

Extended Techniques for Saxophone
An Approach Through Musical Examples

by

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ABSTRACT

The repertoire of the saxophone has advanced significantly since its invention circa 1840. Performers are required to adapt to the demands of composers - many of whom are exploring new and unconventional sounds and techniques. Numerous texts exist to identify and explain these so-called "extended" techniques, but there are very few resources for the initial stages of performance.

In order to offer performers a resource, the author of this text composed forty original etudes (or studies) that incorporate extended techniques in a variety of ways. After identifying common extended techniques that a performer might face, the author focused on four different ways each individual technique might appear in actual repertoire. The resulting work is entitled *Pushing Boundaries: Forty Etudes on Extended Techniques*.

Each etude offers a practical approach to what is generally a single extended technique. Although this text is not pedagogical in the sense of identifying the mechanics and anatomical requirements of each technique, it does contain a performance analysis of each etude. This analysis identifies areas where performers might struggle and offers helpful suggestions. To this end, the etudes accompanied by performance analysis provide a paced, systematic approach to the mastery of each technique.

DEDICATION

I wish to dedicate this work to my beautiful niece, Nora Grace Estes, born February 9, 2013. Mnohaja y blahaja l'ita!

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Chapter 1

INTRODUCTION

As the repertoire for the saxophone evolves, performers face challenges that simply were not applicable as little as thirty years ago. The current generation of saxophonists encounters repertoire that contains a wide variety of sounds, timbres, and techniques. While the repertoire has certainly advanced to include these so-called extended techniques, the pedagogy is somewhat one-sided: there are several existing texts that describe and document extended techniques, but few that apply them practically.

Florentine composer and researcher Bruno Bartolozzi is the author of the earliest work on extended techniques for woodwind instruments. His book *New Sounds for Woodwind* is a defense of traditional instrumentation. He challenges the notion that “conventional” instruments (in this case woodwinds) reached an impasse regarding advanced and unusual sonorities.¹ Unfortunately, the saxophone does not appear in Bartolozzi’s text; his focus is on flute, oboe, clarinet, and bassoon.

The earliest useful discussion of the extended capabilities of the saxophone is Jean-Marie Londeix’s *Hello! Mr. Sax or Parameters of the Saxophone*.² This text is a valuable survey of the variety of sounds and styles available on the saxophone. It is a text that is of equal importance to the performer and composer. For all its strengths, *Hello? Mr. Sax...* does not contain any studies for the performer. Rather, it points the performer

¹ Bruno Bartolozzi, *New Sounds for Woodwind*, ed. and trans. Reginald Smith Brindle (London: Oxford University Press, 1967) 1-2.

² Jean-Marie Londeix, *Hello! Mr. Sax or Parameters of the Saxophone* (Paris: Alphonse Leduc & Cie., 1989).

in the direction of repertoire to examine.³ This is not to be regarded as a weakness of the text: Londeix makes no claims that it is a complete pedagogical work – it is merely a description of what is available.⁴ For twenty-one years, saxophonists and composers relied primarily on this document for guidance, instruction, and advice. In 2010, a slightly more expansive alternative to Londeix’s work appeared.

Saxophonist Marcus Weiss and composer Giorgio Netti are co-authors of the work *The Techniques of Saxophone Playing*.⁵ This document, while similar to Londeix’s, includes more discussion and helpful, practical advice. Again, this text is extremely useful for saxophonists and composers alike though, much the Londeix’s, it is a presentation, perhaps an exposition, of possibilities available on the saxophone.⁶

A third available text is Jean-Denis Michat’s *Un Saxophone Contemporain*.⁷ An expository text similar to both Londeix and Weiss and Netti, Michat’s work differs in a few respects, notably by delving further pedagogical discussion and introducing practicing techniques. Other differences include basic anatomical diagrams and very simple exercises for the saxophonist. An unfortunate limitation of this work is the lack of translation: it is currently only available in the original French.

Combined, these three documents provide excellent discussion of the available advanced techniques for the saxophone. Along with the Bartolozzi, they demonstrate a history of extended techniques in the twentieth and twenty-first centuries. A common

³ Ibid., 103-111. Although this represents only a small portion of Londeix’s text, it is a rather fantastic overview of repertoire up to the date of publication.

⁴ Ibid., 1-2.

⁵ Marcus Weiss and Giorgio Netti, *The Techniques of Saxophone Playing* (Kassel, Germany: Bärenreiter, 2010).

⁶ Ibid., 7.

⁷ Jean-Denis Michat, “Un Saxophone Contemporain” (Paris, www.jdmichat.com, 2010).

thread among the works, however, is a general lack of exercises or studies the performer can apply to his or her instrument. Surely, these works are most useful in combination with “traditional” etudes.

There are particularly influential collections of etudes available for saxophonists wanting to familiarize themselves with extended techniques. These works are quite broad in their approach to extended techniques – perhaps too broad. Ronald Caravan’s works *Paradigms I*⁸ and *Paradigms II*⁹, both written for alto saxophone, might be among the first etudes focusing on extended techniques. These spectacular pieces explore numerous techniques, including: quarter tones, timbre variations, multiphonics, vibrato manipulation, flutter tongue, and slap tongue amongst other techniques. In both cases, Caravan considers these works concert etudes, pieces intended for performance. Additionally, these works combine a number of extended techniques in a single etude: the first etude of *Paradigms I* includes vibrato manipulation, timbre shifts, and quartertones.¹⁰

Christian Lauba also composed etudes exploring extended techniques. His *Neuf Études* (with volumes for alto, soprano, tenor, and baritone saxophones) are landmark works that examine circular breathing, multiphonics, slap tongue, sub-tone, key sounds, and other sonorities.¹¹ Lauba’s works, also considered concert etudes, adopt a similarly

⁹ Ronald Caravan, *Paradigms I* (Medfield, PA: Dorn Publications, 1976). Ronald Caravan, *Paradigms II* (Medfield, PA: Dorn Publications, 1988).

¹⁰ Ronald Caravan, “Ballad in Color” from *Paradigms I*.

¹¹ Christian Lauba, *Neuf Études*, vol. 1-4 (Paris: Alphonse Leduc & Cie, 1992-1994).

expansive approach of combining multiple techniques into a single piece: His first etude, “Balafon” is an exercise in sub tone, multiphonics, and circular breathing.¹²

What are Extended Techniques?

At this point, it is perhaps wise to discuss the definition of extended techniques. “Extended techniques” is a term that refers to any sounds, colors, or performance requirements that explore beyond the standard parameters of the instrument. A partial listing of available extended techniques is available on the next page. See Table 1.

These techniques are not necessarily new to saxophone performance; ample documentation exists of vaudeville-era artists using exotic styles of playing and tone colors.¹³ Several extended techniques (including altissimo) date back to Adolphe Sax, the inventor of the saxophone himself.¹⁴ Furthermore, many of these techniques pre-date the invention of the saxophone. A technique nearly identical to voicing, for example, can be found amongst the Tuvan people of what is modern-day Russia and Mongolia.¹⁵ Arabic music frequently contains microtonality in the “maqam” or modes of pitches.¹⁶ Many techniques, however, are relatively new to concert saxophone music.

¹² Christian Lauba, “Balafon” from *Neuf Etudes, vol. 1* (Paris: Alphonse Leduc & Cie., 1992).

¹³ Bruce Vermazen, *The Six Brown Brothers and the Dawning of a Musical Craze* (Oxford: Oxford University Press, 2004), 64.

¹⁴ Thomas Liley, “Invention and Development,” in *The Cambridge Companion to the Saxophone*, ed. Richard Ingram (Cambridge: Cambridge University Press, 1998), 15.

¹⁵ Theodore Levin and Michael E. Edgerton, “The Throat Singers of Tuva,” in *Scientific American* (September 20, 1999), <http://www.scientificamerican.com/article.cfm?id=the-throat-singers-of-tuv&page=2> (accessed March 10, 2013).

¹⁶ Johanna Spector, “Classical ‘Ud Music in Egypt with Special Reference to Maqamat,” in *Ethnomusicology*, vol. 14, no. 2 (May, 1970), 243-244.

Table 1

Selected Extended Techniques

Technique	Parameter	Extension
Altissimo	Range	Notes above the standard written range (F6)
Circular Breathing	Breathing	Cyclical breathing producing continuous sound
Double Tongue	Articulation	Use of the front and back of the tongue to ostensibly double the available rate of articulation
Microtones	Pitch	Includes tones in between semitones
Timbre Shifts	Tone color	Adds to the available palate of sonorities available on the instrument
Multiphonics	Pitch	Allows for two or more simultaneous pitches to sound on what is otherwise a monophonic instrument
Slap Tongue	Articulation	Adds to the available palate of sonorities available on note-beginnings
Vocalizing	Breathing/Pitch	Allows for polyphony on what is otherwise a monophonic instrument

Justification

There is no lack of etude books available to saxophonists. As demonstrated above, there is also ample resource for the discussion of extended techniques. Furthermore, there are several examples of works that include these techniques. The author is entirely unaware of non-concert etudes that are purely pedagogical (yet still musically satisfying) in their approach to extended techniques.

This document consists of two parts: exposition and development. The exposition is the basic review of available literature on extended techniques. The texts mentioned above, in addition to other specialized documents, form the core of this section. The development is a discussion of original etudes entitled *Pushing Boundaries: 40 Etudes*

on *Extended Techniques* by Patrick Murphy (see appendix C). These etudes tackle selected extended techniques directly. Each technique is approached in four different and unique manners that offer the performer multiple styles and methods to learn these techniques.

Limitations and Assumptions

Pushing Boundaries: 40 Etudes on Extended Techniques by Patrick Murphy limits itself by focusing on only a few techniques, namely: voicing, beginning altissimo, circular breathing, double tongue, microtones, timbre shifts and bisbigliando, multiphonics, slap tongue, furthering altissimo, and vocalization. A second limitation is that they do not include descriptions on how to accomplish each technique; this is beyond the intended scope of this work.

In composing these works, the author consciously assumed several facts. The first assumption is that the performer has had success at a basic level with each extended technique. These are not quite beginning studies, rather, they are to be attempted as a step in the perfection of each technique. A second assumption is that the performer is under the guidance of a competent instructor. These etudes can be approached without assistance, but one will have more success with an instructor experienced in advanced techniques. Finally, this work is one intended for performance on the alto saxophone. Many of the etudes translate well to other instruments in the saxophone family (perhaps even the woodwind family as well). Some etudes, especially those with special fingerings for specific multiphonics or microtones, require significant adjustment before they can be performed on other instruments.

Chapter 2

REVIEW OF RELATED LITERATURE AND REPERTOIRE

Literature on the saxophone's extended techniques can be traced back as early as the publication of Henri Weber's *Sax-Acrobatix* in 1926.¹⁷ Since this publication, many other texts have become available. Some of these texts were intended solely for the sake of the performer (i.e. pedagogical documents) while some also proved valuable for composers. While this document will focus on texts in the "classical" tradition, it would be a mistake to ignore those dealing jazz or popular music.

Weber devoted this text to the jazz and popular saxophonist.¹⁸ It is by no stretch of the imagination that Weber found inspiration from vaudeville star Rudy Wiedoeft: topics in the Weber's book correspond with those identified by Thomas Liley as being key characteristics of Wiedoeft's technique.¹⁹ What exists of this book is an invaluable historical and practical resource. Unfortunately, at the time of writing this document, a full copy of *Sax-Acrobatix* has yet to be found: a few excerpts are available on several web pages.²⁰

Topics presented below form the basis of *Pushing Boundaries: 40 Etudes in Extended Techniques*. (See Appendix B) Although many other techniques exist, the author of this document chooses to highlight nine specifically because of either their widespread presence in saxophone literature, or their pedagogical importance.

¹⁷ Henri Weber, *Sax-Acrobatix: The Book of Saxophone Stunts and Tricks* (New York: Belwin, Inc., 1926). <http://tamingthesaxophone.com/saxophone-effects.html> (accessed January 12, 2013).

¹⁸ Ibid.

¹⁹ Thomas Liley, "The Repertoire Heritage," in *The Cambridge Companion to the Saxophone*, ed. Richard Ingham (Cambridge: Cambridge University Press, 1998), 54. These include pitch bends, "laughing" into the horn, and slap tongue.

²⁰ N.B., The author of this text recalls obtaining a copy of *Sax-Acrobatix* in 2004, but it has since been lost.

Voicing and Altissimo

In his text, *Voicing: An Approach to the Saxophone's Third Register*, Donald Sinta states, "Voicing refers to an awareness and control of the muscles and soft flexible tissue in the oral cavity and vocal tract."²¹ Sinta's text, arguably the most complete work for voicing study on the saxophone, consists of exercises primarily based on overtone production. Though he acknowledges that voicing, in and of itself, is a preliminary process, Sinta indicates the importance of its study quite succinctly:

Voicing study is intended as a training procedure, not as a technical skill directly applicable to normal saxophone performance. The benefits of a study of this kind are not limited to the acquisition of altissimo and daily practice is recommended for even the most advanced players. The skills acquired through the study of voicing will undoubtedly aid the saxophonist in improving tone quality, intonation, and overall control of the instrument.²²

Thus, voicing appears to be a means to an end.

Voicing can simply be described as the manipulation of the oral cavity, specifically the soft tissue, when performing. It is a technique that is not unique to the saxophone – the pronunciation of vowels in everyday speech requires the use of the same muscles. Applying voicing to the saxophone allows for manipulation of tone color, control of intonation, and ease in the altissimo register.

While several authors refer to the oral cavity and the manipulation thereof, their focuses tend to be in the context of altissimo production. Rosemary Lang's recommended techniques for altissimo production include such steps as, "Maintain an arch in the tongue, but keep the arch high, -- near the roof of the mouth," with additional steps including, "Maintain a large vacant area behind the teeth and in front of the

²¹ Donald J. Sinta and Denise C. Dabney, *Voicing: An Approach to the Saxophone's Third Register* (Radford, Virginia: Sintafest, 1992), 2.

²² *Ibid.*, 3.

tongue,” and, “Think the sound ‘urr’ silently while blowing.”²³ Her text does not acknowledge any other use of this technique.

Eugene Rousseau’s *Saxophone High Tones*, first published in 1978 and republished in 2002, makes reference to air-stream direction and air pressure, though there is little mention of tongue position.²⁴ In spite of this, Rousseau’s “Closed Tube Exercises”²⁵ are quite similar to the introductory exercises presented in Sinta’s text.²⁶ Sigurd Raschèr’s work, *Top-Tones for Saxophone*, includes a reference to the importance of overtone study (along with exercises) without a full discussion of oral cavity awareness.²⁷

Voicing serves as a good jumping point into the extended range of the saxophone. As one searches through the history of the saxophone, the exact performance range on the instrument is subject to debate; historical texts and conjecture differ. Berlioz, in his seminal work *A Treatise on Modern Instrumentation and Orchestration*, indicates the range as a written B₃ to F₆.²⁸ Curiously, Thomas Liley suggests that Berlioz heard Adolphe Sax himself perform notes higher than F₆:

²³ Rosemary Lang, *Beginning Studies in the Altissimo Register* (Indianapolis: Lang Music Publication, 1988), i.

²⁴ Eugene Rousseau, *Saxophone High Tones*, 2nd ed. (Saint Louis: MMB Music, Inc., 2002), 1-2.

²⁵ *Ibid.*, 2-7

²⁶ Sinta and Dabney, *Voicing: An Approach to the Saxophone’s Third Register*, 11-32.

²⁷ Sigurd Raschèr, *Top-Tones for Saxophone*, 3rd ed. (New York: Carl Fischer, 1977), 12.

²⁸ Hector Berlioz, *A Treatise on Modern Instrumentation and Orchestration*, Ed. Joseph Bennett, Trans. Mary Cowden Clarke (London: Novello and Company, Limited, 1882), 233. It is important to note that Berlioz included the range of six saxophones: “high” or soprano, soprano, alto, tenor, baritone, and bass. The range of B₃ to F₆ corresponds only to the alto, tenor, and baritone saxophones. While B₃ is given as the standard written lowest note, soprano and soprano are indicated as having an upper extreme of D₆. Bass is defined with a slightly wider range of written B₃ to E-flat₆.

We have no reason to doubt that Berlioz (and others) heard a three-octave compass from Sax, but apparently the upper range was infrequently used, and remained so for several decades. Sax assisted Kastner in creating his *Méthode complete et raisonnée de saxophone*, the first saxophone method book, published in 1845... The book, 142 pages in length, presents fingerings for a written range of b to f³. Not until the third decade of the twentieth century did the topic reappear in method books and pamphlets by writers such as Bolduc, Eby, Lyon, and Winn.²⁹

A brief review of Paul DeVille's *Universal Method for Saxophone* (one of the earlier saxophone methods published in America) confirms a dearth of notes higher than F6. DeVille introduces the Auxiliary-F key and includes exercises employing that key,³⁰ yet, there is no evidence of any further range extension. Bruce Ronkin sheds some light on the lack of documentation of high notes:

The upper range [of the saxophone], called the altissimo register, is identical, in theory, to the upper register of the flute or clarinet. However, owing to the nature of saxophone construction, these upper partials are considerably more challenging to produce than their clarinet or flute equivalents. Being an expert acoustician and clarinetist, Sax was obviously aware that the saxophone was capable of producing tones above high F [F6]...

Although these high notes are not notated in any of the Sax publications, it is possible that Sax taught altissimo notes to his more advanced student.³¹

It was not until 1941 that Raschèr published the first edition of *Top-Tones for Saxophone* – one of the earliest texts devoted to notes above F6 (hereafter referred to as altissimo). Several texts, already referenced in this document, followed. Works, notably those commissions by Sigurd Raschèr, began to employ notes in the altissimo register. As the altissimo range gained popularity, pedagogies developed. Raschèr's *Top Tones*

²⁹ Thomas Liley, "Invention and Development," in *The Cambridge Companion to the Saxophone*, ed. Richard Ingram (Cambridge: Cambridge University Press, 1998), 15. Liley's pitch indications of b and f³ correspond to B3 and F6.

³⁰ Paul DeVille, *Universal Method for Saxophone* (New York: Carl Fischer, 1908), 91-92.

³¹ Bruce Ronkin, "The Music for Saxophone and Piano Published by Adolphe Sax," D.M.A. diss., The University of Maryland (1987), 61-62.

favored an approach based on the fundamental fingers.³² Sinta and Rousseau's texts betray an approach based on a combination of fundamental fingerings along with invented altissimo fingerings.³³ In France, Jean-Marie Londeix credits Donald Sinta for providing an introduction to the altissimo range. Londeix altered the French approach to altissimo from that of relative indifference to compulsory. Based largely on his own invented fingering system, Londeix's pedagogy thrives.³⁴

Altissimo began to be explored in significant detail beginning with the commissions by Sigurd Raschèr. Works such as *Ballade* by Frank Martin, *Concerto* by Ingolf Dahl, *Konsert* by Lars-Erik Larsson, and, perhaps notoriously, *Concertino da Camera* by Jacques Ibert³⁵ delve greatly into the altissimo register largely by Raschèr's request.³⁶ It is because of Rascher that altissimo became accepted by composers and saxophonists alike.³⁷

³² Raschèr, *Top-Tones for Saxophone*, 19.

³³ Both authors include fingering charts of their own inventions (Sinta, 60-65; and Rousseau 37-46) but Sinta's text devotes significantly more time to overtone study (47 pages as opposed to Rousseau 4 pages).

³⁴ James Umble, *Jean-Marie Londeix: Master of the Modern Saxophone* (Cherry Hill, NJ: Roncorp Publications, 2000), 123.

³⁵ Frank Martin, *Ballade* (Vienna: Universal Press, 1938). Ingolf Dahl, *Concerto*, ed. Harvey Pittel (New York: European American Music Corporation, 1979). Lars-Erik Larsson, *Konsert* (Stockholm: Carl Gehrman's, 1931). Jacques Ibert, *Concertino da Camera* (Paris: Alphonse Leduc & Cie, 1935).

³⁶ Raschèr, *Top-Tones for Saxophone*, 19.

³⁷ Thomas Dryer-Beers, "Influential Soloists," in *The Cambridge Companion to the Saxophone*, ed. Richard Ingram (Cambridge: Cambridge University Press, 1998), 42.

Circular Breathing

The art of circular breathing is one that can be traced through many cultures. Vladimir Machmarchik points to evidence of ancient Greeks using the technique while performing on the aulos.³⁸ His description of the technique, while brief, is a valuable general resource for instrumentalists.³⁹

Jean-Marie Londeix devotes only a brief space to the discussion of circular breathing – a mere three paragraphs – in his brilliant *Hello! Mr. Sax*.⁴⁰ The work was published prior to volume one of Christian Lauba’s cycle *Neuf Etudes* – a works with dedications to Londeix that features circular breathing as a major component.⁴¹ A second edition might be appropriate.

Another text with a better definition of circular breather, as it applies to the saxophone, is that by Jean-Denis Michat.

La “respiration circulaire” ou “respiration continue” est une technique permettant de prolonger la durée naturelle d'expiration. Elle utilise les joues comme un ballon de baudruche se vidant pour prendre le relais de l'expiration pulmonaire. Pendant ce temps, une inspiration nasale (ou plusieurs) permet de ravitailler les poumons de l'instrumentiste.⁴²

“Circular breathing” or “continuous breathing” is a technique that allows for the prolonging of the natural exhalation. The cheeks are inflated like balloons to take the place of pulmonary exhalation. At the same time, breathing in through the nose (nasal inhalation) can provide air to the lungs of the instrumentalist.⁴³

³⁸ Vladimir Kachmarchik, “Some Mysteries of Ancient Greek Aulets,” *The Journal of the International Double Reed Society*, no. 22 (July, 1994), <http://www.idrs.org/publications/hcontrolled/DR/JNL22/JNL22.Kachmarchik.html> (accessed January 12, 2013).

³⁹ Ibid.

⁴⁰ Londeix, *Hello! Mr. Sax, or Parameters of the Saxophone*, 82.

⁴¹ Christian Lauba, *Neuf Études*, vol. 1-4 (Paris: Alphonse Leduc & Cie, 1988-1994).

⁴² Michat, “Un Saxophone Contemporain,” 30.

