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Teaching Extended Techniques on the Saxophone: A Comparison of Methods

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UNIVERSITY OF MIAMI

TEACHING EXTENDED TECHNIQUES ON THE SAXOPHONE:
A COMPARISON OF METHODS

By

Matthew Jeffery Taylor

A DOCTORAL ESSAY

Submitted to the Faculty
of the University of Miami
in partial fulfillment of the requirements for
the degree of Doctor of Musical Arts

Coral Gables, Florida

May 2012

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TEACHING EXTENDED TECHNIQUES ON THE SAXOPHONE:
A COMPARISON OF METHODS

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A Comparison of Methods

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Through substantial correspondence with eight saxophone professors in the United States and three in France, this project examines the methods used by French and American college-level teachers for teaching extended techniques on the saxophone. The essay also reviews related printed pedagogical and reference materials and provides a brief comparison of all presented methods. Profiled techniques include circular breathing, slap tongue, multiple tonguing, and fingering-based multiphonics. Participants share insights about their teaching procedures, criteria for assessment, ways to promote mastery, suggestions for relevant repertoire, and their own practice and performance philosophies as they relate to these four extended techniques. Participants include Serge Bertocchi, Marie-Bernadette Charrier, David Dees, Geoffrey Deibel, Philippe Geiss, Jeffrey Heisler, Timothy Roberts, James Romain, John Sampen, Rhonda Taylor, Kenneth Tse, and James Umble.

*To Jeff and Angie Taylor,
who have supported me with their
unceasing encouragement,
generosity, and love*

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I am fortunate to have had many marvelous teachers in my life, and since a public forum to thank inspiring, excellent educators is so rare, I will recognize them now. To Roger Sharp, thank you for showing me how to love music and to love people by sharing it with them. To Curt Sipe, thank you for teaching me how to practice, and with that skill, cause me to be able to believe in myself. To Jackie Lamar, thank you for teaching me how to play the saxophone, and with that, to be brave, disciplined, and organized: there is no doubt that I would not be where I am today without you. *À Marie-Bernadette Charrier, merci de me prouver que quand on a le courage et la confiance, malgré la difficulté, il est toujours possible.*

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CHAPTER ONE INTRODUCTION

Since its creation in the mid-nineteenth century, the saxophone has existed on the fringes of traditional classical music. The instrument's inventor, Adolphe Sax, set out to create an instrument that could timbrally link the woodwinds with the brass. He foresaw in his creation a musical chameleon, capable of enriching the sound of the brass section—especially the horns and low brass—while retaining its fellow woodwinds' aptitude for velocity and range.¹ Despite Sax's success in the creation of his eponymous instrument and its subsequent integration into the French military band, the saxophone has never become a standard orchestral instrument.

This setback notwithstanding, by the early twentieth century the saxophone achieved tremendous popular appeal with its inclusion in vaudeville acts, jazz, and the variety music of the day, where saxophonists discovered ways to produce new and entertaining “sound effects” to add to their shows.² There are numerous recordings in which saxophonists from different parts of the United States perform similar or identical extended techniques, but there is no compelling evidence to suggest that performers learned these techniques from a manual or pedagogical method. In fact, many early saxophone pedagogues denounced these techniques (notably slap tongue, timbral modifications, and atypical vibrato) as being inappropriate, or even vulgar, and sought to integrate

¹ Michael Segell, *The Devil's Horn: The Story of the Saxophone, from Noisy Novelty to King of Cool* (New York: Farrar, Straus and Giroux, 2005), 16.

² Bruce Vermazen, *That Moaning Saxophone: The Six Brown Brothers and the Dawning of a Musical Craze* (Oxford: Oxford University Press, 2004), 64.

the saxophone into the academy by eliminating these techniques through careful study of transcriptions of works written for other more canonical instruments, along with etudes, and original neoclassical and romantic repertoire.

German-born American saxophonist Sigurd Raschèr is an important exception to this widely held performance practice. Besides commissioning an enormous amount of new music, Raschèr also used a variety of extended techniques in his performances.³ Raschèr routinely included the percussive slap tongue and flutter tongue in his playing during the early and mid-twentieth century, and he was especially known for his commitment to the upward expansion of the saxophone's range from two and a half to nearly four octaves. In spite of frequent, sometimes bitter disagreements with his fellow saxophonists about the appropriate use of these techniques, at the peak of his career, he was unquestionably one of the world's best-known concert saxophonists.⁴

Raschèr's preeminence among concert saxophonists coupled with his own tenacity and idealism led to frequent collaborations with numerous important composers. He is responsible for the creation of over 140 works; often, the composers of these works, at Raschèr's prompting and encouragement, integrated slap tongue, flutter tongue, and notes from the altissimo register into their compositions. Many of these works remain among the most treasured pieces in the standard saxophone repertoire, including concerti by Ibert, Glazanov, Dahl, Larsson, Martin, Brant, and Husa and works inspired by

³ Michael Segell, *The Devil's Horn: The Story of the Saxophone, from Noisy Novelty to King of Cool* (New York: Farrar, Straus and Giroux, 2005), 24.

⁴ Obituary of Sigurd Rascher, *New York Times*, March 26, 2001.

Raschèr including saxophone by Luciano Berio, Philip Glass, Iannis Xenakis, Sofia Gubaidulina, Paul Hindemith, and others.

While Raschèr rose to prominence in the United States with his nearly evangelical use of extended techniques in his teaching and performances, France's most important concert saxophonist, Marcel Mule, the first official professor of saxophone at the *Conservatoire de Paris* following the reinstatement of the saxophone class in 1942, heartily rejected extended techniques as he crafted what would become the "French School" of saxophone playing.⁵ Mule's importance as a performer and teacher was (and is) as venerated as that of Raschèr, and likewise, many composers wrote works for him, including Gabriel Pierné, Florent Schmitt, Henri Tomasi, and Alexander Glazunov among others. In addition to works that he commissioned and that composers dedicated to him, he played and taught many of the pieces written for Raschèr, but omitted the altissimo and other extended techniques.⁶

Interestingly, it was a former student of Marcel Mule's in France who would become one of the world's leading voices for contemporary music and extended techniques on the saxophone: Jean-Marie Londeix. A graduate from Mule's class at the *Conservatoire de Paris*, Londeix devoted the early part of his career to teaching and performing in much the same aesthetic as Mule and others within the "French School," with a concentration on tone and traditional

⁵ Michael Segell, *The Devil's Horn: The Story of the Saxophone, from Noisy Novelty to King of Cool* (New York: Farrar, Straus and Giroux, 2005), 237.

⁶ James Umble, Michèle Gingras, Hervé Corbé, William Henry Street, and Jean-Marie Londeix. *Jean-Marie Londeix: master of the modern saxophone = maître du saxophone moderne* (Cherry Hill, NJ: Roncorp Publications, 2000), 243.

music rather than extended techniques and the avant garde. During a trip to North America, however, Londeix witnessed American saxophonists performing various extended techniques firsthand (most notably the altissimo register).⁷ He returned to France, where he began to integrate them into his own teaching and playing, and following his 1970 performance of the *Sonate* by Denisov, he declared that for the rest of his career, he would focus his performing activities exclusively to the proliferation of contemporary and avant-garde works that he deemed to be “idiomatic” to the saxophone,⁸ which essentially refers to works employing extended techniques that render a piece performable on no other instrument but the saxophone.⁹

Londeix became the professor of saxophone at the *Conservatoire de Bordeaux* in 1971, where he would remain until his retirement until 2001. His time at Bordeaux was momentous for the development of the contemporary concert saxophone for a myriad of reasons. Few other French saxophonists of his generation have matched his international influence, thanks in part to an agreement he reached with the mayor of Bordeaux at the time of his appointment at the *Conservatoire* that made it possible for foreign students to study with him in France.¹⁰ By the time of his retirement, he had taught students from almost 50 different countries, and many of them returned to their home countries to teach,

⁷ Ibid, 129.

⁸ Ibid, 102.

⁹ *N.B.*, while the majority of Londeix’s performance activities centered on contemporary music, he did play “standard” pieces, and he expected his students in his classes at the *Conservatoire de Bordeaux* to perform both contemporary and traditional works as part of their scholastic and musical experience.

¹⁰ Ibid, 130.

propagating his philosophical and pedagogical ideas, including a commitment to music that uses extended techniques, in an unprecedented way.¹¹

During his time at Bordeaux, he also was instrumental in the development of an “*École Bordelais*” of composers who wrote for the saxophone. The composers, many of whom studied in the class of Michel Fusté-Lambezat or were in some other way affiliated with the *Conservatoire de Bordeaux*, collaborated with Londeix and his students to explore the techniques and the various sonic possibilities they offer.¹² The results of these collaborations resulted in works that typically require performers to use altissimo, flutter tongue, slap tongue, multiphonics, circular breathing, and countless other techniques. Some composers who are representative of the “*École Bordelais*” include Christain Lauba, Francois Rossé, Thierry Alla, Christophe Havel, and Michel Fusté-Lambezat.¹³

An author of a substantial number of teaching manuals, etude books, and performance guides, Londeix’s 1989 book *Hello! Mr Sax, ou, Paramètres du saxophone*¹⁴ is among the most important for its discussion of extended techniques, including important research on multiphonics, slap tongue, altissimo, bisbigliando, quarter tones, et cetera. His book is one of the first pedagogical

¹¹ Ibid, 131.

¹² Thierry Alla, “Musique contemporaine, l’école de Bordeaux,” *Bordeaux Culture*, June 2006.

¹³ Jean-Marie Londeix. “Qui a dit ‘l’Ecole de Bordeaux?’ — Who called it the ‘Bordeaux School?’” 2006.

¹⁴ Jean-Marie Londeix, William Street, and Anna Street, *Hello! Mr. Sax* (Paris: Editions Musicales Alphonse Leduc, 1989).

resources to present and offer examples and suggestions for the notation of extended saxophone techniques.

Since the publication of *Hello! Mr Sax*, several other resources devoted to the cataloguing, notation, and description of extended techniques have been published, including Daniel Kientzy's *Les sons multiples aux saxophones*,¹⁵ *L'art du saxophone*¹⁶, and *Saxologie*,¹⁷ Ronald Caravan's *Preliminary Exercises & Etudes in Contemporary Techniques for Saxophone*,¹⁸ and Jay C. Easton's *Writing for Saxophones*.¹⁹ While these are excellent resources for composers writing for the saxophone, for performers and teachers, they provide only a cursory understanding of the techniques, not a systematic way of learning and teaching them.

Early 2010 saw the creation of Jean-Denis Michat's electronic resource *Un saxophone contemporain*,²⁰ available exclusively as a downloadable .pdf from his website, <http://www.jdmichat.com>. It is a 100-page resource designed to help advanced saxophonists grapple with various performance issues. Michat devotes nearly 40 pages of his resource to extended techniques, though he favors the

¹⁵ Daniel Kientzy, *Les sons multiples aux saxophones* (Paris: Editions Salabert, 2000).

¹⁶ Daniel Kientzy, *L'art du saxophone* (Paris: 2003).

¹⁷ Daniel Kientzy, *Saxologie: du potentiel acoustico expressif de 7 saxophones* (Paris: Nova Musica, 2002).

¹⁸ Ronald L. Caravan, *Preliminary Exercises & Etudes in Contemporary Techniques for Saxophone Introductory Material for the Study of Multiphonics, Quarter Tones, & Timbre Variation* (United States: Ethos, 1979).

¹⁹ Jay C. Easton, *Writing for Saxophones: A Guide to the Tonal Palette of the Saxophone Family for Composers, Arrangers, and Performers* (Thesis (D. Mus. Arts)—University of Washington, 2006).

²⁰ Jean-Denis Michat, *Un saxophone contemporain* (Paris: www.jdmichat.com, 2010).

term “*techniques avancées*,” or “advanced techniques.” This type of resource is extremely useful for advanced saxophone students who are working with a professor who can coach students through the pages and guide them on the finer points of developing these techniques.

No other resource provides a more integrated and pedagogy-focused approach to extended techniques than Michat’s, but it is not without limitations. First, it is only available in French, which presents a problem for many students and teachers in North America and abroad. Second, the author intends his work for only the most advanced students. As stated in the work’s subtitle, the work is “for the use of students in [the final stages of conservatory] and future professors.”²¹ Third, though Michat does provide a more systematic approach to extended techniques, his method lacks the support necessary to reassure students (and educators) that they are on the correct path toward mastering a particular technique. Finally, the exercises included and/or suggested in the resource are useful only after a student can perform a specific technique successfully, which can lead to mastery of a technique, but does not develop the skills necessary to perform a technique successfully for the first time.

Justification of the Study

There are numerous pedagogical resources geared toward establishing facility with traditional saxophone techniques like tone production, articulation, intonation, and vibrato, and scholars have organized their materials in a variety of

²¹ “*a l’usage des étudiants de troisième cycle et des futurs professeurs*”

ways. Many of these techniques have been passed down from teacher to student through the years, but some exercises exist in printed form. For example, in the French *conservatoire* tradition of technique standardization, Jean-Marie Londeix's oeuvre of pedagogical resources spans across numerous volumes, each devoted to the mastery of a single technique. Other pedagogues, such as legendary American teacher Larry Teal, took a more comprehensive approach, consolidating various skills and techniques into a single book.²² In terms of etudes, the classic etudes most saxophone teachers tend to use in the United States and France are "borrowed" from other instruments, like oboe (Ferling²³) or violin (Mule,²⁴ Londeix²⁵). Currently, there is no consolidated, systematic resource for developing extended techniques on the saxophone. Before this study, there has been no empirical evidence of a consensus of pedagogical approach among college-level teachers. Perhaps even more troubling than the lack of pedagogical resources related to learning extended techniques, there exists very few published resources for teachers who are interested in becoming more effective educators in this area, and very little opportunity in the context of a busy academic year for conversation and collaboration about pedagogy.

²² Larry Teal, *The Art of Saxophone Playing* (Princeton, N.J.: Summy-Birchard), 1976.

²³ Franz Wilhelm Ferling and Albert J. Andraud, *48 Famous Studies for Oboe or Saxophone And 3 Duos Concertants for 2 Oboes or 2 Saxophones* (San Antonio: Southern Music Co.), 1958.

²⁴ Marcel Mule, *Études variées dans toutes les tonalités* (Paris: A. Leduc, Editions Musicales), 1970.

²⁵ Jean-Marie Londeix, *Nouvelles études variées: dans tous les tons d'après Blumenstengel, Dont, Gaviniès, Paganini et Rode (avec suraigu)*. Paris: A. Leduc, 1986.

Purpose of the Study

The purpose of this study is to identify the methods respected saxophone educators in the United States and France use to teach extended techniques to their students, compare these methods, and identify any common ideas or practices that could be pedagogically useful. Specifically, the study will focus on four techniques:

- 1) circular breathing
- 2) slap-tonguing
- 3) multiple tonguing
- 4) multiphonics

Research Questions

Some specific research questions addressed by this study include:

- 1.) What strategies do college-level saxophone teachers use to teach extended techniques?
- 2.) What foundational techniques or skills should students develop before attempting specific extended techniques? Why?
- 3.) What technical problems do students commonly face when learning extended techniques for the first time, and how do teachers diagnose and improve these issues?
- 4.) What impact does equipment have on the successful performance of a technique?
- 5.) How often are students successful at learning extended techniques?

CHAPTER 2 REVIEW OF LITERATURE

The subject of learning and performing extended techniques on the saxophone is a topic of frequent discussion among participants on Internet forums like www.saxontheweb.com. Students who struggle with these techniques tend to seek out others who have been successful with them for advice, and in some cases, teachers who are having difficulty communicating with students about extended techniques are also able to connect and share ideas. While this type of virtual camaraderie can be very valuable because of the absence of foundational scholarship in this area, it can also be problematic; because of the anonymous nature of an Internet forum, the advice participants provide may not be founded in the accurate, careful pedagogy such as one would expect from a university or conservatory-level educator.

Saxophonists seeking a manual or set of manageable etudes to better understand the mechanism of extended techniques will be disappointed. At this time, most of the scholarship relating to these techniques is not geared toward performers and students, but rather to composers who are interested in using extended techniques in new works for the instrument. These resources can be useful as a reference for performers, but with few exceptions, they do not provide satisfactory technical information about the production of the effect; they tend to address notational options, technical parameters, and performance practice. This information is valuable to the saxophonists, but only after the successful production of the desired effect. This chapter is divided into four subsections, one

for each technique covered in this document: (2.1) circular breathing, (2.2) slap-tonguing, (2.3) multiple tonguing, and (2.4) multiphonics. In Subsection 2.1, the evaluated literature includes some scholarship and resources for instruments other than saxophone. For example, when learning to circular breathe, it is necessary to master the mechanism of the technique before it is practical to attempt its application to a specific instrument. In other cases, multiphonics, for example, the technique or effect is too particular to the saxophone (fingerings) to gain useful insight from scholarship aimed at other instruments.

2.1 Circular Breathing

In a very brief article in *The Double Reed*,²⁶ Sandro Caldini responds to a philosophical article by Malcom Messiter on circular breathing. The main purpose of the article is to reaffirm Messiter's nomenclature of the technique. He favors the term "cyclical breathing," as there is actually nothing circular about the technique. Caldini maintains that the nose cannot function in two ways at once, so performers should view the breath as a cycle. From a pedagogical viewpoint, Caldini suggests that students practice the technique by first inhaling only from the nose when practicing to become accustomed to the way that it feels, then breathing out with the nose while playing.

²⁶ Sandro Caldini, "Circular Breathing," *Double Reed* 29, no. 4 (December 2006): 139.

While tubist Paul Nobis's opinion of only taking breaths with the nose when circular breathing is congruent with that of Caldini,²⁷ his method places more importance on the control of various muscle groups during the inhalation and exhalation. He presents a three-phase process for developing the circular breath in which the first two phases are completed without the instrument.

Nobis's method focuses attention on the muscle groups used in breathing and teaches students to isolate specific groups of muscles individually.²⁸ According to Nobis, the ability to isolate these muscle groups will help students avoid storing air in their cheeks and allow for the capability to store a reserve of air in the lungs, which he claims is more effective. Though he does not provide empirical evidence to substantiate this claim, he completed significant medical research on the muscle groups associated with breathing, and suggests for performers and students interested in the technique to learn the functions of numerous muscles and muscle groups, which he lists in his appendices.

Robert Dick, a flutist, composer, and specialist in extended techniques takes a more systematic approach to teaching the circular breath.²⁹ Because resistance plays an important role in the mechanism of circular breathing (more resistance or back pressure from the instrument causes the technique to be less challenging), the flute, an instrument with extremely little resistance, is a challenging instrument on which to attempt the circular breath. Dick states that the process of circular breathing on flute is possible, but requires a two-year

²⁷ Paul Nobis, "Circular Breathing Defined," *ITEA Journal* 36, no. 2: 101.

²⁸ *Ibid*, 102.

²⁹ Robert Dick, "Circular breathing--you can do it," *Instrumentalist*, (February 1987): 62.

commitment of practicing a set of six exercises he provides for 10-15 minutes per day.³⁰

Although information regarding the embouchure is not valid for the saxophonist, his methods for developing the mechanism of the breath are valuable. In two such exercises, he provides ways to develop the skill of playing a note in a comfortable register using only the air stored in the cheeks. Dick also recommends that students practice holding water in the mouth while completing an inhalation if he or she is confused by the process of holding air in the cheeks while inhaling through the nose.

Robert Dick's exercises are similar to those suggested by saxophonist Trent Kynaston in *Circular Breathing for the Wind Performer*,³¹ a lengthy and detailed resource for the development of this technique that predates Dick's article by nearly a decade. Kynaston is professor emeritus at University of Western Michigan, and he designed this book to apply to all wind instruments. He takes a physical approach similar to that of Nobis, but rather than outlining the form of the musculature and its effect on breathing, he defines the effect various types of breathing has on the body. Kynaston identifies three types of breath, including the low, middle and high. After a detailed description of these breaths' respective efficacy, he makes it clear that before attempting the circular breath, the musician must be able to breathe as effectively as possible, and without conscious thought.

³⁰ Lenny Pickett claims that learning to circular breathe will take most saxophonists one week of "diligent practice."

³¹ Trent P., Kynaston, *Circular Breathing for the Wind Performer* (Lebanon, Ind: Studio P/R), 1978.

More recently, circular breathing has become of interest to scholars of history and even pop culture. Richard Schwartz wrote a two article series in *Saxophone Journal* in early 2005,³² at a time when there was some concern about whether circular breathing could be hazardous to a musician's health. The first article focuses on the early history of circular breathing, including a description of ancient instruments that used the technique.

The second article, which appears in the March issue, addresses this fear of the physical dangers of circular breathing by examining its source. Much of the fear of circular breathing in the early 2000s was caused by an article that appeared in the December 1999 issue of the *British Medical Journal* by Kinra and Okasha titled "Unsafe sax: cohort study of the impact of too much sax on the mortality of famous jazz musicians."³³ The article claims that there was a link between circular breathing and early death, especially among American saxophonists. The claims were completely unsubstantiated in the article, but it was published, and later the *Washington Post* printed the story. Unfortunately, the authors intended the submission as a joke. The *Washington Post* printed a retraction after being contacted by the authors of the study.

³² Richard A. Schwartz, "Circular breathing, part I: Early history & usage with musical instruments," *Saxophone Journal*, (January 2005): 36-37.

³³ Sanjay Kinra and Mona Okasha, "Unsafe Sax: Cohort Study of the Impact of Too Much Sax on the Mortality of Famous Jazz Musicians". *BMJ: British Medical Journal*: 319, no. 7225: 1612.

