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An Examination of Two Contemporary Techniques in Five Works for Solo Bassoon: Descriptions and Performance Suggestions.

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AN EXAMINATION OF TWO CONTEMPORARY TECHNIQUES
IN FIVE WORKS FOR SOLO BASSOON:
DESCRIPTIONS AND PERFORMANCE SUGGESTIONS

A Written Document

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by
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ABSTRACT

Much of the literature for solo bassoon of the past few decades is partially dependent upon the player’s ability to use contemporary techniques. While it is atypical for an entire composition to rely on such devices, a significant volume of recent solo literature may be unplayable to those who have not mastered them. My aim is to help solo bassoonists in perfecting two specific contemporary techniques: fluttertongue and singing while playing. Though quite standard for other woodwind instruments such as the flute, these techniques have not been adequately described for bassoonists. The repertoire chosen for this project represents works for solo bassoon that employ both fluttertongue and singing while playing. The pieces chosen for study demonstrate variety in notational representation, range of application and approach and departure from instances of these techniques. As a performer and advocate of contemporary bassoon works, I feel that a clear and approachable method for these techniques would encourage performers to program more contemporary music and offer composers the opportunity to have relevant pieces performed rather than avoided.
CHAPTER 1: INTRODUCTION

Much of the literature for solo bassoon of the past few decades is partially dependent upon the player’s ability to use contemporary techniques. While it is atypical for an entire composition to rely on such devices, a significant volume of recent solo literature may be unplayable to those who have not mastered them. My aim is to assist solo bassoonists in perfecting two specific contemporary techniques: fluttertongue and singing while playing. I would expect this project to result in more performances of these works and encourage bassoonists to explore literature that might otherwise remain untouched.

Of all the woodwind instruments, the flute stands out as having many proponents of new techniques and a relevant body of representative literature that is often performed. Though quite standard for flutists, some of these techniques have not been adequately described for bassoonists. Relatively few statements about fluttertongue and singing while playing are found in sources for woodwind instruments other than the flute, and observations for their use by bassoonists are that much more rare. In Gardner Read’s *Thesaurus of Orchestral Devices*, for example, the catalogue of works employing woodwind fluttertongue includes only two items for bassoon—far fewer than all other listed woodwinds, including piccolo, flute, oboe, clarinet, English horn, bass clarinet and saxophone. In fact, one of these listings is in error: Shostakovich’s *First Symphony* does not call for fluttertongue at the indicated excerpt. Rather, the score shows half notes in the wind parts crossed with two beams—a common and clear
reference to sixteenth notes. Some even consider the use of flutertongue as altogether impossible for some double reed instruments: "On oboe and English horn an authentic flutertonguing is impossible, but a ‘faked’ variety can be obtained by diminishing the blowing pressure so as to produce a rough and tremulous sound resembling fluttering." Besides Alexandre Ouzounoff’s brief yet useful practice ideas, the notion of singing while playing the bassoon is largely overlooked. Even in the appendix to Dieter Hänchen’s anthology containing Christfried Schmidt’s *Solo für Fagott*, the technique is omitted entirely.

These two techniques deserve a more thorough, step-by-step approach to their practical use and understanding by bassoonists. Furthermore, I will offer exercises for practicing these techniques as well as performance suggestions for five solo bassoon works that demand their use. Specific concerns of notation and interpretation of composers’ indications will be addressed for each of the pieces studied. The repertoire chosen for this project represents works for solo bassoon that employ both flutertongue and singing while playing. The pieces chosen for study demonstrate variety in notational representation, range of application and approach and departure from instances of these techniques. The five pieces chosen for study are *Debussy Variations No. 7* (1977) by Patrick Kavanaugh, *Air pour basson* (1973) by Miklós Maros, *Fantasmi for solo* ...

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My goal is to define both techniques and illustrate their production. In the case of the fluttertongue, both literal and alternative (uvular) manners of effecting the desired sound will be examined. A gradual approach to each technique will follow, starting from a neutral point with no reed and no bassoon. The process continues, adding the reed, bocal, and successive sections of the instrument. Exercises will examine variables such as air requirements, placement of tongue, pitch consistency, factors of range, control, dynamics, resistance, etc. Tendencies and limitations will become clear, and will vary according to the individual. As ability with each technique progresses, application to familiar literature could be a useful step, such as applying fluttertongue to known études or solo pieces. Finally, negotiation of literature requiring each technique will determine practice and performance concerns of each piece.