⁴³ N.B., Translation was completed by the author of this paper.

Michat provides five exercises, four of which are to be done without instrument.⁴⁴

It is in America that the most detailed text, as it applies to wind instrument performers can be found. Trent Kynaston's *Circular Breathing for the Wind Performer* details the art and act of circular breathing and provides numerous exercises for perfecting the technique.⁴⁵ Kynaston does not identify works that specifically employ circular breathing, though he does make that curious assertion that "the wind performer can now approach the musical phrase as do all other instrumentalist, and not be bound by a single breath."⁴⁶ The author of this paper is uncertain of the implications of that sentence. Perhaps it is a poor choice of words, but it does, on the surface, appear rather disparaging towards wind instrumentalists and their music.

Circular breathing can be applied to any music. It is in the author's experience that simple pieces (e.g., folk songs, popular tunes, hymn tunes) work well for practicing the technique. The first works with the explicit instructions of circular breathing are the compositions of Christian Lauba.⁴⁷

Double-Tongue

Although the scope of *Pushing Boundaries* is double-tonguing, perhaps a better term to use is multiple tonguing. Multiple tonguing refers to the technique of rapid articulation using both the anterior and posterior of the tongue in alternation. This is analogous to vocalizing "t-k-t-k" or "d-g-d-g." There are many ways to achieve multiple

⁴⁴ Ibid., 30-31.

⁴⁵ Trent Kynaston, *Circular Breathing for the Wind Performer* (Van Nuys, CA: Alfred Publishing Co., Inc.), Kindle edition.

⁴⁶ Ibid., postlude

⁴⁷ Christian Lauba, *Neuf Études*, vol. 1.

tongue (tah-kah, dah-gah, tuh-kit, and duh-git are among the authors favorites) and Joshua Gardner gives an excellent account and study of efficiency.⁴⁸

Saxophone literature contains relatively little information regarding this technique. Larry Teal, in *The Art of Saxophone Playing*, references it only briefly,⁴⁹ Marcus Weiss and Giorgio Netti devote only two passages to it,⁵⁰ and Londeix doesn't mention it at all.⁵¹ The most valuable resource is probably Jean-Denis Michat.

Michat's text emphasizes the importance of multiple styles of double-tongue: "d-g-d-g" for the middle range (G4 to C6), "t-k-t-k" for the lower range (below G4), and "d-y-d-y" for the upper range (above C6).⁵² Regarding the upper register, Michat points to excessive tongue movement as a risk for tonal stability.⁵³

The author of this text can find few compositions in which the technique of double/multiple tonguing is mandated. The use of double tongue tends to be at the discretion of the performer in relation to his or her own strengths and weaknesses. A performer who lacks the ability to single-tongue at a high speed might find double-tonguing a viable alternative.

⁴⁸ Joshua Gardner, "Ultrasonic Investigation of Clarinet Multiple Articulation," D.M.A. diss., Arizona State University (2010).

⁴⁹ Larry Teal, *The Art of Saxophone Playing* (Secaucus, NJ: Summy-Birchard, 1963), 85-86.

⁵⁰ Marcus Weiss and Giorgio Netti, *The Techniques of Saxophone Playing*, 141.

⁵¹ Londeix, *Hello! Mr. Sax or Parameter of the Saxophone*.

⁵² Michat, "Un Saxophon Contemporain," 32-33.

⁵³ *Ibid.*, 33. It should be noted that the muscular movement involved in double tongue is remarkably similar to that of voicing. In such a high range, excessive tongue will result in a pitch bend or other similar distortion.

Microtones

Although microtonality is a feature of much of today's world music, this discussion will encompass only western classical usage of the twentieth century. Under this parameter, microtones are pitches that fall acoustically between semitones. Accomplishing microtones generally requires the adoption of alternate fingerings for pitches. One method used for achieving a microtone is performing a pitch and then pressing, or raising, a non-essential key. It is fortunate that there is an ample discussion of microtones in several sources. These are almost all accompanied by fingering charts.

Marcus Weiss and Giorgio Netti offer detailed explanation of the process of producing microtones. Their advice applies equally to both performers and composers. Additionally, they present complete microtonal fingering charts for soprano, alto, tenor and baritone saxophones. These charts divide into eighth, quarter, and half (semi) tones. The charts also contain helpful indications of dynamic limitations due to mechanical properties of the instrument.⁵⁴

Londeix devotes a large portion of his text to microtones, as well. He offers no advice or discussion but, while his charts are limited to quartertones, they include fingerings for bass and sopranino saxophone. He makes passing mention of third- and fifth-tones, but this is only in regards to the limitations of saxophone construction.⁵⁵

Jean-Denis Michat also includes substantial information on microtones in addition to a very generalized fingering chart. He offers a few exercises, but these again are very general. Interestingly, Michat employs a notation system similar to that found in *Pushing Boundaries*.⁵⁶

⁵⁴ Weiss and Netti, *The Techniques of Saxophone Playing*, 15-32.

⁵⁵ Londeix, *Hello! Mar Sax or Parameter of the Saxophone*, 24-30.

⁵⁶ Michat, "Un Saxophone Contemporain," 42-43.

It is generally accepted that Alois Hába is the first western composer to employ microtones regularly in his works.⁵⁷ Among the saxophone repertoire is a work by Haba, entitled “Partita,” which exploits microtonality to great effect.⁵⁸ In a similar vein, Sander Germanus’ *Microphobia* relies entirely on microtones.⁵⁹ In terms of chamber music, two of the most notable works employing microtones are Iannis Xenakis’ *XAS*⁶⁰ and Martin Bresnick’s *Every Thing Must Go*.⁶¹ Luis Naón’s *Alto Voltango* is another fantastic duet with vibraphone that expertly combines the shimmering microtonal intervals between the saxophone and vibes.⁶² Historically, uncertainty exists over whether works prior to the publication of Hába’s use microtonality on the saxophone.

Timbre and Bisbigliando

The saxophone displays great capability in generating many different tone colors (timbres). Many of these can be accomplished by shifting the embouchure or throat muscles. Other times, by use of specialized fingerings, different timbres can be produced.

With regards to fingerings, there are generally two ways of accomplishing a timbre change on the saxophone. The first method is similar to microtone production: perform a pitch while lowering, or raising, a non-essential key. It is not uncommon for

⁵⁷ Jiri Vyzlouzil, “A Note on Alois Hába,” *The Musical Times*, vol. 114, no. 1564 (June, 1973), 590-592.

⁵⁸ Alois Haba, *Partita* (London: Faber Music, Ltd., 1968).

⁵⁹ Sander Germanus, *Microphobia* (Amsterdam: Donemus, 2005).

⁶⁰ Iannis Xenakis, *Xas* (Paris: Editions Salabert, 1987).

⁶¹ Martin Bresnick, *Every Thing Must Go* (New York: Carl Fischer, Inc., 2007). Bresnick’s use of microtones is to “correct” pitches from equal temperament to just temperament.

⁶² Luis Naón, *Alto voltango* (Paris: Henri Lemoine, 1999).

timbre fingering and microtone fingerings to overlap. A second method is by voicing overtones off a low fundamental fingering.

Londeix and Netti offer very differing accounts of timbre. Londeix speaks of timbre changes primarily as adjustments of the embouchure. He does devote quite some time to bisbigliando (that is, timbre trills) but this is a section of the book distinct from timbre.⁶³ His approach in timbre describes the ideal sound of the saxophone and the general capabilities of the instrument. Netti on the other hand treats timbre and bisbigliando as a single entity. His method relies entirely on alternate fingerings. The approach that Netti offers is significantly more technical than Londeix's. Whereas Londeix gives a general discussion of ideal saxophone timbre, Netti deals entirely with the mechanics of the instrument. Michat, surprisingly, is silent on the topic.

Saxophonist's will encounter several works that employ timbre shifts and bisbigliando. William Albright's *Sonata* uses this technique in a very limited fashion.⁶⁴ Luciano Berio also uses timbre shifts in both of his saxophone *Sequenzas*.⁶⁵ A notable early study (early in both the sense that it is an earlier work and a work appropriate for students early in their studies of extended techniques) in timbre shifts is located in Ronald Caravan's *Paradigms 1*.⁶⁶

It should be noted that several other methods of timbre change are available on the instrument that are not fingering related. François Rossé's *Le Frêne Égaré*, for example, requires the performer to use "breathy" sounds, fluttertongue, tight vibrato,

⁶³ Londeix, *Hello! Mr. Sax or Parameters of the Saxophone*, 44 and 46-64.

⁶⁴ Willaim Albright, *Sonata* (New York: C. F. Peters Corporation, 1984).

⁶⁵ Luciano Berio, *Sequenza VIIb* (Vienna: Universal Editions, 1995) and *Sequenza IXb* (Vienna: Universal Editions, 1980).

⁶⁶ Ronald Caravan, *Paradigms I*.

loose vibrato, and entirely timbreless sounds (pure breath).⁶⁷ The works of Japanese-American composer and saxophonist Rio Noda, are very similar, though they are on a much smaller scale.⁶⁸

Multiphonics

Multiphonics refer to the simultaneous performance of multiple pitches. Multiphonics are often accomplished by using special fingerings, though, they can also be accomplished by singing in the instrument while playing a pitch. Multiphonics can consist of anywhere from two to four recognizable pitches.

Each multiphonic must be treated as a separate and unique entity – each individual multiphonic fingering brings with it a set of unique limitations. Of these limitations, Londeix states:

Requiring a special technique of fingering, but sometimes also of embouchure (by placing more or less of the mouthpiece in the mouth), the simultaneous sounds are affected by the mouthpiece or reed used, and also by the make and model of the instrument itself. The performer practices and is trained to correct the variables.⁶⁹

Weiss and Netti are even more specific. Their discussion of multiphonics identify embouchure, dynamic, pitch stability, threshold tones (tones by which the multiphonic may be approached or departed, “shadow” sounds).⁷⁰

No discussion on multiphonics would be complete without mention of Daniel Kientzy’s contribution to the pedagogy of the instrument. Kientzy created the first, and probably most complete, text on multiphonics with fingerings for soprano, soprano,

⁶⁷ François Rossé, *Le Frêne Égaré* (Paris: Gérard Billaudot, 1981).

⁶⁸ The earliest work of this sort that a student is likely to encounter is *Improvisation 1* (Paris, Alphonse Leduc & Cie., 1972).

⁶⁹ Londeix, *Hello! Mr. Sax or Parameters of the Saxophone*, 31.

⁷⁰ Weiss and Netti, *The Techniques of Saxophone Playing*, 57-63.

alto, tenor, and baritone saxophones. This text is instrumental for the young saxophonist in providing a guide and fingering method.⁷¹

Several different categories of multiphonic are available and they have been compiled and identified by Weiss and Netti: Two levels are identified each consisting of several families. See Table 2.

Table 2

First Level of Multiphonics⁷²

Category	Description
A	Layer of natural overtones over a fundamental fingering
B	Sound with strong oscillation
C	Wide dyad, stable
D	Aggregate of two or more partials over a fundaments
E	Narrow dyad

Categories B-E are subdivided in the Second Level of overtones.⁷³

One work that utilizes multiphonics is Edison Denisov's *Sonata*. Other notable works include Steven Galante's "Shu Gath Manna," and Christian Lauba's *Steady Study on the Boogie*.⁷⁴ Thanks to the efforts of the composers of these works, multiphonics appear with greater frequency than in the past.

⁷¹ Daniel Kientzy, *Les Sons Multiples* (Paris: Éditions Salabert, 1982). This text, while an excellent resource, is a bit confusingly arranged. The author finds that Londeix and Weiss/Netti offer a more guided approach in comparison to Kientzy.

⁷² Weiss and Netti, *The Techniques of Saxophone Playing*, 60.

⁷³ *Ibid.*, 61.

⁷⁴ Edison Denisov, *Sonata* (Paris: Alphonse Leduc & Cie., 1970). Steven Galante, "Shu Gath Manna," score, 1987. Christian Lauba, *Steady Study on the Boogie* (Paris: Gérard Billaudot, 1993).

Slap Tongue

Weiss and Netti identify three varieties of slap tongue: standard, secco, and open.⁷⁵ Though this project deals with the standard variety (and to a very limited extent, the secco variety), a few words of note must be made of open slap. While the standard and the secco slaps (referred to as closed slaps) are generated by tongue motion, the open slap is created with the embouchure. To achieve the open slap, one rapidly draws the lower jaw away from the mouthpiece resulting in an abrupt percussive effect. This effect can best be described as explosive and powerful; it cannot be performed at soft dynamics. Perhaps the most prominent work that uses the open slap is Russell Peck's *Drastic Measures*.⁷⁶

The sound generated by closed slaps is quite different from that of the open slap – it takes on a pizzicato sound. By creating a vacuum between the tongue and the reed, the performer can draw the reed away from the mouthpiece. The sound of the slap is the reed releasing from that vacuum and hitting the tip-rail of the mouthpiece. The secco and the standard slap are identical except that, for the secco, air is not blown (or, is minimally blown) into the saxophone. The standard slap can be performed at almost any dynamic, while the secco slap is performed with lower dynamics.

It is important to identify the relative lack of discussion regarding slap tongue. Londeix mentions it, but he doesn't deal too much with it aside from a simple identification.⁷⁷ Michat, on the other hand, give a detailed description along with a

⁷⁵ Weiss and Netti, *The Techniques of Saxophone Playing*, 143.

⁷⁶ Russell Peck, *Drastic Measures* (Greensboro, NC: Pecktacular Music, 1979).

⁷⁷ Londeix, *Hello! Mr. Sax or Parameters of the Saxophone*, 92-94.

diagram identifying tongue motions.⁷⁸ The earliest significant pedagogical approach to slap tongue can be found in Steven Mauk's article, "Teaching Students to Slap Tongue."⁷⁹

Works using slap tongue are numerous. Thierry Escaich's *Lutte* exploits both the secco and the standard slap. Christian Lauba uses the secco slap to great effect in *Jungle* and prior to that, Edison Denisov's *Sonata*. Ibert incorporated the slap tongue in the cadenza of his *Concertino da Camera* from 1931.⁸⁰

Vocalization

Vocalization is refers to any type of simultaneous playing and singing (or vocalizing) into the saxophone. The technique of growling is a category that falls within vocalization. The technique is difficult to produce and discussion of it is relatively lacking. Weiss and Netti discuss it, and the process around perfecting it in detail. Their comments indicate the necessity of proper balance of dynamics between the sung part and the played part, specifically, "one must play *p* to *mf* and "sing" *f*."⁸¹

Londeix does not discuss this technique in detail but Michat does, including a few logical exercises in attempting this technique. These exercises are scale based and are brief, though they are very helpful and can be transposed in numerous ways.⁸² Works

⁷⁸ Michat, "Un Saxophon Contemporain," 28-29.

⁷⁹ Steven Mauk, "Teaching Students to Slap Tongue," *Saxophone Journal* 14, no. 1 (July/Aug. 1989): 41.

⁸⁰ Thierry Escaich, *Lutte* (Montreuil, France: Misterioso, 1995). Christian Lauba, "Jungle," from *Neuf Etudes*, vol. 1. Edison Denisov, *Sonata*. Ibert, *Concertino da Camera*.

⁸¹ Weiss and Netti, *The Techniques of Saxophone Playing*, 179.

⁸² Michat, *Un Saxophone Contemporain*, 36.

employing this technique include William Bolcom's *Lilith*⁸³ (specifically the growl) and Fuminori Tanada's *Mysterious Morning III*.⁸⁴

⁸³ William Bolcom, *Lilith* (Milwaukee: Hal Leonard Corporation), 1989.

⁸⁴ Fuminori Tanada, *Mysterious Morning III* (Paris: Editions Henri Lemoine), 1999.

Chapter 3

A PERFORMANCE ANALYSIS OF “PUSHING BOUNDARIES: FORTY ETUDES ON EXTENDED TECHNIQUES” BY PATRICK MURPHY

While not a pedagogical document per se, the etudes of *Pushing Boundaries: Forty Etudes on Extended Techniques* by Patrick Murphy offer a practical application of extended techniques for saxophonists. Divided into ten units of four etudes, each unit focuses on one particular extended technique. This focus on a single technique per unit is entirely intentional: slow methodical mastery deems combination of multiple techniques inappropriate for the purposes of this project.

Each etude within a unit employs the chosen extended technique in a unique manner. In the case of the first unit, for example, the first etude focuses on simply mastering the performance of the first and second partials through the use of oral cavity manipulation. The second etude takes a preexisting melody⁸⁵ and, using similar techniques gained from the first etude, expands into the third and fourth partials. With this further understanding of the oral cavity, the third etude changes focus from partials to pitch-bends and the fourth branches into the altissimo register. Stated at the very beginning of each etude is the purpose or "usage" of the extended technique.

Individual etudes progress logically from one to the next and each unit behaves in a similar fashion. See Table 3. Though intended for study in a sequential fashion, many benefits can be gained regardless of order.

⁸⁵ Francis Lützow, *The Hussite Wars* (London: J. M. Dent & Sons, 1914), 30-31.

TABLE 3

Etude units with stated usage(s)

Number	Unit	Stated Usage
1	Voicing	Mastery of the first and second overtones
2	Voicing	Multiple and mixing overtones melodically
3	Voicing	Pitch-bends not exceeding a minor third
4	Voicing	Voicing as a means to achieve altissimo
5	Beginning Altissimo	Slow, melodic passages
6	Beginning Altissimo	Repetitive, conjunct passages
7	Beginning Altissimo	Rapid, conjunct passages
8	Beginning Altissimo	Expressive, conjunct and disjunct passages
9	Circular Breathing	Slow, gradual extension of circular breathing ability
10	Circular Breathing	Repetitive scalar and arpeggiated passages
11	Circular Breathing	Rapid, arpeggiated, and repetitive passages
12	Circular Breathing	Rapid, non-repetitive, quiet passages
13	Double Tonguing	Study and awareness of the oral muscular mechanism
14	Double Tonguing	Legato, repeated passages
15	Double Tonguing	Rapid, conjunct, chromatic passages
16	Double Tonguing	Repeated notes with varying velocity
17	Microtones	Slow, “microchromatic” passages
18	Microtones	Slow, disjunct passages
19	Microtones	Hybrid conjunct and disjunct passages
20	Microtones	Rapid, conjunct passages
21	Bisbigliando	Melodic passages
22	Bisbigliando	Utilizing multiple fingerings in rapid ostinato passages
23	Bisbigliando	Repetitive patterns with varying dynamics
24	Bisbigliando	Timbral “trills”
25	Multiphonics	Isolation of individual pitches with a focus on dyads
26	Multiphonics	Using threshold tones to precede articulated multiphonics
27	Multiphonics	Rapidly shifting multiphonics
28	Multiphonics	Rapid, melodic passages
29	Slap Tonguing	As a contrapuntal technique
30	Slap Tonguing	Low tessitura in pointillism
31	Slap Tonguing	In the higher tessitura
32	Slap Tonguing	Sustaining a pitch after a slap
33	Furthering Altissimo	Rapidly articulated passages
34	Furthering Altissimo	Rapid disjunct passages
35	Furthering Altissimo	Extending altissimo via cadenza
36	Furthering Altissimo	Flexibility
37	Vocalizing	Singing pitches both above and below a performed drone
38	Vocalizing	Singing a drone while performing a moving, melodic passage
39	Vocalizing	Simultaneous pitch changes on both the instrument and in the voice
40	Vocalizing	Simultaneous parallel melodic motion

There are three distinct divisions in the entire work. The first division is etudes based on tongue and throat control. The first unit, voicing, leads directly into the second unit, beginning altissimo. This is a logical progression given voicing’s nature as a

preliminary exercise. Beginning altissimo leads to circular breathing. Circular breathing, though largely based on the lungs, is a technique that employs the tongue and palate in conjunction with the cheeks to maintain control of the pitch. Finally, circular breathing leads to double tongue, an exercise based on tongue and oral soft-tissue control.

The next division is those etudes based upon complex fingerings. First, microtones are introduced which serves as an ideal point-of-departure for atypical fingerings. Second, timbre and bisbigliando are explored; many fingerings used for microtones can be applied to timbre and bisbigliando fingerings. Finally, multiphonics are brought in: Instead of dealing with simply one pitch, the performer is required to accurately use a combination of complex fingerings and voicing to achieve successful multiphonics.

The final three etudes are those that advance techniques covered in the previous seven. Slap tongue and advanced altissimo both require even more control of the tongue and, in altissimo's case, the soft tissue of the mouth. Vocalizing expands upon multiphonics with the requirement of two simultaneously sound pitches.

It would be remiss to ignore a few of the peculiarities that accompany these etudes. First, and probably most evident, is the favor of the English language over traditional Italian. Eschewed terms such as *Andante*, *Allegro*, and *Largo* are replaced with terms such as *Mysteriously*, *Optimistic*, and *Cascading*. In conjunction with this, the English terms chosen tend not to indicate exact tempos⁸⁶ - they simply imply a mood or emotional state to be associated with the piece. For the purposes of this work, exact tempo markings are not simply unnecessary, but in fact detrimental. The eleventh etude, for instance, poses different sets of challenges when performed using different tempi. These challenges are legitimate and should not be ignored.

⁸⁶ Metronome markings are left entirely, and purposely, absent.

In etudes requiring special fingering notations, the notation system indicated is relatively unique to this work.⁸⁷ The selected fingerings are based on a combination of personal experience and Marcus Weiss and Giorgio Netti's *The Technique of Saxophone Playing*. The author of this text whole-heartedly concurs with Weiss and Netti on the statement "Small variations might occur in certain cases with other makes of saxophone..."⁸⁸ In all cases, the author of this text used his own alto saxophone to test each fingering.⁸⁹

Etudes 1-4: Voicing

Channeled in the first two etudes is the spirit of the initial Sinta exercises: the focus is on the first few overtones available on the lowest pitches of the instrument. See Figure 1. The first etude makes the assumption of success in preliminary exercises of voicing. Paramount is the matching of timbre and intonation. In accordance to Sinta's directive, use of a tuning device would be tremendously beneficial.⁹⁰

⁸⁷ A fingering chart may be found at the very beginning of Appendix A.

⁸⁸ Weiss and Netti, *The Techniques of Saxophone Playing*, 10.

