and evenly played, we may practice adding a variety of rhythmic patterns, such as dotted notes and reversed dotted notes. As S. J. Jooste notes,

Difficult passages can be practiced in different rhythms and articulation pattern. The most effective rhythms, as far as the author is concerned, are the dotted rhythm, reversed dotted rhythm, and triplet.<sup>18</sup>

Though this method is widely accepted, I personally believe that it only solves the technical problems. Music is like language: it should be treated as coherent sentences.

According to David McGill,

Understanding note grouping unleashes the forward motion, the expression, the *music* within each note. Changing pitches alone is not enough to create motion in music. The power to communicate resides in forward motion thoughtfully applied to the notes. Music is not notes. Music is what the notes *do*.<sup>19</sup>

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<sup>18</sup> S. J. Jooste, *The Technique of Bassoon Playing: An Evaluative and Methodological Study* (Potchefstroom, South Africa: Potchefstroomse Universiteit vir CHO, 1984), 82.

<sup>19</sup> David McGill, *Sound in Motion: A Performer's Guide to Greater Musical Expression* (Bloomington, IA: Indiana University Press, 2007), 29.

McGill's statement inspires me to use note grouping when encountering the running sixteenth notes passage. Take Etude No. 18 as an example.



Figure 2-1-1. Etude No. 18, the opening, measures 1-5.<sup>20</sup>

\*All musical examples of Alphonse Leduc Editions Musicales were reprinted by permission from Hal Leonard LLC, USA.

First, I break the pattern as we seen on the score, then I regroup the notes across to the next patterns. Since I break the quintuplet into two plus three, I regroup the pattern into 3-4-5-1-2 as the figure shows. By grouping notes in this way, one can avoid accenting the downbeat.

This helps move the music forward. 2-3-4-5-1 or 4-5-1-2-3 also works.

This idea of the note grouping should not be confused with the concept of downbeat changing. While both techniques help facilitate smoother phrases, note-grouping requires performers to break the pattern and regroup the notes; whereas downbeat-changing demands performers to concentrate on retrieving the notes that are missed or performed unsuccessfully. Ivan Galamian provides at least sixteen different rhythmic patterns for practicing pattern of five-notes. He advocates, moreover, accentuating different notes in a pattern during practice.<sup>21</sup> In Etude No.18, the last eight measures are considered the hardest part because

<sup>20</sup> Bitsch, *Vingt Étude*, 18.

<sup>21</sup> Ivan Galamian, *Contemporary Violin Technique: Part II, Bowing and Rhythm Patterns* (New York: Galaxy Music Corporation, 1966), 26.

the fingering in the extreme high register is complex and awkward. The occurrence of wrong notes and inferior intonation may be unavoidable; however, slowing the tempo during practice and stressing the notes that were unsuccessfully performed will enable performers to play each single note correctly and evenly. This exercise requires repetitive practice and it may be dreary and tiresome, but practice makes perfect. Every single melody deserves patient and assiduous practice. The downbeat-changing and note-grouping methods can also be applied to several other works (Figure 2-1-2, 2-1-3, 2-1-4, and 2-1-5) by Bitsch.



Figure 2-1-2. Etude No. 7, measures 11-14.<sup>22</sup>



Figure 2-1-3. Concertino, Allegro, measures 72-86.<sup>23</sup>



Figure 2-1-4. Etude No. 11, measures 1-7.<sup>24</sup>



<sup>22</sup> Bitsch, *Vingt Étude*, 7.

<sup>23</sup> Bitsch, *Concertino*, 7-8.

<sup>24</sup> Bitsch, *Vingt Étude*, 11.

Figure 2-1-5. Etude No. 4, measures 28-29.<sup>25</sup>

Bitsch frequently uses legato in his melodies, which may be due to the French language. French is flowing and smooth; it is more connective than many other languages. We should consider the language and the style when practicing and analyzing. Therefore, I believe that in addition to the dotted-rhythm practice, note grouping practice will profoundly help musicians play musically.

## 2. Legato – Slurring Practice

Slurring is a difficult technique for all bassoonists. Not only does it require finger dexterity, it also demands coordination of the embouchure and sufficient air support simultaneously. Georg Klütsch suggests that,

The basis for clean, well-speaking slurs is a combination of well-controlled breathing, precise finger technique and sensitive embouchure adjustment. Players should play slowly, with the breath leading on to the next note.<sup>26</sup>

When performing downward slurs, the proper use of flick keys is recommended since the instrument usually generates a wrong-pitch sound in the lower note when performing a downward slur.<sup>27</sup> Flicking keys facilitates a better tone quality when performing a slur either downward or upward. Also, to perform an expanded interval, bassoonists have a natural

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<sup>25</sup> Ibid, 4.

<sup>26</sup> Georg Klütsch, *Bassoon Fundamentals: A Guide to Effective Practice* (Mainz, Germany: Schott Music GmbH & Co. KG., 2003), 20.

<sup>27</sup> Chanto Fernando Zuñiga, “Alternative Strategies for the Refinement of Bassoon Technique through the Concert Etudes, Op. 26, by Ludwig Milde” (DMA diss., University of Arizona, 2011), 21, accessed February 26, 2019, <https://search.proquest.com/docview/868529316/?pq-origsite=primo>.

tendency to engage an embouchure movement. In Etude No.2, the bouncing jaw-movement might seem inevitable in order to achieve the stability of octave leap. However, Ole Kristian Dahl, the Professor of Bassoon at the Staatliche Hochschule für Musik und Darstellende Kunst-Mannheim, particularly demands students to notice the jaw movement when practicing the expanded interval-change. He points out that players should involve the movement of embouchure as little as possible.<sup>28</sup> Players are recommended to use the muscle close to the corner of the mouth to produce stronger dynamics with flexible adjustment from the entrance of the mouth to produce softer dynamics.<sup>29</sup> To sound well, one must have sufficient air support and contract the muscle horizontally from the corners, rather than “biting” or compressing the reed laterally. In sum, a flexible embouchure with adequate air support will help facilitate a successful slur.

There are many instances in Etude No. 3, 7, 14, and 15 that require bassoonists to perform wide-range slurs either from the bottom or from the top. This performance guide particularly focuses on the musical examples of Etudes No.14 and 15.



Figure 2-2-1. Etude No.14, measures 5-8.<sup>30</sup>

<sup>28</sup> Ole Kristian Dahl and Kaitlyn G. Cameron, *Drills* (Mannheim, Germany: Ole Kristian Dahl, 2013), 34.

<sup>29</sup> *Ibid*, 7.