2.2 Slap Tonguing

The saxophone slap tongue, or “slap” is a percussive effect created by the sound of the reed rebounding and hitting the mouthpiece. There are numerous types of slap effects, but the two most common are the “open,” or “unpitched” slap, which has little to no pitch content, and the “closed” or “melodic” slap, which has the clear resonance of a pitch after the initial attack. Both techniques are frequently required in advanced solo and ensemble literature for the saxophone, as well as occasional use in music for bands and wind ensemble.

At the time of printing, very little scholarly research has been completed on the mechanism of slap tonguing. Jean-Marie Londeix mentions it briefly in his book,³⁴ but he does not deeply investigate the technique beyond a discussion of notational conventions.

Evidently, the first pedagogical resource aimed at classical saxophonists trying to slap tongue was in the *Saxophone Journal* in November of 1988.³⁵ This article by David Pituch, a faculty member of DePaul University, is anecdotal in tone, and lacks sufficient expositional description concerning the mechanism of the slap for a reader to be able to properly perform the technique. For example, Pituch writes, “While no air is expended into the instrument during a slap tongue, good diaphragm support must be used. Why? I don’t know why, except that while playing, the instrument and performer are one and inseparable, intertwined and

³⁴ Jean-Marie Londeix, William Street, and Anna Street, *Hello! Mr. Sax* (Paris: Editions Musicales Alphonse Leduc, 1989).

³⁵ David Pituch, “Slap Tonguing: Method Over Madness,” *Saxophone Journal* 13, no. 3 (Nov./Dec. 1988): 46.

mutually dependent.”³⁶ Pituch also advocates playing exclusively in the low register when practicing the slap, since the technique is more difficult in the upper register of the instrument.

About a year after Pituch’s article, Steven Mauk, an American saxophonist and professor of saxophone at Ithaca College, took over responsibility for the “Creative Teaching Techniques” column in the *Saxophone Journal*. Mauk became a frequent contributor to *The Saxophone Journal* throughout the 1990s. As a part of his “Creative Teaching Techniques” series, he wrote numerous instructional columns about extended techniques, including an article on slap tonguing.³⁷

Mauk agrees with Pituch that practice sessions involving slaps should initially be restricted to the low register, but similarities in their respective approaches end there. Mauk suggests a thorough, methodical approach for helping students identify the sound, practice without the saxophone, and then slowly work to make the sound on the instrument. Following success producing the effect, Mauk advocates discretion on when to use the technique, cautioning that “players and teachers will have to decide whether the use of slap tonguing in these pieces [*Sonata* by Heiden and *Concertino da Camera* by Ibert] are appropriate today or merely ‘corny.’”³⁸

³⁶ Ibid.

³⁷ Steven Mauk, “Teaching Students to Slap Tongue,” *Saxophone Journal* 14, no. 1 (July/Aug. 1989): 41.

³⁸ Ibid.

Jean-Denis Michat's approach³⁹ is very similar in scope to that of Steve Mauk, except that he suggests practicing on the mouthpiece and neck until the student is able to make "the splendid sound of a cork popping [from a bottle]"⁴⁰.⁴¹

2.3 Multiple Tonguing

Double-tonguing and triple-tonguing is an indispensable technique for flutists and many brass musicians; however, the technique is less straightforward for other members of the woodwind family, due to the mouthpiece or reed, which rests inside the oral cavity when playing. All the same, double-tonguing is not a new technique for the saxophone. Rudy Wiedoeft, who was well known for his prowess at double-tonguing, wrote one of the first pedagogical resources for multiple tonguing. In this book, he claims to have the ability to articulate everything [sixteenth notes] up to around 208 beats per minute.⁴² The book consists mainly of etudes and anecdotes with little instructional content.

Larry Teal also weighed in on the topic in his *The Art of Saxophone Playing*.⁴³ Although he devotes only a little over one whole page to the technique, he offers a very methodical approach that explains physical requirements and offers clear exercises to refine the skill. He suggests that saxophonists practice

³⁹ Jean-Denis Michat, *Un saxophone contemporain* (Paris: www.jdmichat.com, 2010): 28.

⁴⁰ "un splendide bruit de bouchon."

⁴¹ Ibid.

⁴² Rudy Wiedoeft, *Rudy Wiedoeft's secret of staccato: for the saxophone*, (New York: Robbins Music), 1938.

⁴³ Larry Teal, *The Art of Saxophone Playing*. (Secaucus, NJ: Summy-Birchard, 1963), 85-86.

the second syllable, in this case, “Ku,” until it is indistinguishable from the first syllable, “Tu.” After the student has succeeded this first step, he or she may move on to practicing the two syllables together. If a softer attack is necessary, Teal writes that students may replace the “Tu Ku” syllables with “Da Ga.” Teal ends his section on double-tonguing with a brief application of the technique to triple-tonguing. Interestingly, he ends this section of his book with a note of caution, “A good single staccato must be acquired before attempting to develop the double tongue. It is a controversial type of articulation, and should be considered only as an *addition* to the basic tools in the performer’s kit.”⁴⁴

Jean-Denis Michat seems to hold to the same basic principles of Larry Teal, but a few refinements.⁴⁵ Rather than changing syllables in order to obtain different expressive attacks, Michat suggests changing syllables as a function of register. From G₄ to C₅, he believes that saxophonists should use a “Deh-Geh” type syllable; that from F#₄ to B_♭₃ they should use “Teh-Keh,” and for the highest notes, from B₄ to G₅ they should use “Deh-Yeh.” His description of the triple-tongue is almost identical to that of Teal.

In Keith R. Young’s “Saxophone Double Tongueing [sic] Masterclass,” in the *Saxophone Journal*,⁴⁶ he cites both Teal⁴⁷ and Wiedoeft.⁴⁸ His article is

⁴⁴ Ibid, 86.

⁴⁵ Jean-Denis Michat, *Un saxophone contemporain* (Paris: www.jdmichat.com, 2010), 32.

⁴⁶ Keith R. Young, “Saxophone Double Tongueing [sic],” *Saxophone Journal* 24, no. 2 (Nov/Dec 1999), 54-57.

⁴⁷ Larry Teal, *The Art of Saxophone Playing*. (Secaucus, NJ: Summy-Birchard, 1963), 85-86.

⁴⁸ Rudy Wiedoeft, *Rudy Wiedoeft's secret of staccato: for the saxophone* (New York: Robbins Music), 1938.

organized into categories: *A Brief History, My Introduction to the Double Tongue Technique, Why Should I Double Tongue, Rudy Wiedoeft, Practical Applications, Important Practice Hints, and Daily Exercises*. The original printing of the *Saxophone Journal* also includes a demonstration CD. In terms of syllables, Young prefers “Dah Gah,” and suggests that performers *always* aim for a legato, very connected articulation no matter what the indication is by the composer. He also suggests only practicing in small amounts of time at first. His seven exercises are to be completed with the metronome with an ultimate goal tempo of 160+ beats per minute, and mainly consist of repeated notes, scalar passages, or arpeggios in sixteenth notes.

2.4 Multiphonics

All woodwind instruments are capable of producing multiphonics, or complex sounds consisting of more than one tone. Saxophonists, and indeed, all woodwind players, can produce multiphonics on their instruments in two ways: by playing a note while singing, or by using a special fingering and adjusting the embouchure, throat or air flow. The saxophone family possesses an extremely rich palette of multiphonic sounds from which to draw, and numerous composers have used these sounds in their compositions, especially since Denisov’s aforementioned *Sonate*.

There are numerous resources available to saxophonists that deal with multiphonics, but most of them focus on fingerings or notational conventions.

Kientzy's *Les sons multiples aux saxophones*,⁴⁹ is the first scholarly resource to include multiphonic fingerings for soprano, alto, tenor, and baritone saxophone with a transcribed notation of the accompanying sound. It remains the most comprehensive resource for multiphonic fingerings. The fingerings are also categorized by their corresponding multiphonic's dynamic range, difficulty to produce, and speed of possible articulation. The resource is very valuable to composers and performers alike, but contains very little information on how to produce the sound. Another problem with Kientzy's book is that he researched and catalogued his fingerings on early-model Selmer Paris Mark VI saxophones; so many of his fingerings do not work as intended, or at all on contemporary instruments. Londeix's book⁵⁰ includes many of the same fingerings as Kientzy, but is not as extensive, containing only fingerings for soprano, alto and tenor saxophone. Londeix collaborated with Massimo Mazzoni for his book, and focused on fingerings that "require no special preparation."⁵¹ American saxophonist Ken Dorn's book⁵² is very similar to these two, but the transcriptions of the multiphonic sounds are less accurate (they include only half steps—no microtones) and the organization of the sound is more sporadic.

⁴⁹ Daniel Kientzy, *Les sons multiples aux saxophones* (Paris: Editions Salabert, 1982).

⁵⁰ Jean-Marie Londeix, William Street, and Anna Street, *Hello! Mr. Sax* (Paris: Editions Musicales Alphonse Leduc, 1989).

⁵¹ *Ibid*, 31.

⁵² Ken Dorn, *Multiphonics*. (US: Dorn Productions, 1975).

Thomas Bergeron's doctoral essay, *Saxophone Multiphonics: A Scalar Model*,⁵³ provides a great deal of historical information on saxophone multiphonics, and is an excellent resource for the acoustical principals that govern multiphonic sounds. His primary focus centers on organizing multiphonics into a scalar model to create a more analytical way to approach them; he includes very little information on the actual production of a multiphonic, as this is outside the boundaries of his study.

⁵³ Thomas Bergeron, *Saxophone Multiphonics: A Scalar Model*. Thesis (D.M.A.) — University of Oregon, 1989.

CHAPTER 3 METHOD

This project compares the teaching strategies for extended techniques among the participating French and American higher education saxophone teachers. Their responses, provided through e-mails and e-mailed questionnaires, have shown that the limited amount of existing printed exercises and scholarship in this area has had an impact on their ideas and procedures; however, at the time of printing, there exists no specific resource devoted to helping students and teachers learn to initially produce, refine, and master extended techniques.

The Participants

Participants selected for project in this study all meet the following criteria:

1. Full-time employment as instructor at a University or Conservatory
2. A history of performance, scholarship, publication, or masterclass activity regarding extended techniques
3. Recorded evidence of the successful use of extended techniques in their own musical performances
4. A reputation for being an active performer and teacher within the realm of contemporary or avant garde music, as indicated by conference and recital appearances.

The interview participants and their institutions are listed in Table 3.1

Table 3.1 *Interview Participants*

Serge Bertocchi	Professor of Saxophone, <i>Conservatoire à Rayonnement Régional d'Amiens</i> , France
Marie-Bernadette Charrier	Artistic Director of <i>Proxima Centauri</i> , Vice President of <i>l'ASAX</i> , Professor of Saxophone and Contemporary Chamber Music, <i>Conservatoire à Rayonnement Régional de Bordeaux</i> , France and CEFEDM, Aquitaine
David Dees	Associate Professor of Saxophone Texas Tech University
Geoffrey Deibel	Visiting Assistant Professor of Saxophone University of Florida
Philippe Geiss	Professor of Saxophone <i>Conservatoire de Strasbourg</i> , and <i>Pôle Alsace d'Enseignement Supérieur des Arts</i> , France
Jeffrey Heisler	Assistant Professor of Saxophone Kent State University
Timothy Roberts	Associate Professor of Saxophone Shenandoah Conservatory
John Sampen	Distinguished Artist Professor Bowling Green State University
Rhonda Taylor	College Assistant Professor of Saxophone and Music Theory New Mexico State University
Kenneth Tse	Professor of Saxophone University of Iowa
James Umble	Professor of Saxophone Youngstown State University

Interview Procedures

Participants in the project responded to a series of electronic questionnaires by email. In this case, in which many questions required careful reflection and evaluation, such an asynchronous form of communication was preferable to telephone or in-person interviews so that participants had more liberty to reflect on their responses. Additionally, because the interview participants represent an extraordinarily busy section of the population, this format allowed them to complete the project at their convenience.

Potential participants were informed by e-mail that they were not required to participate for each technique, only those that they felt comfortable discussing in a public forum. They were also not required to answer each question, and they were informed that they reserved final editorial approval of their comments.

Since this project deals with the teaching techniques and philosophies of teachers in France and the United states, two versions of the questionnaires exist: one in French, and the other in English. These two questionnaires are fundamentally identical with a few exceptions. For example, the translations of the document, and indeed all the translations included in this project, are not literal, but idiomatic; rather than being word for word representation of a participant's writing, the translations convey the same level of eloquence and precision in both languages, such that a native speaker in each would expect. I translated all French to English, and all English to French. If the participant spoke English but the interview was conducted in French, the participant approved the translation for final inclusion in this document. All relevant email responses and

their translations are included in the four appendices, which are organized by technique, and then in alphabetical order by the participant's last name.

Interpretation of the Data

Upon the successful completion of the interviews and translations, the first task was to divide the data into groups by specific technique. After this initial reorganization, I searched for commonalities among the strategies and methods used by the participants. Three or more incidents of a common strategy resulted in its inclusion in the Results and Discussion chapter. Any incident of an obvious contradiction between teachers was also included, as were any especially insightful or unique ideas. The Results and Discussion chapter contains four subsections: one for each technique. These subsections also include references for any other relevant published materials suggested by the interview participants, including material profiled in the review of relevant literature.

CHAPTER FOUR

RESULTS AND DISCUSSION

This chapter integrates the results of the study described in Chapter Two with a discussion of the implications of those results. Due to the nature of this research, a combined format that allows for greater interaction among the participants' data is more beneficial than the traditional separate "Results" and "Discussion" format. This chapter consists of four subsections, one for each technique discussed in this study.

4.1 Circular Breathing

I held my breath as we do sometimes to stop time when something wonderful has touched us...

— *Mary Oliver, New and Selected Poems, Vol. 2*

Before a discussion of the methods for teaching the mechanism of circular breathing, it is important to provide a context for the technique in the concert saxophone world, and especially with regard to the participants in this study. Of the four techniques examined in this study, circular breathing and multiphonics are the only two that a significant number of participants suggest students younger than college-age learn. Four out of ten participants suggest that high school saxophonists should devote serious study to circular breathing before going to college. Of the remaining six participants, five believe that all

saxophonists should study circular breathing at some point during their undergraduate studies.

All of the aforementioned teachers state that an ability to successfully circular breathe is crucial to success as a graduate-level saxophonist. James Umble, professor of saxophone at Youngstown State University, also mentioned the importance of the technique for saxophonists interested in competitions: “[Circular breathing] is now an important skill, required for significant modern repertoire...for anyone aspiring to compete in international competitions, I consider it essential now.” Only one participant suggests that a student may not need to study circular breathing at all, depending on his or her repertoire decisions.

Interestingly, despite an impressive consensus on the importance of circular breathing for future success as a concert saxophonist, only three out of the ten participants integrate it into their prescribed undergraduate saxophone curriculum. This anomaly is explicable for a few reasons. As indicated from the participating professors’ responses, college-aged students tend to be very interested in circular breathing, either from encountering older students doing it (as is the case in John Sampen’s studio) or due to an aspiration to perform specific repertoire. Students often bring up circular breathing in lessons, so it seems to be less necessary to integrate it at a specific time. As Rhonda Taylor observes, “Circular breathing doesn’t require any preliminary saxophone-specific skills, so anyone can work on it at any point in his/her education...” James Umble notes that simply teaching fundamentals and traditional techniques tends to occupy a large amount of time, but he still makes time “through brief weekly

check-ups” on extended techniques until the student has mastered it enough to integrate it into scales and eventually, repertoire.

The research suggests that for the participating teachers, a student’s ability to make repertoire choices without anxiety about a lack of technical ability is a principal concern—especially for graduate students and advanced undergraduates. Jeffrey Heisler, Assistant Professor of Saxophone at Kent State University writes, “I believe circular breathing...is important to be cultivated as an undergraduate because many of the core repertoire involving contemporary techniques for saxophone requires circular breathing. As a graduate student, circular breathing is vital to perform the prerequisite repertoire required for advanced saxophone study.” For the majority of the participants, repertoire is an important reason saxophonists should be able to circular breathe. In particular, the works of Christian Lauba factor into this belief; five participants mention him or his works by name in their responses (especially *Balafon*,⁵⁴ his concert etude for circular breathing), along with works by Thierry Alla, Betsy Jolas, and Marie-Hélène Fournier. Although numerous American composers have written saxophone music that requires circular breathing, no participant named a non-French composer in his or her responses.

Although it is true that many modern works require circular breathing, French saxophonist and pedagogue Marie-Bernadette Charrier cautions that circular breathing is not a modern technique: “This technique is ancestral. We tend to associate it frequently with today’s music, but there are many Classical

⁵⁴ Christian Lauba, *Neuf études pour saxophones en 4 cahiers = Nine etudes for saxophones in 4 books* (Paris: A. Leduc, 1996).

[period] works that require long phrases of uninterrupted sound.” Legendary saxophonist John Sampen echoes this sentiment when pondering the performance of transcriptions on the saxophone, “There are moments in Bach’s music where circular breathing is wonderful....”

While the profiled teachers are quick to agree that this technique is important for students to know, in application it becomes more controversial. Teachers agree that the technique can be “misused,” but some teachers appear to be more concerned with an inappropriate musical use while others are concerned with the technical application of the technique. Philippe Geiss, Professor of Saxophone at the *Conservatoire de Strasbourg* in Northern France speaks about the importance of understanding phrasing so that a student avoids performing a circular breath on a long note. Likewise, American professor Timothy Roberts, formerly of the United States Navy Band, believes that “if [students] can’t [circular breathe] smoothly in context...they shouldn’t do it.” Serge Bertocchi, professor of saxophone at the *Conservatoire à Rayonnement Régional (CRR) d’Amiens* voices the sentiments shared by many of the profiled teachers regarding students’ “inappropriate” use of circular breathing when he amplifies his own internal monologue about the technique for students: “When do you NEED to play without stopping the air?” He, along with many others, believes that the communication of the musical phrase is of the utmost importance for a successful performance. He observes that the best musicians “always use technical means in relationship with the musical needs.” In other words, the technique should serve the music; the music should never serve the technique.

As James Umble says, “One must always seek to phrase and breathe in a musical way, and so each musical context determines such decisions.”

The idea that a breath is an integral part of the musical phrase is a philosophy shared by many of the participants of this study; this very concept is responsible for much of the controversy surrounding circular breathing. Teachers communicate the importance of developing a sensitivity to the musical phrase to their students in a variety of ways. Geoffrey Deibel, Visiting Assistant Professor of Saxophone at Florida State University supplies his students with a metaphor: “A breath is part of the musical line. Where the phrases pause or end is where breaths should fall. Many times string players will breathe with their phrases as well...I encourage students to think of their performance of phrases as if they’re engaging in public speaking—phrasing works almost the same way in music as it does in language. The breath in the latter case is the comma or the period.”

John Sampen proposes an interesting solution, again using the music of J.S. Bach: “Sometimes the use of [circular breathing] constricts a player’s thought process about phrase endings and cadences and it can overtake other musical considerations...It may be useful to first approach compositions by planning out musical phrases and breathing points, and then later substituting the circular breathing.”

While all the other profiled teachers tended to identify with either technical or musical concerns for phrasing, Rhonda Taylor, Assistant Professor of Saxophone at New Mexico State University speaks about both—and offers solutions for both as well. She first addresses the problem of when to circular

breathe: “Most music has some sort of tension/release as part of its surface structure, so of course breathing after points of release allows for the most seamless sense of motion. When music is constructed to be without tension/release, in other words, is intentionally static...this is much more difficult and [is] usually where circular breathing becomes necessary.” She also humorously discusses students’ frustrations regarding knowing when to breathe: “Some think they need to take a breath every four seconds (wimps) and complain when I suggest otherwise, and others think they can play indefinitely (heroes) and are surprised when they have to drop the ends of phrases in performance. In both cases, it’s a matter of perception that needs to be more realistic.” To improve students’ self-awareness, she suggests timed long tones, which she believes also improves control and stamina.

While stamina becomes very important during the refining process of the technique, most of the teachers in this study agree that the best way to start the process of teaching circular breathing is without equipment. Sampen and Umble both begin the process by having students survey a variety of articles and printouts about the technique before moving on to practical application. Some of these articles are saxophone specific, and are referenced in Appendix One of this document, but others are geared toward clarinetists, or even didgeridoo players.

Geoffrey Deibel and Rhonda Taylor both have students begin by practicing blowing a stable air stream without an instrument. Taylor also uses an idea she learned from a former teacher of hers, Kelland Thomas, in which the

student blows the air onto his or her palm in order to feel the consistency of the air stream.

Following these exercises, both Deibel and Taylor continue with an exercise also used by Jeffrey Heisler and Timothy Roberts that involves more specialized equipment: a tall glass of water and a drinking straw. When students blow air into the water through the straw, bubbles appear, which represents a visual indication of the air stream. If a student can keep the bubbles going, he or she is successful at the circular breath. There are numerous benefits to this technique, but especially important is the back pressure provided by the water: the more water and/or pressure from the teeth on the straw, the more back pressure on the air stream and the easier it is to complete the circular breath. Deibel elaborates on the exercise thusly: “The main purpose for using water is for the positive reinforcement of seeing bubbles being produced continuously. Obviously one of the major faults people have in starting this technique is trying to control the automatic response to breathe in using the mouth. If a student does this while using a straw and water, they will likely swallow some water and minimally choke themselves. It only takes a few times of choking on water for students to realize they should avoid breathing in the mouth. In this case, fear of choking on water is a wonderful motivator.”

While such a technique may look mildly barbaric to the uninitiated, one of the primary tasks of a teacher who wishes to teach circular breathing (and many other extended techniques) is to help students overcome psychological obstacles that exist between their current understanding of what is possible and what

actually *is* possible. The mechanism of the technique is quite simple, but it can be challenging for some students to “reprogram” their past habits in order to achieve it for the first time. Philippe Geiss writes that “psychological and physical relaxation” are important factors in this technique.