⁸⁹ The author of this text performs on a Yamaha YAS-875 Custom alto saxophone purchased new in October of 1999. This is prior to the "Z" and "EX" models of instruments. Students using other models (e.g., later Yamahas, Selmers, Keilworths, and Yanagisawas) should explore their instruments in determining the most accurate and convenient fingerings.

⁹⁰ Sinta and Dabney, *Voicing: An Approach to the Saxophone's Third Register*, 11.

FIGURE 1

Overtone Series

The image displays a musical score for an overtone series. It consists of six staves, each representing a different instrument or voice part. The notes are arranged in a grid with seven columns labeled 'Fundamental', '1st overtone', '2nd overtone', '3rd overtone', '4th overtone', '5th overtone', and '6th overtone'. The notes are as follows:

Staff	Fundamental	1st overtone	2nd overtone	3rd overtone	4th overtone	5th overtone	6th overtone
Staff 1	C5	C6	G6	F6	E6	D6	C7
Staff 2	C5	C6	C6	D6	D6	E6	E6
Staff 3	C5	C6	C6	D6	D6	E6	E6
Staff 4	C5	C6	C6	D6	D6	E6	E6
Staff 5	C5	C6	C6	D6	D6	E6	E6
Staff 6	C5	C6	C6	D6	D6	E6	E6

Looking at the first measure of the first etude, the performer plays a C5. Immediately following, the performer plays the same C5 while using the fingering for “low” C (C4). This pattern repeats over the next five measures on different notes. See Figure 2. Sinta, Raschèr, Lang, and Rousseau initially reverse this process. The author of this text believes that beginning on the unvoiced pitch is beneficial to the novice “voicer.” Using a matching-pitch to precede the overtone (the voiced pitch) gives a student a model for intonation and timbre and allows for an easing into the process of oral muscular manipulation.

Measures 1 through 28 focus on the first overtone. These first twenty-eight measures can be viewed as a sub-etude; there is no requirement that each etude must be looked at as a single entity. In fact, sub-dividing works into smaller sub-works is a technique that can be applied to many of the etudes presented.

The second overtone makes its appearance beginning in measure 30. While the pitches may differ, the order of overtone fingerings remains identical: Measures 1 and 30 both are both based on an overtone off of the C4 fundamental; Measures 2 and 31 are both based on an overtone off of the B-flat3 fundamental; etc.... The stability of the fingering pattern allows for the focus to be placed on the actual process of voicing. Measures 30 through 57 can be viewed as a sub-etude similar to measures one through twenty-eight.

FIGURE 2

Etude #1: Voicing (mm. 1-8)

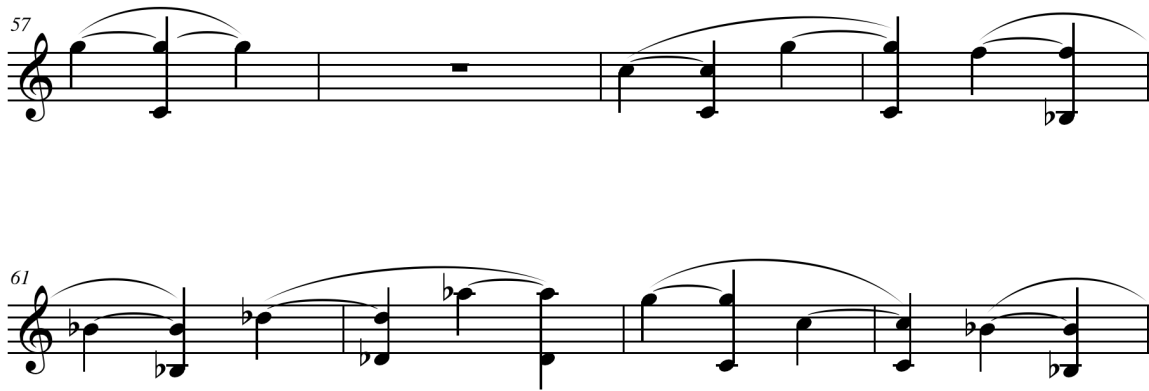
Mysteriously

mf * While fingering the lower pitch, use the oral muscles to perform the higher pitch

Measure 59 begins the process of combining the first and second overtones. The fingering pattern presented above is retained but augmented. See Figure 3. Again, a preceding pitch leads into each overtone allowing for a relatively smooth transition from one pitch to the next.

FIGURE 3

Etude #1: Voicing (mm.57-64)



Etude #2 (Czech), takes its melody from the tune of an ancient Bohemian battle hymn “Ktož jsú boží bojovníci,” or “All Ye Warriors of God.”⁹¹ This piece is often referred to as the “Bohemian Marseillaise.”⁹² According to Ladislav Urban:

The great battle hymn of the Czechs was a spiritual folk-song... Whenever this was sung in a charge it sowed terror and confusion broadcast among their enemies. The chorale contains two motifs: The first, assaulting, with its characteristic hammering rhythm, like repeated blows of weapons; the second, deeply religious, expressing in its restrained but sweet melodic form absolute faith in the final victory of truth.⁹³

Sung frequently during the Hussite Wars in Bohemia (in what is now the modern-day Czech Republic), the hymn was a source of national pride. The wars were a pre-cursor to the Protestant Reformation and resulted in a fracturing of the church in Bohemia: The Church of Bohemian (Moravian) Brethren developed into a powerful influence. The

⁹¹ Lütsow, *The Hussite Wars*, 30.

⁹² *Ibid.*, 31.

⁹³ Ladislav Urban, *The Music of Bohemia* (Boston: The Merrymount Press, 1919), 11. It is from this text that the author derived the hymn tune. Minor alterations including key and a few pitches in the melody were utilized to better suit the purposes of this project.

hymn tune features heavily into many works. Perhaps most notable is Karel Husa's *Music for Prague*.⁹⁴

Etude #2 can ultimately be defined as a theme with "hidden" variations. The melody appears plainly in the opening seventeen measures. See Figure 4. This doesn't simply provide the "theme," it reinforces the melody for the performer. With regards to the hidden nature of the variations, while the melody remains unchanged throughout the course of the entire etude, the performer will utilize different fingerings to perform the same pitches. The specific fingerings are always indicated in the music. This is similar to the manner to the first etude.

Following this initial presentation, the melody repeats with fingering alterations that require the performer to voice in a similar manner to the first etude. The focus with this first repetition is entirely on the first overtones. Soon after, the work branches out to include the second, third, and fourth overtones.

When looking at Etudes #1 and 2, emphasis must be placed on musical expression. Though the works are somewhat pedantic, the performer must not abandon any sense of musicality. While these two etudes function as a single unit, Etude #3 employs voicing in a different manner.

Etude #3 changes focus from overtones to pitch bending.⁹⁵ The oral muscles used are the same, just to different affect. This etude focuses on bending pitches initially by an interval of a minor second, then a major second, and finally a minor third. To aide the performer, the pitch bends extend no further than a minor third. The aim of this etude is to gain flexibility and fluidity of the oral muscles.

⁹⁴ Karel Husa, *Music for Prague* (New York: G. Schirmer, Inc. 1968).

⁹⁵ Sinta and Dabney, *Voicing: An Approach to the Saxophone's Third register*, 8-10. This section of the book introduces exercises in pitch bending on a high F (F6).

FIGURE 4

Etude #2: Voicing (Czech) (mm. 1-17)

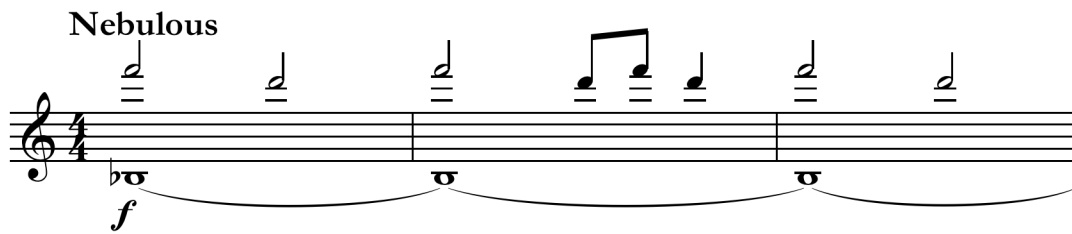
Triumphant

The musical score for Etude #2: Voicing (Czech) (mm. 1-17) is presented in four staves. The first staff, marked *pp*, shows the beginning of the piece in 3/2 time. It features a melodic line with a fermata at the end. The second staff starts at measure 5, the third at measure 9, and the fourth at measure 13. The piece concludes with a final chord in the fourth staff.

The final etude of this unit combines overtone study with oral flexibility. The technical requirements of this etude are rather straightforward: the performer uses the oral muscles to attain different pitches in the overtone series (creating a melody) all-the-while fingering nothing but the fundamental, a low B-flat (B-flat₃). See Figure 5.

FIGURE 5

Etude #4: Voicing (mm. 1-3)



This etude can easily be transposed such that the fundamental is a low B (B₃), low C (C₃) and further up to an E-flat or E (E-flat₄ and E₄). If that decision is made, the overtones can be adjusted the proper interval. This relates to the earlier discussion of tempo assignments: a student should be encouraged to feel free to perform etudes in different ways.

Initial study will prove difficult: creating a seamless transition from overtone to overtone is a skill that eludes many in the beginning. A performer should start by articulating each pitch (either with only air or with a “kuh” attached) and then, slowly and meticulously, work to “slur” between pitches. This etude is one of the few that combines two different extended techniques: voicing and altissimo. Given the preliminary nature of voicing study, combining techniques is appropriate.

When viewed as a unit, the first four etudes provide a pedagogically and musically sound performance experience. Voicing is used in multiple ways to give the performer multiple perspectives. Repetition is not shunned, rather, it is used in order to improve comfort. For those new to this technique, the gentle approach of the first etude gradually yields to increasing aggressiveness. Perhaps the use of the “Ktož jsú boží bojovníci” melody is appropriate.

Etudes 5-8: Beginning Altissimo

The most vital parameter of the next grouping of etudes is limited range: the melodic line at no point exceeds a B6. Another prominent feature is the use of altissimo in two ways: conjunct and disjunct. Saxophonists must have a veritable “arsenal” of altissimo fingerings dependent on context. Compared to fingerings used in conjunct passages (where the melodic line is relative scalar and altissimo pitches are located together), fingerings in disjunct passages (in the case of these etudes, isolated pitches approached and/or departed by a leap into the standard range) are likely to be rather distinct. Rousseau hints at this in his text with a discussion of the modes (or fundamental fingerings) of overtones.⁹⁶

In the author’s experience, conjunct passages benefit from modes based on higher fundamentals. Under these circumstances, the depression of fewer keys results in a lighter, faster technique. Disjunct passages, on the other hand, tend to favor fingers based on lower fundamentals. The presence of more depressed keys results in greater resistance causing a stable leap between intervals.

Etude #5 sets forth a straightforward melody in the upper tessitura of the instrument. This etude combines both conjunct and disjunct passages and, in the case of the latter, suggests relatively closed fingerings (that is, fingerings based on lower fundamentals with more keys depressed) in order to provide stability. See Figure 6.

Etude #5 introduces a number-and-letter shorthand to indicate depressed keys. Numbers 1, 2, and 3 for example correspond to the B-key, A-key, and G-key. “T” notations (Ta, Tc, and Tf) indicate trill/alternate keys. A full reference to this notation system can be found in Appendix A.

⁹⁶ Eugene Rousseau, *Saxophone High Tones*, 22.

FIGURE 6

Etude #5: Beginning Altissimo (mm. 19-24)

8
1
2
Tc 3
Ta 4

8
2
3 (B)
4
5
6

8
1
2
3
Tc 4
Ta

19

mf > *mp*

mf > *mp*

22

8
2
Tc 3
Ta 4

mf < *f*

This etude should be approached at a relaxed pace especially when confronting the disjunct passages. Care should be taken that to avoid “cracks” (that an incorrect overtone) in between larger intervals. Melody should be approached naturally without being over-emotive. Vibrato might be a challenge in the early stages and, perhaps, should be avoided.

Etude #2 takes a similar approach to the first etude: areas of conjunct music contrast with areas of disjunct. This etude, however, takes a similar approach to the first two etudes. The music is scale-based and deals with bringing the so-called “standard” range with the altissimo range. Fingerings do not appear in this movement; many different approaches can yield success. This etude divides into three sections (scales that

bridge the standard and altissimo range – expanding intervals that bridge the standard and altissimo ranges – scales that promote fluidity entirely within the altissimo range) indicated by double bars at measures 39 and 63. Students should feel free to divide this work into sub-etudes as in Etude #1.

Etude #7 takes its lead from #6, though it is significantly more advanced, harmonically speaking. In this case, wide intervals disappear in favor of almost scalar passages. This etude enforces fluidity in fast, scalar passages. Again, notation of fingerings do not appear.

Etude #8 should be treated as a cadenza or improvisation with a fluid, almost exhausted tempo. Afforded to the performer is a degree of flexibility regarding dynamics: one should exploit the dynamics as deemed appropriate. In contrast to the first three etudes of this unit, Etude #8 presents octave leaps into the altissimo range almost immediately. The previous three etudes provide the performer with the skills necessary to achieve these leaps.

This etude differs from the others in its exploitation of altissimo trills at a half-step. See Figure 7. The trill from F-sharp6 to G6 will pose a challenge to the performer: alternative hand-placements are a practical suggestion. The left-hand index finger can be placed on the auxiliary F key, and the middle finger can be placed on the bis key. Using the bis as a trill key provides a perfectly acceptable G6. Furthermore, using the ring finger on “2” (that is, the A key) will allow for a seamless trill from F6 to F-sharp6. The performer will find ample opportunity to switch back to “standard” hand-placement beginning at measure 17.

FIGURE 7

Etude #8: Voicing (mm. 15-17)

Etudes 5 through 8 offer a study of altissimo that is of considerable use to the young saxophonist. A thoughtful, systematic approach allows for a paced process to extending one's abilities in the range.

Etudes 9-12: Circular Breathing

At the time of writing this document, the author can find no non-concert etudes of circular breathing on the saxophone. Undoubtedly, there are numerous guides and suggestions,⁹⁷ but there are not currently any etudes devoted solely to a progressive approach to the technique. The author hopes to remedy that situation.

Etude #9 is (very) loosely based on the chant for the graduale *Qui sédes, Dómine*.⁹⁸ From the Latin word *gradus*, meaning steps, this etude is a graduale in its stepwise approach to perfecting circular breathing. In this case, numbers of pitches are

⁹⁷ See Trent Kynaston, *Circular Breathing for the Wind Performer* (Van Nuys: CA, Alfred Publishing Co., Inc.).

⁹⁸ Benedictines of Solesmes, ed., *The Liber Usualis, with Introduction and Rubrics in English* (Tournai, Belgium & New York: Desclée, 1950), 335.

indicated (entire absent of duration) based on the Fibonacci sequence. In this case, one pitch sounds followed by a breath mark.⁹⁹ The pitch repeats, followed by the same breath mark. Next are two notes ending with a breath mark. Then three. Then five. Then eight. The sequence continues... See Figure 8. The performer should not breathe (in a conventional style) under a slur, rather, when necessary, employ circular breathing instead.

The elimination of rhythmic markings allows for focus on the circular breathing technique; rendered moot is a source of added difficulty. During initial studies, the performer should be at a relatively fast tempo (perhaps each note duration being as high as 100 BPM). As the performer gains more comfort with the piece, the tempo should be slowed down. The author cannot identify a minimum tempo but only suggest the performer goes as slow as he or she is capable (each duration could be as slow as 20-30 BPM, perhaps more or less...).

⁹⁹ The breath mark is to be taken at face value. The performer should pause, breathe naturally, and then continue to the next measure. Under no circumstances should these breaths be rushed – they are natural points of rest and rest must be taken.

FIGURE 8

Etude #9: Circular breathing (mm. 1-9)

Chanting

mf

8

9

In addition to being Fibonacci- and chant-based, Etude #9 is also a palindrome. The entire work repeats in reverse after going through the sequence of durations of 1-1-2-3-5-8-13-21-34-55-89. Not simply limited to durations, the palindrome also applies to the pitches themselves.

In a return to scale-based music, Etude #10 is an etude in the most basic of senses: a study. There are no remarkable composition techniques or secrets from which to gain insight. This etude is in three sections: entirely scalar in the mid-register, arpeggiated in the mid-register, and finally scalar in the upper register. The work is to be entirely circular-breathed. It would be advisable to treat each section as its own sub-etude, before combining the work into a single piece.

Entirely arpeggiated, Etude #11 in many ways owes its inception to Christian Lauba's *Balafon*.¹⁰⁰ This is especially true in the concluding sections. After a held D6, broken chords present themselves in eighth-notes for two measures. Broken chords continue, but the rhythmic durations change, first to eighth-note triplets, then sixteenth-notes, then quintuplets, then sextuplets, and finally returning to thirty-second-notes. The effect should be one that, to a hypothetical audience, is unmeasured. Walls of sounds suddenly change with no preparation.¹⁰¹ Relatively simple and repetitive pitch patterns prevail. Dynamics vary, though, without any sudden changes.

Whereas Etudes 9-11 are all pattern-based, Etude #12 is relatively free. The goal of this etude is to challenge the performer with rapid, non-repetitive pitch patterns. Conjunct and chromatic, this etude finds its inspiration in another Lauba etude: *Jungle*.¹⁰² The performer should carefully observe the single dynamic marking (pp) as this will ease the circular breathing process. At the performer's discretion, this can be treated as a sub-tone.

Etudes 13-16: Double Tongue

Etude #13 is a preliminary exercise that deals only with the mechanism of the double tongue. Rather than double-tonguing on pitches, the performer simply finds instructions to create a percussive sound (into the mouthpiece). See Figure 9. The performer must attempt this using only a "proper" embouchure. The intent is to prepare the performer to apply double-tongue to actual pitches.

¹⁰⁰ Lauba, "Balafon," *Neuf Etudes*, vol. 1.

¹⁰¹ Lauba accomplishes this effect, though, using complicated pitch patterns.

¹⁰² Christian Lauba, "*Jungle*," *Neuf Etudes*, vol. 1.

Figure 9

Etude #13: Double Tongue (mm. 1-6)

Brisk, neurotic



* Pitchless, percussive



It is the author's recommendation that the performer assign syllables to the subdivision of each beat. In the case of a beat consisting of four sixteenth notes, recommended syllables include "d-g-d-g" or "t-k-t-k." This should be consistent: where a beat begins with a sixteenth rest, "g-d-g" or "k-t-k" should be considered a viable option.

Little needs to be said of Etude #14 aside from its influence from Carl Baermann.¹⁰³ The performer must be certain to keep the airstream constant as the tempo increases. The choice of legato articulation is purposeful – a means to the end of constant airstream.

Another straightforward piece, Etude #15 poses more challenges than the previous etude. The work is a rapid piece that progresses chromatically throughout the upper and middle range of the instrument. The performer should adopt a technique similar to that used in the previous 2 etudes: consistent air stream flowing through the instrument. In this case, the articulation style is staccato.

¹⁰³ David Hite, *Foundation Studies for Saxophone: Scales, chords and intervals for daily practice patterned after Carl Baermann, Op. 63* (San Antonio: Southern Music Company), 92.

Etude #16 employs articulations of increasing and decreasing tempos. The performer should follow direction clearly, i.e., perform the number of notes as they appear. It is easy to treat the effect as just that, an effect. However, this intent of this etude is that the music be performed exactly as intended. See Figure 10.

Figure 10

Etude # 16: Double Tongue (mm. 5-6)

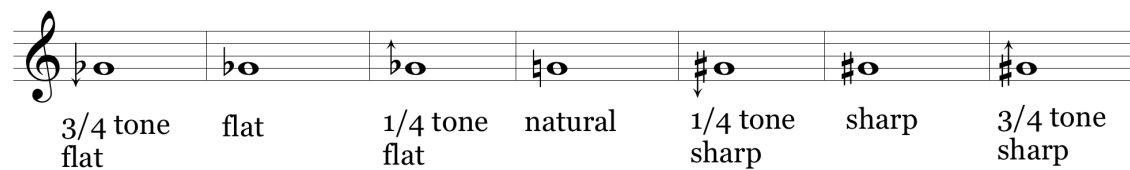


Etudes 17-20: Microtones

Prior to discussion of these etudes, the method of notation must be identified. While Londeix and Weiss and Netti identify fifth tones, third tones, and eighth tones, these etudes concern themselves solely with quartertones.¹⁰⁴ The notation system chosen is similar to that identified by Jean-Denis Michat.¹⁰⁵ See Figure 11.

Figure 11

Microtone Notation System



¹⁰⁴ Londeix, *Hello! Mister Sax or Parameters of the Saxophone*, 24; Weiss and Netti, *The Techniques of Saxophone Playing*, 15-32.

¹⁰⁵ Michat, *Un Saxophone Contemporain*, 42-43.

The stated goal of Etude #17 is performance of “microtones in slow microchromatic, conjunct passages.” The term microchromatic relates to the term "chromatic" in that each microtone is approached and departed by a semi tone. See Figure 12. At no point, in this etude, is a microtone isolated out of the context of either appearing as a passing tone or a neighbor tone. The integration of microtones into chromatic passages allows the application of microtone fingerings in relation to semitones. This has the dual effect of allowing the performer to hear the difference between a semitone and a quarter tone.

Figure 12

Etude # 17: Microtones (mm. 1-4)

In contrast, Etude #18 takes the approach of almost entirely isolating quarter tones. By combining this with the slow, meditative tempo of #17, the level of difficulty increases. The effect should be that of a detuned hymn.

Of all the Microtone etudes, #19 is likely to pose the most challenge. This etude should be described as a hybrid of isolated and non-isolated microtones: microchromaticism, interspersed with pedal tones, provides a greater challenge when compared to the previous etude. See Figure 13. The pedal tone appears both above and below the moving quartertone line.

Etude #20 is simply returns entirely to microchromaticism without and interference. This etude is the fastest of the four with the pedagogical goal of fluidity with microtones. To this end, microtones group into either four or eight sixteenth notes. Rests allow the performer to “reset.”