<sup>30</sup> Bitsch, *Vingt Étude*, 14.



Figure 2-2-2. Etude No.14, measures 14-16.<sup>31</sup>

I consider Etude No. 14 the most difficult of all the twenty etudes not only because of the difficult technique of grace-note fingerings and slurs but also because of its musical expression. This etude highlights the interval of the sixth, especially within the downward slurs with a *diminuendo*. Bassoonists fear this interval because the lower note invariably distorts. This distortion could be an error of intonation, timbre, or dynamic accuracy. However, it is not necessarily impossible to impede all these problems. As I mentioned in previous paragraphs, Professor Dahl emphasizes the importance of flexibility of the embouchure. Bassoonists need to have sufficient air support and combine their adjusted embouchure to produce a downward sixth slur with beautiful tapering. In addition, thinking musically may help avoid those problems. When performing slurs, I imagine myself as a soprano singing the phrase as if the notes are being lifted and tossed far away. While “tossing” the notes, the air support facilitates the musical phrases with a sense of direction. Thus, the etude not only presents a study of slurs and fingerings of grace notes, but also highlights how performers demonstrate their musicality.

Etude No. 15 features very clear dynamic changes and longer phrasing. It consists of the interval of the minor second and its inversion the major seventh, especially on the upward and downward major seventh slur practice. To reinforce the slurring technique, I encourage

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<sup>31</sup> Ibid.

bassoonists to practice Georg Klütsch's upward and downward slur exercises in extreme registers.<sup>32</sup> By practicing those exercises, bassoonists may find Bitsch's etudes, especially Etudes No. 14 and 15, easier to execute.

### 3. The Technique of Alternative Fingerings

Why do bassoonists need alternative fingerings? In some cases, alternative fingerings are helpful for notes and trills in certain passages. In Bitsch's works, especially in his *Vingt Études*, there are numerous passages that require the use of alternative fingerings, no matter which system of instrument performers use. Several specific passages are difficult to accomplish when applying regular fingerings, such as beautiful tapering or large interval leaps with staccato in the extreme high register. Bitsch wrote many exercises that emphasize the extreme high register, and alternative fingerings help performers reach the high notes efficiently. Overall, alternative fingerings remedy the problems that the original fingerings would produce and promote a refined bassoon performance. In the following section, I will present several alternative fingerings along with examples of excerpts in which they can be used. Some fingerings I provide are not to be found in published treatises: some, I acquired from lessons with Professor Marc Vallon; others, I created myself. I will also offer several documented fingerings that few bassoonists know even though they work better than the fingerings they regularly use. The source I use to provide the examples of alternative

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<sup>32</sup> Klütsch, *Bassoon Fundamentals: A Guide to Effective Practice*, 20-21.

fingerings comes from the Fingering Diagram Builder by Bret Pimentel.

1) **F#<sub>4</sub> (G<sub>b4</sub>)**

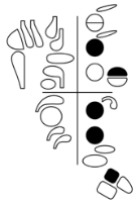


Figure 2-3-1. Fingerings of F#<sub>4</sub> (G<sub>b4</sub>), Fingering Diagram Builder by Bret Pimentel.<sup>33</sup>

This is possibly the most widely used fingering of F#<sub>4</sub> (G<sub>b4</sub>). Cooper and Toplansky categorize it as an advanced technique of fingering. According to their statement, the fingering has a lower intonation.<sup>34</sup> But, if the fourth finger of the left hand is added, the intonation will be better. Also, they particularly mention that this fingering is ideal for the trill of F#<sub>4</sub>-G#<sub>4</sub> because the sound is not only focused and well in tune, but also clean.<sup>35</sup> To execute this trill, the second and third fingers of the right hand should move together. See Figure 2-3-2 below.

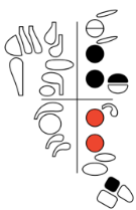


Figure 2-3-2. Fingerings of the trill of F#<sub>4</sub> (G<sub>b4</sub>) - G#<sub>4</sub> (A<sub>b4</sub>).

<sup>33</sup> Bret Pimentel, "Fingering Diagram Builder," Bret Pimentel Woodwinds, accessed November 23, 2018, <https://fingering.bretpimentel.com/#!/bassoon/>.

<sup>34</sup> Lewis Cooper and Howard Toplansky, *Essentials of Bassoon Technique* (New Jersey: Howard Toplansky, 1968), 227.

<sup>35</sup> *Ibid*, 233.

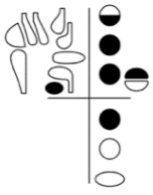


Figure 2-3-3. Alternate Fingerings of F#<sub>4</sub> (G<sub>b4</sub>).

Cooper and Toplansky's treatise documents the fingering in Figure 2-3-3. They recommend that performers avoid this fingering because it sounds very sharp in pitch and is difficult to control.<sup>36</sup> The tone quality is unstable especially through sustained notes. I admit that it sounds inferior to the fingering in Figure 2-3-1. However, relaxing the embouchure and supporting substantially from the abdomen enables me to play this fingering well in tune with good timbre. Adding the whisper key can secure the resonance of the sound as well. It involves fewer fingers so that it facilitates easier note connections.

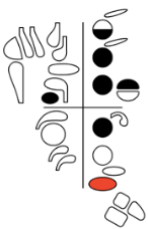


Figure 2-3-4. Alternate Fingerings of F#<sub>4</sub> (G<sub>b4</sub>) to G#<sub>4</sub> (A<sub>b4</sub>).

In Figure 2-3-4, readers may wonder why I provide the fingering of F#<sub>4</sub> (G<sub>b4</sub>) to G#<sub>4</sub> (A<sub>b4</sub>) again. However, I suggest this fingering for performing embellishments rather than a trill. In general, one should aim to use the most refined trill fingering for sustained trills.

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<sup>36</sup> Ibid, 228.

Therefore, I still suggest the fingering from Figure 2-3-2 as the most ideal choice for performing trills of F#<sub>4</sub> (G<sub>b4</sub>) to G#<sub>4</sub> (A<sub>b4</sub>). However, for several kinds of embellishments of F# to G# within a shorter time span, such as a mordent or a turn, the fingering of Figure 2-3-4 is suggested. We can apply this fingering to several excerpts in Etudes 5, 10, 12, and 14.