When a student is able to create a cycle of circular breaths with the straw and water, and sustain this practice for a while, most teachers in this study apply the skill to the instrument—but not the whole instrument. Following the theory that circular breathing is easier with more resistance,⁵⁵ the smaller the tube through which one completes a circular breath, the more back pressure will exist, and therefore, the easier the circular breath will be to produce. So, several teachers in this study suggest beginning with either a small saxophone—either the soprano or the alto, or just the mouthpiece and neck. Once a student is successful at producing the desired effect on the neck, he or she should progress to the saxophone.

Rhonda Taylor has students perform the technique by slowly lengthening the tube (by playing from open C# down chromatically) and thereby increasing the difficulty. Heisler suggests having students practice the circular breath while playing a trill in the upper-mid register. This early integration of digital technique while completing the circular breath is similar to strategies used by Philippe Geiss, Marie-Bernadette Charrier, and James Umble, who have students integrate the technique into their scales, improvise loops or play calm, relatively

⁵⁵ Geoffrey Deibel, John Sampen, Rhonda Taylor

easy technical passages, such as one finds in the first five pages of *Balafon*⁵⁶ by Christian Lauba.

After a student has completed initial exercises in circular breathing and has achieved success performing the mechanism associated with it, he or she must refine the technique so that it is imperceptible.⁵⁷ Teachers seem especially interested in the stability and seamlessness of the timbre throughout technique, in all registers, and at all dynamics. The only professor who indicated an ability to perform the technique for an extended period of time as an important indicator of success is John Sampen.

Articulation while circular breathing poses problems for most saxophonists, but according to Jeffrey Heisler, with “dedication and perseverance,” it is possible to achieve. Sampen works on simultaneous circular breathing and articulation only with advanced students. Of the seven participants who teach simultaneous articulation and circular breathing, all of them claim to do so only if a piece a student is working on necessitates it.

Like circular breathing itself, students must overcome a psychological hurdle in order to articulate while performing the technique. Charrier gives the example of a work dedicated to her: Thierry Alla’s work for solo soprano saxophone, *Digital*.⁵⁸ In addition to requiring the saxophonist to perform over 60 different multiphonic fingerings over the course of the six minute work, he or she must also be able to articulate as fast as possible while circular breathing. *Digital*

⁵⁶ Christian Lauba, *Neuf études pour saxophones en 4 cahiers = Nine etudes for saxophones in 4 books* (Paris: A. Leduc, 1996).

⁵⁷ Bertocchi, Charrier, Dees, Deibel, Geiss

⁵⁸ Thierry Alla, *Digital: pour saxophone soprano seul* (Paris: A. Leduc, 2003).

is something of a signature piece for Charrier, and she has worked with students on it and the technique of articulating while circular breathing for many years. “This technique is possible,” she promises; “One must learn to control the independent movement of the tongue and respiration—to not have one be dependent on the other. This type of practice is tied to the development of a deeper self-understanding; to know and remember our internal sensations and to then control them.”

Students who are frustrated during the first phases of learning about circular breathing can take solace in the fact that of the ten professors who participated in this study, eight reported that in their entire careers of teaching, they had never seen a student fail to be able to circular breathe.⁵⁹ John Sampen helpfully points out, “Most can attain at least minimal success. However, if one cannot breathe through the nose, then the technique of circular breathing cannot be successful.”

4.2 Slap Tonguing

All kinds of animals, birds, reptiles and sea creatures are being tamed and have been tamed by mankind, but no human being can tame the tongue.

— James 3:7-8 (NIV)

For many classical saxophonists, of all the extended techniques described in this document, the most challenging to teach and learn is a percussive articulation called slap tongue. In fact, many saxophonists are not able to perform

⁵⁹ Two professors declined to respond to this question.

the technique; some even believe it may not be possible for everyone. "...The slap is a tricky technique, few musicians (even professionals) can ever do it," says Serge Bertocchi. "It might be a question of hereditary tongue flexibility, but this is only a personal hypothesis." Marie-Bernadette Charrier disagrees, stating that with correct preparation and practice, anyone who has a tongue can slap tongue — it may just take a great deal of time depending on the individual.

Every participant in this study agrees that undergraduate saxophonists should devote study to the technique; many believe that this study should begin before college, which some, like Philippe Geiss, suggesting that even beginners integrate it into their first years on the saxophone. In light of the successes experienced by students of the participants in this study, it seems clear that at least most people are capable of performing a slap tongue of some quality; that in essence, the "tongue can be tamed," despite the rather bleak sentiment found in the book of James.

The first task a teacher must accomplish is that of defining the slap. John Sampen's definition is one of the most succinct: "The slap tongue involves the creation of a suction between one's tongue and the reed, which can create a "pop" sound when released." This "pop" occurs when the reed rebounds and strikes the mouthpiece; however, depending on the composer's indications in the music, this could represent not one, but many possible sounds, each requiring different techniques. For the purposes of this study, the term "slap" refers only to the two most common types of slap: the open, or unpitched slap, and the closed, "pitched" slap.

The participants of this study unanimously agree that students should differentiate carefully between the open slap and the closed slap. According to Marie-Bernadette Charrier, “These are two different attacks, and above all, these different slaps do not produce the same pitch. They are two different musical gestures; very often, you cannot replace one with the other....” Such an emphatic statement begs the question, “Why would a student want to replace a closed slap with an open slap?” The answer lies in the typical evolution of a student’s success with this technique: six out of eight participants in this study agree that for their students, open slaps tend to be easier to achieve than closed slaps.

The open slap technically differs from the closed slap in a very clear way: to achieve the open slap, one must open the mouth at the completion of the technique, whereas for the closed slap, the mouth must remain closed. Bertocchi, who has been very forthright about his difficulty with slap tonguing when he was a student in Paris, defines the technique of the open slap and offers a brief anecdote about his own experience: “The open slap is made by opening the mouth when releasing the reed to magnify the percussive result. It is often an easier, faster learned technique.... Actually, I tried for one year to learn slap during my studies (at that time, I wasn’t helped much by my teacher, Daniel Deffayet), all I could do was open slap, teeth on tongue.” Jeffrey Heisler offers students a very clear instruction when teaching them to open slap by asking them to take the mouthpiece into their mouth, place their tongue on the reed, and “say the word ‘tuck’ while using a burst of air to propel the mouthpiece out the mouth, this ‘popping’ the reed in the process.”

The closed slap is based on a similar concept, but is far more difficult for most students to achieve, perhaps due to a high rate of variability among students' physiology: everyone's tongue has a different shape, size, and muscular strength. To help deal with this problem, the majority of the participants in this study suggest beginning work on this technique without the whole instrument, just as in circular breathing. Charrier suggests beginning the technique with a discussion of tongue-placement for different kinds of attacks and accents, and then progresses to a visual exercise. "The first step in practicing the slap takes place in front of the mirror with the mouth open in order to see that the movement of the tongue on the reed is independent from the movement of the jaw. Very often, a student's inability to perform the slap is a question of the tongue's lack of muscle-strength." She often has students practice holding their mouth open as wide as possible while, without moving their jaw, they press their tongue to the roof of their mouths or against a reed held out at a 90 degree angle from their upper teeth to "strengthen their tongues." She typically prescribes this sort of exercise for around a week before working on creating the sound.

Like Charrier, Rhonda Taylor, Geoffrey Deibel and Jeffrey Heisler all instruct students to begin practicing the technique by working only with the reed, learning to create a pocket of suction with the tongue. Taylor talks to students about "making a suction-cup shape" with their tongue whereas Deibel compares the shape of the tongue to a spoon against the reed. According to Heisler, "Finding the right spot in the middle of the tongue to create suction on the reed is

crucial. I often have students mimic the same gesture as “clicking” the tongue with suction on the roof of the mouth.”

Timothy McAllister, professor of saxophone at Arizona State University, notes that this “right spot” can be elusive and difficult to locate. A teacher cannot simply provide a “correct” location to a student because of the physiological differences between them. For example, McAllister claims that because he has “a very long tongue,” he must place the tip of his tongue underneath his lip in order to appropriately complete a slap tongue.⁶⁰ If he teaches a student with a very short tongue, the student would have to feel a very different sensation in his or her mouth in order to accomplish the same basic technique.

Although the “suction cup” analogy is accurate, sometimes students have difficulty visualizing this tongue shape. “They try a ‘kissing’ motion or some other erroneous movement,” Geoffrey Deibel explains. “They often don’t understand that the suction comes from the pressure of the tongue, which is understandably counterintuitive.” If one were to place a suction cup onto a window without pushing it down, it would simply fall off of the glass. The vacuum that ultimately keeps it attached to the glass does not occur until *all of the air in the suction cup has been expelled* by pressing it down flat against the glass. This vacuum seal between the suction cup and the window is the same type of environment that must exist between the tongue and the reed in order for this technique to be successful. If a student does not exert satisfactory pressure with his or her

⁶⁰ Timothy McAllister, e-mail message to author, November 2004.

tongue against the reed, effectively closing off the mouthpiece before pulling it back, the student will not be able to produce a slap, or indeed, any sound at all.

After a student is able to create enough suction with his or her tongue on the reed that the reed “sticks” to it and pops lightly when pulled off with the fingers, the student is ready to begin to add more parts of the instrument, a bit at a time. Some participants advocate further honing of the technique with practicing on the mouthpiece, while others suggest continuing the exercise straight away with the mouthpiece on the saxophone neck.

Following more practice, as a student becomes more competent with the technique and the teacher believes that the student has a firm grasp of the mechanics of the slap tongue, it becomes useful to apply the skill to the entire assembled instrument — but the choice of which member of the saxophone may have an impact on student success. Concordantly, the participants of this study believe that the technique of the slap is easier to achieve on low members of the saxophone family; many of them suggest having students attempt slaps on tenor or baritone before alto and soprano. This is a technique advocated heartily by Jeffrey Heisler: “Learning to slap on larger instruments is great for students. It is much easier to gain suction on baritone and tenor reeds/mouthpieces than alto and soprano.” Rhonda Taylor uses this tactic as well, but tends to use the lower saxophones with students who do not first achieve success after working on alto. “Students who may be frustrated beginning slap tonguing on alto may have more success beginning on tenor or baritone, and then moving up to alto and soprano as they gain more precision and control.”

Taylor's attempt to promote success with the technique by experimenting with other setups also represents a creative way of alleviating student frustration. According to David Dees, the biggest pitfall students encounter is "frustration with lack of instant gratification." Patience is an important tool for students of this technique, which can take a great deal of time for students to master. Deibel quips that learning to slap can take "anywhere from a day to six months — no technique is harder to teach in my experience." John Samen echoes Deibel's sentiment, saying "Generally the development of good slap tongues will take about one year, but sometimes a student can master these overnight." Certainly this sort of variability in time frame causes Charrier's theory of the importance of tongue strength to carry more weight.

In terms of how much practice one must devote to slap tonguing, philosophies vary quite a bit from participant to participant, and occasionally, opinions seem to be contradictory. For example, Rhonda Taylor and Serge Bertocchi's experiences are very different. Taylor has seen success with her students when they work for a short time on the technique each day rather than practicing until they are too fatigued and then must avoid practicing it for several days. It seems that for Bertocchi, who had a very difficult time learning to slap tongue, finally found success after a short period of very intense, dedicated practice: "During a summer session with [composer] Georges Aperghis, where most of the musical material was [written] text, I had to practice all day for ten days, almost only slap. At the end of the session, I could play a number of

different slaps, in different registers...and I was never able to understand why I couldn't do it before....”

Teachers identify success with slap tonguing in two contexts: success at inserting the technique appropriately into repertoire, and attaining appropriate clarity, consistency, pitch and dynamics. The application to the repertoire requires in a mastery of several technical exercises first; slap tongue is rarely an a technique that can be achieved at a satisfactory level by only practicing it in the context of repertoire. As John Sampen observes, “there are plenty of ‘advanced’ resources for practicing slap tongues (e.g. music of Christian Lauba) but not much for the beginner.” Serge Bertocchi has created a book of exercises to address these skills,⁶¹ but it is difficult to get outside of France because there is no international distributor or electronic edition. Charrier and Taylor both integrate slaps with typical scale practice. Taylor has students perform scales with slaps integrated into them, either a slap followed by a regular note or *vice versa*. Either way, Taylor stresses the importance of using a metronome during the process. Charrier uses similar exercises, but also integrates dynamics, “like a slap at *forte* followed by a slap at *piano*.” Charrier explains that this exercise helps to increase speed between slaps and improve endurance.

⁶¹ Serge Bertocchi, *La méthode de saxophone* (IMD: Paris, 2011).

4.3 Multiple Tonguing

Hearts that are delicate and kind and tongues that are neither — these make the finest company in the world.

— Logan Pearsall Smith

Multiple tonguing on reed instruments is more challenging than on other wind instruments due to the fact that a mouthpiece or reed occupies part of the musician's mouth, thus complicating the basic gesture of the technique. Because of this handicap, over time saxophonists have had to modify the traditional brass and flute techniques so that they work on their instrument. In fact, many saxophonists don't pursue the technique at all, choosing instead to rely on the development of a fast single tongue or the addition of slurs in fast articulated passages to simplify difficult articulated passages.

Most of the participants in this study suggest that a knowledge of multiple-tonguing, especially double tonguing, is important for college-level saxophonists, but only half of the teachers require their students to master the technique. Kenneth Tse, Professor of Saxophone at the University of Iowa explains, "[Whether I teach a student about multiple-tonguing] depends on the student's ability and the repertoire at hand. I know many professionals who are on the top in our field but cannot or do not multiple-tongue, yet they are the most respected musicians. I personally do not require any of my students to master multiple tonguing but they must understand the concept, know how to describe it, and be able to teach it."

When it is appropriate to teach multiple tonguing is also a point of disagreement among participants. Rhonda Taylor suggests that multiple-tonguing can be a good solution for students who are unable to develop a sufficiently fast single tongue, whereas Timothy Roberts does not allow his students to study multiple tonguing until they are able to single tongue sixteenth notes at quarter note = 152. Kenneth Tse believes that a student is ready to learn the technique when he or she understands the mechanics of articulation: "...He/She must be competent in single tonguing and have a good overall understanding of the inner workings of their oral cavity and the importance of proper tongue position."

While Marie-Bernadette Charrer and Serge Bertocchi both caution against introducing the study of multiple tonguing with very young or inexperienced (pre-college) students, they do so for opposite reasons. Charrier concerns herself with the development of the single tongue, saying "I heard a young saxophonist who had learned double-tonguing too early in his development, and he could not even single tongue at an average speed." Bertocchi believes that most very young students simply do not possess the necessary discipline to be successful, quipping: "Try to build a passion for TKT exercises to a 10-year-old...."

A psychological preparation on the part of the student is one of the criteria Tse seeks in a student ready to devote study to multiple tonguing: "When the students show curiosity and initiative, that is when I would introduce them to multiple tonguing, after judging the fact that they are ready for it.... Like many

other so-called extended techniques, if any of it stifles the enjoyment and fulfillment of learning and music-making, it becomes an end in itself.”

Six out of the ten participants indicate that they integrate the study of multiple tonguing into their undergraduate curriculum, mainly as a way to respond to the demands of the repertoire. In particular, Timothy Roberts, formerly of the United States Navy Band, believes that the ability to multiple tongue is important for saxophonists to be able to “keep up with the other instruments in the band.” To that end, for the participants, double-tonguing seems to be of a higher priority than triple-tonguing. Two participants simply stated that there was generally no need for saxophonists to be able to triple tongue. Only one teacher provided specific exercises to develop the triple tongue among students.

The syllables that teachers use for double tonguing vary. Charrier and Geiss both favor syllables “*te-ke*,” which with English vowels would resemble “tuh-kuh.” Charrier also uses “*ti-ki*,” or in English, “tee-kee” for the upper register. Kenneth Tse uses the “ti-ki” for the entire register. Bertocchi, Deibel, Roberts, and Sampen all suggest “tah-kah” to their students. David Dees is the only teacher who suggests the use of a syllable that begins with “D”: “duh-guh,” for all double tonguing. Other participants tend to use “D” and “G” syllables only for legato passages.

James Umble takes a different approach with students, preferring not to employ a standard syllable for all of his students, and instead to focus on the physical process of double tonguing. “Syllables [are] not always consistent student to student. Relaxation is important I think, so a more legato approach

works early on. Experimenting with the location of the tongue stroke is important.” Although Kenneth Tse *does* employ a standard syllable with students, he remains flexible: “Basically, whatever syllables help you to stabilize the back of the tongue and the air to touch the front top part of the upper pallet (near the alveolar ridge) would do.” Tse also advocates the use of slightly different tongue movements from register to register, but cautions against too much alteration: “Obviously, multiple tonguing different registers would need slight adjustment inside the mouth, but in general the tongue must not move too much and one should not engage much of the throat.... I suggest the study of articulatory phonetics, where the understanding of the place (or point) of articulation plays an incredibly significant role in one’s understanding and approach in tonguing, obtaining resonant sound, and playing the saxophone in general.”

Universally, to develop the technique, these professors suggest beginning practice on a single mid-register note, then expanding out in either direction for about one octave using scale study. The imperceptibility and diction of the technique is of primary concern to most of the teachers, and many use exercises to try to improve the clarity of the second syllable to make it sound more like the first. Bertocchi has students play a slow set of double tongued notes and then the same notes with single tongue at the same tempo to try and achieve satisfactory clarity. Geoffrey Deibel works with students to maintain an evenness of rhythm that can sometimes suffer when double tonguing. “Once the Kah works, getting an even switch between the two is the next step. Students always want to revert

to a dotted rhythm, so getting even 8ths or 16ths is critical. One thing that can really help with evenness is playing triplets.”

Other teachers use repertoire to continue to develop students’ skills. Charrier integrates transcriptions and works from the nineteenth century, “which is effectively a series of scales and arpeggios,” whereas others use works like Monti’s *Czardas*, the third movement of Creston’s *Concerto*, or the fifth movement of Maurice’s *Tableaux de Provence*. James Umble has students play exercises similar to the Arban’s studies for trumpet,⁶² while Tse uses the double tonguing exercises found in Jean-Louis Tulou’s *A Method for the Flute*.⁶³

The subject of multiple tonguing in the altissimo almost feels akin to myth. Of the ten participants, six of them had no teaching or performance experience with the technique; (one, after emphatically stating “No!!!” asked me if I could do it)! Nonetheless, Marie-Bernadette Charrier and Kenneth Tse both express a knowledge of the technique. Charrier says, “It’s true that using double or triple tonguing is more difficult in the altissimo register [when using] the placement of the tongue in the ‘ke’ or ‘ge,’ which is why I think ‘ki’ or ‘gi,’ so that the tongue is closer to the roof of the mouth, or hard palate. If I have to play very high, I cheat and play the staccato attack with my throat.” Tse takes a similar approach, but tries to avoid the passive, or “ki” attack almost altogether. “The ability to multiple tongue in altissimo range has to do...one’s understanding in points of articulation

⁶² J.-B. Arban, Edwin Franko Goldman, and Walter M. Smith. *Arban's Complete Conservatory Method: For Trumpet (Cornet) or E♭ Alto, B♭ Tenor, Baritone, Euphonium and B♭ Bass in Treble Clef* (New York: Carl Fischer, 1936).

⁶³ Jean Louis Tulou, Janice Dockendorff Boland, and Martha F. Cannon, *A Method for the Flute* (Bloomington: Indiana University Press, 1995).

inside the mouth. Most syllables (even “Ti-Ki”) usually create too much motion inside the mouth (both active and passive) to allow the reed to vibrate in extremely high speed without interruption, hence loss of altissimo tone. Basically, one needs to use as little passive “attack” as possible and use air mostly coming from the back of the throat.”

The maintenance of the mastered technique of multiple tonguing shows a contradiction between the ideas of Charrier and Tse. Tse believes that after a student has mastered the technique, he or she need only practice it when playing repertoire that demands it. Charrier, on the other hand, believes it should be practiced daily with other technical exercises, saying “A technique is never acquired for life — it must be nurtured.”

4.4 Multiphonics

For every disciplined effort there is a multiple reward.

— Jim Rohn

The study of multiphonics is different from that of the other techniques in this study because rather than representing a single technique that students work to master, each multiphonic presents its own set of challenges that must be overcome. In the end, a student with a successful mastery of multiphonics is able to understand a set of fundamental governing principles and can apply the technical, physiological and aural implications of those principles in order to respond to the challenges that multiphonics present for interpretation and performance.

When explaining their beliefs on the best time for students to begin the study of multiphonics, for the first time in this study, a clear delineation among participants' country of origin is observable. The French participants suggest beginning saxophonists should integrate multiphonics into their study, whereas all of the participants from the United States except one⁶⁴ believe students should begin work on multiphonics early in the undergraduate degree. This rift could be explained by the logistical difference in music education between the two countries. In the United States, students typically rely on band directors to be their first teachers, with a few seeking private lessons. It is rare that a university-level professor teach a beginner. In France, however, where students begin solfege training early and matriculate into conservatory at a younger age, it is conceivable that teachers of the same educational experience would teach or have pedagogical influence over younger students.

Universally, the French participants claim that early study of multiphonics leads to a greater flexibility of the embouchure that is integral to artistry as a concert saxophonist. Serge Bertocchi, who teaches multiphonics to first-year students explains, "Most multiphonics will imply a specific mouth-tongue position to be performed. The student will get the idea that he is not playing only with his fingers: sound production is an association of ear and memory..."