Figure 13

Etude #19: Voicing (mm. 7-10)

The musical score for Etude #19: Voicing (mm. 7-10) is presented in two staves. The first staff, marked *ff*, covers measures 7 and 8. Measure 7 contains a natural C (finger 1) and a flat C (finger 2). Measure 8 contains a natural C (finger 2), a sharp C (finger 2), a natural C (finger 2), and a flat C (finger 2). The second staff, marked *p*, covers measures 9 and 10. Measure 9 contains a natural C (finger 2) and a sharp C (finger 2). Measure 10 contains a natural C (finger 1), a sharp C (finger 2), a natural C (finger 3), and a flat C (finger 3).

A point of note is that the second two etudes in this unit are fairly static – especially when compared to the first two etudes. Given the complex nature of all four of these etudes, this is quite appropriate. The relative slowness of the first two etudes allows for 1) gaining comfort with new and ostensibly difficult fingerings, and 2) work with complex intervals while still at a novice level.

Etudes 21-24: Timbre and Bisbigliando

Etudes 21-24 see a change in the complexity of compositional technique. It is at this point that composers and works are recalled and, while not directly quoted, “channeled.” The author was not interested in creating works based on musical quotations, rather he chose to create works that were entirely new.

Etude #21 draws its inspiration from the compositional techniques of Olivier Messiaen. The work alternates between subject areas of non-retrograde rhythms (palindromes) and a mode of limited transposition with areas of free composition.¹⁰⁶ This etude adds to Messiaen’s musical language by including timbre changes. See Figure 14.

Figure 14

Etude # 21: Timbre and Bisbigliando (mm. 3-6)

¹⁰⁶ Olivier Messiaen, *The Techniques of My Musical Language* (Paris: Alphonse Leduc & Cie, 1944), 20-21 and 62.

The main challenge that a performer will have in this etude is the alternation between standard and timbral fingerings for D5 and D-sharp5. As these will alternate between a very “closed fingering” (8-1-2-3-4-5-6 for the former, 8-1-2-3-4-5-6-Eb for the latter) and side-key-based fingerings (c2 for the former, c1-c2-c3 for the later), initial practice must be extremely slow. In order to aid the performer, these are the only two examples of such an alternation in the work. This etude features only two sets of fingerings per pitch: the standard fingering, and the timbral fingering.

Etude #22 expands into three different fingerings per pitch: a standard fingering, and two timbral fingerings. This etude is extremely static with only one pitch per measure and a seldom-ceasing ostinato. This simplicity counteracts the difficulty when combined with increased tempo. This etude uses the samba rhythm as its inspiration.

Etude #23 finds inspiration in Sequenza VIIb by Luciano Berio and even goes so far as adopting his notation style for timbral fingerings.¹⁰⁷ See Figure 15. A key follows the conclusion of this etude.

Figure 15

Etude #23: Timbre and Bisbigliando (mm. 5-8)

The musical notation for Etude #23, measures 5-8, is presented on a single staff in treble clef with a key signature of one sharp (F#). The notation shows a series of notes with fermatas, indicating a static pitch. The notes are F#5, G#5, A5, B5, C#6, D#6, E6, and F#6. The fingerings are indicated by circled numbers above the notes. The dynamics are indicated by bold italicized letters below the notes. The notation is as follows:

Measure 5: *f* (1), *mp* (2), *fff* (1), *ff* (2), *mp* (2), *mp* (3), *mp* (2), *mp* (3)

Measure 6: *ff* (3), *ppp* (4), *mf* (3), *f* (4), *f* (4), *mp* (1), *mp* (4)

Measure 7: *mp* (3), *mp* (4), *mp* (3), *mp* (4), *mp* (4), *mp* (1), *mp* (4)

Measure 8: *mp* (3), *mp* (4), *mp* (3), *mp* (4), *mp* (4), *mp* (1), *mp* (4)

¹⁰⁷ Luciano Berio, *Sequenza VIIb* (Vienna: Universal Editions, 1969).

This etude expands the difficulty level by exploring four different possible timbral fingerings per pitch. Only 3 pitches (C-sharp⁵, C⁵, and B⁴) have timbral fingerings and, like the previous etude, the piece features an ostinato, offsetting the complexity of the fingerings. In common with the Berio, this etude features “hyper-notation” of a sort: Dynamic changes are frequent and erratic.¹⁰⁸

The final etude of this unit features timbre trills (bisbigliando) exclusively. The performer is free to choose his or her own fingerings using as many timbral fingerings as desired. The author suggests limiting the selection or two possibilities. A special note must be made with the bisbigliando trill for D⁵ and E-flat⁵. Though the first etude alternates between open and closed fingerings, it is inappropriate to employ that option here. The speed of the trill proves daunting. Instead, simply adding the B or B-flat key would serve the purpose in a better manner.

Etudes 25-28: Multiphonics

Although not uncommon today, multiphonics are a fairly recent development in saxophone literature. Londeix points to Edison Denisov’s “Sonata”¹⁰⁹ as the first work to use multiphonics in a significant way.¹¹⁰ Since that time, several works have exploited multiphonics to varying degrees of success.

Achieving the proper combination of tongue placement, embouchure tension, and fingering is one of the greatest challenges to achieving a proper multiphonic. Etude #25 takes this challenge head-on. This etude focuses on multiphonics that are dyads (consisting of only two pitches). The performer finds a fingering that will span three

¹⁰⁸ Ibid.

¹⁰⁹ Denisov, *Sonata*.

¹¹⁰ Londeix, *Hello! Mr. Sax or Parameters of the Saxophone*, 31.

measures. The initial measure of the fingering is a single pitch. This pitch is the highest pitch available for the multiphonic fingering.¹¹¹ The next measure requires the performer to, using the physical combinations mentioned above, sound the actual multiphonic. The final measure requires the performer to isolate the lower pitch in the multiphonic. This isolation-based approach allows the performer to experiment with the necessary physical combinations to achieve the proper sound. This approach can be adopted for multiphonics of three or more pitches but, given the limited scope of this project, is a suggestion rather than a written etude.

Weiss and Netti identify threshold tones: “partials of the multiphonic with which one can enter or exit that multiphonic.”¹¹² Etude #25 requires the performer to enter the multiphonic from a high threshold tone. This allows for the construction of the multiphonic from the top down by use of voicing and soft-tissue manipulation. Etude #26 takes the opposite approach by requiring the performer to approach multiphonics from a low pitch and build the sound from the bottom up (there are only two circumstances when the chosen threshold tone is a mid-level pitch). A challenge added to this etude is the requirement of continuous articulations during multiphonics: multiphonics present as four successive eighth notes.

Etude #27 adopts an approach separate from the previous etudes. Rather than integrating the multiphonic into the melodic content, this etude focuses on the use of the multiphonic as merely a sound effect. In this case, multiphonics are brash, percussive exclamations performed at relatively strong dynamic levels. They appear isolated and

¹¹¹ The several of these fingerings can result in multiphonics of more than two pitches. The dynamics, being relatively soft (not exceeding mezzo forte), limit the pitch possibilities available. This allows for multiphonics of only two pitches.

¹¹² Weiss and Netti, *The Techniques of Saxophone Playing*, 62.

distinct from the swirling sixteenth-note runs that they proceed; threshold tones are of little consequence.

The final etude of this unit reintegrates the multiphonic into the melody. It also requires the swift transition from multiphonic to standard single pitch in a short amount of time. By far the fastest etude of this unit, Etude #28 strikes a similar path as the previous etude in the removal of threshold tones from importance. The performer can feel free to adopt “alternative” hand positions. This is most notable in measure 5 where, on the first multiphonic, the performer can remove the right-hand thumb from the thumb rest and use it to strike the c3 key. See Figure 16.

Figure 16

Etude #28 (mm. 5-6)

8	1
1	2
2	3
3	4 ^B
c3 4	6
5	7

Etudes #29-32: Slap Tongue

The slap tongue technique offers yet another sound to the color palette available on the saxophone. The variety of slap used here (the so-called closed slap) is ultimately the sonic equivalent to the pizzicato effect on a string instrument. The first two etudes focus on slap in the lower register while the second two focus on the higher range.

Etude #29 is presented in the style of a slow tango. In the case of this etude, slap pitches bring out the counterpoint. Slapped pitches serve as the harmonic basis for the

piece. Above, one can find the tango melody. Slaps remain in the low range purposefully: novice performers of the slap tongue will find ease in the lower range. A satisfactory and resonant tone can be produced in the lowest octave of the instrument. Slapped pitches initially stay a fair distance away from each other, though that distance decreases with time. At no point are three pitches in a row slapped.

Etude #30 is similar to #29 in the sense that slaps both stay in the lower range and feature as a contrapuntal technique. This etude differs dramatically in harmonic language, favoring a serialized approach. The tone row selected is identical to Webern's choice for the *Quartet, op. 21*.¹¹³ This tone row determines not only pitch, but also pitch repetitions in the upper register. See Table 4.

For the opening section, P1, selected for those notes in the upper range, contrast with I5, selected for the slapped pitches in the lower range. These two rows exhibit hexachordal combinatoriality. The middle section uses only P0 and, while beginning slurred, moves forward to include slaps at the end of each run. This section's serialism only dictates the pitches; rhythm and repetition are now independent elements. The third section is similar to the opening featuring rows P1 and RI2.

The third etude in this unit exploits slap tongue in the upper range. Each measure features a nearly identical articulation pattern: two slurred pitches followed by either a "normally" articulated or a slapped pitch (these two elements alternate), followed to two repeated pitch in the lower range. The added challenge of slapped articulation incorporated in the melodic line will prove difficult at first. Initially, the performer should eliminate some elements: perhaps the final two pitches in each measure. After attaining comfort, these elements can be reincorporated.

¹¹³ Anton Webern, *Quartet, op. 22*, (Vienna: Universal Editions: 1930).

Table 4

Tone Row Matrix for Etude #30

P/I	0	9	8	11	10	2	3	4	5	7	1	6	R
0	C#	A#	A	C	B	D#	E	F	F#	G#	D	G	0
3	E	C#	C	D#	D	F#	G	G#	A	B	F	A#	3
4	F	D	C#	E	D#	G	G#	A	A#	C	F#	B	4
1	D	B	A#	C#	C	E	F	F#	G	A	D#	G#	1
2	D#	C	B	D	C#	F	F#	G	G#	A#	E	A	2
10	B	G#	G	A#	A	C#	D	D#	E	F#	C	F	10
9	A#	G	F#	A	G#	C	C#	D	D#	F	B	E	9
8	A	F#	F	G#	G	B	C	C#	D	E	A#	D#	8
7	G#	F	E	G	F#	A#	B	C	C#	D#	A	D	7
5	F#	D#	D	F	E	G#	A	A#	B	C#	G	C	5
11	C	A	G#	B	A#	D	D#	E	F	G	C#	F#	11
6	G	E	D#	F#	F	A	A#	B	C	D	G#	C#	6
RI	0	9	8	11	10	2	3	4	5	7	1	6	

The final etude in this unit reintroduces slap tongue in the lower register in addition to the higher. The primary goal of this etude is the performance of a sustained pitch following the slap tongue. In all cases, the slapped pitches are unimpeded – isolated from quickly moving lines. See Figure 17.

Figure 17

Etude #32: Slap Tongue (mm. 5-14)

The musical score for Etude #32: Slap Tongue (mm. 5-14) is presented in three staves. The first staff (measures 5-8) shows a sequence of slaps on a whole note, with the pitch descending from G4 to E3. The second staff (measures 9-10) features a rapid sixteenth-note articulation exercise, with a double bar line at the end. The third staff (measures 11-14) shows a sequence of slaps on a whole note, with the pitch ascending from E3 to G4. The dynamic marking *mf* is placed below the first staff of this section.

Sustaining a pitch following a slap is a challenge. Many novices attempt to move the jaw or shift the embouchure when attempting a slap tongue: This will cause a distortion in the tone. The student must maintain a stable and unmoving embouchure in addition to a constant air stream. The tempo should be brisk, yet comfortable.

Etudes #33-36: Furthering Altissimo

The next unit of etudes considered an extension of the previous unit (Beginning Altissimo). Extension of range, while a noble goal, is not the primary goal of the etudes of this unit. These etudes examine different parameters of altissimo, of which range is only one.

Etude #33 focuses on the parameter of rapid articulation in the altissimo register. The tempo should be quick but comfortable. Articulation is at different dynamic levels

requiring a stable embouchure and constant air stream, similar to the previous slap tongue etude.

Etude #34 picks up where Etude #8 left off: altissimo in disjunct passages. In this case, altissimo pitches are in the context of octave intervals. The tempo is quicker than Etude #8 and nimble technique is required. In all cases, suggested fingerings are notated. Just as before, relatively “closed” fingerings will provide the resistance needed to perform these pitches.

Etude #35 is the first of which that extends the range; the required extension is up to G7. The performer should feel free to use rubato in this etude given its label as a Cadenza. Altissimo extends through chromatic, scalar passages. See Figure 18. The dynamic level increases as the tessitura raises: this will make the performance of the altissimo-extremes easier for the performer.

Figure 18

Etude #35: Furthering Altissimo (mm. “14-18”)

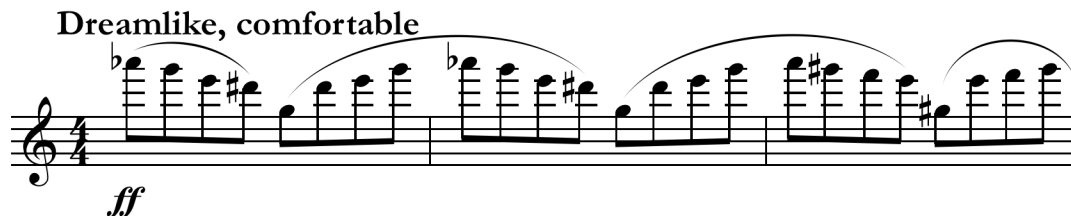
14 *mf*

17 *f* 8va

The final Etude of this unit the author considers the most difficult in the entire collection. This work requires extreme flexibility and finger-versatility. Bridge the standard range and the altissimo range, broken chords appear. Ranges are approached both from above and below. See Figure 19. The rhythms are relatively constant (eighth notes) which perhaps adds to the difficulty.

Figure 19

Etude #36 (mm. 1-3)



Etudes # 37-40: Vocalizing

This final unit of etudes focuses on simultaneously singing and performing on the instrument. It should be noted that, in cases where exact pitches appear in the music, the performer should sing those pitches in a range that is comfortable. Ideally, the range indicated will be the result. Human limitations, of course, cannot be dismissed.

Etude #37 takes the initial steps of performing a drone on the saxophone while simultaneously singing a moving melodic line. See Figure 20. In all cases, the drone appears first, followed by the sung pitch two beats later. The performer must sing both above a drone and below a drone. A male voice (especially a tenor) should be able to accommodate each sing pitch. A lower female voice can accomplish this as well, though a higher voice might find difficulty. As stated above, the performer should do what ever is necessary to sing the pitches, even if it means taking them up an octave.

Figure 20

Etude # 37: Vocalizing

The image shows two staves of musical notation for Etude # 37: Vocalizing. The first staff begins at measure 4 and features a mezzo-forte (*mf*) dynamic. It contains a melodic line with a long, sweeping slur underneath, indicating a continuous vocalizing technique. The second staff begins at measure 7 and features a mezzo-piano (*mp*) dynamic. It also contains a melodic line with a long, sweeping slur underneath, continuing the vocalizing technique.

Etude # 38 takes the opposite approach: singing a drone while performing a moving melodic line on the saxophone. The challenges are similar to the previous etude though now the performer must begin the sound at the same time. Shifting octaves should not be necessary for any voice types. The melodic line is simple enough so as not to bog the performer down with additional requirements.

Etude # 39 (Obvious Evening) is an inversion of the title of the work Mysterious Morning by Fuminori Tanada. This etude borrows techniques that Tanada uses in his work, especially the vocalizing technique. This technique requires a gradually ascending (or descending) sung pitch while performing oscillating pitches on the instrument. See Figure 21. It should be noted that while exact sung pitches are indicated, these are merely suggestions. Low pitches should be sung as low as is comfortable and gradually rise. Higher pitches should be sung in a relatively comfortable range and then descend.

Figure 21

Etude # 39: Vocalizing (mm. 12-17)

The musical score for Etude # 39: Vocalizing (mm. 12-17) is presented in three systems. Each system consists of a single treble clef staff. The first system (measures 12-13) begins with a key signature of one flat (B-flat) and a dynamic marking of *f*. The melodic line consists of eighth notes, with a slur above it. The second system (measures 14-15) continues the melodic line, with a key signature change to two flats (B-flat and E-flat) in measure 14. The third system (measures 16-17) concludes the melodic line and ends with a whole note chord in measure 17.

The final etude of this unit is much easier when compared to the difficulty number 40. In this case, the performer sings and plays the instrument in parallel thirds. Higher female voices might encounter difficulty with the low range and should take the melodic line up an octave (inverting the thirds into sixths). Thus ends Pushing Boundaries, simply and quietly on a major third.

Chapter 4

CONCLUSIONS AND CLOSING REMARKS

The composition of *Pushing Boundaries: 40 Etudes on Extended Techniques*, was an absolute joy. Writings these works not only challenged the author/composer, but also added a newfound appreciation for the compositional technique. The author/composer hopes that these etudes provide newcomers to extended techniques with a logical and progressive approach to these wonderful sounds and methods.

These etudes are not by any means exhaustive. The performer is encouraged to seek out other works or methods that exploits these sounds. Multiple approaches to these ideas will only serve his or her benefit.

The author cannot overstate the importance of slow, purposeful practice when attempting these etudes. Because these are not concert etudes, the performer should not feel restricted to any timelines. The development of these techniques is a slow process and the performer should relish in the joy of slow progression with a goal of mastery.

The author likens these etudes to a playground. The playground is the place where a child learns how to use his or her body in conjunction with large and fanciful toys (jungle gyms, monkey bars, swing sets, slides, etc...). The child learns how to use each toy, allowing for a sense of accomplishment. Eventually, the child is required to leave the boundaries of the playground for the “real world.” In the case of *Pushing Boundaries*, the real world is actual repertoire.

Ultimately, the success or failure of these works is dependent on their usefulness. As this type of etude book is not yet widely available to young saxophonists, it is the author’s hope that a niche is filled. It is with extreme happiness and hopefulness that the author humbly introduces these works into the pedagogy of the saxophone.

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APPENDIX A
SAXOPHONE FINGERING CHART

APPENDIX B

PUSHING BOUNDARIES: FORTY ETUDES IN EXTENDED TECHNIQUES

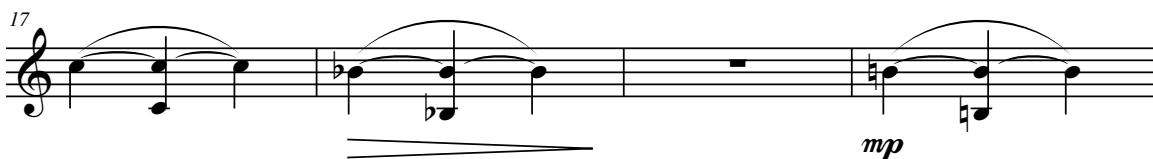
ETUDE # 1: Voicing

Mastery of the First and Second Overtones

Mysteriously



mf * While fingering the lower pitch, use the oral muscles to perform the higher pitch



29

f

33

37

f

41

45

49

ff

53

57

f

61

65

69

73

ETUDE # 2: Voicing (Czech)

Multiple and Mixing Overtones Melodically

Triumphant

pp

5

9

13

18

p

22

The musical score is written in treble clef with a 3/2 time signature. It consists of six staves of music. The first staff begins with a piano (*pp*) dynamic and features a melodic line with various voicings, including a triplet of eighth notes. The second staff starts at measure 5. The third staff starts at measure 9. The fourth staff starts at measure 13. The fifth staff starts at measure 18 with a piano (*p*) dynamic. The sixth staff starts at measure 22. The piece concludes with a double bar line and repeat signs.

26



30



35



39



43



47



52

mf

Musical notation for measures 52-55. The key signature has one flat (B-flat). The time signature is 3/4. The notation includes a treble clef, a key signature signature (one flat), and a dynamic marking of *mf*. The melody consists of quarter and eighth notes with stems pointing up. The bass line consists of quarter notes with stems pointing down. Measure 52 starts with a treble clef and a key signature signature. Measure 53 has a treble clef and a key signature signature. Measure 54 has a treble clef and a key signature signature. Measure 55 has a treble clef and a key signature signature.

56

Musical notation for measures 56-59. The key signature has one flat (B-flat). The time signature is 3/4. The notation includes a treble clef, a key signature signature (one flat), and a dynamic marking of *mf*. The melody consists of quarter and eighth notes with stems pointing up. The bass line consists of quarter notes with stems pointing down. Measure 56 starts with a treble clef and a key signature signature. Measure 57 has a treble clef and a key signature signature. Measure 58 has a treble clef and a key signature signature. Measure 59 has a treble clef and a key signature signature.

60

Musical notation for measures 60-63. The key signature has one flat (B-flat). The time signature is 3/4. The notation includes a treble clef, a key signature signature (one flat), and a dynamic marking of *mf*. The melody consists of quarter and eighth notes with stems pointing up. The bass line consists of quarter notes with stems pointing down. Measure 60 starts with a treble clef and a key signature signature. Measure 61 has a treble clef and a key signature signature. Measure 62 has a treble clef and a key signature signature. Measure 63 has a treble clef and a key signature signature.

64

Musical notation for measures 64-68. The key signature has one flat (B-flat). The time signature is 3/4. The notation includes a treble clef, a key signature signature (one flat), and a dynamic marking of *mf*. The melody consists of quarter and eighth notes with stems pointing up. The bass line consists of quarter notes with stems pointing down. Measure 64 starts with a treble clef and a key signature signature. Measure 65 has a treble clef and a key signature signature. Measure 66 has a treble clef and a key signature signature. Measure 67 has a treble clef and a key signature signature. Measure 68 has a treble clef and a key signature signature.