Figure 2-3-5. Etude No. 5, measures 8-10.<sup>37</sup>



Figure 2-3-6. Etude No. 12, measures 1-2.<sup>38</sup>



Figure 2-3-7. Etude No. 14, measure 10.<sup>39</sup>

The examples shown above have the embellishment of F#<sub>4</sub> to G#<sub>4</sub>. In these cases, we can apply the fingering of 2-3-4. This fingering allows easier finger-movement; that is, the second finger and the fourth finger move alternatively. This fingering might be better for those who are not comfortable with the movement of the fifth finger. Since, however, the embellished notes are sustained in the three musical examples listed above, the fingering shown in Figure 2-3-2 may still be preferred. Cooper and Toplansky mention this “trill”

<sup>37</sup> Bitsch, *Vingt Étude*, 5.

<sup>38</sup> *Ibid*, 12.

<sup>39</sup> *Ibid*, 14.

fingering (Fig. 2-3-4) as well, though I do not recognize this fingering as a formal trill fingering. They do not address the details of this trill fingering, but they do mention that this fingering would work whether the index finger of the right hand is moving or not.<sup>40</sup> The tenth measure in Etude No.10 would be an ideal example to address this issue.



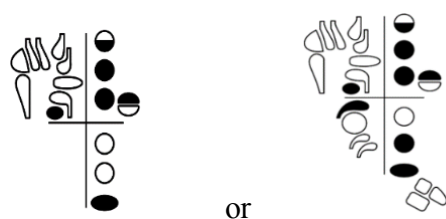
Figure 2-3-8. Etude No.10, measure 10.<sup>41</sup>

Bassoonists usually use the fingerings in Figure 2-3-37 (see below) to perform high C#<sub>5</sub>. No matter which high C#<sub>5</sub> fingering that performers will choose, the fourth finger of the right hand will be engaged. However, when performing the first two groups of sixteenth-notes in measure 10 of Etude No.10, the movement between fourth finger and the fifth finger requires much effort when players use the fingering of figure 2-3-2. The F# to G# fingering of Figure 2-3-4 helps performers solve this problem because it does not involve the fifth finger. The use of a specific fingering will certainly depend on the notes' context within the piece. Most performers, including me, admittedly still favor the sound that the fingering shown in Figure 2-3-2 produces. However, since the difficulty of music informs our fingering choices, Figure 2-3-4 is a good second option. To reach the optimal result, one must relax the embouchure and provide enough support from the abdomen.

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<sup>40</sup> Cooper and Toplansky, 228.

<sup>41</sup> Bitsch, *Vingt Étude*, 10.

2) G#<sub>4</sub> (A<sub>b4</sub>)Figure 2-3-9. Fingerings of G#<sub>4</sub> (A<sub>b4</sub>).<sup>42</sup>

There are plenty of choices of the fingerings of G#<sub>4</sub>(A<sub>b4</sub>). Figure 2-3-9 includes the basic and alternative fingerings of G#<sub>4</sub>(A<sub>b4</sub>). The right one is the fingering that is most widely used. Cooper and Toplansky list at least fourteen fingerings of G#<sub>4</sub>(A<sub>b4</sub>).<sup>43</sup> This note requires a great deal of effort to play beautifully, due to the nature of the instrument, and executing a diminuendo on this note is especially difficult. There are several examples of diminuendos on G#<sub>4</sub>(A<sub>b4</sub>) in Bitsch's works for bassoon. Below are the examples from Etudes No.1, 8, 15, 16, 17, 20, and the Concertino.

Figure 2-3-10. Etude No.1, measures 25-28.<sup>44</sup>Figure 2-3-11. Etude No.8, the last two measures.<sup>45</sup>

<sup>42</sup> Bret Pimentel, "Fingering Diagram Builder," Bret Pimentel Woodwinds, accessed November 23, 2017, <https://fingering.bretpimentel.com/#!/bassoon/>.

<sup>43</sup> Cooper and Toplansky, 259-272.

<sup>44</sup> Bitsch, *Vingt Étude*, 1.

<sup>45</sup> *Ibid*, 8.



Figure 2-3-12. Etude No.15, measures 37-38.<sup>46</sup>



Figure 2-3-13. Etude No.16, measure 3.<sup>47</sup>



Figure 2-3-14. Etude No.17, measures 49-52.<sup>48</sup>



Figure 2-3-15. Etude No.20, measure 20.<sup>49</sup>



Figure 2-3-16. Concertino, the opening, measures 1-5.<sup>50</sup>

Since it is difficult to play G#<sub>4</sub>(A<sub>b4</sub>) with a diminuendo, I have provided an alternative one below. This fingering can be found in Cooper and Toplansky's treatise<sup>51</sup> and "The Woodwind Fingering Guide" by Mark Charette.<sup>52</sup>

<sup>46</sup> Ibid, 15.

<sup>47</sup> Ibid, 16.

<sup>48</sup> Ibid, 17.

<sup>49</sup> Ibid, 20.

<sup>50</sup> Bitsch, *Concertino*, 1.

<sup>51</sup> Cooper and Toplansky, 261.

<sup>52</sup> Mark Charette, "Alternative Fingering Chart for Heckel-System Bassoon, Third Octave: F#<sub>4</sub> to G<sub>5</sub>," *The Woodwind Fingering Guide*, accessed December 1, 2017, [http://wfg.woodwind.org/bassoon/basn\\_alt\\_3.html](http://wfg.woodwind.org/bassoon/basn_alt_3.html).

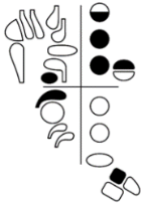


Figure 2-3-17. Alternative Fingering of G#4.

This fingering has numerous advantages. The tone quality is stable, and the intonation works well. What makes this fingering different is that it can produce a taper on G#4(A $\flat$ 4) without using extra effort. It not only can be applied in these pieces, but also can be used when playing the end of the opening passage from the Rite of Spring by Igor Stravinsky.<sup>53</sup> This can be utilized to articulate at a softer dynamic, such as *p* or *pp*, to facilitate an even taper. The examples below show where the alternate fingering can be utilized in Etude No. 8 and 12.



Figure 2-3-18. Etude No.8, measures 27-28.<sup>54</sup>



Figure 2-3-19. Etude No.12, measures 19-22.<sup>55</sup>

Aside from tapering and articulating, a more beautiful and stable way to play A $\flat$ 4 to E $\flat$ 4 and E $\flat$ 4 to A $\flat$ 4 is worth the performer's attention. Most bassoonists experience difficulties

<sup>53</sup> Igor Stravinsky, *The Rite of Spring* (Moscow: Muzyka, 1965), 11.

<sup>54</sup> Bitsch, *Vingt Étude*, 8.