The only profiled American who claims similar beliefs is Geoffrey Deibel, but rather than claiming a desire to help students achieve greater embouchure flexibility as the reason for early exposure, he states that he simply believes the

⁶⁴ Deibel

technique is easier for younger students to grasp. “I try to introduce even the youngest students to [contemporary music] and technique as early as possible. I have had middle school aged students play multiphonics regularly, and certainly all levels of high school and college students. The earlier you introduce any of these techniques, the less ‘hard’ it is for the student later on.” Philippe Geiss, when talking about slap tonguing, made a similar claim about young students, saying that early exposure to contemporary techniques allows students to “maintain the natural gesture, devoid of intellectualism.”

Those teachers who tend to introduce multiphonics early say that they work hard to only show students multiphonics fingerings that are easy to produce at first. Bertocchi introduces two “easy” multiphonics in his saxophone method book, and some of his students greet the technique with a great deal of enthusiasm. “One of my students composed a piece using these [two multiphonics] during his first year of study. He was 10, and the piece was nice,” he says. The most common “first multiphonic” among participants is a low C with the forth finger raised, which when properly produced on any of the four main members of the saxophone family, creates two-note multiphonic. For those teachers who tend to wait for repertoire to suggest the study of contemporary techniques, it makes sense that the subject of multiphonics would not come up until undergraduate study. David Dees mentions Noda’s *Mai*,⁶⁵ for example, and John Sampen suggests Caravan’s *Sketch*,⁶⁶ or *Preliminary Exercises*⁶⁷ along

⁶⁵ Ryo Noda. *Mai: pour saxophone alto seul* (Paris: A. Leduc, 1978).

⁶⁶ Ronald L. Caravan, *Sketch for Alto Saxophone*. (New York: Seesaw Music Corp, 1974).

with the Noda *Improvisations*.⁶⁸ All of these are pieces that would typically demand the technical skills of a very advanced high school student or early undergraduate.

In approaching multiphonics, teachers in this study all seem to take a similar approach with their students in which the student works to play all the pitches contained in the multiphonic independently of one another, first using normal fingerings, then replicating the note with the multiphonic fingering.

Rhonda Taylor compares her approach to the voicing one might work on to produce notes in the altissimo register: “Like any voicing, the work must be both physical and aural. I ask students to finger the multiphonic and voice the individual pitches: almost always, certain pitches speak more easily, and the challenge is to find a tongue/throat compromise position that allows the full multiphonic to speak.”

Marie-Bernadette Charrier takes this approach a step further: “Practicing multiphonics begins by isolating each pitch in the multiphonic, playing it, and memorizing each sound’s position [in the throat]. This should be done at a variety of dynamics.... You must learn to control each pitch of a multiphonic independently, and for me, there is always one pitch in the multiphonic that allows me to balance the multiphonic, and it is up to everyone to find that for him or herself.” Deibel’s approach of identifying a single pitch that “balances” the chord is very similar to that of Charrier: “Multiphonics are sometimes similar to

⁶⁷ Ronald L. Caravan, *Preliminary Exercises & Etudes in Contemporary Techniques for Saxophone Introductory Material for the Study of Multiphonics, Quarter Tones, & Timbre Variation* (Medfield, MA: Dorn Publications, 1980).

⁶⁸ Ryo Noda, *Improvisation I, pour saxophone alto seul* (Paris: A. Leduc, 1974).

altissimo in that you have to voice more toward a certain note to make the chord sound.”

The idea that a single note within the multiphonic is more important than others is a common theme among participants in this study. Specifically, two professors discuss the first multiphonic of the second movement in Denisov’s *Sonata*. Ronda Taylor says, “The end of the first movement of the Denisov *Sonata* ends with our written F#, and the multiphonic that opens the second movement continues that F#, but now as the highest pitch in a multiphonic. Aurally matching the two helps the player execute the multiphonic more clearly, but also helps the student hear why it’s structurally important to the work. Of course, the highest goal here is to communicate that F# connection to the listener.”

A frustrating problem for many saxophonists is the reality that sometimes, multiphonics suggested by composers are difficult or even impossible to produce — even by the most accomplished saxophonists. Every saxophonist in this study says that they sometimes change a multiphonic fingering in order to “find” it or to obtain a more practical or stable multiphonic sound. John Sampen places a high importance on the performer’s comfort in these decisions: “Sometimes the notated fingerings just don’t work and require changes or substitutions. As one nears a performance, it is important that the player has confidence and a high percentage of success in the producing of the notate multiphonics. If this is not the case, then I will suggest substitutions so that the performer (and the composer) are not represented in a negative way.”

Charrier's approach with replacing troublesome multiphonics in repertoire seeks to honor the composer's intent. If a fingering does not work, she changes it and tries to "respect the demanded color.... Generally, the composer does not play the saxophone, but found a multiphonic that corresponds to the harmony or a desired timbre. If the fingering doesn't permit this, it is our role as interpreters to search for and propose a solution so that the composer's intentions are honored."

Another tactic participants use is the seeking out of advice from other saxophonists who have successfully performed the work to ask about specific fingerings, or even dealing with the composer directly if he or she is alive. Geoffrey Deibel cautions that sometimes students want to give up on a fingering too quickly. "...There is a certain amount of initiative the student must learn to take with [the experimentation required to successfully produce multiphonics]. It's not enough for them to just to say 'it's not coming out.' It's a problem we all have to address." Bertocchi suggests that sometimes, in order to play a multiphonic that seems impossible, all one needs is a bit of patience: "I'm often [confounded] by [difficult] multiphonics and I have acquired a few automatisms. As a matter of fact, I'm actually trying to play *ultimo a lato*⁶⁹ by Giorgio Netti, which is presumably the most difficult piece written up to date (as far as multiphonics are concerned, Giorgio is the Pope). And I'm surprised myself to see that even so-called 'impossible' sounds can finally be performed when sufficient time is provided for them to mature."

⁶⁹ Giorgio Netti, *ultimo a lato* (Milan: 2005).

In addition to careful, dedicated practice, all the profiled professors agree that a student's equipment and its condition is very important for success with multiphonics. David Dees points out that many works for soprano saxophone require C6 — or the high-G key. John Sampen brought up the fact that most existing multiphonic fingering compendia were created using older model saxophones, resulting in unreliable fingerings. Charrier, who normally performs on Vandoren mouthpieces, suggests that Selmer Paris mouthpieces produce multiphonics more easily, especially when paired with a softer reed, whereas Bertocchi suggests mouthpieces with larger facings. Sampen says simply, "Equipment is a major consideration and this does affect success...[but] many times multiphonics require intense experimentation and practice much like the production of altissimo."

CONCLUSION

Much of what saxophonists know about extended techniques has been passed down from teacher to student, or gained from personal experience and effortful practice. Although some scholarship devoted to extended techniques exists, the value of communication among educators is clearly of paramount importance. This study has identified numerous common strategies among college-level educators in France and the United States, and has also revealed individual approaches that could benefit the concert saxophone community. Although sometimes their opinions differ, overwhelmingly, the teachers in this study encourage their students to adopt an attitude of experimentation, sensitivity, and open-mindedness to the world of sounds, encouraging them to expand their own technical and musical capacity for contributing to it.

I believe that extended techniques are valuable musical elements that when used with care and discretion, can enhance and ameliorate the repertoire of the saxophone. It is my hope that the information contained in this document will be useful for those interested in teaching contemporary saxophone techniques, and that this work can be a catalyst for communication and further research among educators so that we can more effectively teach these challenging and fascinating techniques to students.

APPENDIX ONE
TECHNIQUE QUESTIONNAIRES:
CIRCULAR BREATHING

SERGE BERTOCCHI
 PROFESSOR OF SAXOPHONE
 CONSERVATOIRE À RAYONNEMENT RÉGIONAL
 AMIENS, FRANCE

1. Comment/en quelle cycle est-ce que vous introduire l'étude de la respiration circulaire ?

[1. How/when in a student's education do you generally introduce him or her to circular breathing?]

Usually, there is no need of this kind of technique before reaching the 3rd cycle. As a matter of fact, I often teach it in parallel to studying a piece needing the technique, like [Christian] Lauba's Balafon⁷⁰ or [Betsy] Jolas's Episode 4ème.⁷¹

2. A votre avis, est-ce qu'il est important pour les élèves de savoir comment faire la respiration circulaire en troisième cycle ? En perfectionnement ?

[2. In your experience, how important is a student's ability to circular breathe as an undergraduate? As a graduate student?]

I think it's better for a student to be able to use (if not dominate) this particular technique at the end of the 3rd Cycle, for the DEM [Diplôme d'Études Musicales, the highest performance diploma awarded for music performance in France. Typically obtained by those who want to teach at a Conservatoire]. But

⁷⁰ Christian Lauba, *Neuf études pour saxophones en 4 cahiers = Nine etudes for saxophones in 4 books* (Paris: A. Leduc, 1996).

⁷¹ Betsy Jolas, *Episode quatrième: pour saxophone ténor seul* (Paris: A. Leduc, 1984).

it's never too late to learn it. You might have to play a piece using Circular Breathing for a DEM.

3. Pensez-vous qu'il y'a des moments quand il vaut mieux de ne faire pas des respirations circulaires ? Si oui, quels sont ces moments, et comment est-ce que vous aidez les élèves faire des bons choix par rapport des respirations ?

[3. Do you think there is any musical context where circular breathing is inappropriate? If yes, what are some of these contexts, and how do you help students to make musical decisions with regard to their breathing?]

In a student's view, circular breathing IS a special technique, so they seldom misuse it musically, since they will avoid it if possible. But the question might get to some interest later on, when you don't even think about circular breathing when you play: you could become lazy, and avoid to take a long breath needed for dramatic use in a particular piece. It happens to me sometimes on the baritone when I play in quartet. Anyhow, as usual, the real problem is to always use technical means in relationship with the musical needs. I usually warn my students about this eventuality.

4. Quelles recherches, exercices, et répertoires est-ce que vous donnez aux élèves pour améliorer leurs façon de jouer avec respiration circulaire ? Si vous avez vos propres exercices, est-ce que vous pouvez les partager ?

[4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?]

Actually, I published a small book concerning modern techniques and their study for students... I can send it to you if you wish...

5. Quel criteria employer-vous pour évaluer la niveau et progrès de vos élèves par rapport de respiration circulaire ?

[5. What criteria do you use to evaluate a student's mastery and progress with this technique?]

First objective is to be able to play without stopping on rapid slurred phrasing (scales, trills, Balafon⁷²). Then, to be able to do it on different dynamics, or on a held note, without hearing the tongue "glick" [sic] separating jaw expiration and the return of lung expiration. Eventually, trying to do it on staccato continuum (like in Le fusain fuit la gomme⁷³ by Marie-Hélène Fournier).

6. Intégrez-vous l'étude de la respiration circulaire en votre curriculum pour les élèves de troisième cycle, ou est-ce que vous attendez des questions

[6. Do you integrate the study of circular breathing into your undergraduate curriculum, or do you wait for students to inquire about it?]

⁷² Christian Lauba, *Neuf études pour saxophones en 4 cahiers = Nine etudes for saxophones in 4 books* (Paris: A. Leduc, 1996).

⁷³ Marie Hélène Fournier. *Le fusain fuit la gomme: pour saxophone baryton solo* (Paris: H. Lemoine, 2000).

Some students ask for it earlier in their progression: I usually teach them the basic exercises, and they sometimes succeed, even in the 2nd Cycle. The usual problem is that they will not find many pieces to perform their ability...

7. Est-ce que vous n'avez jamais eu un élève qui, après beaucoup de travail de la respiration circulaire, n'a pas assez du succès ? Que pensez-vous la raison de ca ?

[7. Have you ever had a student who devoted substantial study to circular breathing and was unable to achieve a satisfactory level of mastery? Why do you think this student or students was/were unsuccessful?]

No. It can take some time, but EVERYBODY can do the circular breathing, as far as I know. It's only a question of time and hard work. Light work for some. In the other hand, NOBODY (as far as I know) can do the circular breathing without a thorough study: it will take between 1 week to 1 month.

8. Faites-vous du travail avec les élèves sur la détaché au même temps que la respiration circulaire ? Si oui, comment ?

[8. Do you work with students on articulation while circular breathing? How?]

Usually, tonguing is supposed to be a difficult thing to superimpose to circular breathing. Particularly because during CB you will use a specific - though varying - tongue position. The question should be about musical need: when do you NEED to play without stopping the air, though using articulations? If necessary, I will then propose to do rapid staccato on a low note as an exercise.

9. Pour travailler la respiration circulaire, est-ce qu'il est important quel saxophone (soprano, alto, ténor, baryton) un élève joue ? Est-ce que vous changez votre façon d'enseigner ce technique pour les saxophones différents [9. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?]

No. It might be a little more natural on baritone...

TRANSLATION:

Marie-Bernadette Charrier
 Artistic Director, PROXIMA CENTAURI
 Vice President of l'ASAX (French Saxophonists Association)
 Professor of Saxophone and Contemporary Chamber Music
 Conservatoire à Rayonnement Régional de Bordeaux
 Professor of Saxophone and Contemporary Chamber Music
 CEFEDM, Aquitaine

1. How/when in a student's education do you generally introduce him or her to circular breathing?

As soon as a saxophonist has a flexible and stable embouchure and when the student is able to control the breath.

2. In your experience, how important is a student's ability to circular breathe as an undergraduate? As a graduate student?

Of course, it is even necessary; this technique is ancestral. We tend to associate it frequently with today's music, but there are many Classical works that require long phrases of uninterrupted sound [that would necessitate the use of circular breathing].

3. Do you think there is any musical context where circular breathing is inappropriate? If yes, what are some of these contexts, and how do you help students to make musical decisions with regard to their breathing?

Circular breathing should not be associated with an aesthetic, but more with musical phrase demanded by the work that the musician is interpreting. An

understanding of musical conventions (culture musical) helps an interpreter know when and how to use it.

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

This technique, like all other techniques, must be prepared ahead of time with preparatory exercises that can be adapted to whatever music a student is studying—one should not use this technique without regard to what the music being performed demands.

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

Seek a homogenous timbre when circular breathing that matches the timbre when not circular breathing no matter what dynamic.

6. Do you integrate the study of circular breathing into your undergraduate curriculum, or do you wait for students to inquire about it?

Circular breathing is a technique that must be mastered at this level, and practiced regularly.

7. Have you ever had a student who devoted substantial study to circular breathing and was unable to achieve a satisfactory level of mastery? Why do you think this student or students was/were unsuccessful?

No, all students can learn to do it; it is a very easy technique to acquire.

8. Do you work with students on articulation while circular breathing? How?

Yes, certain works necessitate articulation while circular breathing, such as Digital,⁷⁴ by Thierry Alla. This technique is possible; one must learn to control the independent movement of the tongue and respiration—to not have one be independent on the other. This type of practice is tied to the development of a deeper self-understanding; to know and remember our internal sensations and to then control them.

9. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

The mechanism of this technique is the same no matter what instrument is used. The difference is with regard to embouchure and register. One must learn to control the “clamp” and stability of the larynx at the moment of respiration. It is important to feel the arrival of fresh air at the level of the larynx—not at the level of the nose.

⁷⁴ Thierry Alla, *Digital pour saxophone soprano seul* (Paris: A. Leduc, 2003).

ORIGINAL VERSION:

Marie-Bernadette CHARRIER
 Director Artistique, PROXIMA CENTAURI
 Vice President de l'ASAX (Association des Saxophonists)
 Professor de saxophone et musique de chamber contemporaine
 Conservatoire à Rayonnement Régional de Bordeaux
 Professor de saxophone et musique de chamber contemporaine
 CEFEDM, Aquitaine

1. Comment/en quelle cycle est-ce que vous introduire l'étude de la respiration circulaire ?

Lorsque le saxophoniste possède une embouchure souple et stable, lorsque la technique de souffle est maîtrisée.

2. A votre avis, est-ce qu'il est important pour les élèves de savoir comment faire la respiration circulaire en troisième cycle ? En perfectionnement ?

Bien sûr, c'est même indispensable, cette technique est ancestrale. On l'associe souvent à la musique d'aujourd'hui mais beaucoup d'oeuvres classiques nécessitent un discours continu avec des respirations musicales mais sans interrompre la résonance du son.

3. Pensez-vous qu'il y'a des moments quand il vaut mieux de ne faire pas des respirations circulaires ? Si oui, quels sont ces moments, et comment est-ce que vous aidez les élèves faire des bons choix par rapport des respirations ?

Il ne faut pas systématiquement associer cette technique à une esthétique mais plutôt au phrasé musical demandé par l'oeuvre interprétée. La culture musicale permet de mieux savoir quand l'utiliser.

4. Quelles recherches, exercices, et répertoires est-ce que vous donnez aux élèves pour améliorer leurs façon de jouer avec respiration circulaire ? Si vous avez vos propres exercices, est-ce que vous pouvez les partager ?

Cette technique comme toute autre technique doit se préparer en amont, avec des exercices préparatoires puis l'adapter en fonction du texte musical et non faire cette technique quelque soit la musique jouée .

5. Quel criteria employer-vous pour évaluer la niveau et progrès de vos élèves par rapport de respiration circulaire ? *Rechercher l'homogénéité du timbre lors de son utilisation quelque soit le registre et la dynamique utilisés.*

6. Intégrez-vous l'étude de la respiration circulaire en votre curriculum pour les élèves de troisième cycle, ou est-ce que vous attendez des questions ?

La respiration circulaire est une des techniques qui doit être maîtrisée dans ce cycle et travaillée régulièrement. 7. Est-ce que vous n'avez jamais eu un élève qui, après beaucoup de travail de la respiration circulaire, n'a pas assez du succès ? Que pensez-vous la raison de ca ?

Non, tous les étudiants savent le faire, c'est une technique très facile à acquérir.

8. Faites-vous du travail avec les élèves sur la détaché au même temps que la respiration circulaire ? Si oui, comment ?

Oui, certaines œuvres nécessitent le staccato et un souffle continu comme dans "Digital"⁷⁵ de T. Alla. Cette technique est possible, il faut apprendre à contrôler l'indépendance du mouvement de la langue et la respiration et non que celle-ci soit dépendante de l'autre. Cette manière de travailler est liée à la connaissance de soi-même, connaître et mémoriser nos sensations internes et apprendre à les contrôler. 9. Pour travailler la respiration circulaire, est-ce qu'il est important quel saxophone (soprano, alto, ténor, baryton) un élève joue ? Est-ce que vous changez votre façon d'enseigner ce technique pour les saxophones différents ? La technique de la respiration est la même quelque soit le saxophone utilisé. La différence intervient au niveau de l'embouchure, du registre. Il faut apprendre à bien contrôler la pince et la stabilité du larynx au moment de la respiration. Il est important de sentir l'arrivée de l'air frais au niveau du larynx et non au niveau du nez.

⁷⁵ Thierry Alla, *Digital pour saxophone soprano seul* (Paris: A. Leduc, 2003).

David Dees
Associate Professor of Saxophone
Texas Tech University

1. How/when in a student's education do you generally introduce him or her to circular breathing?

Early if possible (freshman, maybe) – it seems that the earlier they start trying the easier it is – maybe less mental blocks. Have had some 9th graders learn it very quickly.

2. In your experience, how important is a student's ability to circular breathe as an undergraduate? As a graduate student?

Important if they want to play [works by Christian] Lauba, etc

3. Do you think there is any musical context where circular breathing is inappropriate? If yes, what are some of these contexts, and how do you help students to make musical decisions with regard to their breathing?

Once they learn it – they want to do it all the time, even on Ferling etudes⁷⁶ and standard rep like Husa Elegie et Rondeau.⁷⁷ It doesn't work for me on that rep – esp since these same students haven't really developed great breath support and/or understanding of phrasing/goals/forward motion.

⁷⁶ Franz Wilhelm Ferling and Albert J. Andraud, *48 Famous Studies for Oboe or Saxophone And 3 Duos Concertants for 2 Oboes or 2 Saxophones* (San Antonio: Southern Music Co.), 1958.

⁷⁷ Karel Husa. *Élégie et Rondeau pour saxophone alto et orchestre* (Paris: Leduc, 1961).

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

I Googled "How to Circular Breath" and have used what I think is Bob Spring's guidelines. Have them start by breathing in and out nose with puffed out cheeks, then same with a small air leak and go from there. It seems that most people can learn it if they want to.

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

Seamless transfers, ability to do it in pieces effectively.

6. Do you integrate the study of circular breathing into your undergraduate curriculum, or do you wait for students to inquire about it?

I bring it up if a student can play well fundamentally. I don't require it, but always try to challenge the goods ones to learn.

7. Have you ever had a student who devoted substantial study to circular breathing and was unable to achieve a satisfactory level of mastery? Why do you think this student or students was/were unsuccessful?

I don't think I've experienced too many problems here that couldn't be solved by more work at refining the basic technique.

8. Do you work with students on articulation while circular breathing? How?

Not yet

9. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

It seems like pretty much the same technique – easier on smaller horns.

Geoffrey Scott Deibel
Visiting Assistant Professor of Saxophone
University of Florida

1. How/when in a student's education do you generally introduce him or her to circular breathing?

Typically during college years if other technique is sound. Students must have excellent air support prior to beginning circular breathing. With any student that is advanced, I'll introduce it as soon as he's ready, or if the student is curious. Can be as early as 8th grade if the student is technically advanced enough.

2. In your experience, how important is a student's ability to circular breathe as an undergraduate? As a graduate student?

I would say it can be useful as an undergraduate, and is pretty much a necessity as a graduate student (and in many cases as an advanced undergrad). Typically depends on the repertoire the student is playing.

3. Do you think there is any musical context where circular breathing is inappropriate? If yes, what are some of these contexts, and how do you help students to make musical decisions with regard to their breathing?

Absolutely yes. What I encourage students to do is to think of how the phrases are constructed in the music, because the breath is intimately tied up with that organization, i.e. a phrase is shaped by breaths in many cases. Another way of saying it is that a breath is part of the musical line. Where the

phrases pause or end is where breaths should fall. Many times string players will breathe with their phrases as well. Circular breathing should only occur when it serves the musical intent—in minimalist music, for example it is often necessary. I also encourage students to think of their performance of phrases as if they're engaging in public speaking—phrasing works almost the same way in music as it does in language. The breath in the latter case is the comma or the period.