69

Musical notation for measures 69-71. The key signature has one flat (B-flat). The time signature is 3/4. The notation includes a treble clef, a key signature signature (one flat), and a dynamic marking of *f*. The melody consists of quarter and eighth notes with stems pointing up. The bass line consists of quarter notes with stems pointing down. Measure 69 starts with a treble clef and a key signature signature. Measure 70 has a treble clef and a key signature signature. Measure 71 has a treble clef and a key signature signature.

72

Musical notation for measures 72-75. The key signature has one flat (B-flat). The time signature is 3/4. The notation includes a treble clef, a key signature signature (one flat), and a dynamic marking of *f*. The melody consists of quarter and eighth notes with stems pointing up. The bass line consists of quarter notes with stems pointing down. Measure 72 starts with a treble clef and a key signature signature. Measure 73 has a treble clef and a key signature signature. Measure 74 has a treble clef and a key signature signature. Measure 75 has a treble clef and a key signature signature.

76

Musical notation for measures 76-79. Treble clef, 2/4 time signature. Chords VI and VI6 are indicated below the staff.

80

Musical notation for measures 80-85. Treble clef, 2/4 time signature. Chords VI and VI6 are indicated below the staff.

86

Musical notation for measures 86-89. Treble clef, 3/4 time signature. Dynamic marking *mf* is present. Chords VI and VI6 are indicated below the staff.

90

Musical notation for measures 90-93. Treble clef, 3/4 time signature.

94

Musical notation for measures 94-97. Treble clef, 3/4 time signature.

98

Musical notation for measures 98-101. Treble clef, 3/4 time signature.

103

ff

107

111

115

ETUDE # 3: Voicing

Pitch Bends Not Exceeding a Minor Third

The musical score consists of six staves of music, each starting with a treble clef and a 12/8 time signature. The first staff begins with a dynamic marking of *f* and contains two measures of music with slurs and accents. The second staff starts with a measure number '3' and a dynamic marking of *mf*, followed by two measures. The third staff starts with a measure number '5' and a dynamic marking of *mf*, followed by two measures. The fourth staff starts with a measure number '7' and a dynamic marking of *f*, followed by two measures. The fifth staff starts with a measure number '9' and contains two measures. The sixth staff starts with a measure number '11' and contains two measures. The music features various note values, slurs, and accents, with some notes marked with a sharp (#) or a flat (b). The dynamics range from *f* (forte) to *mf* (mezzo-forte).

13

15

17

mp

19

21

23

mp

25

27 *mp*

29

31 *mp*

33

35 *f*

37

ETUDE # 4: Voicing

Voicing as a Means to Achieve Altissimo

Nebulous

The musical score consists of five systems, each with a treble clef and a 4/4 time signature. The first system begins with a dynamic marking of *f*. Each system features a series of notes in the upper register, with a dashed line above them indicating a voicing contour. The notes are often beamed together in groups. The bass line consists of sustained notes, some of which are beamed together. The systems are numbered 1, 4, 7, 10, and 13 at the beginning of their respective staves.

16

Musical staff 16: Treble clef, 16 measures. Notes: G4, Bb4, A4, G4, F4, Bb4, A4, G4, F4, E4. Bass clef: Bb3, G3, F3, E3. A dashed slur covers the melody, and a solid slur covers the bass line.

19

Musical staff 19: Treble clef, 19 measures. Notes: G4, A4, Bb4, A4, Bb4, G4, A4, Bb4, Bb4, G4. Bass clef: Bb3, G3, F3, E3. A dashed slur covers the melody, and a solid slur covers the bass line.

22

Musical staff 22: Treble clef, 22 measures. Notes: Bb4, Bb4, A4, G4, F4, E4, D4, C4. Bass clef: Bb3, G3, F3, E3. A dashed slur covers the melody, and a solid slur covers the bass line.

ETUDE # 5: Beginning Altissimo

...for the performance of altissimo in slow, melodic passages.

Relaxed, expressive but restrained

mf *f*

8*
x
2
3

8*
x
2
Ta

*For the purposes of this etude, all E 6's and F-sharp 6's should be performed using the auxiliary key.

mp

mp *mf*

f

f

16

mf > *mp*

8
1
2
Tc 3
Ta 4

8
2
3
4 (B)
5
6

8
1
2
3
Tc 4
Ta

19

mf > *mp* *mf* > *mp*

8
2
3
Tc 3
Ta 4

22

mf < *f*

8 c1
2
3 B
4
5
6

25

mp > *p*

28

mp < *mf*

31

rit.

mp *p*

34

pp

ETUDE # 6: Beginning Altissimo

Repetitive, Conjunct Passages

A patient, yet joyful, drudgery

f

4

7

10

13

16

19

Musical staff 19: Treble clef, key signature of one flat (Bb), 4/4 time signature. The staff contains four measures of music. The first two measures are in 4/4 time, and the last two are in 2/4 time. The melody consists of eighth notes with slurs and accents, including a sharp sign in the first measure of the 2/4 section.

22

Musical staff 22: Treble clef, key signature of one flat (Bb), 4/4 time signature. The staff contains four measures of music. The first two measures are in 4/4 time, and the last two are in 2/4 time. The melody consists of eighth notes with slurs and accents, including a sharp sign in the first measure of the 2/4 section.

25

Musical staff 25: Treble clef, key signature of one flat (Bb), 4/4 time signature. The staff contains four measures of music. The first two measures are in 4/4 time, and the last two are in 2/4 time. The melody consists of eighth notes with slurs and accents, including a flat sign in the first measure of the 2/4 section.

28

Musical staff 28: Treble clef, key signature of one flat (Bb), 4/4 time signature. The staff contains four measures of music. The first two measures are in 4/4 time, and the last two are in 2/4 time. The melody consists of eighth notes with slurs and accents, including a sharp sign in the first measure of the 2/4 section.

31

Musical staff 31: Treble clef, key signature of one flat (Bb), 4/4 time signature. The staff contains four measures of music. The first two measures are in 4/4 time, and the last two are in 2/4 time. The melody consists of eighth notes with slurs and accents.

34

Musical staff 34: Treble clef, key signature of one flat (Bb), 4/4 time signature. The staff contains four measures of music. The first two measures are in 4/4 time, and the last two are in 2/4 time. The melody consists of eighth notes with slurs and accents, including a sharp sign in the first measure of the 2/4 section.

37

Musical staff 37: Treble clef, key signature of one flat (Bb), 4/4 time signature. The staff contains four measures of music. The first two measures are eighth-note runs with slurs, featuring a sharp sign on the second note of each measure. The third measure is a quarter rest, and the fourth measure is a quarter note followed by a quarter rest. A 2/4 time signature change is indicated between the third and fourth measures.

40

Musical staff 40: Treble clef, key signature of one flat (Bb), 4/4 time signature. The staff contains four measures of music. The first two measures are eighth-note runs with slurs. The third measure is a quarter rest, and the fourth measure is a quarter note followed by a quarter rest. A 2/4 time signature change is indicated between the third and fourth measures.

43

Musical staff 43: Treble clef, key signature of one flat (Bb), 4/4 time signature. The staff contains four measures of music. The first two measures are eighth-note runs with slurs. The third measure is a quarter rest, and the fourth measure is a quarter note followed by a quarter rest. A 2/4 time signature change is indicated between the third and fourth measures.

46

Musical staff 46: Treble clef, key signature of one flat (Bb), 4/4 time signature. The staff contains four measures of music. The first two measures are eighth-note runs with slurs, featuring a sharp sign on the second note of each measure. The third measure is a quarter rest, and the fourth measure is a quarter note followed by a quarter rest. A 2/4 time signature change is indicated between the third and fourth measures.

49

Musical staff 49: Treble clef, key signature of one flat (Bb), 4/4 time signature. The staff contains four measures of music. The first two measures are eighth-note runs with slurs. The third measure is a quarter rest, and the fourth measure is a quarter note followed by a quarter rest. A 2/4 time signature change is indicated between the third and fourth measures.

52

Musical staff 52: Treble clef, key signature of one flat (Bb), 4/4 time signature. The staff contains four measures of music. The first two measures are eighth-note runs with slurs. The third measure is a quarter rest, and the fourth measure is a quarter note followed by a quarter rest. A 2/4 time signature change is indicated between the third and fourth measures.

55

Musical staff 55: Treble clef, key signature of one flat (Bb), 4/4 time signature. The staff contains four measures of eighth-note chords, each beamed together and slurred. The notes are G4, A4, Bb4, C5, D5, E5, F5. The fifth measure is a 2/4 time signature change with a quarter rest, followed by a quarter note G4. The sixth measure is a 4/4 time signature change with a quarter rest.

58

Musical staff 58: Treble clef, key signature of one flat (Bb), 4/4 time signature. The staff contains four measures of eighth-note chords, each beamed together and slurred. The notes are G4, A4, Bb4, C5, D5, E5, F5. The fifth measure is a 2/4 time signature change with a quarter rest, followed by a quarter note G4. The sixth measure is a 4/4 time signature change with a quarter rest.

61

Musical staff 61: Treble clef, key signature of one flat (Bb), 4/4 time signature. The staff contains four measures of eighth-note chords, each beamed together and slurred. The notes are G4, A4, Bb4, C5, D5, E5, F5. The fifth measure is a 2/4 time signature change with a quarter rest, followed by a quarter note G4. The sixth measure is a 4/4 time signature change with a quarter rest.

64

Musical staff 64: Treble clef, key signature of one flat (Bb), 4/4 time signature. The staff contains four measures of eighth-note chords, each beamed together and slurred. The notes are G4, A4, Bb4, C5, D5, E5, F5. The fifth measure is a 2/4 time signature change with a quarter rest, followed by a quarter note G4. The sixth measure is a 4/4 time signature change with a quarter rest.

67

Musical staff 67: Treble clef, key signature of one flat (Bb), 4/4 time signature. The staff contains four measures of eighth-note chords, each beamed together and slurred. The notes are G4, A4, Bb4, C5, D5, E5, F5. The fifth measure is a 2/4 time signature change with a quarter rest, followed by a quarter note G4. The sixth measure is a 4/4 time signature change with a quarter rest.

70

Musical staff 70: Treble clef, key signature of one flat (Bb), 4/4 time signature. The staff contains four measures of eighth-note chords, each beamed together and slurred. The notes are G4, A4, Bb4, C5, D5, E5, F5. The fifth measure is a 2/4 time signature change with a quarter rest, followed by a quarter note G4. The sixth measure is a 4/4 time signature change with a quarter rest.

73

Musical notation for measure 73. The staff is in treble clef with a key signature of two flats (Bb and Eb) and a 4/4 time signature. The measure contains four groups of eighth notes, each beamed together and topped with a slur. The notes are: G4 (quarter), A4 (quarter), Bb4 (quarter), C5 (quarter); D4 (quarter), E4 (quarter), F4 (quarter), G4 (quarter); A4 (quarter), Bb4 (quarter), C5 (quarter), D5 (quarter); E4 (quarter), F4 (quarter), G4 (quarter), A4 (quarter). The measure concludes with a quarter rest, a quarter note G4, and a quarter rest.

76

Musical notation for measure 76. The staff is in treble clef with a key signature of two flats (Bb and Eb) and a 4/4 time signature. The measure contains four groups of eighth notes, each beamed together and topped with a slur. The notes are: G4 (quarter), A4 (quarter), Bb4 (quarter), C5 (quarter); D4 (quarter), E4 (quarter), F4 (quarter), G4 (quarter); A4 (quarter), Bb4 (quarter), C5 (quarter), D5 (quarter); E4 (quarter), F4 (quarter), G4 (quarter), A4 (quarter). The measure concludes with a quarter rest, a quarter note G4, and a quarter rest.

79

Musical notation for measure 79. The staff is in treble clef with a key signature of two flats (Bb and Eb) and a 4/4 time signature. The measure contains four groups of eighth notes, each beamed together and topped with a slur. The notes are: G4 (quarter), A4 (quarter), Bb4 (quarter), C5 (quarter); D4 (quarter), E4 (quarter), F4 (quarter), G4 (quarter); A4 (quarter), Bb4 (quarter), C5 (quarter), D5 (quarter); E4 (quarter), F4 (quarter), G4 (quarter), A4 (quarter). The measure concludes with a quarter rest, a quarter note G4, and a quarter rest.

82

Musical notation for measure 82. The staff is in treble clef with a key signature of two flats (Bb and Eb) and a 4/4 time signature. The measure contains four groups of eighth notes, each beamed together and topped with a slur. The notes are: G4 (quarter), A4 (quarter), Bb4 (quarter), C5 (quarter); D4 (quarter), E4 (quarter), F4 (quarter), G4 (quarter); A4 (quarter), Bb4 (quarter), C5 (quarter), D5 (quarter); E4 (quarter), F4 (quarter), G4 (quarter), A4 (quarter). The measure concludes with a quarter rest, a quarter note G4, and a quarter rest.

ETUDE # 7: Beginning Altissimo

Rapid, Conjunct Passages

Exuberant

The musical score consists of six staves of music in treble clef, 15/8 time signature, and a key signature of one sharp (F#). The music is characterized by rapid, conjunct passages with various dynamics and articulations.

- Staff 1:** Starts with a dynamic marking of *ff*. The music features a series of eighth-note runs with slurs and accents.
- Staff 2:** Continues the rapid passages with slurs and accents.
- Staff 3:** Includes a dynamic marking of *f* and features a series of eighth-note runs with slurs and accents.
- Staff 4:** Includes a dynamic marking of *ff* and features a series of eighth-note runs with slurs and accents.
- Staff 5:** Continues the rapid passages with slurs and accents.
- Staff 6:** Features a series of eighth-note runs with slurs and accents, ending with a final flourish.

7

Musical staff 7: Treble clef, starting with a slur over notes G4, A4, B4, C5, B4, A4, G4. This is followed by a series of eighth notes with accents: G4, A4, B4, C5, B4, A4, G4, F4, E4, D4. The staff ends with a slur over notes G4, A4, B4, C5, B4, A4, G4.

8

Musical staff 8: Treble clef, starting with a slur over notes G4, A4, B4, C5, B4, A4, G4. This is followed by a series of eighth notes with accents: G4, A4, B4, C5, B4, A4, G4, F4, E4, D4. The staff ends with a slur over notes G4, A4, B4, C5, B4, A4, G4.

9

Musical staff 9: Treble clef, starting with a slur over notes G4, A4, B4, C5, B4, A4, G4. This is followed by a series of eighth notes with accents: G4, A4, B4, C5, B4, A4, G4, F4, E4, D4. The staff ends with a slur over notes G4, A4, B4, C5, B4, A4, G4.

ff

10

Musical staff 10: Treble clef, starting with a slur over notes G4, A4, B4, C5, B4, A4, G4. This is followed by a series of eighth notes with accents: G4, A4, B4, C5, B4, A4, G4, F4, E4, D4. The staff ends with a slur over notes G4, A4, B4, C5, B4, A4, G4.

11

Musical staff 11: Treble clef, starting with a slur over notes G4, A4, B4, C5, B4, A4, G4. This is followed by a series of eighth notes with accents: G4, A4, B4, C5, B4, A4, G4, F4, E4, D4. The staff ends with a slur over notes G4, A4, B4, C5, B4, A4, G4.

12

Musical staff 12: Treble clef, starting with a slur over notes G4, A4, B4, C5, B4, A4, G4. This is followed by a series of eighth notes with accents: G4, A4, B4, C5, B4, A4, G4, F4, E4, D4. The staff ends with a slur over notes G4, A4, B4, C5, B4, A4, G4.

mp

13

mf

14

15

16

17

ff

ETUDE # 8: Beginning Altissimo

Expressive Passage (Both Conjunct and Disjunct)

Improvisation: Languid

Musical notation for measures 1-3. Measure 1 contains a whole rest. Measure 2 features a triplet of eighth notes (F#, G, A) with a slur above. Measure 3 contains a half note (B) with a slur above. Dynamics: *ppp* at the start and *ppp* at the end.

Musical notation for measures 4-6. Measure 4: quarter note (B), quarter note (C), quarter note (D). Measure 5: quarter note (E), quarter note (F), quarter note (G). Measure 6: quarter note (A), quarter note (B), quarter note (C). Dynamics: *ff* at the end.

Musical notation for measures 7-9. Measure 7: quarter note (D), quarter note (E), quarter note (F). Measure 8: quarter note (G), quarter note (A), quarter note (B). Measure 9: quarter note (C), quarter note (B), quarter note (A). Dynamics: *mf* at the start, *fff* at the end.

Musical notation for measures 10-11. Measure 10: quarter note (D), quarter note (E), quarter note (F). Measure 11: quarter note (G), quarter note (A), quarter note (B). Dynamics: *mf* at the start, *fff* at the end.

*All trills throughout this etude are to be to a half-step above the indicated pitch

Musical notation for measures 12-13. Measure 12: quarter note (C), quarter note (D), quarter note (E), quarter note (F), quarter note (G), quarter note (A), quarter note (B), quarter note (C), quarter note (D), quarter note (E), quarter note (F), quarter note (G), quarter note (A), quarter note (B), quarter note (C). Dynamics: *mf* at the start. Above the staff, the word *accel.* is written above a wavy line.

Musical notation for measures 13-14. Measure 13: quarter note (C), quarter note (D), quarter note (E), quarter note (F), quarter note (G), quarter note (A), quarter note (B), quarter note (C), quarter note (D), quarter note (E), quarter note (F), quarter note (G), quarter note (A), quarter note (B), quarter note (C). Dynamics: *fff* at the start, *mf* at the end. Above the staff, the words *a tempo* and *accel.* are written above a wavy line.

15 *fff* *f* *accel.*

17 *ff* *a tempo accel.*

18 *mf* *a tempo*

21 *mp* *fff* 3

ETUDE # 9: Circular Breathing

Slow, Gradual Extension of Circular Breathing Ability

Chanting

mf throughout

8

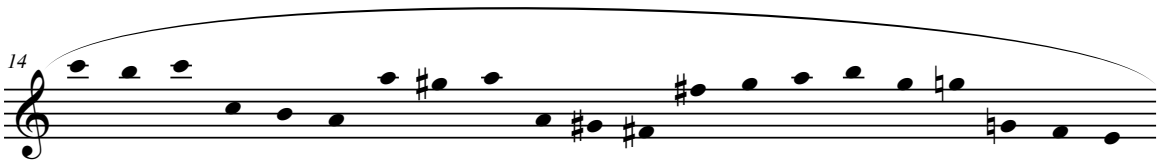
9

10

11


12

13  Musical staff 13: Treble clef, starting with a whole note G4. The melody consists of quarter notes: A4, B4, C5, D5, E5, F5, G5, F5, E5, D5, C5, B4, A4. A slur covers the entire staff. A flat is placed below the G5 note.

14  Musical staff 14: Treble clef, starting with a whole note G4. The melody consists of quarter notes: A4, B4, C5, D5, E5, F5, G5, F5, E5, D5, C5, B4, A4. A slur covers the entire staff. A sharp is placed below the G5 note.

15  Musical staff 15: Treble clef, starting with a whole note G4. The melody consists of quarter notes: A4, B4, C5, D5, E5, F5, G5, F5, E5, D5, C5, B4, A4. A slur covers the entire staff. A sharp is placed below the G5 note.

16  Musical staff 16: Treble clef, starting with a whole note G4. The melody consists of quarter notes: A4, B4, C5, D5, E5, F5, G5, F5, E5, D5, C5, B4, A4. A slur covers the entire staff. A sharp is placed below the G5 note.

17  Musical staff 17: Treble clef, starting with a whole note G4. The melody consists of quarter notes: A4, B4, C5, D5, E5, F5, G5, F5, E5, D5, C5, B4, A4. A slur covers the entire staff. A sharp is placed below the G5 note.

18  Musical staff 18: Treble clef, starting with a whole note G4. The melody consists of quarter notes: A4, B4, C5, D5, E5, F5, G5, F5, E5, D5, C5, B4, A4. A slur covers the entire staff. A flat is placed below the G5 note.

19

Musical staff 19: Treble clef, melodic line with a slur and a fermata over the final notes.

20

Musical staff 20: Treble clef, melodic line with a slur and a fermata over the final notes.

21

Musical staff 21: Treble clef, melodic line with a slur and a fermata over the final notes.

22

Musical staff 22: Treble clef, melodic line with a slur and a fermata over the final notes.

23

Musical staff 23: Treble clef, melodic line with a slur and a fermata over the final notes.

24


Musical staff 24: Treble clef, melodic line with slurs and a fermata over the final notes.

ETUDE # 10: Circular Breathing

Repetitive Scalar and Arpeggiated Passages

Optimistic

The musical score consists of six staves of music, each starting with a forte (*f*) dynamic marking. The key signature is two sharps (F# and C#), and the time signature is 4/4. The music is characterized by repetitive scalar and arpeggiated passages, often spanning across multiple measures and marked with phrasing slurs and breath marks. The first staff begins with a 4/4 time signature. The second staff is marked with a measure number '5'. The third staff is marked with a measure number '9'. The fourth staff is marked with a measure number '13'. The fifth staff is marked with a measure number '17'. The sixth staff is marked with a measure number '21'. The music concludes with a final double bar line and a key signature change to one sharp (F#).

25 
f

29 
f

33 
f

37 
f

41 
mp

45 
cresc.

49

cresc.

53

cresc.

57

cresc. *ff*

61

dim. *dim.*

65

dim. *dim.*

69

mf *mp*

73

mf

77

f

81

85

89

ETUDE # 11: Circular Breathing

Rapid, Arpeggiated, and Repetitive Passages

Taking flight, brilliant

1 *p cresc.*

2

3 *f dim.*

4

5 *p cresc.*

6

7 *f dim.*

8

9 *mp*

10

11

12 *pp*

13

p

14

mp *cresc.*

15

cresc.

16

cresc.

17

f

18

19

Musical notation for measure 19, featuring a treble clef, a key signature of one sharp (F#), and a melodic line with a slur over four measures of eighth notes.

20

ff

Musical notation for measure 20, featuring a treble clef and a melodic line with a slur over four measures of eighth notes. The dynamic marking *ff* is present below the staff.

21

Musical notation for measure 21, featuring a treble clef and a melodic line with a slur over four measures of eighth notes.

22

Musical notation for measure 22, featuring a treble clef and a melodic line with a slur over four measures of eighth notes.