<sup>55</sup> *Ibid*, 12.

when playing an A-flat Major arpeggio. Since it is arduous to perform  $A_{b4}$  to  $E_{b4}$  well, some people may employ embouchure techniques to complete the interval. Typically, people employ the fingering of  $A_{b4}$  shown in Figure 2-3-9 to perform  $A_{b4}$  to  $E_{b4}$  without knowing that they have another choice of  $A_{b4}$ , namely, the fingering of Figure 2-3-17. I strongly recommend the use of this fingering when performing  $A_{b4}$  to  $E_{b4}$  or  $E_{b4}$  to  $A_{b4}$  because it not only displays the finest tone quality, greatest stability and most natural finger-movement, it also gives performers a sense of security. This fingering also helps bassoonists avoid unnecessary embouchure techniques, such as changing the embouchure or biting the reed.

### 3) $A\#_4 (B_{b4}) - G\#_4 (A_{b4})$ and $G\#_4 (A_{b4}) - A\#_4 (B_{b4})$

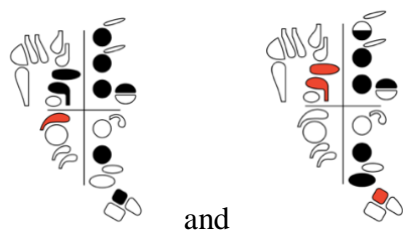


Figure 2-3-20. Fingerings of  $A\#_4 (B_{b4}) - G\#_4 (A_{b4})$  and  $G\#_4 (A_{b4}) - A\#_4 (B_{b4})$ .

I created the left fingering above. The timbre is bright; but, it is ideal for performing a mordent because the right thumb on the B-flat key is the only finger to move. Also, it is more ideal to use this fingering to do a mordent from  $A\#_4 (B_{b4})$  to  $G\#_4 (A_{b4})$  instead of doing one from  $G\#_4 (A_{b4})$  to  $A\#_4 (B_{b4})$ . The sound would be better if the bassoonists' embouchure was open and their support was engaged from their abdomen. Using this fingering to play a trill is not recommended since the tone quality would be too bright and not clean enough. Therefore, it would be an ideal choice for executing embellishments, such as a mordent or a turn. We can

find an example in the tenth measure of Etude No.5.



Figure 2-3-21. Etude No.5, measures 8-10.<sup>56</sup>

If one wishes to perform a trill starting from G#<sub>4</sub> (A<sub>b4</sub>) to A#<sub>4</sub> (B<sub>b4</sub>), the right-hand fingering shown in Figure 2-3-20 is preferred. The opening trill of A<sub>b4</sub> to B<sub>b4</sub> in the *Octet for Wind Instruments* by Igor Stravinsky provides an example of a passage where this fingering makes sense.



Figure 2-3-22. First Bassoon Part, the Octet by Igor Stravinsky, measures 1-2.<sup>57</sup>

First, play the A-flat by covering the black area as shown in figure 2-3-20, then move the key shaded in red to execute the B-flat trill. This fingering requires a lot of effort since it demands three fingers of both hands to operate together, but the sound quality displays cleanness and stability. Adding the left pinkie is a personal preference, but the tone quality is much more secure when the pinkie is added. In addition, we can find the embellishment of G#<sub>4</sub>-A#<sub>4</sub>-G#<sub>4</sub> in Etude No.16, but I recommend that bassoonists use the alternative fingering of G#<sub>4</sub> (Figure 2-3-17) and original fingering of A#<sub>4</sub> (B<sub>b4</sub>) to perform this embellishment since it is a slow movement, and the note G#<sub>4</sub> is sustained. The musical example is shown in Figure 2-3-13. The French term *Assez lent* in English means “pretty slow,” so the

<sup>56</sup> Ibid, 5.

<sup>57</sup> Igor Stravinsky, *Octet for Wind Instruments* (New York: Boosey & Hawkes Inc., 1952), 1.

embellishment should not be performed fast. Aforementioned, the alternative fingering of G#<sub>4</sub> (Figure 2-3-17) shows the finest timbre when executing a taper. Therefore, to perform the trill G#<sub>4</sub>-A#<sub>4</sub> in this etude, it is more ideal to use the alternative G#<sub>4</sub> (Figure 2-3-17) and original A#<sub>4</sub> fingering.

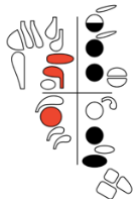


Figure 2-3-23. Alternative Trill Fingering of G#<sub>4</sub> (A<sub>b4</sub>) to A#<sub>4</sub> (B<sub>b4</sub>).

Georg Klütsch provides this fingering,<sup>58</sup> which is not included in Cooper and Toplansky's treatise. If performers wish to employ this fingering, it requires both thumbs to operate, and they should tighten their embouchure with an intense air support to maintain the intonation. Since this fingering works on my bassoon, it is worthy for bassoonists to try on their instruments as well. However, to pursue the finest tone quality when playing a trill, the fingering on the right-hand side in Figure 2-3-20 still works the best.

#### 4) A#<sub>4</sub> – F#<sub>4</sub>

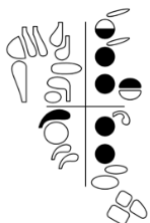


Figure 2-3-24. Alternative Fingering of F#<sub>4</sub>, Better Fingering for A#<sub>4</sub> to F#<sub>4</sub>.

It is extremely important for bassoonists to learn the fingering of A#<sub>4</sub> to F#<sub>4</sub> because

<sup>58</sup> Klütsch, *Bassoon Fundamentals: A Guide to Effective Practice*, 29.

Bitsch frequently wrote these two notes in combination in his etudes. There are plenty of examples in Etude No. 3, 8, 16, 19, and 20.



Figure 2-3-25. Etude No.3, measures 8-9.<sup>59</sup>



Figure 2-3-26. Etude No.8, measures 27-30.<sup>60</sup>



Figure 2-3-27. Etude No.16, measure 3.<sup>61</sup>



Figure 2-3-28. Etude No.19, measures 16-18.<sup>62</sup>



Figure 2-3-29. Etude No.20, measures 15-18.<sup>63</sup>

The original fingerings of A#<sub>4</sub> and F#<sub>4</sub> share a similarity, that is, the fingerings of the right-hand part are completely the same. Because the fingering of the right hand stays the same, it is nearly impossible to maintain the sound quality when playing A#<sub>4</sub> to F#<sub>4</sub> without coordinating embouchure movement. The tone quality of F#<sub>4</sub>, however, could sound more stable when applying the fingering in Figure 2-3-24 because this finger-movement is more

<sup>59</sup> Bitsch, *Vingt Étude*, 3.

<sup>60</sup> Ibid, 8.

<sup>61</sup> Ibid, 16.