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

I have them try squeezing air out of their puffed cheeks first, then adding the breathing in through the nose part (all without the horn). Sometimes blowing bubbles through a straw into a glass of water helps, but that's only necessary if the student doesn't know if there is air coming out while they're breathing in. Then repeating the same with just the neck and mouthpiece is the next step. Finally the whole instrument is added. In both of these last two steps, I try to stress the maintenance of steady tone. I also encourage them to practice on a wide range of intervals once the initial technique is achieved. The last step is to play with moving notes.

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

If I can't tell that they're circular breathing, they're doing it correctly.

6. Do you integrate the study of circular breathing into your undergraduate curriculum, or do you wait for students to inquire about it?

I will wait until the music necessitates it, until they ask, or if they just need something more to do in their practice. I try to have all students work on one particular extended technique at all times, so this could be altissimo or circular breathing, slap tongue, etc.

7. Have you ever had a student who devoted substantial study to circular breathing and was unable to achieve a satisfactory level of mastery? Why do you think this student or students was/were unsuccessful?

I have not had students work on the technique and be unsuccessful.

8. Do you work with students on articulation while circular breathing? How?

Yes, typically by concentrating on the mouth exhalation while tonguing a single note, then moving to more complex passages once this is achieved.

9. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

It usually appears that the smaller the instrument, the easier it is to achieve the technique. I don't alter the exercises. Sometimes working on

breathing itself is beneficial to circular breathing on the larger instruments.

Taking in less mouthpiece is sometimes helpful as well.

Jeffrey Heisler
Assistant Professor of Saxophone
Kent State University

1. How/when in a student's education do you generally introduce him or her to circular breathing?

I like to introduce students to circular breathing very young. I find that most High School saxophonists find this technique very intriguing and are naturally curious. Even though they are not performing repertoire that involves circular breathing, it is always nice to engage a student with a special technique that will prove to be extremely useful later in their development.

2. In your experience, how important is a student's ability to circular breathe as an undergraduate? As a graduate student?

I believe circular breathing is becoming crucial to perform contemporary repertoire for the saxophone. This technique is important to be cultivated as an undergraduate because many of the core repertoire involving contemporary techniques for saxophone requires circular breathing. As a graduate student, circular breathing is vital to perform the prerequisite repertoire required for advanced saxophone study.

3. Do you think there is any musical context where circular breathing is inappropriate? If yes, what are some of these contexts, and how do you help students to make musical decisions with regard to their breathing?

Yes, while circular breathing can be used to extend phrases in tonal music, if a student is ignoring terminal cadence points and circular breathing with disregard to the harmonic function of the music, I would deem their decision inappropriate. I would always cite the composer's intentions, both melodically and harmonically, in making decisions of breathing. Many of our greatest traditional works could benefit from selective circular breathing to comfortably complete long phrases. However, if the continuous playing interferes with the composer's intent of musical line and space, I would discuss this concept in more detail so the student understands the importance of cadential points in tonal music.

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

Once I have explained the mechanisms involved in the technique, I usually start students with a cup of water and a straw. I make sure they are using their teeth to pinch the straw (to create back pressure) and then blow to create bubbles in the water. Then I have them start the exchange of lung air to stored air in the cheeks and back to lung air. The main propose for using water is for the positive reinforcement of seeing bubbles being produced continuously. Obviously one of the major faults people have in starting this technique is trying to control the automatic response to breath in using the mouth. If a student does this while using a straw and water, they will likely swallow some water and

minimally choke themselves. It only takes a few times of choking on water for students to realize they should avoid breathing in using the mouth. In this case, fear of choking on water is a wonderful motivator. Once the students is able to master the exchange of air from the cheeks to lungs while breathing in the nose, I usually bring to their attention the importance of using the tongue to help move the stored air into the mouthpiece along with the squeezing motion of the cheeks. The forward motion of the tongue helps stabilize the air pressure and vibrate the reed more efficiently. Next I explain the importance of making this technique “circular” or regular. Many students are used to breathing when they feel they are running out of air support, however, in this technique, students must develop a regular rhythm of breathing (i.e. breathing out for 4 counts; in for 2 counts and repeat in a “circular” fashion). Lastly, students will find that once circular breathing for one minute or more, carbon dioxide will build up in the lungs and they will feel an uncomfortable pressure growing. It is also important to build a technique of expelling the old air out of the lungs every 30 seconds or so by blowing this air out of the nose in order to keep equilibrium in the lungs.

Once students are comfortable circular breathing with a straw and water, I move them to the saxophone usually starting by circular breathing trills (middle A – Bb or E-F). After a reminder not to squeeze their embouchures (bottom lip) too much during the exchange between cheek air to lung air, many students will find this technique to be obtainable with only a few weeks of dedicated practice.

Once the students is able to gain comfort with sustaining trills, I start to introduce this technique in their scale work so they are conformable circular

breathing while performing technical passages in music. I also think it is a good idea to introduce articulating while circular breathing as soon as possible.

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

[No Response]

6. Do you integrate the study of circular breathing into your undergraduate curriculum, or do you wait for students to inquire about it?

I usually wait for inquiry about it; however, I do discuss this, along with many other contemporary techniques in my studio classes.

7. Have you ever had a student who devoted substantial study to circular breathing and was unable to achieve a satisfactory level of mastery? Why do you think this student or students was/were unsuccessful?

[No Response]

8. Do you work with students on articulation while circular breathing? How?

Yes, once students are able to elongate the exchange of cheek air to about 1-2 seconds, I start having them articulate and circular breathe quarter notes (quarter note = 72). It is bumpy ride at first, however, with some dedication and perseverance students tend to figure it out.

9. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

[No Response]

Timothy Roberts
Associate Professor of Saxophone
Shenandoah Conservatory

1. How/when in a student's education do you generally introduce him or her to circular breathing?

Near the beginning of their freshman fall semester.

2. In your experience, how important is a student's ability to circular breathe as an undergraduate? As a graduate student?

Very important for both—especially since its relatively easy to learn.

3. Do you think there is any musical context where circular breathing is inappropriate? If yes, what are some of these contexts, and how do you help students to make musical decisions with regard to their breathing?

Only when at the extreme low and high ends of the horn, or when they're passing over large intervals. If they can't do it smoothly in context though, they shouldn't do it.

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

Practice with a drinking straw blowing bubbles into the water, keeping the air stream smooth.

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

How well is the skill applied in context of the repertoire?

6. Do you integrate the study of circular breathing into your undergraduate curriculum, or do you wait for students to inquire about it?

I wait until they have a basic mastery of scales, tone quality, vibrato, and other basics.

7. Have you ever had a student who devoted substantial study to circular breathing and was unable to achieve a satisfactory level of mastery? Why do you think this student or students was/were unsuccessful?

No. If they can't do it, they haven't practiced enough.

8. Do you work with students on articulation while circular breathing? How?

Yes—in context of the piece they're preparing.

9. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

No. The skill should be equally proficient on all voices of the instrument.

John Sampen
Distinguished Artist Professor, Coordinator of Woodwind Area
Bowling Green State University

1. How/when in a student's education do you generally introduce him or her to circular breathing?

Circular breathing is generally introduced by fellow student saxophonists at BGSU and this probably happens during the first semester of freshman year. I work on the technique in lessons approximately during the junior year.

2. In your experience, how important is a student's ability to circular breathe as an undergraduate? As a graduate student?

The technique is becoming rather important in new music and should be addressed for both undergraduate and graduate students.

3. Do you think there is any musical context where circular breathing is inappropriate? If yes, what are some of these contexts, and how do you help students to make musical decisions with regard to their breathing?

There are moments, for example, in Bach's music where circular breathing is wonderful but sometimes the use of this technique constricts a player's thought process about phrase endings and cadences and it can overtake other musical considerations as well. It may be useful to first approach compositions by planning out musical phrases and breathing points, and then later substituting the circular breathing.

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

Articles by Robert Dick, Robert Spring, Michele Gibgras and books by Londeix ("Hello! Mr. Sax"), Trent Kynaston ("Circular Breathing") and other books by Daniel Kientzy and Marcus Weiss.⁷⁸

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

Control of tone in all registers and ability to sustain the technique for extended periods of time.

6. Do you integrate the study of circular breathing into your undergraduate curriculum, or do you wait for students to inquire about it?

I usually wait for students to inquire.

7. Have you ever had a student who devoted substantial study to circular breathing and was unable to achieve a satisfactory level of mastery? Why do you think this student or students was/were unsuccessful?

⁷⁸ Marcus Weiss, and Giorgio Netti, *The techniques of saxophone playing = Die Spieltechnik des Saxophons* (Kassel: Bärenreiter, 2010).

No – most can attain at least minimal success. However, if one cannot breathe through their nose, then the technique of circular breathing cannot be successful.

8. Do you work with students on articulation while circular breathing? How?

Yes—for advanced students. I have no particular system or approach.

9. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

Certainly circular breathing is different for each of our saxophones. The baritone requires a tremendous amount of air and many more repetitions in the circular breathing process. Soprano is perhaps a good choice for beginning studies because of the natural resistance of the instrument.

James Umble
Professor of Saxophone
Youngstown State University

1. How/when in a student's education do you generally introduce him or her to circular breathing?

I introduce this early in the undergraduate sequence for performance majors and for advanced music ed majors when they are ready for it.

2. In your experience, how important is a student's ability to circular breathe as an undergraduate? As a graduate student?

This is now an important skill, required for significant modern repertoire and for. For example, anyone aspiring to compete in international competitions. I consider it essential now.

3. Do you think there is any musical context where circular breathing is inappropriate? If yes, what are some of these contexts, and how do you help students to make musical decisions with regard to their breathing?

Absolutely, one must always seek to phrase and breathe in a musical way, and so each musical context determines such decisions.

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

Steve Jordheim's online videos "The Saxophonist's Anatomy" - these are a significant aid in such discussions. Highly recommended. We refer to online print-outs by saxophonists, digideridoo players, etc. It can be worked into the scale practicing already taking place. I have had students learn this in order to perform works by Lauba, etc, and it is good to have an application that is a piece of music, where it is necessary, as a goal (as with double tonguing and other extended techniques). As this technique takes a long while to master, the discussion starts early in the years of study. I would hope that most if not all senior performance recitals and all graduate recitals can demonstrate and incorporate this technique as well as other extended techniques. It is also useful for jazz performance majors to master of course, and they work on this as well.

The challenge is fitting everything in, as teaching the traditional fundamentals already can take up the available time. Time must be made through brief weekly check-ups on the progress, just a minute or two where the student demonstrates the progress and asks questions, etc. Then, it can be assigned into scales, and then into repertoire.

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

We just touch on it for a minute or two weekly, as with double tonguing. This is a good way to keep it on the front burner and make sure the student is dealing with it regularly and methodically.

6. Do you integrate the study of circular breathing into your undergraduate curriculum, or do you wait for students to inquire about it?

Yes I introduce it to all undergraduate performance majors as soon as is possible, and also to advanced Music Ed majors who are ready for it.

7. Have you ever had a student who devoted substantial study to circular breathing and was unable to achieve a satisfactory level of mastery? Why do you think this student or students was/were unsuccessful?

[No Response]

8. Do you work with students on articulation while circular breathing? How?

[No Response]

9. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

The repertoire chosen and studied determines the discussion of all concepts, so certain pieces on each instrument require this to be studied.

APPENDIX TWO
TECHNIQUE QUESTIONNAIRES:
SLAP TONGUING

Serge Bertocchi
Professor of Saxophone
Conservatoire à Rayonnement Regional d'Amiens

1. Comment/en quelle cycle est-ce que vous commencer a travailler avec un élève aux « slaps ? »

[1. How/when in a student's education do you generally introduce him or her to slap tongue for the first time?]

As usual, it will often be needed for a specific piece... Most students will wait for the 2nd cycle to begin the study.

2. Comment expliquez-vous le mécanisme du slap aux élèves ?

[2. How do you describe or demonstrate the mechanism of the slap tongue?]

Hard thing to do. It is very rapid, so explaining is not always a good means. I usually propose the exercises in my book,⁷⁹ but some other strategies exist. Some students slap their notes involuntarily sometimes, and I usually teach them to keep their ability to do it, but to differentiate the normal soft tonguing. When a student tries to learn "the hard way," I don't really emphasize on the quality of the result, since the slap is a tricky technique, few musicians (even professionals) can ever do it. It might be a question of hereditary tongue flexibility, but this is only a personal hypothesis. The important thing for me is to lead them to regular and short practice of a few exercises.

⁷⁹ Serge Bertocchi, *La Méthode de saxophone* (IMD: Paris, 2011).

3. Comment différenciez-vous les slaps « ouverts » entre les slaps « fermés ? »

Normalement, après de commencer à travailler les slaps, font les élèves un meilleur que l'autre ?

[3. Do you differentiate between “open,” or “unpitched” slaps and “closed,” or “pitched” slaps? Do your students tend to perform one or the other more effectively at first?]

The open slap is made by opening the mouth when releasing the reed, to magnify the percussive result. It is often an easier, faster learned technique. Closed slaps can lead to a number of different consecutive uses. But it might take more time to master. Actually, I tried for one year to learn slap during my studies (at that time, I wasn't helped much by my teacher, Daniel Deffayet), all I could do was open slap teeth on tongue. And then, during a summer session with Georges Aperghis, where most of the musical material was text, I had to practice all day for ten days, almost only slap. At the end of the session, I could play a number of different slaps, in different registers ... and I was never able to understand why I couldn't do it before ...

4. Quelles recherches, exercices, et œuvres est-ce que vous donnez aux élèves pour améliorer leur façon de jouer les slaps? Si vous avez vos propres exercices, est-ce que vous pouvez les partager ?

[4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?]

I will eventually [naturally] recommend my own little exercise book.⁸⁰

5. Quel criteria employer-vous pour évaluer la niveau et progrès de vos élèves par rapport au slap ?

[5. What criteria do you use to evaluate a student's mastery and progress with this technique?]

First objective is to exercise the reed {ventouse} [suck]. Eventually using a big saxophone (mouthpiece), or even taking "too much mouthpiece." Eventually blocking the tongue between reed and teeth. Usually on low notes. Then try with a gradually more "normal" mouthpiece position. Then practice different dynamics, registers, sustained sound after the attack...

[Question 6 Eliminated]

7. Pensez-vous intégrer l'étude de les slaps dans votre programme de premier cycle, ou attendez-vous pour les étudiants de s'informer à ce sujet?

[7. Do you integrate the study of slap tongue into your undergraduate curriculum, or do you wait for students to inquire about it?]

Usually, rather in the second cycle. But I have a young student aged 9 who learned to slap almost by herself this year. She loves to practice her music pieces integrating slaps here and there. Another example is Sciarrino's piece for

⁸⁰ Ibid.

100 saxophones,⁸¹ where he asks for ppp slaps : the main objective is then to focus the student's hearing on the beauty and the quality of the produced sound: even a normal note will «sound» as a slap at ppp. And most of the students will then be able to produce a nice slapping sound afterwards with little more work, because they know what they have to look for with their ears...

8. Quel est l'impact du saxophone (soprano, alto, ténor, baryton) avoir sur cette technique, et ne vous modifier votre approche de cette technique en aucune façon à accueillir quel membre de la famille des saxophones, vous ou un étudiant est de jouer?

[9. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?]

⁸¹ Salvatore Sciarrino, *La bocca, i piedi, il suono: per quattro sax solisti e cento sax in movimento* (1997) (Milan: Ricordi, 1997).

The slap is easier on a big mouthpiece, as I said, and with a big reed. So I would recommend tenor or baritone. And since most of my students start on a second saxophone only in the 2nd cycle, this is another reason for me to wait till then... Repertory is the other question: we don't have many «very easy» pieces using slap.

TRANSLATION:

Marie-Bernadette Charrier
 Artistic Director, PROXIMA CENTAURI
 Vice President of l'ASAX (French Saxophonists Association)
 Professor of Saxophone and Contemporary Chamber Music
 Conservatoire à Rayonnement Régional de Bordeaux
 Professor of Saxophone and Contemporary Chamber Music
 CEFEDM, Aquitaine

1. How/when in a student's education do you generally introduce him or her to slap tongue for the first time?

Generally, during Cycle 2 (late undergraduate, early master's), but it could be earlier or later, each student is different.

2. How do you describe or demonstrate the mechanism of the slap tongue?

I begin by explaining the placement of the tongue for the different types of attacks. The first step in practicing the slap takes place in front of the mirror with the mouth open in order to see that the movement of the tongue on the reed is independent from the movement of the jaw. Very often, a student's inability to perform the slap is a question of the tongue's lack of muscle-strength. So, the duration of this work can be very different depending on each student's physical characteristics, but everyone [in my classes] is able to produce a slap tongue by the end of the school year.

3. Do you differentiate between "open," or "unpitched" slaps and "closed," or "pitched" slaps? Do your students tend to perform one or the other more effectively at first?

These are two different attacks, and above all, these different slaps do not produce the same pitch. They are two different musical gestures, very often, one cannot replace one with the other, and that's why it is important to know the two techniques. Only each composer's writing can guide us.

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

I already explained the technique above, but after that, students need to improve their speed of playing the slap: they should practice a scale in slaps in a variety of rhythms and dynamics—like a slap at forte followed by a slap at piano. This practice serves to show students that a different part of the tongue is used for different dynamics. This exercise also improves endurance and helps to alleviate fatigue in the tongue.

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

Clarity of diction, compliance to the indicated pitch and dynamics, ability to play at a certain speed.

6. In your experience, what is the general time frame a typical undergraduate student needs to become "successful"?

[NO RESPONSE]

7. Do you integrate the study of slap tongue into your undergraduate curriculum, or do you wait for students to inquire about it?

This is part of necessary technical knowledge.

8. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

The slap mechanism is the same on all the saxophones, but the part of the tongue that produces the effect changes depending on the size of the mouthpiece, and therefore the reed.

ORIGINAL VERSION:

Marie-Bernadette CHARRIER
 Director Artistique, PROXIMA CENTAURI
 Vice President de l'ASAX (Association des Saxophonists)
 Professor de saxophone et musique de chamber contemporaine
 Conservatoire à Rayonnement Régional de Bordeaux
 Professor de saxophone et musique de chamber contemporaine
 CEFEDM, Aquitaine

1. Comment/en quelle cycle est-ce que vous commencer a travailler avec un élève aux « slaps ? »

En général en cycle II mais cela peut être avant ou plus tard, chaque étudiant est différent.

2. Comment expliquez-vous le mécanisme du slap aux élèves ?

Je commence par expliquer le placement de la langue pour les différents types d'attaques. Le début du travail du slap se fait devant un miroir , la bouche ouverte afin de contrôler l'indépendance du mouvement de la langue sur l'anche indépendamment du mouvement de la mâchoire. Très souvent, le fait de ne pas savoir jouer un slap est une question de musculation de la langue. Ce travail peut être de durée très différente selon les conditions physiques de chaque personne mais tous savent réaliser le slap en fin d'année.

3. Comment différenciez-vous les slaps « ouverts » entre les slaps « fermés ? »

Normalement, après de commencer a travailler les slaps, font les élèves un meilleur que l'autre ?

Ce sont deux attaques différentes et surtout ces slaps ne donnent pas les mêmes hauteurs. Ce sont deux gestes musicaux différents, très souvent on ne peut pas le remplacer par l'autre, c'est pourquoi il est important de connaître ces deux techniques.

Seul, le texte musical de chaque compositeur peut nous guider.

4. Quelles recherches, exercices, et ouvres est-ce que vous donnez aux élèves pour améliorer leurs façon de jouer les slaps? Si vous avez vos propres exercices, est-ce que vous pouvez les partager ?

Technique déjà expliquée ci-dessus, puis afin d'améliorer la vélocité de ce mode de jeu : pratiquez sur une gamme le jeu de slaps avec des rythmes variés et un jeu de dynamiques : un slap F enchainé avec un slap P. Ce travail permet de constater que la partie de la langue utilisée est différente selon les dynamiques. Cet exercice permet d'acquérir un rythme d'endurance et d'alléger la fatigue de la langue.

5. Quel criteria employer-vous pour évaluer la niveau et progrès de vos élèves par rapport de respiration circulaire ?

Clarté de diction, respect de la hauteur et de la dynamique demandées, acquisition d'une certaine vélocité

6. D'après votre expérience, quel est le calendrier général un étudiant de premier cycle typique doit devenir «succès»?

[AUCUNE RÉPONSE]

7. Pensez-vous intégrer l'étude de les slaps dans votre programme de premier cycle, ou attendez-vous pour les étudiants de s'informer à ce sujet?

Cela fait partie des techniques à connaître

8. Quel est l'impact du saxophone (soprano, alto, ténor, baryton) avoir sur cette technique, et ne vous modifier votre approche de cette technique en aucune façon à accueillir quel membre de la famille des saxophones, vous ou un étudiant est de jouer?

La technique du slap reste la même avec tous les saxophones mais la partie de la langue utilisée change en fonction de la taille du bec et donc de l'anche.

David Dees
Associate Professor of Saxophone
Texas Tech University

1. How/when in a student's education do you generally introduce him or her to slap tongue for the first time?

Freshman

2. How do you describe or demonstrate the mechanism of the slap tongue?

Tongue is flatter on reed, creates a vacuum, pulls the reed down, off the mouthpiece. Practice with just a reed – no mouthpiece to illustrate angle and nature of contact with reed.

3. Do you differentiate between “open,” or “unpitched” slaps and “closed,” or “pitched” slaps? Do your students tend to perform one or the other more effectively at first?

It seems that pitched slaps tend to happen first

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique?