23

Musical notation for measure 23, featuring a treble clef and a melodic line with a slur over four measures of eighth notes.

24

Musical notation for measure 24, featuring a treble clef, a key signature of one sharp (F#), and a melodic line with a slur over four measures of eighth notes.

25

26

27

28

29

30

pp *cresc.* 3 3 3 3 3 3 3 3

34 *cresc.*

Musical staff 34: Treble clef, 8 measures of eighth-note runs. The notes are: G4, A4, B4, C#4, D4, E4, F4, G4, A4, B4, C4, B4, A4, G4, F4, E4, D4, C4. A slur covers the entire staff. The marking *cresc.* is below the first measure.

36 *cresc.*

Musical staff 36: Treble clef, 8 measures of eighth-note runs. The notes are: G4, A4, B4, C#4, D4, E4, F4, G4, A4, B4, C4, B4, A4, G4, F4, E4, D4, C4. A slur covers the entire staff. The marking *cresc.* is below the first measure.

38 *cresc.*

Musical staff 38: Treble clef, 8 measures of eighth-note runs. The notes are: G4, A4, B4, C#4, D4, E4, F4, G4, A4, B4, C4, B4, A4, G4, F4, E4, D4, C4. A slur covers the entire staff. The marking *cresc.* is below the first measure. The number '5' is written below the first, third, fifth, and seventh measures.

39 *cresc.*

Musical staff 39: Treble clef, 8 measures of eighth-note runs. The notes are: G4, A4, B4, C#4, D4, E4, F4, G4, A4, B4, C4, B4, A4, G4, F4, E4, D4, C4. A slur covers the entire staff. The marking *cresc.* is below the first measure. The number '5' is written below the first, third, fifth, and seventh measures.

40 *cresc.*

Musical staff 40: Treble clef, 8 measures of eighth-note runs. The notes are: G4, A4, B4, C#4, D4, E4, F4, G4, A4, B4, C4, B4, A4, G4, F4, E4, D4, C4. A slur covers the entire staff. The marking *cresc.* is below the first measure. The number '6' is written below the first, third, fifth, and seventh measures.

41 *cresc.*

Musical staff 41: Treble clef, 8 measures of eighth-note runs. The notes are: G4, A4, B4, C#4, D4, E4, F4, G4, A4, B4, C4, B4, A4, G4, F4, E4, D4, C4. A slur covers the entire staff. The marking *cresc.* is below the first measure. The number '6' is written below the first, third, fifth, and seventh measures. Below the staff, there are two horizontal lines.

42



ff

Musical notation for measure 42, featuring a treble clef, a key signature of one sharp (F#), and a dynamic marking of *ff*. The measure contains a continuous eighth-note melody across four groups of four notes, all encompassed by a single slur.

43



Musical notation for measure 43, continuing the eighth-note melody from the previous measure, also under a single slur.

44



Musical notation for measure 44, concluding the eighth-note melody with a double bar line at the end, still under a single slur.

ETUDE # 12: Circular Breathing

Rapid, Non-Repetitive, and Quiet Passages

Seething

The musical score for 'Seething' is written in treble clef with a key signature of one sharp (F#). It consists of five lines of music, each starting with a measure number (1, 3, 5, 7, 9, 11) and a long slur above the staff. The first line begins with a *pp* dynamic marking. The notation includes a variety of rhythmic patterns, including eighth and sixteenth notes, and rests. Some notes are marked with an 'x', likely indicating circular breathing techniques. The piece concludes with a final measure on the fifth line.

13

15

17

19

21

23

25

27

28

29

30

32



45

Musical staff 45: Treble clef, key signature of one sharp (F#), starting with a slur over measures 45-48. The melody consists of eighth and sixteenth notes with various accidentals.

47

Musical staff 47: Treble clef, key signature of one flat (Bb), starting with a slur over measures 47-50. The melody consists of eighth and sixteenth notes with various accidentals.

49

Musical staff 49: Treble clef, key signature of one sharp (F#), starting with a slur over measures 49-52. The melody consists of eighth and sixteenth notes with various accidentals.

51

Musical staff 51: Treble clef, key signature of one sharp (F#), starting with a slur over measures 51-54. The melody consists of eighth and sixteenth notes with various accidentals.

53

Musical staff 53: Treble clef, key signature of one sharp (F#), starting with a slur over measures 53-56. The melody consists of eighth and sixteenth notes with various accidentals.

ETUDE # 13: Double tonguing

Study and Awareness of the Oral Muscular Mechanism

Brisk, neurotic

Musical notation for measures 1-3. Measure 1: quarter rest, eighth rest, eighth rest, quarter rest. Measure 2: quarter rest, eighth rest, eighth rest, quarter rest, with '(d-g)' above. Measure 3: quarter rest, eighth rest, eighth rest, quarter rest, with '(d-g-d)' above. All notes are marked with 'x'.

f * Pitchless, percussive
d - articulation with the tip of the tongue
g - articulation with the back of the tongue (i.e. guh or kuh)

Musical notation for measures 4-6. Measure 4: quarter rest, eighth rest, eighth rest, quarter rest, with '(d-g-d-g)' above. Measure 5: quarter rest, eighth rest, eighth rest, quarter rest, with '(d-g-d-g)' above. Measure 6: quarter rest, eighth rest, eighth rest, quarter rest, with '(d-g-d-g)' above. All notes are marked with 'x'.

Musical notation for measures 7-9. Measure 7: quarter rest, eighth rest, eighth rest, quarter rest, with '(d-g-d-g)' above. Measure 8: quarter rest, eighth rest, eighth rest, quarter rest, with '(d-g-d-g)' above. Measure 9: quarter rest, eighth rest, eighth rest, quarter rest, with '(d-g-d-g)' above. All notes are marked with 'x'.

Musical notation for measures 10-12. Measure 10: quarter rest, eighth rest, eighth rest, quarter rest, with '(d-g-d-g)' above. Measure 11: quarter rest, eighth rest, eighth rest, quarter rest, with '(d-g-d-g)' above. Measure 12: quarter rest, eighth rest, eighth rest, quarter rest, with '(d-g-d-g)' above. All notes are marked with 'x'.

Musical notation for measures 13-15. Measure 13: quarter rest, eighth rest, eighth rest, quarter rest, with '(d-g-d-g)' above. Measure 14: quarter rest, eighth rest, eighth rest, quarter rest, with '(d-g-d-g)' above. Measure 15: quarter rest, eighth rest, eighth rest, quarter rest, with '(d-g-d-g)' above. All notes are marked with 'x'.

Musical notation for measures 16-18. Measure 16: quarter rest, eighth rest, eighth rest, quarter rest, with '(d-g-d-g)' above. Measure 17: quarter rest, eighth rest, eighth rest, quarter rest, with '(d-g-d-g)' above. Measure 18: quarter rest, eighth rest, eighth rest, quarter rest, with '(d-g-d-g)' above. All notes are marked with 'x'.

mp

19

22

25

28

31

(g-d-g)

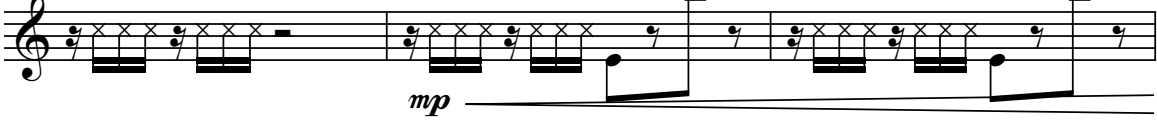
f

34

37



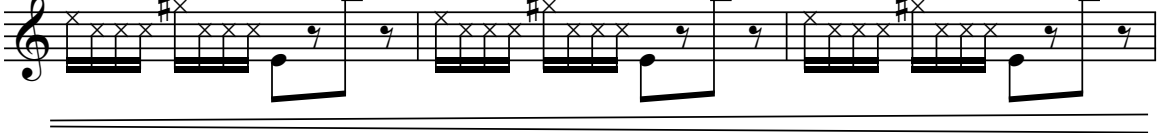
40



43



46



49



52



55

Musical staff 55: Treble clef, 3/4 time signature. Measures 1-3: eighth notes with stems down, eighth notes with stems up, and quarter notes. Measure 4: quarter note, eighth notes with stems down, eighth notes with stems up, quarter note.

58

Musical staff 58: Treble clef, 3/4 time signature. Measures 1-4: eighth notes with stems down, eighth notes with stems up, quarter notes, eighth notes with stems down, eighth notes with stems up, quarter notes.

61

Musical staff 61: Treble clef, 3/4 time signature. Measures 1-4: eighth notes with stems down, eighth notes with stems up, quarter notes, eighth notes with stems down, eighth notes with stems up, quarter notes. Includes *pp* dynamic marking.

64

Musical staff 64: Treble clef, 3/4 time signature. Measures 1-4: eighth notes with stems down, eighth notes with stems up, quarter notes, eighth notes with stems down, eighth notes with stems up, quarter notes.

67

Musical staff 67: Treble clef, 3/4 time signature. Measures 1-4: eighth notes with stems down, eighth notes with stems up, quarter notes, eighth notes with stems down, eighth notes with stems up, quarter notes.

70

Musical staff 70: Treble clef, 3/4 time signature. Measures 1-4: eighth notes with stems down, eighth notes with stems up, quarter notes, eighth notes with stems down, eighth notes with stems up, quarter notes. Includes *f* dynamic marking.

73

ff

Musical notation for measures 73 and 74. The notation is on a single treble clef staff. Measure 73 contains a series of eighth notes with 'x' marks above them, followed by a quarter rest. Measure 74 contains a series of eighth notes with 'x' marks above them, followed by a quarter rest. The dynamic marking *ff* is placed below the first measure.

75

Musical notation for measures 75 and 76. The notation is on a single treble clef staff. Measure 75 contains a series of eighth notes with 'x' marks above them, followed by a quarter rest. Measure 76 contains a series of eighth notes with 'x' marks above them, followed by a quarter rest.

77

Musical notation for measures 77 and 78. The notation is on a single treble clef staff. Measure 77 contains a series of eighth notes with 'x' marks above them, followed by a quarter rest. Measure 78 contains a series of eighth notes with 'x' marks above them, followed by a quarter rest.

79

Musical notation for measures 79 and 80. The notation is on a single treble clef staff. Measure 79 contains a series of eighth notes with 'x' marks above them, followed by a quarter rest. Measure 80 contains a series of eighth notes with 'x' marks above them, followed by a quarter rest.

ETUDE # 14: Double Tonguing

Legato, Repeated Passages

Intent, driving

mf

simile

4

7

f

10

13

16

ff

113

19

Musical staff 19: Treble clef, no key signature, sixteenth-note patterns.

22

Musical staff 22: Treble clef, one flat key signature, sixteenth-note patterns.

25

Musical staff 25: Treble clef, one flat key signature, sixteenth-note patterns.

mf

28

Musical staff 28: Treble clef, one flat key signature, sixteenth-note patterns.

31

Musical staff 31: Treble clef, one sharp key signature, sixteenth-note patterns.

mp

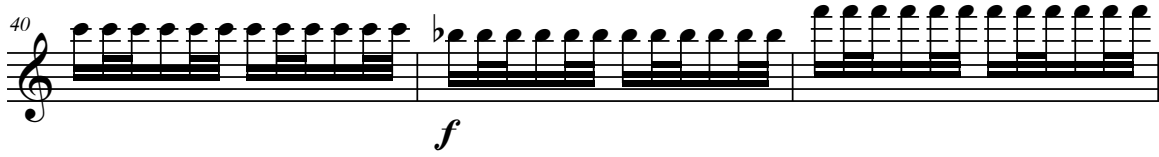
34

Musical staff 34: Treble clef, one sharp key signature, sixteenth-note patterns.

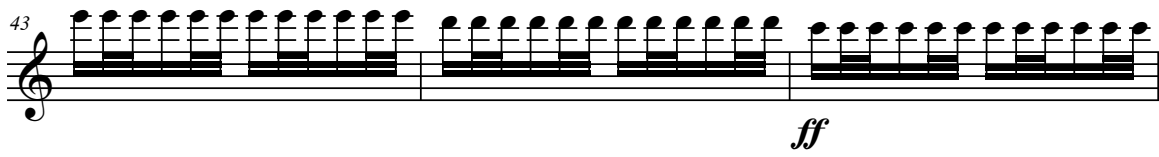
37 *mf*



40 *f*



43 *ff*



46



49 *f*



52 *ff*



55

f

58

f

61

mf

64

mp

67

mf

70

mf

ETUDE # 15: Double Tonguing

Rapid, Conjunct, Chromatic Passages

Cascading

The musical score is written in treble clef with a 4/4 time signature. It consists of five staves of music, each starting with a measure number (1, 3, 5, 7, 9, 11). The music features rapid, conjunct, chromatic passages with double tonguing. The dynamics are marked as *mf* (mezzo-forte) at the beginning, *f* (forte) at the start of the second staff, and *ff* (fortissimo) at the start of the third staff. The score includes various musical notations such as slurs, accents, and dynamic markings.

13

f

15

17

19

mf

21

23

25

27

mf *f*

29

ff

31

mp

33

35

37

39

41

mf *f*

43

ff

45

47

ETUDE # 16: Double Tonguing

Repeated Notes with Varying Velocity

Fluctuating, with measured anger

f

5

mf

7

pp

9

fff

15

mp

19

f

22

ppp *f* *ppp*

29

mf

31

33

ff

37

f

ETUDE # 17: Microtones

Slow, "Microchromatic" Passages

Meditatively

Staff 1 (Measures 1-4):
 1 2 3 4 5 6 7
 1 2 3 4 5
 Eb7

Staff 2 (Measures 5-8):
 1 2 3 5 6
 Tc² Ta^{3p}

Staff 3 (Measures 9-12):
 1 2 3 4 5 8
 1 2 3 4 5 8
 Tc²

Staff 4 (Measures 13-16):
 1 2 3 4 5 6
 8 c1 1 2 4 5

8
1
2
3
Tf₅

17

f *f*

Detailed description: This musical staff contains measures 17 through 20. It begins with a treble clef and a 3/4 time signature. The notes are G4, A4, B4, and C5, with a trill (Tf) over the C5. The time signature changes to 4/4 for measures 18 and 19, and returns to 3/4 for measure 20. Dynamics include a crescendo leading to a fortissimo (*f*) in measure 18, and another fortissimo (*f*) in measure 19. Slurs and accents are present over the notes.

8
1
3 p
8 p
8
2 c1

21

ff *fff*

Detailed description: This musical staff contains measures 21 through 24. It starts with a treble clef and a 3/4 time signature. The notes are G4, A4, B4, and C5, with a trill (Tf) over the C5. The time signature changes to 4/4 for measures 22 and 23, and returns to 3/4 for measure 24. Dynamics include fortissimo (*ff*) in measure 22 and fortississimo (*fff*) in measure 23. Slurs and accents are present over the notes.

8
Tc² 8
Tc²

25

ffff

Detailed description: This musical staff contains measures 25 through 28. It begins with a treble clef and a 3/4 time signature. The notes are G4, A4, B4, and C5, with a trill (Tc) over the C5. The time signature changes to 4/4 for measures 26 and 27, and returns to 3/4 for measure 28. The dynamic is fortississimo (*ffff*) throughout. Slurs and accents are present over the notes.

1
2
3
5
6

1
2
4
5

8
1
Tc²

8
1 p
Ta³

8
1
2
3
5

29

mp *p*

Detailed description: This musical staff contains measures 29 through 32. It starts with a treble clef and a 3/4 time signature. The notes are G4, A4, B4, and C5, with a trill (Tc) over the C5. The time signature changes to 4/4 for measures 30 and 31, and returns to 3/4 for measure 32. Dynamics include mezzo-piano (*mp*) in measure 29 and piano (*p*) in measure 30. Slurs and accents are present over the notes.

8
1
2
3
Tf₅

8
1
2
4
5

33

Detailed description: This musical staff contains measures 33 through 36. It begins with a treble clef and a 3/4 time signature. The notes are G4, A4, B4, and C5, with a trill (Tf) over the C5. The time signature changes to 4/4 for measures 34 and 35, and returns to 3/4 for measure 36. Dynamics include mezzo-piano (*mp*) in measure 33 and piano (*p*) in measure 34. Slurs and accents are present over the notes.

	1		1
	2	1	2
	3	2	3
	5	4	4
	6	5	5
			7

37

mf *mp*

	1	
	2	
	3	
	4	
	5	
	6	
	7	

41

mf Eb⁶₇

			1
			2
			3
			5

45

mf Ta³p Ta³₅

	1		1
	2		2
	3		4
	5		5
	6		

49

mf *f* *pp*

53

mf

57

1
2
3
5
6

1
2
3
Tf⁵

1
2
4
5

1
2
3
5
6

1
2
3
Tf⁵

1
2
4
5

ETUDE # 18: Microtones

Slow, Disjunct Passages

8
1
2
3
4 C#
5
6

Liquid

8
1
2
3
4
5
6

Eb⁶ Tc

mp *mf*

8
8 1
1 2
2 3 1
3 4 2
5 5 4
6 6 5

8
1
2
3
4
5
6

8
1
2
3
5
Tf⁵

8
2
3
Tc³

4

B

mp *f* *p*

8
1
2
3
4
5
6
Eb 7

Ta³

mf

8
Tc²

8
1
2
3
Tf⁵

10

mp *p*

8 8
 1 1
 2 2
 3 3 B
 4 4
 5 5 1_p
 6 6 3

13

8 8
 1 1
 2 2
 3 3 B
 4 4
 5 5
 6 6

16

1	1	8
2	2	1
3	3	2
4	4 C#	3
5	5	4
6	6	5
Eb 7	Eb 6	Eb 6
		7

19

8	8	8	8	8
1	1	2	2	2
2	2	3	3	3
3	3	Ta	Tc	c2
4	4			
6	6			

22

25 $\sharp b.$

ff

Tc²₃

2

ETUDE # 19: Microtones

Hybrid-Conjunct and -Disjunct Passages

Dangerous, foreboding

8
1
Ta³ P

8
1
3 P

8
1
2
4
5

ff

8
1
Tc²

8
1
Ta³ P

8
1
3 P

8
1
4
5

ff

8
1
Tc²

8
1
Tc²

8
1
Ta³ P

8
1
3 P

ff

8
1
2
c1

8
1
Tc²

8
1
Tc²

8
1
Ta³ P

8
1
3 P

ff

8
1
Tc²

8
1
Tc²

8
1
Ta³ P

8
1
3 P

p

8
1
2
3
4
5
6 B

11 *p*

Tc² Tc² Ta^{3p}

8
1
2
3
4
5
6
7

13 *p*

Eb⁶ Tc² Tc²

8
1
2
3
4
5
7

15 *p*

Eb⁶ 6 B

8
1
2
4
5

17 *fff*

Ta^{3p} 1p

8
1
Tc²
8
1
Ta³^p
8
1
3
5
8
1
2
4
5

19 *ff*

8
Tc²
8
1
Tc²
8
1
Tc³^p
8
1
3

21 *f*

8
2
c1
8
Tc²
8
1
Tc²

23 *mf*

2
Tc²
1
Tc²
1
Ta³^p
1
3
3^p

25 *pp*

8
1
2
3
4
5
6
B
Tc²
1
Tc²
1
Ta³^p

27 *p*

8
1
2
3
4
5
6
7

8
1
2
3
4^B
5
6

29 *mp*

E^b₇⁶ T_c² T_c³

8
1
2
3
4
5
6
7

8
1
2
3
4
5
6
7

8
1
2
3
4
5
6
7

31 *mf*

E^b₇⁶ ⁶B

8
1
2
3
4
5

8
1
2
3
4
5

8
1
2
3
4
5

8
1
2
3
4
5

33 *mp*

8^{c1} T_c² T_c² T_a^{3p}

8
1
2
3
4
5

8
1
2
3
4
5

8
1
2
3
4
5

8
1
2
3
4
5

35 *mp*

T_f⁵

8
1
2
3
5
6

8
1
2
3
4
6

8
1
2
3
4
5
7

37

fff

ETUDE # 20: Microtones

Rapid, Conjunct Passages

8	8
1	1
2	2
4	3
6	5

Mechanical ^{Tf}

8	8
1	1
2	2
3	3
4	5
6	6

2

3

8	
1	8
2	1
4	3
5	5

4

5

6

8
1
3
5

8
1 P
Tc

7

8

8
1
2
4
6

8
1
2
3
5
Tf

9

10

8
1
2
3
4
6

8
1
2
3
5
6

11

8
1 8
2 1
4 3
5 5

12

13

8
1 8
3 1
5 Ta^p

14

15

8
1
2
4
5

Musical staff 16: Treble clef, key signature of two sharps (F# and C#). The staff contains three groups of eighth notes, each beamed together and marked with an accent (>). The first group has notes F#4, G#4, A4, B4. The second group has notes F#4, G#4, A4, B4. The third group has notes G#4, A4, B4, C#5. There are rests between the groups.

8 8 8 8 8
1 1 1 1 1
2 2 2 2 2
3 3 3 3^B 3
Tf⁵ 5 4 4 Eb 5
6 6 5 6 7

Musical staff 17: Treble clef, key signature of two flats (Bb and Eb). The staff contains three groups of eighth notes, each beamed together and marked with an accent (>). The first group has notes Bb4, Ab4, Gb4, Fb4. The second group has notes Bb4, Ab4, Gb4, Fb4. The third group has notes Bb4, Ab4, Gb4, Fb4. There are rests between the groups.

Musical staff 18: Treble clef, key signature of two sharps (F# and C#). The staff contains three groups of eighth notes, each beamed together and marked with an accent (>). The first group has notes F#4, G#4, A4, B4. The second group has notes F#4, G#4, A4, B4. The third group has notes F#4, G#4, A4, B4. There are rests between the groups. The dynamic marking *f* is present at the beginning. Above the first group is the marking ¹Tc², and above the second group is ²Tc².

Musical staff 19: Treble clef, key signature of two sharps (F# and C#). The staff contains three groups of eighth notes, each beamed together and marked with an accent (>). The first group has notes F#4, G#4, A4, B4. The second group has notes F#4, G#4, A4, B4. The third group has notes F#4, G#4, A4, B4. There are rests between the groups. Above the second group is the marking ²Tc, and above the third group is ^{c1}Tc³.