<sup>62</sup> Ibid, 19.

<sup>63</sup> Ibid, 20.

natural and smooth to performers. This is why for the etudes I have mentioned above, I suggest that performers use the fingering of Figure 2-3-24.

5) **A#<sub>4</sub> – B<sub>4</sub> – A#<sub>4</sub> trill**

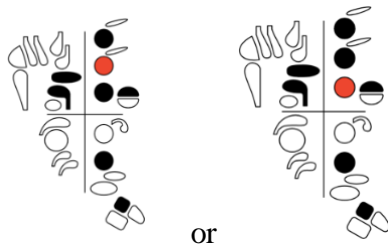


Figure 2-3-30. Fingering of A#<sub>4</sub> – B<sub>4</sub> – A#<sub>4</sub> trill.

The original fingering of A#<sub>4</sub> to B<sub>4</sub> requires not only the movement of both thumbs to trill, but also all ten fingers are involved in complicated patterns of key-work. Therefore, finding an alternative fingering for performing this trill is essential for bassoonists, especially for those who wish to practice Bitsch's etudes, such as Etudes No. 12, 14, and 17.



Figure 2-3-31. Etude No.12, measures 23-24.<sup>64</sup>



Figure 2-3-32. Etude No.14, measure 13.<sup>65</sup>



<sup>64</sup> Ibid, 12.

<sup>65</sup> Ibid, 14.

Figure 2-3-33. Etude No.17, measures 17-18, in tenor clef.<sup>66</sup>

Figure 2-3-30 includes two kinds of fingering for A#<sub>4</sub> – B<sub>4</sub> – A#<sub>4</sub>. The difference between them only lies in whether to perform the trill with the third finger or the fourth finger of the left hand. For the sound quality, it makes no difference if the index finger of the right hand is being used or not. Here I did not mark the index finger simply based on my own preference. To operate this trill, performers only need to move the middle finger or the fourth finger of left hand. Cooper and Toplansky provide numerous fingerings for this trill, and this fingering turns out to be the best choice after experimenting with all of the possibilities.<sup>67</sup>

This trill has the easiest finger movement, but also the most stability of intonation. Chia-Chu Hsu mentions in his treatise, *Di Yin Kuan Chi Fa Yen Chiu*, that the right-hand fingering in Figure 2-3-30 also works. However, he recommends bassoonists to use the left fingering in Figure 2-3-30 because the right one involves the movement of the fourth finger, which is usually more awkward than the movement of the middle finger. Also, the intonation of the right-hand one is relatively low.<sup>68</sup> Therefore, the left fingering of Figure 2-3-30 is the optimal choice.

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<sup>66</sup> Ibid, 17.

<sup>67</sup> Cooper and Toplansky, 292.

<sup>68</sup> Chia-Chu Hsu, *Di Yin Kuan Chi Fa Yen Chiu* (Taipei: Chuan Yin Yueh Pu Chu Ban She, 1999), 132.

6) **A#<sub>4</sub> – B#<sub>4</sub> (B<sub>b4</sub> – C<sub>5</sub>) trill**

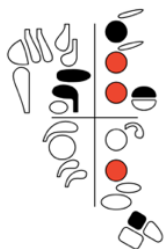


Figure 2-3-34. Trill Fingering of A#<sub>4</sub> – B#<sub>4</sub> (B<sub>b4</sub> – C<sub>5</sub>).

The movement of the original fingering of A#<sub>4</sub> to B#<sub>4</sub> (B<sub>b4</sub> to C<sub>5</sub>) is awkward, because moving the left thumb rapidly is quite strenuous for the bassoonist. The key-work creates distracting noise as well. Therefore, it is essential for them to find an alternative fingering of the trill of A#<sub>4</sub> – B#<sub>4</sub> (B<sub>b4</sub> – C<sub>5</sub>). Cooper and Toplansky list several possibilities for this trill. However, none of them, including the one I have provided above, can completely assure the tone quality due to the nature of instrument. I recommend the one in Figure 2-3-34 because it generates a fine tone quality, compared to most fingerings of this trill that Cooper and Toplansky offer in their treatise. In addition to a good amount of air support, performers should release the tension of jaw muscle, however they should have pressure on the reed from their upper lip. By doing so, the sound will be clean and well in tune. In addition, this fingering also works if players wish to play this trill starting from the note B#<sub>4</sub>(C<sub>5</sub>) to A#<sub>4</sub> (B<sub>b4</sub>). In Bitsch's Etude No.5 and 14 can we find the embellishments of these two notes.



Figure 2-3-35. Etude No.5, the last three measures.<sup>69</sup>

<sup>69</sup> Bitsch, *Vingt Étude*, 5.

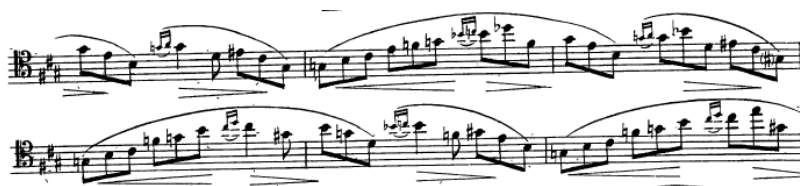


Figure 2-3-36. Etude No.14, measures 18-23.<sup>70</sup>

Cooper and Toplansky also have a similar fingering to Figure 2-3-34, which requires the third finger of right hand to be fixed and only needs the second and the third finger of left hand to do the trill. As a result, it sounds less secure compared to the one I have offered.

#### 7) C#<sub>5</sub>

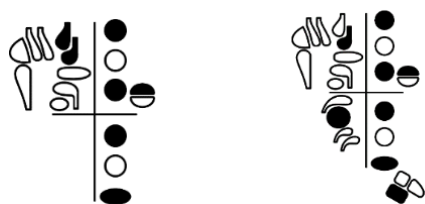
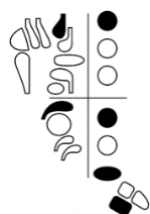


Figure 2-3-37. Original Fingerings of C#<sub>5</sub>.

According to Cooper and Toplansky, the left one is the basic fingering of C#<sub>5</sub>, and the right one is the advanced fingering.<sup>71</sup> Both are commonly used, and they work well in general. However, I suggest bassoonists try the one I present below on their instruments because it has numerous advantages.



<sup>70</sup> Ibid, 14.

<sup>71</sup> Cooper and Toplansky, 331-332.

Figure 2-3-38. Alternative Fingering of C#<sub>5</sub>.