If you have a self-created exercise, would you consider sharing it? Some folks seem to learn slap tongue easily – I had to work on it for about two months – usually mostly trial and error – cutting my tongue etc.

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

Success with rep.

6. In your experience, what is the general time frame a typical undergraduate student needs to become "successful"?

Like circular breathing, it seems to vary widely – some are fast, some are like me and take two or three months.

7. Do you integrate the study of slap tongue into your undergraduate curriculum, or do you wait for students to inquire about it?

I bring it up always to get people experimenting early.

8. Are there common mistakes or pitfalls that you have seen students experience? If yes, how do you address these problems?

Mostly pitfalls are frustration with lack of instant gratification –if they can get pat that they will usually persist and succeed.

9. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

The biggest horns are the easiest for me to slap on. Same technique across the horns.

Geoffrey Scott Deibel
Visiting Assistant Professor of Saxophone
University of Florida

1. How/when in a student's education do you generally introduce him or her to slap tongue for the first time?

Same as other answers ["whenever the music necessitates"]

2. How do you describe or demonstrate the mechanism of the slap tongue?

Closing the reed off with the tongue, thereby creating a vacuum or suction with the tongue the same way one would with a spoon. Getting more tongue on more of the reed. It is all about the contact between the tongue and reed.

3. Do you differentiate between "open," or "unpitched" slaps and "closed," or "pitched" slaps? Do your students tend to perform one or the other more effectively at first?

Yes. Open or unpitched is often easier at first. If they can get the basic technique down, then adding pitch is as simple as adding some air behind the slap.

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

I try having them perform the technique with just mouthpiece, then mouthpiece and neck.

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

They must get the right sound for the music

6. In your experience, what is the general time frame a typical undergraduate student needs to become "successful"?

Can be anywhere from a day to six months—no technique is harder to teach in my experience.

7. Do you integrate the study of slap tongue into your undergraduate curriculum, or do you wait for students to inquire about it?

See other answers.

8. Are there common mistakes or pitfalls that you have seen students experience? If yes, how do you address these problems?

They try a "kissing" motion or some other erroneous movement. They often don't understand that the suction comes from the pressure of the tongue, which is understandably counterintuitive.

9. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

The lower the instrument, the easier it is to do this technique.

TRANSLATION:

Philippe Geiss
 Professor of Saxophone
 Conservatoire de Strasbourg
 Pôle Alsace d'Enseignement Supérieur des Arts

1. How/when in a student's education do you generally introduce him or her to slap tongue for the first time?

From beginners, so that we can benefit from the natural instincts that beginners have.

2. How do you describe or demonstrate the mechanism of the slap tongue?

This depends on the age of the student. Several possibilities:

a) Very dry staccato

b) Tongue-ram (inverted slap)

c) Demonstration of the slap without the ligature

d) Clicking the [against the roof of the mouth]

e) Beginning with large saxophones (tenor, baritone, bass) and then soprano, sopranino

3. Do you differentiate between "open," or "unpitched" slaps and "closed," or "pitched" slaps? Do your students tend to perform one or the other more effectively at first?

Open

Closed without sustain (resonant sound)

With sostenuto

*For those who like to experiment: slaps on different parts of the tongue
(front, back)*

*Open slaps are sometimes easier for some students, above all on the
large saxophones (tenor, baritone)*

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

The composition Beat Me!⁸² by Barry Cockroft is an excellent introduction for slaps because there is always a tongue ram that prepares the position of the slap.

[Questions 5 – 6 Eliminated]

7. Do you integrate the study of slap tongue into your undergraduate curriculum, or do you wait for students to inquire about it?

Yes, slaps from the first cycle to maintain the natural gesture, devoid of intellectualism.

8. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to

⁸² Barry Cockroft, *Beat me! for solo tenor saxophone* (Melbourne: Reed music, 2007).

accommodate which member of the saxophone family you or a student is playing?

To go from the large saxophones to the small ones because the slap is harder to do on the small than the large.

ORIGINAL VERSION:

Philippe Geiss
 Professor of Saxophone
 Conservatoire de Strasbourg
 Pôle Alsace d'Enseignement Supérieur des Arts

1. Comment/en quelle cycle est-ce que vous commencer a travailler avec un élève aux « slaps ? »

Dès le 1^{er} cycle pour profiter de l'intuition naturelle des enfants débutants

2. Comment expliquez-vous le mécanisme du slap aux élèves ?

Cela dépend de l'âge.

Plusieurs possibilités :

- a) *Staccato très sec*
- b) *Tongue ram = slap inversé*
- c) *Démonstration du slap sans ligature*
- d) *Claquer de la langue*
- e) *D'abord gros saxophones (tenor, bar, bass) puis ensuite Alto, sop, sopranino*

3. Comment différentier-vous les slaps « ouverts » entre les slaps « fermés ? »

Normalement, après de commencer a travailler les slaps, font les élèves un meilleur que l'autre ?

Différentes sortes de slaps :

- *Ouvert*

- *Fermé sans sostenuto (son prolongé)*
- *Avec sostenuto*
- *Pour les plus expérimentés : slaps sur différentes zones de la langue (avant, arrière)*

Les slaps ouverts sont quelques fois plus faciles pour certains, surtout sur les gros saxophones (Tenor, Baryton)

[Questions 5 – 6 Eliminated]

7. Pensez-vous intégrer l'étude de les slaps dans votre programme de premier cycle, ou attendez-vous pour les étudiants de s'informer à ce sujet?

- Oui, Slaps dès le 1^{er} cycle pour garder le geste naturel sans intellectualisation

8. Quel est l'impact du saxophone (soprano, alto, ténor, baryton) avoir sur cette technique, et ne vous modifier votre approche de cette technique en aucune façon à accueillir quel membre de la famille des saxophones, vous ou un étudiant est de jouer?

- Aller des gros saxophones vers les plus petits car le slap est plus facile sur les gros

Jeffrey Heisler
Assistant Professor of Saxophone
Kent State University

1. How/when in a student's education do you generally introduce him or her to slap tongue for the first time?

Many young students have trouble producing a clean articulation in the low register and already have a quasi slap tongue due articulation with too much surface area of the tongue and reed. If this is the case, I generally do not encourage introducing slap tonguing until they are able to naturally articulate cleanly. I am a believer that we should start our students as young as possible with exploring new sounds and contemporary techniques. As soon as students are able to control the articulation of the low register, I will begin discussing other forms of articulation.

I find that the sooner we introduce these techniques, the more open, creative, and interested the students are in exploring these sounds. This is especially important because the older we get, the more we place difficulty on new techniques. I will generally introduce slap tonguing when discussing Rudy Wiedoeft (Slap'n Sax or Sax-O-Phun), Christian Lauba or even the improvisation section of Noda: Improvisation #1.

2. How do you describe or demonstrate the mechanism of the slap tongue?

I try to teach a "closed" slap tongue first. I find that many students can achieve the desired sound of an "open" slap more easily without grasping the crucial concept of the closed slap technique.

I start by having the student create suction on the reed along with the tongue. Finding the right spot in the middle of the tongue to create suction on the reed is crucial. I often have student mimic the same gesture as “clicking” the tongue with suction on the roof of the mouth. Once a student has gain mastery of suction of the reed alone, I will then have them get the same suction of the reed while attached to the mouthpiece. Without adding air at this moment, the student should produce a small “ki-ki” slap sound by pulling the tongue back and off of the reed after first creating suction. This step usually takes a while for a student to gain mastery.

Once successful, I then have the student attached the mouthpiece to the body of the horn for resonance. This is where I introduce the crucial step of simultaneously adding a small bust of air to the “slap” to resonate the desired pitch. I find that it is helpful to have the students start with slapping whole notes so they properly use their air to support and resonate the sound. Then I have them shorted the duration down to the short bursts of air to get the slap sounds indicative of Christian Lauba’s Jungle.

For “open” slap, I have the student say the word “tuck” while using a bust of air to propel the mouthpiece out the mouth, thus “popping” the reed in the process.

3. Do you differentiate between “open,” or “unpitched” slaps and “closed,” or “pitched” slaps? Do your students tend to perform one or the other more effectively at first?

See above – Yes, I find that most students perform open slaps better at first. This is due to lack of experience of using the tongue to create suction of the reed for a closed slap.

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

[No Response]

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

[No Response]

6. In your experience, what is the general time frame a typical undergraduate student needs to become "successful"?

An open slap could take a few days or weeks.

A closed slap usually takes a couple months or even years to cultivate.

7. Do you integrate the study of slap tongue into your undergraduate curriculum, or do you wait for students to inquire about it?

I usually try to engage my young undergraduates into exploring contemporary techniques right away. I find there is great interest in how to produce the sounds they are hearing in our repertoire. Mostly, I will integrate

these techniques as a student inquires about them, however, I am finding that many are eager to learn, or mimic, the sounds of the older students.

8. Are there common mistakes or pitfalls that you have seen students experience? If yes, how do you address these problems?

Many times, the main problem with slap tonguing is many students use too much embouchure pressure to try to create “more suction” on the reed before articulating. This will not allow the reed to “pop” and vibrate probably after air is introduced for resonance. Squeezing the mouthpiece too hard will inhibit the resonance of this technique. Normal embouchure strength is crucial for a closed slap tongue. In addition, I find that trying to learn to slap on hard reeds is not very effective. I usually will introduce the technique on softer reeds (2.5 or 3).

9. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

Learning to slap on larger instruments is great for students. It is much easier to gain suction on baritone and tenor reeds / mouthpieces than alto and soprano. I usually try to have them work with a tenor or baritone saxophone when starting this technique, if possible.

John Sampen
Distinguished Artist Professor, Coordinator of Woodwind Area
Bowling Green State University

1. How/when in a student's education do you generally introduce him or her to slap tongue for the first time?

Slap Tongues are generally introduced by fellow student saxophonists at BGSU and this probably happens during the first semester of freshman year. I work on the technique in lessons approximately in the junior year.

2. How do you describe or demonstrate the mechanism of the slap tongue?

The slap tongue involves the creation of a suction between one's tongue and the reed which can create a "pop" when released.

3. Do you differentiate between "open," or "unpitched" slaps and "closed," or "pitched" slaps? Do your students tend to perform one or the other more effectively at first?

Yes—I differentiate between open and closed. Probably the open slap is more successful in early tries by the student.

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

There are plenty of “advanced” resources for practicing slap tongues (e.g., music of Christian Lauba) but not much for the beginner. The successful production involves much experimentation between teacher and student.

5. What criteria do you use to evaluate a student’s mastery and progress with this technique?

Criteria for success would include a high performance success percentage and the ability to articulate slaps in a quick succession.

6. In your experience, what is the general time frame a typical undergraduate student needs to become “successful”?

Generally the development of good slap tongues will take about one year but sometimes a student can master these overnight.

7. Do you integrate the study of slap tongue into your undergraduate curriculum, or do you wait for students to inquire about it?

No—we work on the technique when needed for the literature.

8. Are there common mistakes or pitfalls that you have seen students experience? If yes, how do you address these problems?

I have recently seen some students push the tongues forward out of the mouth in order to set and articulate their slap. Most slap tonguing problems are a result of the student's misunderstanding of their tongue/throat/reed positions.

9. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

Baritone is generally the easiest and the soprano most difficult in producing good slap tongues.

Rhonda Taylor
College Assistant Professor of Saxophone and Music Theory
New Mexico State University

1. How/when in a student's education do you generally introduce him or her to slap tongue for the first time?

I introduce slap tonguing on a case-by-case basis with students; it depends on the individual. Usually my students begin working on slap tonguing in late undergraduate studies or early graduate studies.

2. How do you describe or demonstrate the mechanism of the slap tongue?

I demonstrate the slap without equipment at first (creating a suction cup shape with the tongue against the hard palate and the pulling the tongue down uniformly to create a "pop"), then with just the reed, and then finally with an assembled saxophone.

3. Do you differentiate between "open," or "unpitched" slaps and "closed," or "pitched" slaps? Do your students tend to perform one or the other more effectively at first?

Yes. I find that most students have success with the open slaps at first and then gradually move towards closed slaps as they gain control.

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

*Lauba's Jungle*⁸³ comes to mind of course, but as with double tonguing it is also very easy to use scales as a vehicle to work on slap tonguing, both on repeated notes and between notes, with a metronome. Most students need to begin somewhere in the middle of the saxophone range and gradually work towards extreme high and low notes.

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

I ask myself the following: Can the student execute the slap tongue consistently in the context of the music? In other words, are other parameters like dynamics and timbre accurate? Also, if there are multiple slap tongues (whether in a row or appearing intermittently), are they consistent throughout the work?

6. In your experience, what is the general time frame a typical undergraduate student needs to become "successful"?

Usually a semester.

7. Do you integrate the study of slap tongue into your undergraduate curriculum, or do you wait for students to inquire about it?

See #1.

8. Are there common mistakes or pitfalls that you have seen students

⁸³ Christian Lauba, *Neuf études pour saxophones en 4 cahiers = Nine etudes for saxophones in 4 books* (Paris: A. Leduc, 1996).

experience? If yes, how do you address these problems?

Students tend to practice slap tonguing a lot, and then fatigue, and then don't work on the skill for a few days. In my experience, it is best to work on slap tonguing every day for a short period of time. I discuss this with students in their lessons.

9. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

As I mentioned in #3, my students seem to have more success with the open slaps. Not surprisingly, most students also seem to have more success at first with a larger setup. Students who may be frustrated beginning slap tonguing on alto may have more success beginning on tenor or baritone, and then moving up to alto and soprano saxophone and they gain more precision and control.

APPENDIX THREE
TECHNIQUE QUESTIONNAIRES:
MULTIPLE TONGUING

SERGE BERTOCCHI
 PROFESSOR OF SAXOPHONE
 CONSERVATOIRE À RAYONNEMENT RÉGIONAL
 D'AMIENS, FRANCE

1. Comment/en quelle cycle est-ce que vous commencer a travailler avec un élève aux double- et triple- détaché ?

[1. How/when in a student's education do you generally introduce him or her to multiple tonguing?]

Well, as a matter of fact, I'm not really fond neither specialised in this particular technique. Probably because it needs to be studied very regularly and it is not often necessary in modern music. I often use it as a «savage» element in some pieces, but avoid it most of the time. For students, I only teach it to those who have a problem with quick staccato. I never use/teach triple staccato, I think.

2. A votre avis, est-ce qu'il est important pour les élèves en premier cycle ? Pourquoi ou pourquoi pas ? En perfectionnement?

[2. In your experience, how important is a student's ability to double-tongue or triple-tongue as an undergraduate? As a graduate student?]

Unimportant in 1rst Cycle, and probably a bit dangerous : try to build a passion for TKT exercises to a 10 year old ... As usual, the answer is different for a Perfectioning student, essentially because repertory will induce needs concerning double staccato.

3. Comment est-ce que vous enseigner vos élèves comment faire le double- et

triple- détaché ? Par exemple, quels syllabes employez-vous, staccato et legato, etc.

[3. What is your process for teaching multiple tonguing? In particular, please discuss what syllables you use, use of staccato or legato, integration into technique, etc.]

I usually ask them to pronounce «Ta-Kha-Ta-Kha», with heavy accents on Kha. First rather slowly, on a 1-octave scale, then alternated with ordinary staccato. “Ta-Ta-Ta-Ta,” “Kha-Kha-Kha-Kha,” “Ta-Kha-Ta-Kha.” Then trying to get higher and lower, quicker, dynamic differences...

4. Quelles sortes de ressources, des exercices, et / ou répertoire donnez-vous aux étudiants pour les aider à améliorer cette technique? Si vous avez un exercice d'auto-créé, envisageriez-vous la partager?

[4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?]

No exercise on double tonguing in my techniques du sax. See above.

5. Quels sont les critères utilisez-vous pour évaluer la maîtrise d'un étudiant et le progrès avec cette technique?

[5. What criteria do you use to evaluate a student's mastery and progress with this technique?]

When you don't notice it any more, you master it...

6. Est-ce que vous intégrez l'étude de double détaché dans votre programme de premier cycle, ou attendez-vous pour les étudiants de s'informer à ce sujet?

[6. Do you integrate the study of multiple tonguing into your undergraduate curriculum, or do you wait for students to inquire about it?]

NO. End of 2nd cycle most of the time : when tempo needs get harder...

7. Typiquement, combien de temps prend vos élèves de bien jouer en double- ou triple détaché ?

[7. Typically, how long does it take for one of your students to achieve a successful, clean double and/or triple tongue?]

Sorry...no idea...it's very different from one to the other.

8. Offrez-vous des étudiants des exercices pour le maintien continu de cette technique après qu'ils ont atteint une maîtrise suffisante?

[8. Do you offer students any exercises for the continued maintenance of this technique after they have achieved sufficient mastery?]

No, sorry again.

9. Avez-vous de l'expérience dans votre enseignement de double ou triple-

détacher dans les suraigus?

[9. Do you have any experience in your teaching or personal playing of double- or triple-tonguing in the altissimo register?]

NOOOO!!! Can you do that?

10. Quel est l'impact du saxophone (soprano, alto, ténor, baryton) sur cette technique, et ne vous modifier votre approche de cette technique en aucune façon à accueillir quel membre de la famille des saxophones, vous ou un étudiant est de jouer?

[10. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?]

I guess It is simpler on saxophones with {une impédance élevée} [greater resistance] like the soprano. I would recommend this one.

TRANSLATION:

Marie-Bernadette Charrier
Artistic Director, PROXIMA CENTAURI
Vice President of l'ASAX (French Saxophonists Association)
Professor of Saxophone and Contemporary Chamber Music
Conservatoire à Rayonnement Régional de Bordeaux
Professor of Saxophone and Contemporary Chamber Music
CEFEDM, Aquitaine

1. How/when in a student's education do you generally introduce him or her to multiple tonguing?

In general, at the end of cycle 2, but it can be initiated sooner if the student has sufficiently mastered single tonguing and staccato.

2. In your experience, how important is a student's ability to double-tongue or triple-tongue as an undergraduate? As a graduate student?

It could be interesting to begin working on this technique in Cycle 1, but does not excuse a student from working to master single tonguing at as fast of a tempo as possible. I heard a young saxophonist who had learned double tonguing too early in his development, and he could not even single tongue at an average speed.

During graduate study, of course, the study of all types of tonguing is important so that a student can respond to the musical [and technical] demands of advanced compositions.

3. What is your process for teaching multiple tonguing? In particular, please discuss what syllables you use, use of staccato or legato, integration into technique, etc.

At the beginning, I ask students to sing (this is very important for me and for the music. Onstage, we play the role of an actor; we speak with sound—music is a language, and we must appropriate the text and then transmit it with the instrument).

This is what we work on: te ke te ke [the French vowel “e” in this case can be approximated in English as the “u” in the word “dug”] for the low and middle register, and ti-ki ti-ki [as “ea” in the English word “tea”] for the high register. This allows us to feel and memorize the placement of the tongue and therefore, the position of the oral cavity. Then, reverse this same exercise—ke te ke te and ki ti ki ti with various rhythms.

For triple tongue, use tekete tekete—tekeke tekeke—tekete keteke with various rhythms. For a more legato sound, use degedege, digidigi. All of this must be performed with a continuous, supported sostenuto sound.

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

Begin on a single mid-register note, then change each every four notes, then complete this technique on a full scale, then with arpeggios. Then, work on repertoire from the end of the nineteenth century, which is effectively a series of

scales and arpeggios.

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

Listen for the a homogenous staccato sound in the various registers, and the clarity of the diction.

6. Do you integrate the study of multiple tonguing into your undergraduate curriculum, or do you wait for students to inquire about it?

The study of double or triple staccato should begin when a young saxophonist begins to master single-tonguing and is able to control his or her air pressure/support.

7. Typically, how long does it take for one of your students to achieve a successful, clean double and/or triple tongue?

The time varies according to the student; it can take anywhere from fifteen days to 2-3 years.

8. Do you offer students any exercises for the continued maintenance of this technique after they have achieved sufficient mastery?

The method to maintain good technique is daily practice. A technique is never acquired for life—it must be nurtured.

9. Do you have any experience in your teaching or personal playing of double- or triple-tonguing in the altissimo register?

It's true that using double- or triple-tonguing is more difficult in the altissimo register the placement of the tongue in the "ke" or "ge," which is why I think "ki" or "gi," so that the tongue is closer to the roof of the mouth, or soft palate. If I have to play very high, I cheat and play the staccato attack with my throat.

10. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

The use of double- or triple-tongue is easier on the soprano saxophone than the bass. The technique is slightly modified, always related to the placement of the tongue. These are internal sensations that must be memorized. I cannot go into detail in this context; I would need more time to accurately explain this.

ORIGINAL VERSION:

Marie-Bernadette CHARRIER
 Director Artistique, PROXIMA CENTAURI
 Vice President de l'ASAX (Association des Saxophonists)
 Professor de saxophone et musique de chamber contemporaine
 Conservatoire à Rayonnement Régional de Bordeaux
 Professor de saxophone et musique de chamber contemporaine
 CEFEDM, Aquitaine

1. Comment/en quelle cycle est-ce que vous commencer a travailler avec un élève aux double- et triple- détaché ?

En général fin de cycle 2 mais cela peut être initié avant si le staccato simple est bien maîtrisé.

2. A votre avis, est-ce qu'il est important pour les élèves en premier cycle ? Pourquoi ou pourquoi pas ? En perfectionnement? Pourquoi ?

Cela peut être intéressant de le montrer en cycle 1 mais ne doit pas supprimer la maîtrise du staccato simple le plus rapide possible. J'ai entendu une jeune saxophoniste qui avait appris le double staccato trop tôt et ne pouvait pas détacher simplement dans une vitesse moyenne.

En perfectionnement, la pratique de tous les staccatos doit être bien sûr travaillée et maîtrisée afin de pouvoir répondre aux besoins musicaux demandés dans les œuvres.