20

8	8
1	1
2	2
3	3
4	4
5	5
E ^b ₇	E ^b ₆
	C#

21

22

8
1
2
3
4
6

23

8	8
1	1
2	2
3	3
5	
6	Tf ⁵

24

ETUDE # 21: Timbre and Bisbigliando

Melodic Passages

8
1
2
3
5 (12+5+12)
6
7
LevEl

2 c1
3
4
5 c1
6 c2
Eb c3
Tc³

2 c1
3
4 1
5 2
6 3
Eb 7 G#
Tc³

5
c1
c2
c3
Tc³

8
1
2
3
5
6
7

2 c1
3
4 c1 1
5 c2 2
Eb c3 Tc³
Tc³ Eb Tc³

7

9

1
2
3
Tc

2 c1
3
4
5
6
Eb

1
2
5
6

f

11

1
2
3 G#
7

c1
c2
c3

8
1
2
3
4
6
Eb

8
1
2
3
5
6
7

f

13

c1
c2
c3

8
1
2
3
4
6
Eb

ff

ff

15

c1
c2
c3

8
1
2
3
4
6
Eb

ff

ff

17

mf

19

21

2 c1
3
4
5
6

1
2
3

1
2
5
6

2 c1
3
4
5

subito p

subito p

23

c1
c2
c3

25

8
4
5

fff

fff

8 1 2 3 Tc 3 8 4 5 8 1 2 4 5 8 1 2 3 C# 3 4 5 6 7 8 1 2 3 4 5 6 7

1 2 3 7 G# 3 7 1 2 3 7

31 *ff*

33 *mf*

35 *ff*

ETUDE # 22: Timbre and Bisbigliando

Utilizing Multiple Fingerings in Rapid Ostinato Passages

	8	
	1	
	2	
8	4	
1	5	
2	6	
4	7	

Frenetic

ff

8	8	
1	1	
2	2	
3	3	
4	4	
5	Eb	5

2

8	8	
1	1	
2	2	
3	3	
4	4	
6	Eb	6

3

	1	
1	2	
2	5	
4	6	

4

	8
	1
	2
8	3
1	4
2	5
3	6
(7)	7

5

	8
8	1
1	2
2	3
3	4
4 Bb	5
5 Eb	

6

mp

8	8
1	1
2	2
3	3
4	4
6 Eb	6

7

	8
1	8
2	1
3	2
5	3
Eb	5 Bb
6	

8

	8
	1
	2
8	3
1	4
2	5
3	6
(7)	7

9

f

	8
	1
	2
8	3
1	4 C#
2	5
3 C#	6
(7)	7

10

ff

	8
	1
	2
8	4
1	5
2	6
4	7

11

ff

	8
8	1
1	3 ^p
4 ^p	4
8	5
1 ^p	6
	6

12

ff

13

1p 1 4P 5 6 7

14

8 2 c1 3 4 5

15

8 8 1 1 2 2 3 3 4 4 6 Eb 6

16

8 1 2 3 Bb 4 5

17

8 Eb 6 7

8
2 c1
3 c2
8
2 c1
c2 4
5

18

mf

8
2 c1
3
8
2 c1
4
5

19

8
8
1
2
3
4
5
6
7
(7)

20

1
2
3
5
Eb 6
1
2
3 Bb
5

21

ff

8	8
1	1
2	2
3	3
4	4
6	Eb6

22

8	8
1	1
2	2
3	Bb3
4	4
5	Eb5

23

1	1
2	2
3	Bb3
4	4
5	Eb5

24

1	
2	1
3	2
5	3
6	Bb5
Eb	5

25

	1
1	2
2	5
5	6

26

1
2
3 B
4
1 (B)
(7) 5
6
27 7

2
3 B
4
2 5
4 6
5 7

28

mf

8 8
1 1
2 2
3 3
4 Bb 4
5 Eb 5

29

8
1
2
8 3
1 4
2 5
3 6
(7) 7

30

8 8
 1 1
 2 2
 3 3
 4 4
 6 6

E \flat

31

ff

32

33

34

35

8
1
2
8 4
1 5
2 6
4 7

36

Musical notation on a treble clef staff. It features a sequence of six eighth-note pairs, each beamed together and topped with a slur and a fermata. The notes are G4, A4, B4, C5, D5, E5, F5, G5, A5, B5, C6, D6, E6, F6, G6, A6, B6, C7, D7, E7, F7, G7, A7, B7, C8. The final measure contains a quarter rest, a half rest, and a whole rest.

ETUDE # 23: Timbre and Bisbigliando

Repetitive Patterns with Varying Dynamics

Authoritative

The musical score is written in 6/8 time and consists of six staves. Each staff begins with a circled number indicating the starting measure. The dynamics and fingerings are as follows:

- Staff 1:** Starts at measure 1. Dynamics: *ff*, *mp*, *f*, *pp*. Fingerings: (1), (1), (1), (1), (2), (2), (2), (2).
- Staff 2:** Starts at measure 3. Dynamics: *fff*, *p*, *ff*, *p*, *ff*, *p*, *mp*, *mf*. Fingerings: (3), (3), (3), (3), (4), (4), (4), (4).
- Staff 3:** Starts at measure 5. Dynamics: *f*, *mp*, *fff*, *ff*, *mp*. Fingerings: (1), (2), (1), (2), (2), (3), (2), (3).
- Staff 4:** Starts at measure 7. Dynamics: *ff*, *ppp*, *mf*, *f*, *mp*. Fingerings: (3), (4), (3), (4), (4), (1), (4).
- Staff 5:** Starts at measure 9. Dynamics: *ff*, *f*, *mf*, *mp*, *p*, *fff*. Fingerings: (1), (3), (1), (3), (2), (4), (2), (4).
- Staff 6:** Starts at measure 11. Dynamics: *ppp*, *pp*, *p*, *mp*. Fingerings: (3), (4), (3), (2), (1), (2).

13 *mf* *f* *ff* *mp*

15 *ff* *mp* *ff* *p* *fff*

17 *ff* *mp* *f* *mf* *fff*

19 *mp* *mf* *p* *pp* *ff*

21 *ppp* *mf* *ff* *f*

23 *ppp* *f* *mf* *f* *mp*

25

① ① ① ① ② ②

ffff *ff* *mf* *fff* *f* *mp*

27

③ ③ ③ ③ ④ ④ ④

fff *f* *fff* *p* *ppp* *ff* *mf*

29

① ② ① ② ② ③ ② ③

mp *fff* *mf* *pp* *mf*

31

③ ④ ③ ④ ④ ① ④

pp *mf* *f* *mf*

33

③ ④ ① ① ① ② ③

ff *mp* *ff* *p* *fff*

35

① ② ③ ③ ② ③ ④ ④

mf *f* *ff* *mp*

37

3 4 3 2 1 2

ppp *pp* *p* *mp*

39

1 3 1 3 2 4 2 4

ff *f* *mf* *mp* *p* *fff*

41

3 4 3 4 4 1 4

ff *ppp* *mf* *f* *mp*

43

1 2 1 2 2 3 2 3

f *mp* *fff* *ff* *mp*

45

3 3 3 3 4 4 4 4

fff *p* *ff* *p* *ff* *p* *mp* *mf*

47

1 1 1 1 2 2 2 2

ff *mp* *f* *pp*

Suggested Fingerings

49

① Tc
Ta

②

③

④ Eb

3
4
5
6
7

2
3
4
5
6
7

2^{c1}
3
4
5
6

53

①

②

③

④

2
4
5

1
2
3
4
5
6
7

2
3
4
5
6
7

B

Tc₅
4
3
2
6

57

①

②

③

④

1
2
3
4
5
6

Tc₄

1
2
3

Tc₃

1
2
3

Tc₅

G#

1
2
3
4
5
6
7

B

ETUDE # 24: Timbre and Bisbigliando

Timbral "Trills"

1 *p*

3

5 *mf*

7 *ff*

9

11

Musical staff 11: Treble clef, key signature of one sharp (F#). A long slur covers the entire staff. The notes are: F#4, G4, A4, B4, C5, B4, A4, G4, F#4, E4.

13

mf

Musical staff 13: Treble clef, key signature of one sharp (F#). A long slur covers the entire staff. The notes are: F#4, G4, A4, B4, C5, B4, A4, G4, F#4, E4.

15

p

Musical staff 15: Treble clef, key signature of one sharp (F#). The staff contains notes with tremolos. The notes are: F#4, G4, A4, B4, C5, B4, A4, G4, F#4, E4.

17

mp

Musical staff 17: Treble clef, key signature of one sharp (F#). The staff contains notes with tremolos. The notes are: F#4, G4, A4, B4, C5, B4, A4, G4, F#4, E4.

19

ff

Musical staff 19: Treble clef, key signature of one sharp (F#). The staff contains notes with tremolos. The notes are: F#4, G4, A4, B4, C5, B4, A4, G4, F#4, E4.

21

Musical staff 21: Treble clef, starting with a half note G4 with a fermata. The second measure contains a quarter note A#4 with a fermata and a wavy line above it. The third measure contains a quarter note Bb4 with a fermata and a wavy line above it. The fourth measure contains a quarter note B4 with a fermata and a wavy line above it. The fifth measure contains a quarter note A#4 with a fermata and a wavy line above it. The sixth measure contains a half note G4 with a fermata and a wavy line above it.

23

Musical staff 23: Treble clef, starting with a half note G4. The second measure contains a quarter note A4. The third measure contains a quarter note Bb4. The fourth measure contains a quarter note B4. The fifth measure contains a quarter note A4 with a fermata and a wavy line above it. The sixth measure contains a quarter note G#4 with a fermata and a wavy line above it.

25

Musical staff 25: Treble clef, starting with a half note G4. The second measure contains a quarter rest. The third measure contains a quarter rest. The fourth measure contains a quarter note G4 with a fermata and a wavy line above it. The fifth measure contains a quarter note G4 with a fermata and a wavy line above it. The sixth measure contains a quarter note G4 with a fermata and a wavy line above it. A piano (*p*) dynamic marking is present below the staff.

27

Musical staff 27: Treble clef, starting with a half note Gb4. The second measure contains a quarter note A4 with a fermata and a wavy line above it. The third measure contains a quarter note Bb4 with a fermata and a wavy line above it. The fourth measure contains a quarter note B4 with a fermata and a wavy line above it. The fifth measure contains a quarter note A4 with a fermata and a wavy line above it. The sixth measure contains a quarter note Gb4 with a fermata and a wavy line above it. The seventh measure contains a quarter note Gb4 with a fermata and a wavy line above it. The eighth measure contains a quarter note Gb4 with a fermata and a wavy line above it. The piece ends with a double bar line.

ETUDE # 25: Multiphonics

... for the isolation of individual pitches using multiphonic fingerings with a focus on dyads

- 8
- 1
- 2
- 3
- c³₄
- 5

Crystalline

mp

- 1
- 2
- 3 Bb
- 4
- 5
- 7

- 8
- 1
- 2
- c³₄
- 5

- 1
- 2
- 3
- 4
- 6
- 7

p

8
1
2
c3
4
5

13

mp

8
1
2
3 Bb
5
6

16

mp

1
2
3
4
6
7

19

mf

8
1
2
3 Bb
5
6

22

mf

1
2
3 Bb
4
5
7

25

pp

Detailed description: A single treble clef staff containing measures 25, 26, and 27. Measure 25 starts with a half note G4 (F#4 in the key signature). Measure 26 contains a quarter note A4, a quarter note B4, and a quarter note C5, all beamed together. Measure 27 contains a half note D5, a half note E5, and a half note F5, all beamed together. The dynamic marking *pp* is at the beginning.

8
1
2
c3
3
4
5

28

mf

Detailed description: A single treble clef staff containing measures 28, 29, and 30. Measure 28 is a whole note G4. Measure 29 is a whole note A4 with a sharp sign (#) above it. Measure 30 is a whole note B4 with a sharp sign (#) above it. The dynamic marking *mf* is at the beginning.

1
2
3 Bb
4
5
7

31

mp

Detailed description: A single treble clef staff containing measures 31, 32, and 33. Measure 31 is a whole note G4. Measure 32 is a whole note A4. Measure 33 is a whole note B4. The dynamic marking *mp* is at the beginning.

8
1
2
c3
3
4
5

34

Detailed description: A single treble clef staff containing measures 34, 35, and 36. Measure 34 is a whole note G4. Measure 35 is a whole note A4 with a sharp sign (#) above it. Measure 36 is a whole note B4 with a sharp sign (#) above it. The staff ends with a double bar line.

ETUDE # 26: Multiphonics

Using Threshold Tones to Precede Articulated Multiphonics

Alto Sax

mp

With great patience

1
2
3 Bb
4
5
6

A. Sax.

mf

simile

1
2 B
4
5
6
7

A. Sax.

mp

1
2
3 Bb
4
5
6

A. Sax.

p

1
2
3
4 Tc
5
7

1
2
3
4 Bb
5
6

A. Sx. *mp*

2 c1
3
4 Bb
5
6

A. Sx. *p*

1
2
3 Bb
4
5
7

A. Sx. *mp*

8
1
2
3 Bb
4
5

A. Sx. *mf*

1
2
3 Bb
4
5
6 Eb
7

9
A. Sx.
mp

1
2
3 Bb
4
5
6

10
A. Sx.

1
2
3 Bb
4
5
7

11
A. Sx.
mf

1
2
3 Bb
4
5
6

12
A. Sx.
mp

- 1
- 2
- 3
- 4 Bb
- 5
- 6

A. Sx. ¹³

A. Sx. ¹⁴

mf

- 1
- 2
- 3 Bb
- 4
- 5
- 6

A. Sx. ¹⁵

mp

- 1
- 2
- 3
- 4 Tc
- 5
- 7

A. Sx. ¹⁶

p

1
2
4 B
5
6
7

A. Sx. 17 *mp*

1
2
3 Bb
4
5
6

A. Sx. 18

1
2
3
4 Tc
5
7

A. Sx. 19 *p*

1
2
3 Bb
4
5
6

A. Sx. 20 *mp*

- 1
- 2
- 3 Bb
- 4
- 5
- 6

A. Sx.

- 1
- 2
- 3
- 4 Tc
- 5
- 7

A. Sx.

- 1
- 2
- 3 Bb
- 4
- 5
- 7

A. Sx.

- 1
- 2
- 3 Bb
- 4
- 5
- 6

A. Sx.

ETUDE # 27: Multiphonics

Rapidly Shifted Multiphonics

1
2
3
4
6
7

With arrogance

1	1	1	1
2	2	2	2
3	3	3	3
4	5	4	5
6	6	6	6
7	7	7	7

1	1
2	2
3	3
4	4
6	6
7	7

11

1
2
3
5 C#
6
7

13

ff

1
2
3
5 C#
6
7

15

16

17

18

1		1	
2	1	2	1
3	2	3	2
4	3	4	3
6	5	6	5
7	6	7	6
	7		7

19

ff

	1	1
1	2	2
2	3 C#	3
3	5	4
6	6	6
7	7	7

21

1
2
3
5
6
7

23

f

- 1
- 2
- 3
- 5
- 6
- 7

25

ff

27

- 1
- 2
- 3
- 5
- 6
- 7

29

ff *pp*

31

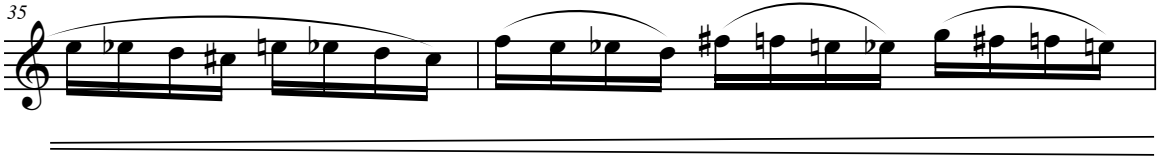
mf

33



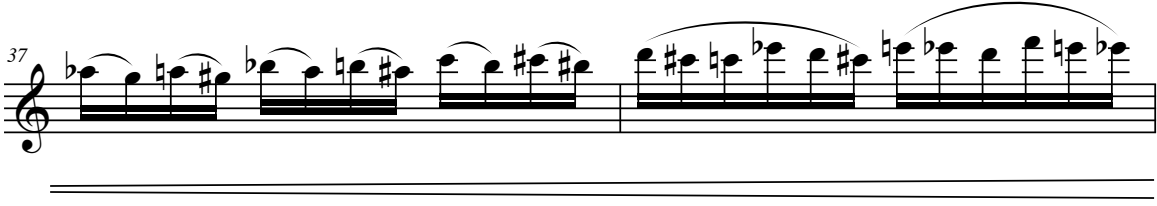
Musical notation for measure 33, featuring a treble clef and a series of eighth notes with various accidentals (sharps and flats) and a long slur above the staff.

35



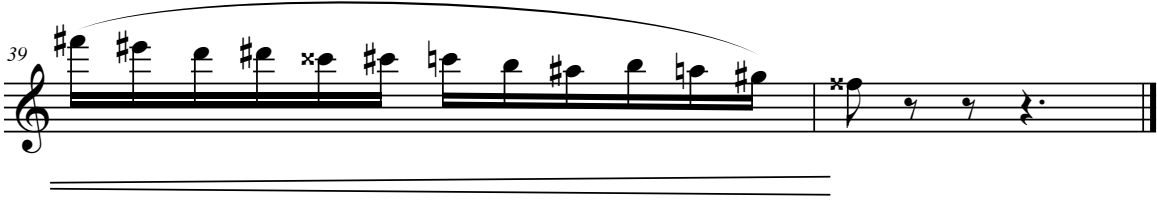
Musical notation for measure 35, featuring a treble clef and eighth notes with accidentals, including a sharp sign, and a slur above the staff.

37



Musical notation for measure 37, featuring a treble clef and eighth notes with accidentals, including a flat sign, and a slur above the staff.

39



Musical notation for measure 39, featuring a treble clef and eighth notes with accidentals, including a sharp sign and a double sharp sign, and a slur above the staff.

ETUDE # 28: Multiphonics

Rapid, Melodic Passages

8	1
1	2
2	3
3	4 ^B
4	6
c3 ₅	7

With patience

1	1	c1
2	2	c2
3	3	
Tc ³	4	C#
4	5	
6	7	
7		

8	1
1	2
2	3
3	4 ^B
4	6
c3 ⁴	7
5	

9

8	
1	1
2	2
3	3
5	5
6	6
E _b 7	7

11

f

	1
1	2
2	3 ^B
3	4
c ₃ 4	6
5	7

13

8	
1	1
2	2
3	3
5	5
6	6
E _b 7	7

15

17

fff

19

- | | |
|-----------------|----------------|
| | 1 |
| 1 | 2 |
| 2 | 3 ^B |
| 3 | 4 |
| c3 ⁴ | 6 |
| 5 | 7 |

21

f

- | | |
|-----|------|
| 1 | 1 c1 |
| 2 | 2 c2 |
| 3 | 3 C# |
| Tc4 | 4 |
| 6 | 5 |
| 7 | 7 |

23

f

8	1
1	2
2	3
3	4 ^B
4	6
c3	7
5	

25

1	1 ^{c1}
2	2 ^{c2}
3	3
4	4 ^{C#}
Tc	5
6	7
7	

27

8	1
1	2
2	3
3	4 ^B
4	6
c3	7
5	

29

ETUDE # 29: Slap Tonguing

As a Conrapuntal Technique

Tango, mournful

The musical score consists of five staves of music in 4/4 time. The first staff begins with a treble clef, a key signature of one sharp (F#), and a dynamic marking of *mf*. The music features a series of eighth-note patterns with slurs and accents. The second staff starts at measure 4 and continues the melodic line. The third staff starts at measure 7 and includes a dynamic marking of *mp*. The fourth staff starts at measure 10 and continues the piece. The fifth staff starts at measure 13 and concludes with a dynamic marking of *ff*. The notation includes various articulations such as slurs, accents, and slanted stems to indicate the slap-tonguing technique.

16

mp

19

22

25

28

31

34

37

p *cresc.*

40

cresc.

43

ff *mf*

46

Musical staff 46: Treble clef, 8 measures of music. The melody consists of eighth and sixteenth notes with slurs. Bass notes are marked with a circled 'o' below the staff.

49

Musical staff 49: Treble clef, 8 measures of music. Similar to staff 46, but with a sharp sign on the eighth note of the seventh measure. Bass notes are marked with a circled 'o'.

52

Musical staff 52: Treble clef, 8 measures of music. Features a sharp sign on the eighth note of the second measure and a circled 'o' on the eighth note of the third measure. A long slur covers the last four measures. A dynamic marking *p* is below the staff.

54

Musical staff 54: Treble clef, 8 measures of music. Features a crescendo marking *cresc.* at the beginning and a slur over the first four measures.

56

Musical staff 56: Treble clef, 8 measures of music. Features a crescendo marking *cresc.* at the beginning and a slur over the first four measures.

58

Musical notation for measures 58-60. The key signature has one sharp (F#). Measure 58 starts with a treble clef and a key signature of one sharp. It features a series of eighth notes with slurs and accents, and a half note with an accent. Measure 59 continues with eighth notes and a half note with an accent. Measure 60 begins with a half note with an accent, followed by eighth notes.

60

Musical notation for measures 61-62. Measure 61 starts with a half note with an accent, followed by eighth notes. Measure 62 continues with eighth notes and a half note with an accent.

62

Musical notation for measures 63-64. Measure 63 starts with eighth notes and a half note with an accent. Measure 64 continues with eighth notes and a half note with an accent. The piece ends with a double bar line. The dynamic marking *ff* is placed below the staff.

ETUDE # 30: Slap Tongue

Low Tessitura in Pointillism

Intent

f

4

7

10

13

mf
184

Detailed description: The score is written in treble clef with a 2/4 time signature. It consists of five staves of music. The first staff begins with a dynamic marking of *f* and includes the word 'Intent' above it. The music features a series of eighth notes with accents, followed by groups of sixteenth notes. The second staff starts at measure 4 and includes a fermata over a note. The third staff starts at measure 7 and features a series of sixteenth notes with accents. The fourth staff starts at measure 10 and includes a fermata over a note. The fifth staff starts at measure 13 and ends with a dynamic marking of *mf* and the number 184. The key signature has one sharp (F#).