I acquired this fingering from a lesson with my professor Marc Vallon, and I have not found this fingering in any treatise. This fingering uses fewer fingers on the left hand. Its sound quality and intonation are more stable than those two presented in Figure 2-3-36. This fingering can be ideally applied to several excerpts in Etudes number 8, 12, and 20.



Figure 2-3-39. Etude No.8, measures 23-24.<sup>72</sup>



Figure 2-3-40. Etude No.12, measures 11-13.<sup>73</sup>

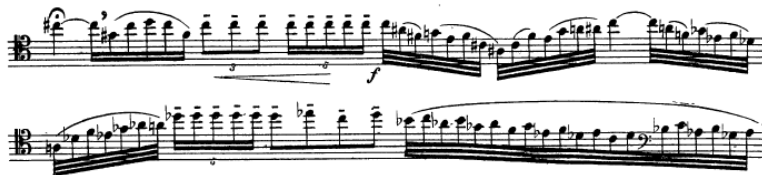


Figure 2-3-41. Etude No.20, the middle part of the cadenza, measure 14.<sup>74</sup>

The high C#<sub>5</sub> in the excerpts shown above are all sustained notes, so it is best to utilize fingers that produce the finest and most stable timbre. I strongly recommend that bassoonists use the fingering shown in Figure 2-3-38 when playing a longer note since it produces the greatest stability and the finest intonation. Aside from Bitsch's etudes, I also

<sup>72</sup> Bitsch, *Vingt Étude*, 8.

<sup>73</sup> *Ibid*, 12.

<sup>74</sup> *Ibid*, 20.

employ this fingering when practicing the bassoon solo excerpt from the fourth movement of Dimitri Shostakovich's Symphony no. 9, because it brings out the evenness of the tone quality, which is an essential part of the excerpt. This fingering allows the performers' embouchure to be relaxed, and I encourage bassoonists to try this fingering on their instrument and see the differences between this one and the one they regularly use. In summary, this fingering yields three prominent advantages: fine tone quality and intonation, fewer fingers, and less embouchure effort.

In addition, I would encourage bassoonists to use this fingering not only because of those three advantages, but also because it makes the trill C#<sub>5</sub>-D<sub>5</sub> much easier to play. Etude No. 14 contains many ornamentations of C#<sub>5</sub>-D<sub>5</sub>.



Figure 2-3-42. Etude No.14, measures 21-26.<sup>75</sup>

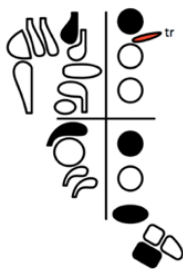


Figure 2-3-43. Trill C#<sub>5</sub>-D<sub>5</sub>.

If bassoonists need to perform this trill, all they need to do is move the middle finger

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<sup>75</sup> Ibid, 14.

on the top key of the left hand, which is much simpler than using the original fingering of the trill C#<sub>5</sub>-D<sub>5</sub>. This fingering requires less finger movement, reduces the sound of key-work, and produces a finer timbre.

### 8) D#<sub>5</sub>



Figure 2-3-44. Fingerings of D#<sub>5</sub>.

Cooper and Toplansky describe the left one as the basic fingering of D#<sub>5</sub><sup>76</sup>, although most of my bassoon colleagues do not use this fingering. Rather, most of them use the right fingering since it sounds more stable by adding the right thumb on the B-flat key. Both sound good in timbre and intonation, however, they are difficult to articulate directly without slurring from lower notes. Therefore, I have suggested a fingering which can be articulated in isolation, and I strongly recommend bassoonists apply this fingering when encountering this situation.

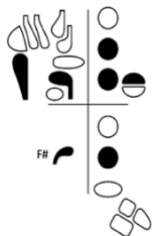


Figure 2-3-45. Alternative Fingering of D#<sub>5</sub>.

This fingering requires less effort than the more widely used fingerings.

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<sup>76</sup> Cooper and Toplansky, 347.

Unfortunately, I have not found this fingering in most treatises so far, but I found it in a fingering chart by bassoonist David A. Wells.<sup>77</sup> I encourage bassoonists to use this fingering because Bitsch often requires performers to play the high D#<sub>5</sub> directly without slurring from lower notes in his etudes. This note appears frequently in fast movements, such as Etudes No. 2, 9, 17, and 20. Since this fingering brings out the greatest precision and efficiency, it is nearly impossible to perform high D#<sub>5</sub> in a fast movement without using this fingering.



Figure 2-3-46. Etude No.2, measures 7-9.<sup>78</sup>



Figure 2-3-47. Etude, No.9, measures 47-50.<sup>79</sup>



Figure 2-3-48. Etude No.17, measures 41-44.<sup>80</sup>



Figure 2-3-49. Etude No.20, measures 19-23.<sup>81</sup>

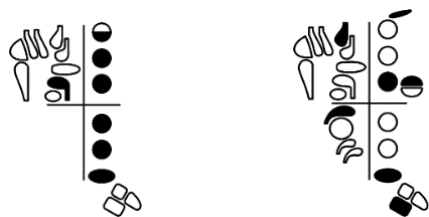
<sup>77</sup> David A. Wells, "Fingering Charts," last modified September 13, 2014, accessed January 29, 2019, <http://davidawells.com/resources/fingering-charts/>.

<sup>78</sup> Bitsch, *Vingt Étude*, 2.

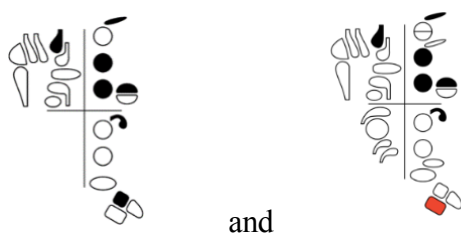
<sup>79</sup> *Ibid*, 9.

<sup>80</sup> *Ibid*, 17.

<sup>81</sup> *Ibid*, 20.

9) E<sub>5</sub>Figure 2-3-50. Regular Fingerings of E<sub>5</sub>.

These two fingerings are the most commonly used. Bassoonists who do not have the high E<sub>5</sub> key use the left one.<sup>82</sup> Those who have the high E<sub>5</sub> key mostly use the right one, though they often still use the left. This note has the same issue as D#<sub>5</sub>. It is nearly impossible to articulate the high E<sub>5</sub> directly with the regular fingerings. Several well-known pieces require bassoonists to play this note directly, such as the third movement of the Sonatine by Alexander Tansman<sup>83</sup> and the second movement of the Sonata by Camille Saint-Saëns.<sup>84</sup> Therefore, I would like to suggest a fingering I created myself.

Figure 2-3-51. Alternative Fingerings of E<sub>5</sub>.