Interpretation of composers’ desires through their notation will be a focus of my performance suggestions for each of the five works chosen for study. Where certain ambiguities exist, I will offer more than one possible interpretation rather than dictate an absolute solution. Certain problems will be addressed for each technique. For example, in the case of the fluttertongue, some sources suggest that the ability to produce a true flutter—the rolled ‘r’—lies in our genetic makeup: “It has been pointed out that the ability of wind players to flutter-tongue is more hereditary than acquired, owing to the physical incapacity of some performers to trill
with the tongue.” Since this clearly does not fall within an individual’s ability to control, producing the alternative version may be necessary. In this case, references to such analogies as an unvoiced gurgle, cat’s purr, or the guttural French ‘r’ may help in producing the uvular flutter. Even if the true flutter can be produced, a significant problem is posed by the fact that a double reed is involved in the sound production. The reed obviously reduces the space available in the oral cavity for the tongue to flutter, but adjustments in tongue placement and observations on the volume and speed of air required may assist its use. Potential limitations in terms of the instrument’s range will also be examined.

Regarding problems with singing while playing, a relevant issue involves one’s vocal range. Certainly differing for each individual, this can pose problems of octave transposition and/or use of male falsetto if necessary. Here, a composer’s indications need to be explicit, and must encompass more than a single vocal range. Even if a piece were intended for a single performer’s capabilities, alternative options can provide the possibility of more performances by other players. Dempster describes this very point: “Perhaps it would be best to compose ‘ossia’ parts so that performers of either sex could use double stops the way the composer intended.” Ouzounoff goes one step further in his recommendation that each performer’s abilities be considered: “One must nevertheless take into consideration the vocal possibilities of each instrumentalist, with whom a

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* See note 2 above.


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close collaboration is necessary (my translation).” However, where a composer does not indicate more than one option for vocal parts, the piece’s integrity may be affected. Specific intervals within certain octaves might be desired by the composer, and octave transpositions might not be what was intended. Ultimately, the composer’s wishes as demonstrated through notation must be clearly and aptly interpreted by the performer to serve the purpose of the music.

As a performer and advocate of contemporary bassoon works, I feel that a reference work for fluttertongue and singing while playing can serve as a bridge to a significant amount of repertoire. A clear and approachable method for the production of these techniques would encourage performers to program more contemporary music and offer composers the opportunity to have relevant pieces performed rather than avoided.

7 Il faut tenir compte néanmoins des possibilités vocales de chaque instrumentiste avec lequel une collaboration étroite est nécessaire. Ouizounoff, 98.
CHAPTER 2: FLUTTERTONGUE
Definitions and Descriptions

Many distinctions exist in describing the nature of fluttershocketing in a musical context. As a point of departure, I will refer to general definitions before turning to sources more specific to wind playing. In the New Grove Dictionary of Music and Musicians, the term is defined as "A type of tonguing demanded by some 20th-century composers in which the instrumentalist rolls the letter 'r' on the tip of his tongue while playing. The technique is particularly effective on the flute, but it is also applied to various other wind instruments." Moving to The Language of Twentieth Century Music: A Dictionary of Terms, we find that the technique is credited to use before the twentieth century: "A type of articulation used on wind instruments (particularly flute, piccolo, and brass) in which the player rolls his tongue, as though saying 'drrr'. The result is a kind of dry and rapid tremolo on a single pitch. Richard Strauss was among the first to employ the technique in Don Quixote (1898) [sic]."

Regarding sources more specific to wind playing, Howell begins his description of the technique with a succinct analogy: "This is the wind equivalent of tremolo on strings; in the case of flute its sound is often indistinguishable from string tremolo in orchestration." Penazzi asserts some details specific to the bassoonist's use of fluttershocketg:

It is difficult to achieve on the bassoon, [sic] a good flutertongue effect of the type common to the flute and brasses because the bassoonist must perform two actions simultaneously: he must exert pressure on the reed with his lips in order to maintain the pitch and at the same time flutter his tongue against the opening. The result is that some sounds, especially in the upper register, cannot be flutertoned since in order to play them at all the lip pressure must be considerable. This is true for all instruments played by inserting a reed or mouthpiece directly between the lips. This technique requires a considerable amount of breath, and can therefore only be used on notes or phrases that are not too long.11

Penazzi offers a recommended range for the use of flutertongue, encompassing $B^b_1$ through C4.12 In terms of employment of the literal technique of flutertonguing (actually rolling or flustering the tip of the tongue), it may be true that notes above C4 cannot be flutertoned. However, repertoire exists that calls for the technique to be used on higher pitches, and many sources describe the technique as having more than one manner of production.

When describing alternative types of flutertongue, most sources tend to be instrument-specific, including those for flute, clarinet, trombone and bassoon. A more general reference is Anthony Baines’ Woodwind Instruments and their History, which offers the following brief description of two techniques: “Flutter-tonguing, sometimes demanded from flute and clarinet, is generally done by trilling the tip of the tongue (as Italian R), but it can also be done by making the uvula vibrate (as French R; like a motor-bicycle starting up).”13 This definition offers a new viewpoint on effecting

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12 Throughout this work, I use a system of reference for the range of the bassoon. Thus, $B^b_1$ is the lowest normal chromatic pitch available on the instrument, with successively higher octaves correspondingly numbered.
the result of the technique rather than specifying a single, literal method of production. I feel that this is less a question of musical ethics than one of honoring a composer’s intentions. Similar to differences in effecting double- or triple-tonguing, variations in producing the sound desired by the indication of “fluttertongue” seem a necessary variable to be considered by the performer. Ouzounoff amplifies my own sentiments in his description of the technique: “The fluttertongue is produced by the throat or by the tongue. It is feasible throughout the complete range of the instrument (my translation).”