3. Comment est-ce que vous enseigner vos élèves comment faire le double- et triple- détaché ? Par exemple, quels syllabes employez-vous, staccato et legato, etc.

Au départ, je fais chanter les étudiants (cette pratique est très importante pour moi et cela pour tous les paramètres de la musique. Sur scène, nous jouons un rôle d'acteur, nous parlons avec les sons - la musique est un langage - nous devons nous approprier le texte puis le transmettre par l'instrument).

Un travail sur : te ke te ke pour le registre grave, médium et ti ki ti ki pour le registre aigu, cela permet de sentir et de mémoriser le placement de la langue et donc, la position de la cavité buccale. Puis renversement ketekete et kitikiti puis avec des rythmes diverses. Le triple sur tekete tekete - tekeke tekeke - tekete keteke puis avec des rythmes.

Pour le legato, utilisez degedege, digidigi. Ce travail doit se réaliser avec un sostenuto continu.

4. Quelles sortes de ressources, des exercices, et / ou répertoire donnez-vous aux étudiants pour les aider à améliorer cette technique? Si vous avez un exercice d'auto-créé, envisageriez-vous la partager?

Commencer sur une seule note médium, puis changer toutes les 4 notes, puis intégrer cette technique sur une gamme complète, puis avec les arpèges. Prendre le répertoire fin du XIX e , qui est un enchaînement de gammes, d'arpèges.

5. Quels sont les critères utilisez-vous pour évaluer la maîtrise d'un étudiant et le progrès avec cette technique?

Écouter l'homogénéité du staccato dans les divers registres, la clarté de diction.

6. Est-ce que vous intégrez l'étude de double détaché dans votre programme de premier cycle, ou attendez-vous pour les étudiants de s'informer à ce sujet?

Le travail du double staccato ou triple se réalise lorsque le jeune saxophoniste commence à bien maîtriser le staccato simple et le contrôle de la pression d'air. 7. Typiquement, combien de temps prend vos élèves de bien jouer en double- ou triple détaché ?

Le temps varie en fonction de chacun, cela peut aller de 15 jours à 2, 3 ans.

8. Offrez-vous des étudiants des exercices pour le maintien continu de cette technique après qu'ils ont atteint une maîtrise suffisante?

La méthode pour maintenir une bonne technique est le travail quotidien. Une technique n'est jamais acquise à vie, elle s'entretient. 9. Avez-vous de l'expérience dans votre enseignement de double ou triple-détacher dans les suraigus?

C'est vrai que l'utilisation du double ou triple staccato est plus difficile dans le registre suraigu dû au placement de la langue lors du ke ou ge , c'est pourquoi je pense ki ou gi favorisant la position de la langue proche du Voile du palais. Lorsque les notes sont très aiguës, je triche en faisant la stacc avec la gorge.

10. Quel est l'impact du saxophone (soprano, alto, ténor, baryton) sur cette technique, et ne vous modifier votre approche de cette technique en aucune façon à accueillir quel membre de la famille des saxophones, vous ou un étudiant est de jouer?

L'utilisation du double ou triple est plus aisée avec un saxophone soprano qu'un basse. La technique est légèrement modifiée, toujours liée au placement de la langue. Ce sont des sensations internes qu'il faut mémoriser. Je ne peux pas rentrer dans le détail, il me faudrait plus de temps.

David Dees
Associate Professor of Saxophone
Texas Tech University

1. How/when in a student's education do you generally introduce him or her to multiple tonguing?

Undergrad – if they are set up well fundamentally

2. In your experience, how important is a student's ability to double-tongue or triple-tongue as an undergraduate?

As a graduate student? Much more so as grad – mainly for Albright⁸⁴

3. What is your process for teaching multiple tonguing?

In particular, please discuss what syllables you use, use of staccato or legato, integration into technique, etc. Lots of soft, legato consonants “duh guh”

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

Nothing too special here. Start in the middle of the horn and work out – working on both quantity and quality approaches to practicing.

⁸⁴ William Albright, *Sonata, alto saxophone* ([S.I.]: Henmar Press, 1990).

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

Success with pieces.

6. Do you integrate the study of multiple tonguing into your undergraduate curriculum, or do you wait for students to inquire about it?

With undergrads who are looking to go to grad school.

7. Typically, how long does it take for one of your students to achieve a successful, clean double and/or triple tongue?

It varies widely – some never get it - 1 or 2 had it as freshman

8. Do you offer students any exercises for the continued maintenance of this technique after they have achieved sufficient mastery?

1 octave scales in all registers

9. Do you have any experience in your teaching or personal playing of double- or triple-tonguing in the altissimo register?

Berio [Sequenza] VIIb⁸⁵

⁸⁵ Luciano Berio, and Claude Delangle, *Sequenza VIIb: per sassofono soprano in si^b* (Wien: Universal Edition, 1995).

10. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

Seems easier on smaller [tip opening] mouthpieces.

Geoffrey Scott Deibel
Visiting Assistant Professor of Saxophone
University of Florida

1. How/when in a student's education do you generally introduce him or her to multiple tonguing?

As I mentioned before, when necessary, but I do introduce any and all extended techniques when I feel the student is ready.

2. In your experience, how important is a student's ability to double-tongue or triple-tongue as an undergraduate? As a graduate student?

As with circular breathing, useful as an undergrad, necessary as a grad. Also as repertoire demands. Triple tonguing seems to be unnecessary for single reed players.

3. What is your process for teaching multiple tonguing? In particular, please discuss what syllables you use, use of staccato or legato, integration into technique, etc.

The first step is to make the Tah sound as identical as possible to the Kah. In terms of syllables, it's usually most useful to find something that works best for the student. I use Tah Kah for regular articulations, Tih Kih for staccato, and Duh-Guh for legato with an emphasis on pushing air in between notes (generally speaking). Once the Kah works, getting an even switch between the two is the next step. Students always want to revert to a dotted rhythm, so getting even 8ths or 16ths is critical. One thing that can really help with evenness is playing

triplets. Once the student can do all of these things on single notes, simple exercises with changing notes can be introduced. One further concept for technique—the knowledge that the roof of the mouth is curved, and if one can move the flat tongue up higher so that it has a shorter distance to travel between T and K.

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

I have etudes but I can't remember who wrote them. Introducing it into a piece that the student is familiar with can help, too (Tableaux V for example).

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

If I can't tell that they're double-tonguing.

6. Do you integrate the study of multiple tonguing into your undergraduate curriculum, or do you wait for students to inquire about it?

It can be one of any extended techniques that I have them work on as part of their practice routine, and if it comes up earlier in repertoire, then they get it earlier.

7. Typically, how long does it take for one of your students to achieve a successful, clean double and/or triple tongue?

2-3 lessons.

8. Do you offer students any exercises for the continued maintenance of this technique after they have achieved sufficient mastery?

Like any technical mastery, working with metronome is always helpful for speed. Extending range is a necessity, and of course the style of double tongue must be appropriate for the music.

9. Do you have any experience in your teaching or personal playing of double- or triple-tonguing in the altissimo register?

Haven't had to do it.

10. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

Sometimes not using the octave key on the bari is helpful.

Timothy Roberts
Associate Professor of Saxophone
Shenandoah Conservatory

1. *How/when in a student's education do you generally introduce him or her to multiple tonguing?*

After they have mastered a smooth single tongue in [sixteenth notes] at quarter note = 152.

2. *In your experience, how important is a student's ability to double-tongue or triple-tongue as an undergraduate? As a graduate student?*

Very important—especially to be able to keep up with other instruments in contemporary band literature.

3. *What is your process for teaching multiple tonguing? In particular, please discuss what syllables you use, use of staccato or legato, integration into technique, etc.*

Tah-Kah. Do first on one note, then integrate into a major scale, then into the repertoire.

4. *What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?*

See above.

5. *What criteria do you use to evaluate a student's mastery and progress with this technique?*

Does it sound like a single-tongue?

6. *Do you integrate the study of multiple tonguing into your undergraduate curriculum, or do you wait for students to inquire about it?*

I integrate it as soon as they can single tongue sixteenth notes at quarter note=152.

7. *Typically, how long does it take for one of your students to achieve a successful, clean double and/or triple tongue?*

Should only take a few weeks if they're practicing correctly.

8. *Do you offer students any exercises for the continued maintenance of this technique after they have achieved sufficient mastery?*

Must be able to apply it spontaneously to any piece of repertoire.

9. *Do you have any experience in your teaching or personal playing of double- or triple-tonguing in the altissimo register?*

No—not practical.

10. *What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to*

accommodate which member of the saxophone family you or a student is playing?

NO! The only limitation is the extreme bottom and top range of the instrument, no matter which voice it is.

John Sampen
Distinguished Artist Professor, Coordinator of Woodwind Area
Bowling Green State University

1. How/when in a student's education do you generally introduce him or her to multiple tonguing?

Multiple Tonguing is generally introduced by fellow student saxophonists at BGSU and this probably happens during the first semester of freshman year. I work on the technique in lessons approximately in their junior year.

2. In your experience, how important is a student's ability to double-tongue or triple-tongue as an undergraduate? As a graduate student?

The technique is becoming rather important in new music and should be addressed for both undergraduate and graduate students.

3. What is your process for teaching multiple tonguing? In particular, please discuss what syllables you use, use of staccato or legato, integration into technique, etc.

I use something like "Tah Kah Tah Kah". (Don Sinta uses "Tak-Kit"). The technique takes many weeks and months to perfect, so my approach is to encourage short practice sessions without allowing too much frustration from the student. Lots of the beginning process requires concentration on the production of the "Kah". Slow repeated notes and scales in the mid-range are best and some daily work is required for progress. Air support and flowing air are important ingredients for success.

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

I use articles by Robert Spring (“Multiple Articulation for the Clarinet”), and Ted McDowell (“Double Tonguing for the Saxophone”) plus various pedagogical documents by Londeix, Jim Umble, Tim McAllister and Donald Sinta.

5. What criteria do you use to evaluate a student’s mastery and progress with this technique?

Ideally the multiple tonguing should sound like a single tongue articulation and a speed of at least 160 per 4 quarter notes should be attained.

6. Do you integrate the study of multiple tonguing into your undergraduate curriculum, or do you wait for students to inquire about it?

I have no particular inclusion of this in my curriculum—we study the technique when required by the literature.

7. Typically, how long does it take for one of your students to achieve a successful, clean double and/or triple tongue?

Multiple tonguing generally can take 1-2 years for mastery. Comfort with this technique in the high and low registers is quite difficult and requires much concentration and time. Air support is always important for this.

8. Do you offer students any exercises for the continued maintenance of this technique after they have achieved sufficient mastery?

Nothing special other than daily practice routines involving scales.

9. Do you have any experience in your teaching or personal playing of double- or triple-tonguing in the altissimo register?

No

10. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

I haven't found that multiple tonguing is particularly different on the various members of the saxophone family.

Rhonda Taylor
College Assistant Professor of Saxophone and Music Theory
New Mexico State University

1. How/when in a student's education do you generally introduce him or her to multiple tonguing?

I introduce double tonguing on a case-by-case basis with students; it depends on the individual. Usually my students begin working on double tonguing in late undergraduate studies or early graduate studies.

2. In your experience, how important is a student's ability to double-tongue or triple-tongue as an undergraduate? As a graduate student?

I think it completely depends on how fast and well one can single tongue. This varies widely from one student to the next, so regardless of degree program or age, some students need this skill as an essential part of their technique, while others do not.

3. What is your process for teaching multiple tonguing? In particular, please discuss what syllables you use, use of staccato or legato, integration into technique, etc.

To introduce double tonguing, I use the syllables "Tuk-Kit" and (switched so that the agogic weight is on the newer, usually weaker syllable) "Kut-Tik". These produce rather hard articulations. As the student gains more control, I switch to "Dig-Guh", which is more facile.

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

Self-created exercises are so simple to create that the possibilities are endless in this case. Scales are a great vehicle for working on double tonguing, and just about any combination of articulation patterns (both repeated on a single pitch as well as moving between pitches) are effective. As with any new technique, I think it best to start simply (for instance, double tonguing groups of repeated eighth notes on a single comfortable pitch as a comfortable metronome speed) and expand in range and speed from there.

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

The final criteria to me is asking if the articulations sound consistent and fit into context of the music with all other musical parameters (dynamics, rhythm, articulation style, phrasing, etc.) present.

6. Do you integrate the study of multiple tonguing into your undergraduate curriculum, or do you wait for students to inquire about it?

See my responses to #1 and #2.

7. Typically, how long does it take for one of your students to achieve a successful, clean double and/or triple tongue?

One semester.

8. Do you offer students any exercises for the continued maintenance of this technique after they have achieved sufficient mastery?

See my response to #4.

9. Do you have any experience in your teaching or personal playing of double- or triple-tonguing in the altissimo register?

No.

10. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

I find that most students have success with the smaller saxophones (alto and soprano), so it's usually easiest to begin this technique on one of the smaller saxes and progress to the larger ones as students gain more control.

Kenneth Tse
Professor of Saxophone
University of Iowa

1. How/when in a student's education do you generally introduce him or her to multiple tonguing?

It is difficult to make a generalized statement. Some students are able to do many "interesting" techniques at high school or even younger age but some graduate students have a hard time acquiring such "skills." However, usually when the students show curiosity and initiative, that is when I would introduce them to multiple tonguing, after judging the fact that they are ready for it.

To judge whether the student is ready for multiple tonguing, he/she must be competent in single tonguing and have a good overall understanding of the inner workings of their oral cavity and the importance of proper tongue position.

2. In your experience, how important is a student's ability to double-tongue or triple-tongue as an undergraduate? As a graduate student?

Again, it depends on the student's ability and the repertoire at hand. I know many professionals who are on the top in our field but cannot or do not multiple-tongue, yet they are the most respected musicians. I personally do not require any of my students to master multiple tonguing but they must understand the concept, know how to describe it, and be able to teach it.

3. What is your process for teaching multiple tonguing? In particular, please discuss what syllables you use, use of staccato or legato, integration into technique, etc.

First of all, unlike the “Tu-Ku” syllables that brass instruments and other woodwinds such as the flute use, I recommend using the syllables “Ti-Ki.” “Ti” refers to the active component of the tonguing and “Ki” would be the passive interaction with the roof of one’s mouth. Basically, whatever syllables help you to stabilize the back of the tongue and the air to touch the front top part of the upper pallet (near the alveolar ridge) would do. Obviously, multiple tonguing different registers would need slight adjustment inside the mouth, but in general the tongue must not move too much and one should not engage much of the throat. We cannot go into much detail at this time, but I suggest the study of articulatory phonetics, where the understanding of the place (or point) of articulation plays an incredibly significant role in one’s understanding and approach in tonguing, obtaining resonant sound, and playing the saxophone in general.

Due to the nature of the single reed mouthpiece, it is almost impossible to obtain a perfectly homogenous and consistent multiple-tonguing sound compared to other instruments such as trumpet and flute. Therefore, I suggest practicing fast but short bursts of several beats of multiple tonguing, whether double or triple, and both in single note and scale fragments. Make certain they are consistently (not homogenous in sound) controlled throughout the duration (air support). I have seen people spending hours on end trying to make the active and passive sounds the same, but when they actually play in tempo, the

multiple tonguing sounds are almost unavoidable. In short, rather than spending all the time trying to make the impossible, make sure the speed of the tonguing is consistent, the sound is even, and most importantly, the coordination between the tonguing and the fingers are timed rightly.

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

Many flute or brass double/triple tonguing exercises are good for our use. I find that Jean-Louis Tulou's flute exercises⁸⁶ are very helpful as well.

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

Consistency in control, sound, air support and coordination of tongue and fingers.

6. Do you integrate the study of multiple tonguing into your undergraduate curriculum, or do you wait for students to inquire about it?

See answer to Q. 1

⁸⁶ Jean Louis Tulou, Janice Dockendorff Boland, and Martha F. Cannon, *A Method for the Flute* (Bloomington: Indiana University Press, 1995).

7. Typically, how long does it take for one of your students to achieve a successful, clean double and/or triple tongue?

It depends on the definition of "clean." With diligent and consistent practicing daily, one should see result after a few weeks.

8. Do you offer students any exercises for the continued maintenance of this technique after they have achieved sufficient mastery?

Once the student is flexible with his/her control on the saxophone and the concept and technique of double/triple tonguing are acquired, it is probably not necessary to practice multiple tonguing daily unless the repertoire requires such technique.

9. Do you have any experience in your teaching or personal playing of double- or triple-tonguing in the altissimo register?

This is perhaps much easier to explain in a one-on-one lesson than in words. The ability to multiple tongue in altissimo range has to do with the answer to Q. 3; the mastery of one's understanding in points of articulation inside the mouth. Most syllables (even "Ti-Ki") usually create too much motion inside the mouth (both active and passive) to allow the reed to vibrate in extremely high speed without interruption, hence loss of altissimo tone. Basically, one needs to use as little passive "attack" as possible and use air mostly coming from the back of the throat. Please pardon this as a "teaser" answer!

10. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

Certainly! But the concept and approach are the same as discussed above. Again, consider the points of articulation inside the mouth and consistency in sound and control, and one should find the right actions and “spots” for various sizes of mouthpieces. Flexibility is the key.

In closing, I personally do not spend a lot of time on this technique. First of all, once I have the concept I can pick it up readily after practicing. Secondly, unless one performs music that require such technique regularly, most standard repertoire rarely “require” it. Like many other so-called extended techniques, if any of it stifles the enjoyment and fulfillment of learning and music-making, it becomes an end in itself.

James Umble
Professor of Saxophone
Youngstown State University

1. How/when in a student's education do you generally introduce him or her to multiple tonguing?

I am asking this now of all performance majors starting at the latest around the early sophomore year. Sooner for highly skilled entering Freshman, they can start on it right away. It depends on the skills and background of each student. I start as soon as seems advisable to discuss such techniques.

2. In your experience, how important is a student's ability to double-tongue or triple-tongue as an undergraduate? As a graduate student?

I think it is an important skill to be studied after the foundation of good single tongue articulation is underway.

3. What is your process for teaching multiple tonguing? In particular, please discuss what syllables you use, use of staccato or legato, integration into technique, etc.

Syllables not always consistent student to student. Relaxation is important I think so a more legato approach works early on. Experimenting with the location of the tongue stroke is important. I use a handout that Don Sinta shared many

years ago, much based on something like the Arban⁸⁷ trumpet double-tonguing studies after some preliminary scale and repeated note studies.

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

[No Response]

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

We spend a few quick minutes checking it out weekly, that is usually all there is time for. But regular checking-in like this allows for continued accountability in these areas of extended technique, and as each technique takes time to acquire, regular (if brief) checks contribute to long-term acquisition.

6. Do you integrate the study of multiple tonguing into your undergraduate curriculum, or do you wait for students to inquire about it?

As it takes a while to master, it is important to start early on for performance majors. I do not always get it going with every [Music] Education major, depending on the needs of the student.

⁸⁷ J.-B. Arban, Edwin Franko Goldman, and Walter M. Smith. *Arban's Complete Conservatory Method: For Trumpet (Cornet) or E♭ Alto, B♭ Tenor, Baritone, Euphonium and B♭ Bass in Treble Clef* (New York: Carl Fischer, 1936).

7. Typically, how long does it take for one of your students to achieve a successful, clean double and/or triple tongue?

Varies- some can get it immediately, others have much difficulty.

8. Do you offer students any exercises for the continued maintenance of this technique after they have achieved sufficient mastery?

I recommend a piece of music that requires it, such as Monti Czardas, or Creston Concerto III as an ongoing goal for continued development.

9. Do you have any experience in your teaching or personal playing of double- or triple-tonguing in the altissimo register?

Good question, I have found the extremes to be problematic for most.

10. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

Mostly discussed in context of alto or soprano at this point.

APPENDIX FOUR
TECHNIQUE QUESTIONNAIRES:
MULTIPHONICS

Serge Bertocchi
Professor of Saxophone
Conservatoire à Rayonnement Régional
d'Amiens, France

1. Comment/en quelle cycle est-ce que vous commencer a travailler avec un élève aux sons multiples ?

[1. How/when in a student's education do you generally introduce him or her to multiphonics?]

Multiphonics is a comparably easy modern technique.

2. Est-ce que vous commencer a travailler avec vos élèves sur les sons multiples ?

[2. Are there particular multiphonics that you teach first, or do you address multiphonics through repertoire as needed?]

Usually during the first cycle, I already use a few easy multiphonics. There are two used in my Saxophone Method. One of my students composed a piece using these during his first year of study. He was 10, and the piece was nice.

3. Qu'est-ce que vous faites quand un doigté fait par le compositeur pour un son multiple ne marche pas?

[3. In repertoire, how do you deal with multiphonic fingerings that "don't work?"]

No question : I change it. Most composers don't really master the subtle mechanics of multiphonics. So I find a sound with the same components working in the specific dynamics.

4. Quelles sortes de ressources, des exercices, et / ou répertoire donnez-vous aux étudiants pour les aider à améliorer cette technique? Si vous avez un exercice d'auto-créé, envisageriez-vous la partager?

[4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?]

You will get tired of it, but I use my own material ("Techniques du saxophone")

5. Quels sont les critères utilisez-vous pour évaluer la maîtrise d'un étudiant et le progrès avec cette technique?

[5. What criteria do you use to evaluate a student's mastery and progress with this technique?]

As easy it might be to play a simple multiphonic, it might also become one of the most difficult thing to do, either if the piece is miswritten (usually incompatibility between sounds and written dynamics), or on the other hand, if the composers have a wide mastery of the subject (like Giorgio Netti, using exclusively 600 different multiphonics in his piece Necessità d'intuire la dispiegata forma della luce). As usual, we will use music as a parameter:

pieces using only a few easy multiphonics as a start, then more and more complicated...