The left fingering works very well on my instrument, and several of my colleagues have experienced positive results as well. In addition to the two pieces I mentioned before,

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<sup>82</sup> Cooper and Toplansky, 356.

<sup>83</sup> Alexander Tansman, *Sonatine for Bassoon and Piano* (Paris: Eschig, 1952), 11.

<sup>84</sup> Saint-Saëns, *Sonata for Bassoon and Piano*, 14.

there are many examples in Bitsch's etudes that require performers to reach the high E<sub>5</sub> directly. These fingerings facilitate bassoonists to reach high E<sub>5</sub> effortlessly in fast movements.



Figure 2-3-52. Etude No.2, measures 16-17.<sup>85</sup>



Figure 2-3-53. Etude No.7, measures 20-21.<sup>86</sup>



Figure 2-3-54. Etude No.9, measures 47-50.<sup>87</sup>



Figure 2-3-55. Etude No.14, measures 30-31.<sup>88</sup>



Figure 2-3-56. Etude No.16, measure 17.<sup>89</sup>



<sup>85</sup> Bitsch, *Vingt Étude*, 2.

<sup>86</sup> *Ibid*, 7.

<sup>87</sup> *Ibid*, 9.

<sup>88</sup> *Ibid*, 14.

<sup>89</sup> *Ibid*, 16.

Figure 2-3-57. Etude No.17, measures 21-22.<sup>90</sup>

There is only one difference between the two fingerings seen in Figure 2-3-51: the fifth finger of the right hand covers either the F key or the A-flat key. Based on my experimentation, the left high E fingering in Figure 2-3-51 sounds slightly sharper and brighter, and the right one sounds darker and lower in pitch. If performers wish to use the right one, I suggest activating abdominal support and slightly biting the reed to bring the pitch up. The two greatest advantages of these two fingerings are that they make performers play high E<sub>5</sub> effortlessly and the sound responds relatively fast, compared to the other two fingerings of high E included in Figure 2-3-50. All in all, I strongly recommend performers to use these two fingerings shown in Figure 2-3-51.

#### 10) D#<sub>4</sub>

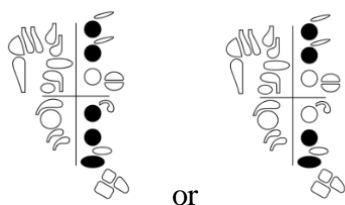


Figure 2-3-58. Fingerings of D#<sub>4</sub> (E<sub>b4</sub>).

The most common fingering of D#<sub>4</sub> (E<sub>b4</sub>) is the left one, included in Figure 2-3-58. Cooper and Toplansky encourage players to use the right fingering in Figure 2-3-58 when doing the slurs from a lower note to a higher note.<sup>91</sup> For instance, when performing the interval of G to D#, the D# sound will not sound by using the left fingering due to the nature

<sup>90</sup> Ibid, 17.

<sup>91</sup> Cooper and Toplansky, 192.

of the instrument. By using the right one in Figure 2-3-58, the note will speak accurately.

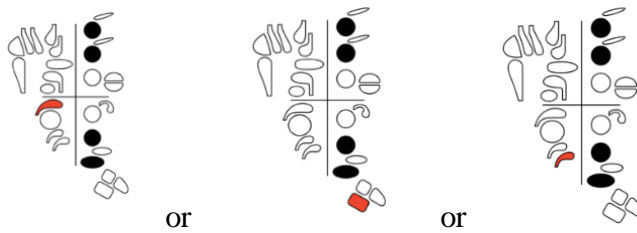


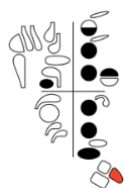
Figure 2-3-59. Trill Fingerings of D#<sub>4</sub>-E<sub>4</sub>.



Figure 2-3-60. Etude No.12, measures 16-17.<sup>92</sup>

In measure sixteen in Etude No.12, bassoonists should use the left fingering in Figure 2-3-59 to perform the trill of D#-E. In Figure 2-3-59, the middle fingering and the right fingering are essentially the same since the keys that I shaded in red are both G# keys. It depends on which one the performers feel more comfortable with. Those three shown above can all be applied to that etude, but I recommend the fingering on the left. Although it may sound slightly flat in pitch, it has the best tone quality and stability. Therefore, to execute this D#<sub>4</sub>-E<sub>4</sub> fingering, the best result will come out if performers have enough support from abdomen.

#### 11) A#<sub>3</sub>-F#<sub>3</sub> and A#<sub>2</sub>-F#<sub>2</sub> (Middle Register and Low Register)



<sup>92</sup> Bitsch, *Vingt Étude*, 12.

Figure 2-3-61. Fingering of F#<sub>3</sub>.

Bitsch wrote the combination of A# to F# very frequently in all registers. Figure 2-3-24 shows the preferred high A#<sub>4</sub>-F#<sub>4</sub> fingering. For the A#<sub>3</sub>-F#<sub>3</sub> fingering in the middle register, I strongly recommend that bassoonists employ the F# key with the right pinkie key instead of using the original F# key with right thumb, as seen in Figure 2-3-61. Most bassoonists are stressed when performing A#<sub>3</sub>-F#<sub>3</sub> by pressing the right thumb on the F# key, the original fingering of F#<sub>3</sub>. This finger movement is extremely awkward, and the sound generated by the key-work is irritating. However, the alternative fingering, which I recommend above, ameliorates all these drawbacks. It not only benefits the ergonomics of the right hand, it also mutes the sound of key-work. The same method can also be applied to A#<sub>2</sub>-F#<sub>2</sub> in the lower register.



Figure 2-3-62. Etude No.8, measures 1-4.<sup>93</sup>



Figure 2-3-63. Etude No.16, the last measure.<sup>94</sup>



Figure 2-3-64. Etude No.20, measures 1-4.<sup>95</sup>

<sup>93</sup> Ibid, 8.

<sup>94</sup> Ibid, 16.

<sup>95</sup> Ibid, 20.

## 12) C#<sub>4</sub>-D<sub>4</sub> and C#<sub>3</sub>-D<sub>3</sub> (Middle-high Register and Middle Register)

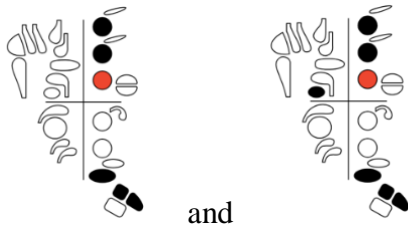


Figure 2-3-65. Fingerings of C#<sub>4</sub>-D<sub>4</sub> and C#<sub>3</sub>-D<sub>3</sub>.