16

mp

19

p

22

pp

25

pp *cresc.*

28

mp *cresc.*

31 *f* *cresc.*

34 *fff*

37 *mf*

40

43

46

f

49

ETUDE # 31: Slap Tongue

In the Higher Tessitura

Bright, optimistic

The musical score consists of six staves of music in treble clef, 3/4 time signature, and a key signature of one sharp (F#). The piece is titled "ETUDE # 31: Slap Tongue" and is intended for the "Higher Tessitura". The mood is described as "Bright, optimistic".

The first staff begins with a dynamic marking of *f* (forte). The second staff starts at measure 4. The third staff starts at measure 7 and includes a dynamic marking of *mp* (mezzo-piano). The fourth staff starts at measure 10. The fifth staff starts at measure 13. The sixth staff starts at measure 16 and includes a dynamic marking of *mf* (mezzo-forte).

The music features a melodic line with frequent slurs and accents, and a bass line with a steady eighth-note accompaniment. The piece concludes with a double bar line at the end of the sixth staff.

19

22

25

28

31

34

37

40

43

46

49

52

55

ff

58

61

64

67

70

ETUDE # 32: Slap Tonguing

Sustaining a Pitch After a Slap

1 *mf*

5

9

11 *mf*

15

19

21 *mf*

Musical staff 21: Treble clef, four measures of half notes with stems up. Notes: G4, A4, B4, C5. Dynamics: *mf*.

25

Musical staff 25: Treble clef, four measures of half notes with stems up. Notes: G4, F#4, E4, D4. Dynamics: *mf*.

29

Musical staff 29: Treble clef, eight measures of eighth notes with stems up, grouped in pairs with slurs. Notes: G4, A4, B4, C5, B4, A4, G4, F#4, E4, D4, C4, B3, A3, G3, F#3, E3, D3, C3. Dynamics: *mf*.

31 *mf*

Musical staff 31: Treble clef, four measures of half notes with stems up. Notes: G4, A4, B4, C5. Dynamics: *mf*.

35

Musical staff 35: Treble clef, four measures of half notes with stems up. Notes: G4, F#4, E4, D4. Dynamics: *mf*.

39

Musical staff 39: Treble clef, eight measures of eighth notes with stems up, grouped in pairs with slurs. Notes: G4, A4, B4, C5, B4, A4, G4, F#4, E4, D4, C4, B3, A3, G3, F#3, E3, D3, C3. Dynamics: *mf*.

41

mf

45

49

51

mf

55

59

61

mf

Musical notation for measures 61-63. Measure 61: Treble clef, quarter note G4, quarter rest. Measure 62: Treble clef, quarter note G4, quarter rest. Measure 63: Treble clef, eighth notes G4, A4, B4, C5, eighth rest, eighth notes C5, B4, A4, G4, eighth rest. Dynamics: *mf*. Performance markings: hairpins under the eighth notes in measure 63.

64

mf

Musical notation for measures 64-66. Measure 64: Treble clef, quarter note G4, quarter rest. Measure 65: Treble clef, quarter note G4, quarter rest. Measure 66: Treble clef, eighth notes G4, A4, B4, C5, eighth rest, eighth notes C5, B4, A4, G4, eighth rest. Dynamics: *mf*. Performance markings: hairpins under the eighth notes in measure 66.

67

mf

Musical notation for measures 67-70. Measure 67: Treble clef, quarter note G4, quarter rest. Measure 68: Treble clef, quarter note G4, quarter rest. Measure 69: Treble clef, eighth notes G4, A4, B4, C5, eighth rest, eighth notes C5, B4, A4, G4, eighth rest. Measure 70: Treble clef, quarter note G4, quarter rest. Dynamics: *mf*. Performance markings: hairpins under the eighth notes in measure 69.

70

mf

Musical notation for measures 70-73. Measure 70: Treble clef, quarter note G4, quarter rest. Measure 71: Treble clef, quarter note G4, quarter rest. Measure 72: Treble clef, eighth notes G4, A4, B4, C5, eighth rest, eighth notes C5, B4, A4, G4, eighth rest. Measure 73: Treble clef, quarter note G4, quarter rest. Dynamics: *mf*. Performance markings: hairpins under the eighth notes in measure 72.

ETUDE #33: Furthering Altissimo

Rapidly Articulated Passages

Wildy, crisp and light

The musical score consists of six staves of music, each starting with a measure number (1, 3, 5, 7, 9, 11) and a dynamic marking. The key signature is two sharps (F# and C#) and the time signature is 4/4. The music features rapidly articulated passages, primarily consisting of eighth and sixteenth notes, often grouped with slurs. The dynamics are: *f* (first staff), *p* (second staff), *f* (third staff), *p* (fourth staff), *f* (fifth staff), and *ff* (sixth staff). The sixth staff concludes with a double bar line and a fermata-like line.

13 *f*

15 *p*

17 *f*

19 *ff*

21 *mp*

23 *ff*

25

mp

27

mp

29

mf

31

f

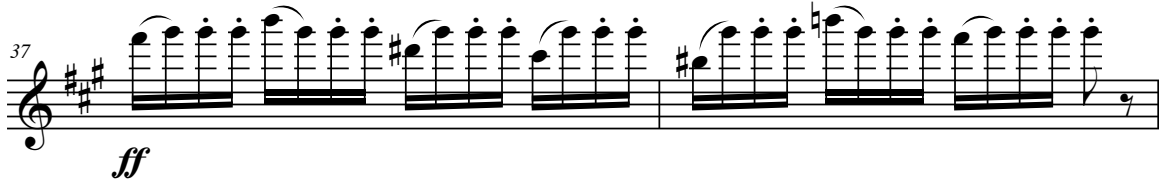
33

ff

35

ff

37



ff

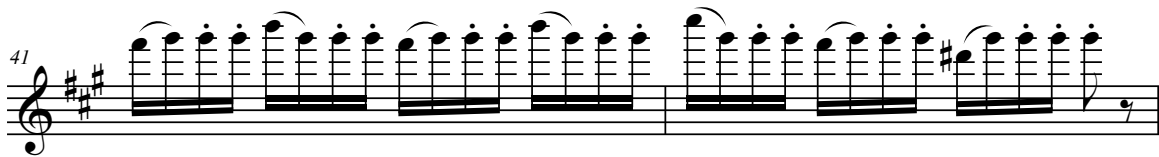
This system contains measures 37 and 38. It features a treble clef and a key signature of three sharps (F#, C#, G#). The music consists of a continuous eighth-note pattern with slurs and accents. The first measure of measure 38 ends with a fermata.

39



This system contains measures 39 and 40. It continues the eighth-note pattern from the previous system, with slurs and accents. The first measure of measure 40 ends with a fermata.

41



This system contains measures 41 and 42. It continues the eighth-note pattern, with slurs and accents. The first measure of measure 42 ends with a fermata.

43



This system contains measures 43 and 44. The eighth-note pattern continues, with slurs and accents. The first measure of measure 44 ends with a fermata.

ETUDE # 34: Furthering Altissimo

Flexibility

Adamant

f

4

7

p

8

1	8	8
2	1	2
3 (B)	3	3 (B)
4	4	4 (B)
5	6	5
6	E _b	6

12

f

8
1
2
3
4(B)
5
6

Tc³
Ta⁴

8
1
3
4
6

Ta⁶

8
1
3
Ta⁴
6

mp

8
1
2
3B
4
5
6

8
1
3
4
6
Eb

8
2
3
4(B)
5
6

f

29

8
1
2
3
Ta 4

8
1
3
4
Ta 5

31

33

35

8
2 c1
3
4
5
6

8
x
4

f

ETUDE # 35: Furthering Altissimo

Extending Altissimo via Cadenza

Cadenza

The musical score for the Cadenza section consists of five staves of music in treble clef. The first staff begins with a *pp* dynamic and a *p* dynamic. The second staff starts at measure 5. The third staff, starting at measure 7, features a *ff* dynamic. The fourth staff, starting at measure 8, includes dynamics of *mf*, *mp*, and *p*. The fifth staff, starting at measure 12, is marked *cantabile*.

14

mf

17

f

21

f

24

f

ETUDE # 36: Furthering Altissimo

Flexibility

Dreamlike, comfortable

Musical staff 1: Treble clef, 4/4 time signature. Measures 1-3. Notes: G4, A4, B4, C5, D5, E5, F5, G5. Dynamics: *ff*.

Musical staff 2: Treble clef. Measures 4-6. Notes: G4, A4, B4, C5, D5, E5, F5, G5. Dynamics: *ff*.

Musical staff 3: Treble clef. Measures 7-9. Notes: G4, A4, B4, C5, D5, E5, F5, G5. Dynamics: *f*.

Musical staff 4: Treble clef. Measures 10-12. Notes: G4, A4, B4, C5, D5, E5, F5, G5. Dynamics: *ff*.

Musical staff 5: Treble clef. Measures 13-15. Notes: G4, A4, B4, C5, D5, E5, F5, G5. Dynamics: *ff*.

Musical staff 6: Treble clef. Measures 16-18. Notes: G4, A4, B4, C5, D5, E5, F5, G5. Dynamics: *ff*.

19

Musical staff 19: Treble clef, four measures of eighth-note runs with slurs and accidentals.

22

Musical staff 22: Treble clef, four measures of eighth-note runs with slurs and accidentals.

25

Musical staff 25: Treble clef, four measures of eighth-note runs with slurs and accidentals. Dynamic marking *mf*.

28

Musical staff 28: Treble clef, four measures of eighth-note runs with slurs and accidentals.

31

Musical staff 31: Treble clef, four measures of eighth-note runs with slurs and accidentals. Dynamic marking *ff*.

34

Musical staff 34: Treble clef, four measures of eighth-note runs with slurs and accidentals.

37

40

43

46

49

52

55

mf

58

61

64

67

70

ETUDE 37: Vocalizing

Singing Pitches Both Above and Below a Performed Drone

Placid, religious

The musical score consists of six staves of music in 4/4 time. The first staff begins with a treble clef and a 4/4 time signature. A drone is indicated by a horizontal line with a wavy underline. The first measure has a whole rest above the staff and the instruction "play" below it. The second measure has a whole note G4 above the staff with the instruction "Sing" above it. The third measure has a whole note G4 with a sharp sign (G#4) above the staff. The fourth measure has a whole note G4 above the staff. The fifth measure has a whole note G4 with a sharp sign (G#4) above the staff. The sixth measure has a whole note G4 above the staff. The dynamic marking *mf* is placed below the first measure. The second staff starts at measure 4 with a whole note G4 above the staff and a dynamic marking of *mf*. The third staff starts at measure 7 with a whole note G4 above the staff and a dynamic marking of *mp*. The fourth staff starts at measure 10 with a whole note G4 with a sharp sign (G#4) above the staff and a dynamic marking of *mf*. The fifth staff starts at measure 13 with a whole note G4 above the staff and a dynamic marking of *mf*. The sixth staff starts at measure 16 with a whole note G4 above the staff and a dynamic marking of *mf*.

19

Musical staff 19: Treble clef, one measure with a whole note chord (F4, A4) and a half note chord (F4, A4) tied across the bar line.

22

Musical staff 22: Treble clef, one measure with a whole note chord (F4, A4) and a half note chord (F4, A4) tied across the bar line.

25 Play

mp Sing

Musical staff 25: Treble clef, one measure with a whole note chord (F4, A4) and a half note chord (F4, A4) tied across the bar line. The word "Play" is above the first note and "Sing" is below the first note. Dynamic marking *mp* is below the first note.

28

Musical staff 28: Treble clef, one measure with a whole note chord (F4, A4) and a half note chord (F4, A4) tied across the bar line.

31

Musical staff 31: Treble clef, one measure with a whole note chord (F4, A4) and a half note chord (F4, A4) tied across the bar line.

34

p

Musical staff 34: Treble clef, one measure with a whole note chord (F4, A4) and a half note chord (F4, A4) tied across the bar line. Dynamic marking *p* is below the first note.

37

mf

40

43

f

46

49

ETUDE # 38: Vocalizing

Singing a Drone While Performing a Moving, Melodic Passage

Dramatic

The musical score consists of six staves of music, each containing two measures. The music is written in 4/4 time and begins with a *ff* dynamic marking. The tempo/style is marked as **Dramatic**. The melody is characterized by a series of eighth-note pairs, often beamed together, with a dotted quarter note following. The bass line consists of a single note per measure, which changes every two measures, creating a drone effect. The notes in the bass line are: G2 (first two measures), F2 (measures 3-4), E2 (measures 5-6), D2 (measures 7-8), C2 (measures 9-10), and B1 (measures 11-12). The melody starts on G4 and moves through various intervals, including eighth-note pairs and dotted quarter notes. The score is numbered 4, 7, 10, 13, and 16 at the beginning of each staff.

19

mf

22

25

28

31

ff

34

37

Musical notation for measures 37-39. The staff is in treble clef with a key signature of one flat (B-flat). Measure 37 contains a half note G4, a quarter note A4, a quarter note B4, and a quarter note C5, all beamed together. Measure 38 contains a half note D5, a quarter note E5, a quarter note F5, and a quarter note G5, all beamed together. Measure 39 contains a half note A5, a quarter note B5, a quarter note C6, and a quarter note D6, all beamed together. A slur spans measures 37-39. A fermata is placed over the final note of each measure.

40

Musical notation for measures 40-42. The staff is in treble clef with a key signature of one flat (B-flat). Measure 40 contains a half note E5, a quarter note F5, a quarter note G5, and a quarter note A5, all beamed together. Measure 41 contains a half note B5, a quarter note C6, a quarter note D6, and a quarter note E6, all beamed together. Measure 42 contains a half note F6, a quarter note G6, a quarter note A6, and a quarter note B6, all beamed together. A slur spans measures 40-42. A fermata is placed over the final note of each measure.

43

Musical notation for measures 43-45. The staff is in treble clef with a key signature of one flat (B-flat). Measure 43 contains a half note C7, a quarter note D7, a quarter note E7, and a quarter note F7, all beamed together. Measure 44 contains a half note G7, a quarter note A7, a quarter note B7, and a quarter note C8, all beamed together. Measure 45 contains a half note D8, a quarter note E8, a quarter note F8, and a quarter note G8, all beamed together. A slur spans measures 43-45. A fermata is placed over the final note of each measure.

46

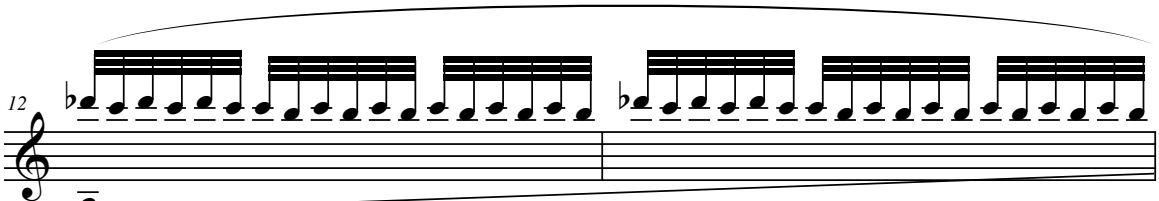
Musical notation for measures 46-48. The staff is in treble clef with a key signature of one flat (B-flat). Measure 46 contains a half note A8, a quarter note B8, a quarter note C9, and a quarter note D9, all beamed together. Measure 47 contains a half note E9, a quarter note F9, a quarter note G9, and a quarter note A9, all beamed together. Measure 48 contains a half note B9, a quarter note C10, a quarter note D10, and a quarter note E10, all beamed together. A slur spans measures 46-48. A fermata is placed over the final note of each measure.

ETUDE # 39: Vocalizing (Obvious Evening)

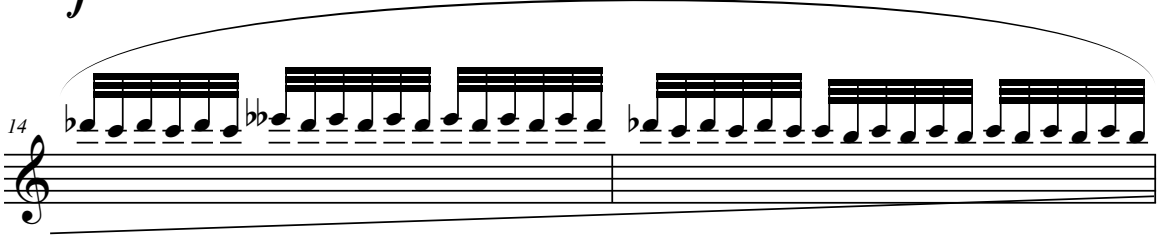
Simultaneous Pitch Changes on Both the Instrument and in the Voice

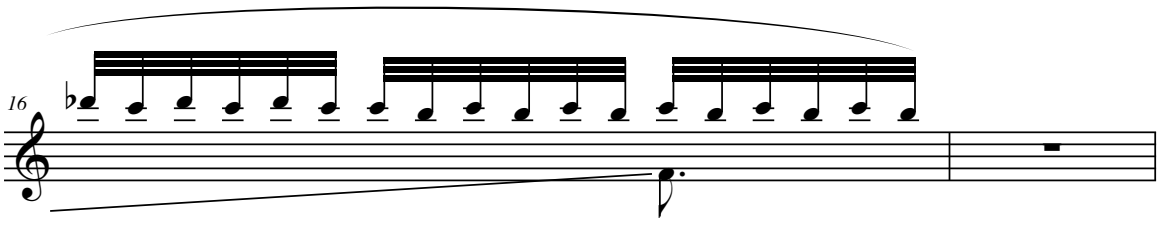
Electrifying

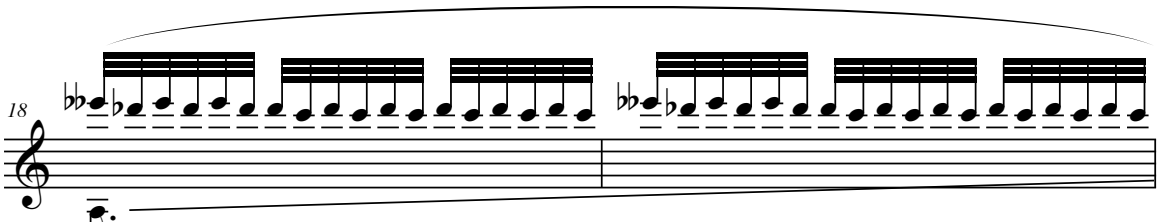
The musical score is written in 9/16 time and marked *f* (forte). It consists of six staves of music, each containing a melodic line with a long slur over it. The key signature starts with one flat (Bb) and changes to two flats (Bb, Eb) in the second staff, then returns to one flat (Bb) in the fourth staff. The piece concludes with a whole rest on the final staff.

12 

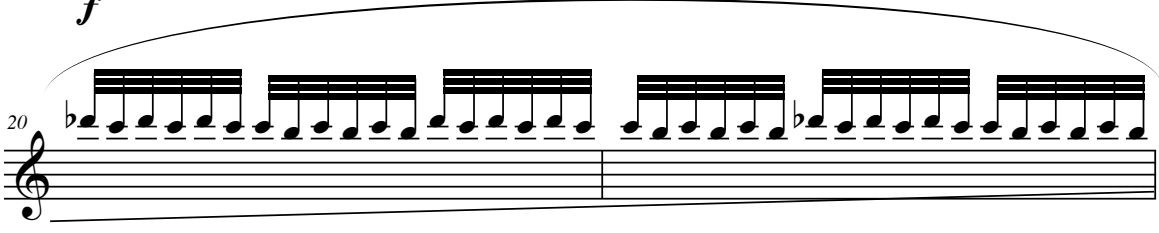
f

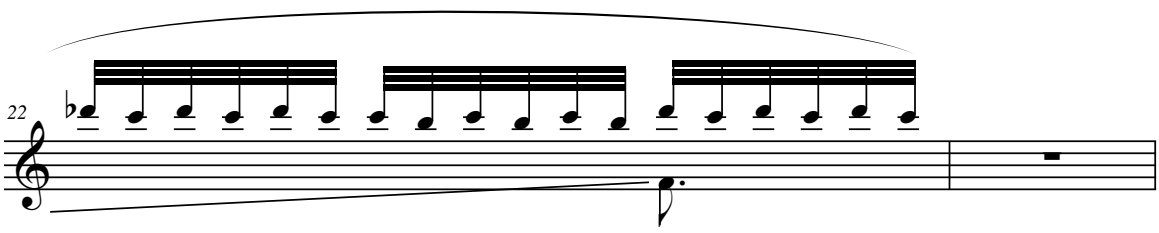
14 

16 

18 

f

20 

22 

24
mf

26

28
mp

30
p

32
f

34
f

36

38

40

42

44

46

48

50

52

54

56

58

60 *pp*

62

64

66 *ff*

ETUDE # 40: Vocalizing

Simultaneous Parallel Melodic Motion

Simple, reflective

The musical score is written in 4/4 time and consists of six staves of music. The first staff begins with a treble clef, a key signature of one sharp (F#), and a dynamic marking of *mf*. The melody is characterized by simultaneous parallel motion, with notes moving in parallel intervals across the staff. The piece is marked as 'Simple, reflective'. The score includes measure numbers 5, 9, 13, 17, and 21, indicating the start of new phrases or sections. The notation includes various note values, rests, and slurs, all presented in a clean, black-and-white format.

25

29

33

37

39

BIOGRAPHICAL SKETCH

Patrick Murphy, a native of Wappingers Falls, NY, currently serves as Artist Coordinator at the ground-breaking Musical Instrument Museum in Phoenix, AZ. Previously, he has served on the faculty of the Crane School of Music, State University of New York, College at Potsdam. He will complete his doctorate from Arizona State University, and holds degrees from The University of Michigan, and The State University of New York, College at Potsdam. He has studied saxophone with Timothy McAllister, Donald Sinta, and Eric Lau and composition with David Heinick. He has performed throughout North and South America, most recently having completed a three-city tour of Ecuador with his quartet, The Estrella Consort. He was the last saxophonist to perform with the New World Symphony in their previous residence – The Lincoln Theater – and the first saxophonist to perform in their new Frank Gehry-designed New World Center.