6. Est-ce que vous travailler les sons multiples avec vos élèves pour les autres raisons que répertoire, par exemple, pour développer le son ? Que faites-vous ?

[6. Do you use multiphonics with students for any pedagogical reason other than performance? If yes, what is your objective?]

If I decided to teach multiphonics since the first year of saxophone, it is also because there is a secondary goal apart to easiness. Most multiphonics will imply a specific mouth-tongue position to be performed. The student will get the idea that he is not playing only with his fingers: sound production is an association of ear and memory...

7. Est-ce que vous intégrer l'étude des sons multiples dans votre programme de premier cycle, ou attendez-vous pour les étudiants de s'informer à ce sujet?

[7. Do you integrate the study of multiphonics into your undergraduate curriculum, or do you wait for students to inquire about it?]

Yes. No, I don't wait : this is important matter.

8. Quelle est le rôle de l'équipement d'un élève à la bonne exécution des sons multiples?

[8. Of what importance is the role of a student's equipment to the successful performance of multiphonics?]

It's usually thought that a rather "large" facing will help produce complex sounds. Also, most pieces were written using charts developed on Selmer [Paris] or Buffet saxes. So it might be easier to play on these... but you can also look for equivalent fingerings to fit YOUR saxophone.

9. Avez-vous des "trucs" pour obtenir des sons multiples difficiles de parler?

[9. Do you have any "tricks" for getting difficult multiphonics to speak?]

Of course. You might know that most of my activity as a musician is dedicated to contemporary music, so I'm often confronted to multiphonics and I acquired a few automatismes. As a matter of fact, I'm actually trying to play Ultimo alato⁸⁸ by Giorgio Netti, which is presumably the most difficult piece written up to date (as far as multiphonics are concerned, Giorgio is the Pope). And I'm surprised myself to see that even so-called "impossible" sounds can finally be performed, when sufficient time is provided for them to mature.

10. Quel est l'impact du saxophone (soprano, alto, ténor, baryton) sur cette technique, et ne vous modifier votre approche de cette technique en aucune façon à accueillir quel membre de la famille des saxophones, vous ou un

⁸⁸ Giorgio Netti, *ultimo a lato* (Milan: 2005).

étudiant est de jouer?

[10. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?]

You might be surprised,⁸⁹ but for this, I wouldn't recommend low register saxophones (B, Bs, CBs), which are rather tricky as far as security is concerned. Soprano seems the most interesting medium as far as I know. But every sax has its own specific sounds to propose. I recorded a solo on mezzo-soprano on my MySpace,⁹⁰ if you want to have an idea of "difference."

⁸⁹ Bertocchi is a well-known advocate for low saxophones and the Tubax, a subcontrabass instrument related to the saxophone family

⁹⁰ <http://www.myspace.com/sergebortocchi>

TRANSLATION:

Marie-Bernadette Charrier
 Artistic Director, PROXIMA CENTAURI
 Vice President of l'ASAX (French Saxophonists Association)
 Professor of Saxophone and Contemporary Chamber Music
 Conservatoire à Rayonnement Régional de Bordeaux
 Professor of Saxophone and Contemporary Chamber Music
 CEFEDM, Aquitaine

1. How/when in a student's education do you generally introduce him or her to multiphonics?

Very early, because it allows students to acquire greater flexibility in "placing" notes.

2. Are there particular multiphonics that you teach first, or do you address multiphonics through repertoire as needed?

Practicing multiphonics begins by isolating each pitch in the multiphonic, playing it, and memorizing the each sound's position [in the throat]. This should be done at a variety of dynamics. Following that, practice playing several different multiphonics in a row one to another to develop flexibility and a certain virtuosity.

3. In repertoire, how do you deal with multiphonic fingerings that "don't work?"

I change it and try to respect the demanded color. For me, it is unbearable to propose a multiphonic that is not well-balanced, or poorly mastered (in other words, not balanced within fragility or within instability). Generally, the composer does not play the saxophone, but found a multiphonic that corresponds to the

harmony or a desired timbre. If the fingering doesn't permit this, it is our role as interpreters to search for and propose a solution so that the composer's intentions are honored.

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

You must learn to control each pitch of a multiphonic independently, and for me, there is always one pitch in the multiphonic that allows me to balance the multiphonic, and it is up to everyone to find that for him or herself.

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

To anticipate the creation of the multiphonic, control the position of the pitches, and be comfortable with the position of the fingers. The multiphonic should be correct, and stable...

6. Do you use multiphonics with students for any pedagogical reason other than performance? If yes, what is your objective?

This is integral in the preparation of the technique, and the allows students to be more flexible with the creation of pitches.

7. Do you integrate the study of multiphonics into your undergraduate curriculum, or do you wait for students to inquire about it?

As I said before, I begin very early.

8. Of what importance is the role of a student's equipment to the successful performance of multiphonics?

I have found that multiphonics are easier to play with a softer reed, and concerning mouthpieces, Selmer [Paris] mouthpieces produce the multiphonics more easily.

9. Do you have any "tricks" for getting difficult multiphonics to speak?

It's true that for me, I have never encountered any great difficulty in producing multiphonics. I know that what I try to advise is to find a greater awareness of internal sensations, and a knowledge of the role of the tongue allows for the easier creation of multiphonics.

10. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

The technique of multiphonics is the same regardless of the saxophone. Certain multiphonics are easier than others on various instruments. For me, control and awareness of the position of each note [in the multiphonic] is essential.

ORIGINAL VERSION:

Marie-Bernadette CHARRIER
 Director Artistique, PROXIMA CENTAURI
 Vice President de l'ASAX (Association des Saxophonists)
 Professor de saxophone et musique de chamber contemporaine
 Conservatoire à Rayonnement Régional de Bordeaux
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 CEFEDM, Aquitaine

1. Comment/en quelle cycle est-ce que vous commencer a travailler avec un élève aux sons multiples ?

Très tôt, cela permet d'acquérir une souplesse de placement des hauteurs

2. Est-ce que vous commencer a travailler avec vos élèves sur les sons multiples ?

Le travail d'un SM commence par jouer isolément chaque hauteur du SM et de mémoriser la position de celles-ci. Ce travail se réalise dans des dynamiques différentes.

Puis un travail d'enchaînement de SM intervient afin d'acquérir une souplesse et une certaine virtuosité de jeu.

3. Qu'est-ce que vous faites quand un doigté fait par le compositeur pour un son multiple ne marche pas?

Je le change en essayant de respecter la couleur demandée. Pour moi, il est insupportable de proposer un SM qui ne soit pas équilibré, pas maîtrisé (cela peut être un équilibre dans une fragilité ou dans une instabilité). En général le compositeur ne joue pas du saxophone et donc a trouvé un SM qui correspond à

l'harmonie, au timbre désiré. Si la réalisation ne le permet pas, c'est notre rôle d'interprète de chercher et de proposer une solution afin d'offrir une réalisation juste de ce geste musical.

4. Quelles sortes de ressources, des exercices, et / ou répertoire donnez-vous aux étudiants pour les aider à améliorer cette technique? Si vous avez un exercice d'auto créé, envisageriez-vous la partager?

Il faut apprendre à contrôler chaque hauteur du SM indépendamment et pour moi il y a toujours une hauteur qui permet de donner l'équilibre du SM, à chacun de le trouver.

5. Quels sont les critères utilisez-vous pour évaluer la maîtrise d'un étudiant et le progrès avec cette technique?

Anticiper la réalisation du SM, contrôler la position des hauteurs et ne pas se satisfaire de la position des doigts. Emission du SM, stabilité...

6. Est-ce que vous travailler les sons multiples avec vos élèves pour les autres raisons que répertoire, par exemple, pour développer le son ? Que faites-vous ?

Ce travail est intégrer dans la technique préparatoire, elle permet d'assouplir la gestion des hauteurs.

7. Est-ce que vous intégrez l'étude des sons multiples dans votre programme de premier cycle, ou attendez-vous pour les étudiants de s'informer à ce sujet?

Comme je l'ai déjà, ce travail commence très tôt.

8. Quelle est le rôle de l'équipement d'un élève à la bonne exécution des sons multiples?

J'ai pu constater qu'il était plus aisé de jouer des SM avec des anches faibles et concernant les becs, très souvent le bec Selmer permet un jeu plus facile.

9. Avez-vous des "trucs" pour obtenir des sons multiples difficiles de parler?

C'est vrai que pour ma part, je n'ai jamais rencontré de grandes difficultés dans la réalisation des SM. Je sais que le travail que j'essaie de transmettre dans une meilleure connaissance des sensations internes, du rôle de langue permet un jeu plus aisé dans la pratique des SM.

10. Quel est l'impact du saxophone (soprano, alto, ténor, baryton) sur cette technique, et ne vous modifiez votre approche de cette technique en aucune façon à accueillir quel membre de la famille des saxophones, vous ou un étudiant est de jouer?

La technique des SM est la même quelque soit le saxophone joué. Certains SM seront plus faciles en fonction de l'instrument.

Pour moi, le contrôle et la conscience de la position de chaque hauteur sont essentiels.

David Dees
Associate Professor of Saxophone
Texas Tech University

1. How/when in a student's education do you generally introduce him or her to multiphonics?

Freshman Sophomore maybe – depending on rep.

2. Are there particular multiphonics that you teach first, or do you address multiphonics through repertoire as needed?

With rep – usually Mai⁹¹

3. In repertoire, how do you deal with multiphonic fingerings that “don't work?”

try to find new ones in Kientzy⁹²

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

Kientzy,⁹³ Londeix.⁹⁴ Break up multiphonics, isolate and produce pitches individually with multiphonic fingering. All the altissimo exercises help – front F throat gliss, overtones, mouthpiece scales, altissimo scales

⁹¹ Ryo Noda. *Mai: pour saxophone alto seul* (Paris: A. Leduc, 1978).

⁹² Daniel Kientzy, *Les sons multiples aux saxophones* (Paris: Editions Salabert, 2000).

⁹³ *Ibid.*

⁹⁴ Jean-Marie Londeix, William Street, and Anna Street, *Hello! Mr. Sax* (Paris: Editions Musicales Alphonse Leduc, 1989).

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

Musical results and consistency

6. Do you use multiphonics with students for any pedagogical reason other than performance? If yes, what is your objective?

Learning multiphonics will help with flexibility and control esp with altissimo register.

7. Do you integrate the study of multiphonics into your undergraduate curriculum, or do you wait for students to inquire about it?

Whenever the rep comes up, but almost all students encounter multiphonics as undergrads.

8. Of what importance is the role of a student's equipment to the successful performance of multiphonics?

There are some C6 sop multiphonics in Lauba etc – so it's helpful to have a series III. Like altissimo, there are some potential problems if horn is out of adjustment.

9. Do you have any "tricks" for getting difficult multiphonics to speak?

Break them up into individual pitches. Try new fingerings.

10. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

Seems like basically the same technique on all horns.

Geoffrey Scott Deibel
Visiting Assistant Professor of Saxophone
University of Florida

1. How/when in a student's education do you generally introduce him or her to multiphonics?

Typically whenever the music necessitates it. However, as I am a proponent of contemporary works, I try to introduce even the youngest students to this type of music and technique as early as possible. I have had middle school aged students play multiphonics regularly, and certainly all levels of high school and college students. The earlier you introduce any of these techniques, the less "hard" it is for the student later on.

2. Are there particular multiphonics that you teach first, or do you address multiphonics through repertoire as needed?

As needed, although if it's the first time, I show them the easiest ones first (low C -4, low Bb -C, or E + C3).

3. In repertoire, how do you deal with multiphonic fingerings that "don't work?"

The fingers are in fact often incorrect. Composers using the Kientzy book⁹⁵ are often led astray by this resource. On the other hand there are often just one or perhaps two key changes that can be made to achieve the desired multiphonic. It's also important to figure out what function the multiphonic has in

⁹⁵ Daniel Kientzy, *Les sons multiples aux saxophones* (Paris: Editions Salabert, 2000).

the music. If it's just for effect, sometimes it doesn't matter. There are many (often bad) pieces from the 70s through the 90s that have non-functional multiphonics. Sometimes, you just have to experiment to figure out something that works for the horn and the music. For example in HARD⁹⁶ by Christian Lauba, the chord that appears on pg. 6 (F+/F#/C#) is not correct. Through a little adjustment from the given fingering, I figured out that 1/2/3/5/6/lowB/Eb/C gets the desired multiphonic, which is supposed to be another power chord.

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

Multiphonics are sometimes similar to altissimo in that you have to voice more toward a certain note to make the chord sound. At the beginning of the second movement of the Denisov Sonate,⁹⁷ for example, voicing toward the hi F# gets that multiphonic to speak reliably. Additionally, certain chords must be played with a wider or tighter airstream, or a looser or tighter embouchure, or more or less mouthpiece. Even puffing the cheeks can help sometimes, and I've also occasionally put a very little bit of the tip of my tongue on the reed to get a close-interval multiphonic. Every chord is a little different, but often chords that are part of the same multiphonic family (side key family, for example) will behave the same way. Aside from these adjustments, reed and mouthpiece choice make

⁹⁶ Christian Lauba. *Hard: pour saxophone tenor* (Courlay, France: J.M. Fuzeau, 1989).

⁹⁷ Edison Vasil'evich Denisov, *Sonate pour saxophone alto et piano* (Paris: A. Leduc, 1973).

a difference. The most important thing is to put instructions on how to play the chord in the music—I'll write "high and tight" or "voice F#" (although I typically try not to voice when I play).

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

If the multiphonic works, the student has succeeded, although there's a certain amount of initiative the student must learn to take with the techniques I've described above. It's not enough for them just to say "it's not coming out." It's a problem we all have to address.

6. Do you use multiphonics with students for any pedagogical reason other than performance? If yes, what is your objective?

No.

7. Do you integrate the study of multiphonics into your undergraduate curriculum, or do you wait for students to inquire about it?

I try to incorporate pieces that have multiphonics into the curriculum so students get used to playing them. It's a critical part of our modern-day performance technique.

8. Of what importance is the role of a student's equipment to the successful performance of multiphonics?

It is important, but you can typically make any setup work for most pieces.

I will typically only change my setup if there is something that is all multiphonics.

This is only in extreme cases.

9. Do you have any "tricks" for getting difficult multiphonics to speak?

See above.

10. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

No.

John Sampen
Distinguished Artist Professor, Coordinator of Woodwind Area
Bowling Green State University

1. How/when in a student's education do you generally introduce him or her to multiphonics?

Multiphonics are generally introduced by fellow student saxophonists at BGSU and this probably happens during the first semester of freshman year. I work on the technique in lessons about the junior year.

2. Are there particular multiphonics that you teach first, or do you address multiphonics through repertoire as needed?

Usually I introduce this technique through specific literature. However, an easy one to produce is the fingering for low C with the fourth finger raised.

3. In repertoire, how do you deal with multiphonic fingerings that "don't work?"

Many times multiphonics require intense experimentation and practice much like the production of altissimo. Isolating the required pitches often helps. Sometimes the notated fingerings just don't work and require changes or substitutions. As one nears a performance, it is important that the player has confidence and a high percentage of success in the producing the notated multiphonics. If this is not the case, then I will suggest substitutions so that the performer (and the composer) are not represented in a negative way.

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

Ron Caravan's "Sketch"⁹⁸ or "Preliminary Exercises"⁹⁹ are both good starting pieces and/or the Ryo Noda "Improvisations."¹⁰⁰

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

My criteria would include correct pitches, consistency, quality of sound, and control of dynamic intentions.

6. Do you use multiphonics with students for any pedagogical reason other than performance? If yes, what is your objective?

No

7. Do you integrate the study of multiphonics into your undergraduate curriculum, or do you wait for students to inquire about it?

I usually wait for students to inquire about this, although many of our contemporary works require these sounds.

⁹⁸ Ronald L. Caravan, *Sketch for Alto Saxophone*. (New York: Seesaw Music Corp, 1974).

⁹⁹ Ronald L. Caravan, *Preliminary Exercises & Etudes in Contemporary Techniques for Saxophone Introductory Material for the Study of Multiphonics, Quarter Tones, & Timbre Variation* (Medfield, MA: Dorn Publications, 1980).

¹⁰⁰ Ryo Noda, *Improvisation I, pour saxophone alto seul* (Paris: A. Leduc, 1974).

8. Of what importance is the role of a student's equipment to the successful performance of multiphonics?

Equipment is a major consideration and this does affect the success. Multiphonics written for early saxophone models (e.g., Selmer Mark VI) often do not work today on newer instruments.

9. Do you have any "tricks" for getting difficult multiphonics to speak?

In teaching, I often consider the direction of the air and the pressure of the embouchure. Also we experiment with the amount of mouthpiece and the strength of reeds.

10. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

Fingerings for multiphonics often do not transfer to the other sizes of saxophones. I have no particular approach in dealing with these changes other than experimentation and consultation with books by Kientzy¹⁰¹ and Londeix¹⁰² and Weiss.¹⁰³

¹⁰¹ Daniel Kientzy, *Les sons multiples aux saxophones* (Paris: Editions Salabert, 2000).

¹⁰² Jean-Marie Londeix, William Street, and Anna Street, *Hello! Mr. Sax* (Paris: Editions Musicales Alphonse Leduc, 1989).

¹⁰³ Marcus Weiss, and Giorgio Netti, *The techniques of saxophone playing = Die Spieltechnik des Saxophons* (Kassel: Bärenreiter, 2010).

Rhonda Taylor
College Assistant Professor of Saxophone and Music Theory
New Mexico State University

1. How/when in a student's education do you generally introduce him or her to multiphonics?

I introduce multiphonics on a case-by-case basis with students; it depends on the individual. Usually my students begin working on multiphonics mid-to late undergraduate studies.

2. Are there particular multiphonics that you teach first, or do you address multiphonics through repertoire as needed?

Through repertoire as needed.

3. In repertoire, how do you deal with multiphonic fingerings that "don't work?"

It depends on the piece. At this point historically, there are enough reliable resources for multiphonics that we shouldn't have any works that have this problem (it terms of multiphonics notated in the music that are actually not acoustically possible). If the composer is alive, then I or the student begins with contacting the composer and asking about the multiphonic. If it's a piece others have played successfully in the past , then it could be a question of having access to the right fingering and then contacting fellow saxophonists is in order. If it's an issue of a multiphonic that does work acoustically but is troublesome to execute, I would demonstrate the approaches in #4. If it's a week before a performance and the student still isn't having success executing the multiphonic

(no matter the cause), then I do work with him/her to find a suitable substitute (taking pitch and timbre into account) for that particular performance.

4. What sorts of resources, exercises, and/or repertoire do you give to students to help them improve this technique? If you have a self-created exercise, would you consider sharing it?

In terms of resources, the main one I expect students to use is Londeix's Hello! Mr. Sax.¹⁰⁴ Having the Kientzy¹⁰⁵ is of course helpful but less reliable. My approach to working on multiphonics is really an extension of voicing, and like any voicing, the work must be both physical and aural. I ask students to finger the multiphonic and voice the individual pitches: almost always, certain pitches speak more easily, and the challenge is to find a tongue/throat compromise position that allows the full multiphonic to speak. On the aural side, I ask students to sing the pitches contained in the multiphonic, and also to consider the intervallic relationship between the previous (and following) musical material and the multiphonic so that they might more successfully execute it. For instance, the end of the first movement of the Denisov Sonate¹⁰⁶ ends with our written F#, and the multiphonic that opens the second movement continues that F#, but now as the highest pitch in a multiphonic. Aurally matching the two helps the player execute the multiphonic more clearly, but also helps the student hear why it's

¹⁰⁴ Jean-Marie Londeix, William Street, and Anna Street, *Hello! Mr. Sax* (Paris: Editions Musicales Alphonse Leduc, 1989).

¹⁰⁵ Daniel Kientzy, *Les sons multiples aux saxophones* (Paris: Editions Salabert, 2000).

¹⁰⁶ Édison Vasil'evich Denisov, *Sonate pour saxophone alto et piano* (Paris: A. Leduc, 1973).

structurally important to the work. Of course the highest goal here is to communicate that F# connection to the listener.

5. What criteria do you use to evaluate a student's mastery and progress with this technique?

I ask myself if the multiphonic is being executed in context consistently, and if so, are all other parameters (dynamic level, duration, articulation/sound envelope) also in control?

6. Do you use multiphonics with students for any pedagogical reason other than performance? If yes, what is your objective?

No.

7. Do you integrate the study of multiphonics into your undergraduate curriculum, or do you wait for students to inquire about it?

I don't have a formal multiphonics requirement - it depends on the appropriate repertoire for the student. (See #1.) If a student does ask about multiphonics, I take into consideration where he/she is with their voicing work, and go from there.

8. Of what importance is the role of a student's equipment to the successful performance of multiphonics?

Professional level equipment in excellent working condition is essential to the successful performance of multiphonics. If a saxophone is full of leaks, successfully splitting partials is not possible for obvious reasons. As far as reeds go, I find this is similar to working on altissimo, where at first all seems dependent on the reed, but after one gains more voicing control, it doesn't seem as precarious. (Of course having a fabulous reed never hurt anyone.)

9. Do you have any “tricks” for getting difficult multiphonics to speak?

No. See #4.

10. What impact does the saxophone (soprano, alto, tenor, baritone) have on this technique, and do you alter your approach to this technique in any way to accommodate which member of the saxophone family you or a student is playing?

There are different challenges on either end of the size spectrum for us. Smaller saxes' partials are closer together so even more precision and control are essential, while larger saxes' partials are farther apart, so a wider amount of flexibility is necessary. When a student is new to multiphonics, I think it's best for him/her to begin work on the saxophone he/she is most comfortable playing. I do not alter my approach to teaching this technique, but I do keep my previously mentioned challenges in mind as I work with the student.

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