This fingering is a good alternative to the full fingering trill commonly used. Cooper and Toplansky offer at least ten kinds of C#-D trill including this one.<sup>96</sup> The fingering sounds very stable and clean.



Figure 2-3-66. Etude No.9, measure 35.<sup>97</sup>



Figure 2-3-67. Etude No.17, measures 31-33.<sup>98</sup>



Figure 2-3-68. Concertino, measures 60-64.<sup>99</sup>

This fingering is effortless to operate; only the fourth finger of left hand is moving, and the left thumb on the whisper key should be added when one needs to play C#<sub>3</sub>-D<sub>3</sub>. One should notice that the fifth finger of the right hand is on the pinkie F# key. The outcome shows that the sound's quality is stable. The timbre may sound nasal; but, in general, it is clean.

<sup>96</sup> Cooper and Toplansky, 81.

<sup>97</sup> Ibid, 9.

<sup>98</sup> Ibid, 17.

<sup>99</sup> Bitsch, *Concertino*, 6.

#### 4. Reed Adjustment

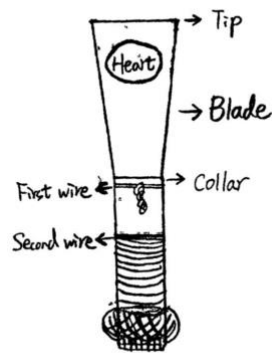


Figure 2-4-1. The Bassoon Reed.

In the middle of twentieth century, when Marcel Bitsch was writing for the bassoon, bassoonists in France used reeds that had an easier response and harder resistance. Those reeds, the so-called *old-fashioned French-style* reeds, do not have a collar between the blade and the first wire. They display a greater angle inclination between the back and the tip and feature a thicker back and a thinner tip, as shown in Figure 2-4-2.



Figure 2-4-2. The old-fashioned French-style reed.<sup>100</sup>

This type of reed profile eases responses especially in the high register, but bassoonists need to have a great amount of air support because of the resistance that the reed offers. Compared to the *old-fashioned French-style*, people nowadays use reeds with less

<sup>100</sup> The reed was provided by Marc Vallon.

wood in the back and slightly more wood at the tip, which present a milder overall profile.

This kind of reed allows freer blowing and is now widely used because it offers a better response in all registers and an easier blend in ensemble situations.

Bassoonists are fortunate because they can adjust the reeds to accommodate the environment and the pieces they are going to perform. Flute players and brass players do not have this advantage since their mouthpieces are fixed. Since high notes are commonly used in Bitsch's compositions, bassoonists should take extra care when adjusting their reeds. In the following section, I provide several tips for how bassoonists can adjust their reeds to accommodate Bitsch's works.

#### 1) Length

Shorter reeds can help performers reach high notes more easily, but how short should they be? According to Mark Eubanks, the average length of the blades should be twenty-seven millimeters. If one needs to reach high notes, a twenty-four-millimeter blade is the ideal length.<sup>101</sup> Personally, the average blade length of my reeds is twenty-eight millimeters, which works well when playing both lower and upper registers. According to my experience, short reeds can help when playing in the high register, but the hardness of the cane is a more relevant factor when determining the sound and response of reeds.

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<sup>101</sup> Mark Eubanks, *Advanced Reed Design and Testing Procedure for Bassoon* (Portland, OR: Arundo Research Company, 1986), 4.

## 2) Density

Though the length of the reed is important, the density of the cane matters more to me. Whereas soft cane can produce better response in the low register, hard cane can help performers reach high notes more easily. It also gives the sound better projection. Another advantage of harder and denser cane is that it gives bassoonists more room for error when scraping the surface of the reed.<sup>102</sup> Reeds with harder cane have a longer life-span as well. For these reasons, I prefer hard cane to soft cane. As I mentioned in the previous passage, hard cane does not need to be cut as short as soft cane because hard cane conducts better vibrations.

## 3) Reed Finishing

The beginning of the *Concertino* and the first etude share several similarities. They are both andante passages with beautiful melodies. The style of the music demands a beautiful sound, yet the length of the phrases is long and tiring, requiring performers to play for a long time on a single breath. Reeds that respond well require less effort, but those reeds do not necessarily have a good timbre. To create better response, one must scrape more cane from the surface of the reed. However, the more cane that is taken off the reed, the brighter the sound will be. This balance is hard to strike. Reeds that sound too bright can be fixed with wire adjustments. Holger Simon and Johann Rieger offer the following instructions.

Using the reed making pliers, carefully bend slightly open the second wire; by doing so the

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<sup>102</sup> Eubanks, 4.

tube will become rounder and the opening of the reed will become smaller. After that, carefully bend the opening by equalizing the first wire to reach again the optimal opening. Through these changes the tube will become a little bit heavier, it will have more sound volume and a darker sound color.<sup>103</sup>

Rounder tubes have darker tone and flatter tubes have brighter tone.<sup>104</sup> Based on my experiences, bending the second wire not only makes the sound darker and more even, it also enables me to reach high notes with greater ease. If the tube becomes too heavy, one can reduce the tension by squeezing both surfaces of the reed gently, making sure that the opening of the tip is not too big. Not only can wire adjustments darken the timbre, sandpaper can also be useful for adjustments of tone quality. If the sound is too bright, one can sand both the inside and outside of the tip.<sup>105</sup> Mark Eubanks also mentions that scraping the edges at the corner of the tip section also helps.<sup>106</sup> Applying these methods can help bassoonists achieve better results.

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<sup>103</sup> Holger Simon and Johann Rieger, *Tips and Tricks for Bassoon Reeds, Playing in – Adjustment – Maintenance* (Ulm, Germany: Süddeutsche Verlagsgesellschaft, 2017), 21.

<sup>104</sup> Mark Popkin and Loren Glickman, *Bassoon Reed Making* (Northfield, Illinois: The Instrumentalist Publishing Company, 1987), 70.

<sup>105</sup> Simon and Rieger, *Tips and Tricks for Bassoon Reeds*, 23.

<sup>106</sup> Eubanks, 10.

## CONCLUSION

The goal of conducting this research is to help performers practice efficiently when playing Bitsch's works for bassoon. Since he wrote for French bassoon, note grouping practice, slurring practice, alternative fingerings, and tips for reed modification are the four elements of this performance guide for bassoonists who use German system. These methods have profoundly benefited my practice, and I strongly encourage bassoonists to incorporate them. Bitsch's music may be very challenging, but it pushes the limits of technique and inspires bassoonists to achieve higher performance standards.

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