Stuart Dempster refers to at least three versions of fluttertongue production, one of which is more common to brass instruments than woodwinds: “. . . most people know the principles of how they themselves perform the fluttertongue. Some say they use a tongue movement (and specify front or back), others say they use a throat action, and still others say they use the voice.”

Though a text geared toward clarinetists, Phillip Rehfeldt’s New Directions for Clarinet not only describes two manners of producing this technique, but also includes all woodwinds in its performance capability:

Introduced by Strauss in Don Quixote (1897), flutter tonguing is applicable to all members of the woodwind family of instruments. For the clarinet, it is produced either by rolling the tongue on the upper palate, as if pronouncing d-r-r-r, or, since many clarinetists experience difficulties with the mouthpiece obstructing such movement, by an uvular undulation in the throat facilitated by raising the back of the tongue slightly in the mouth. The result of the latter is nearly identical to the rolling-tongue method, but the pronunciation is more like g-r-r-r.”

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14 Le flatterzunge est produit par la gorge ou par la langue. Il est réalisable sur l’étendue complète de l’instrument. Ouzounoff, 7.
15 Dempster, 39.
16 Phillip Rehfeldt, New Directions for Clarinet (Berkeley: University of California Press, 1994), 63-64.
The obstruction described by Rehfeldt is similar to that produced by a bassoon reed in the oral cavity.

Three final sources refer to two types of fluttertongue production. Thomas E. Rainey, Jr. illustrates ranges for "gutteral" [sic] and "rolling" fluttertongue in *The Flute Manual*. Joan Templar Smith's article describes manners of production for each type of fluttertongue:

In general there are two ways in which this effect is being produced by flutists today. One of these ways has been described by Cecil Forsyth as follows: "The player . . . rolls his tongue thus 'd-r-r-r' without touching his lips" (Cecil Forsyth, *Orchestration* [London: MacMillan and Co., Ltd., 1935], 193). This method of throwing the tip of the tongue into vibration can also be attained through imitating the tongue movement required in pronouncing an initial Spanish "r" or a Spanish double "rr". A second way in which the flutter-tongue effect is being produced today is through the use of gargling-like movements in the throat.

Nancy Toff also defines two types of fluttertongue production: "... the Spanish or dental 'r', produced by rolling the tip of the tongue on the hard palate . . . [and] the French 'r' is made by vibration of the uvula against the back of the tongue. . . ." In linguistic terms, the roll created by fluttering the tongue represents one of four main types of constriction made by the articulators in producing consonants. Producing intermittent closure, the roll or trill is defined further: "One articulator taps rapidly against another-- typically the tongue tip against the alveolar ridge or the tongue back against the uvula, in the different kinds of trilled r, heard for example in many English, French, and German accents."

I feel that the ability of a bassoonist to produce both types of fluttertongue can be very useful depending on the context of the effect. Relevant issues in considering the two types of fluttertongue include the availability of space in the oral cavity, tongue placement, air speed, volume of air needed for reed vibration while fluttering, and associated effects upon range and/or pitch level. These issues will be examined in the following section and through various exercises.

Approach and Practice Suggestions

In considering both types of fluttertongue, I have devised a step-by-step approach for the bassoonist. The process begins from a neutral point involving neither the bassoon reed nor the instrument. The performer flutters the tongue or uvula with the lips positioned as if pronouncing ‘oo’. Some analogies which may help produce the front fluttertongue include the Italian ‘r’, Spanish ‘rr’, and ‘drrr’; the back flutter may be helped by the French ‘r’, an unvoiced gargle, or German ‘r’; ‘grrrr’ and the sound of a cat’s purr may help either method. Experimentation with different flutter intensities is useful at this stage in order to become accustomed to variations in length, placement and tension of the tongue as well as requirements of air and space in the oral cavity. The next step repeats the first but incorporates normal breathing and support habits familiar to the player. This provides additional foundation and eliminates any unwanted variables at this stage of learning the new technique.

Practice with the bassoon reed alone follows. At first, the initial two steps are repeated with the reed merely inserted into the embouchure. Vibration of the reed does not yet take place. Focus on normal breathing.
and support remain key at this point, as air will exit through the reed even though it is not vibrating. The next step is to introduce vibration of the reed; this represents the primary challenge in applying the technique to the instrument. Adjustments to sensations discovered in this step will be necessary. The player may consider using a more focused air stream, faster air speed, and/or more embouchure pressure than in normal playing. Again, the process will be easier if the player maintains familiar support and breathing habits.

Once the flutter is combined with reed vibration, simple exercises can strengthen the sensation even before adding the instrument. Practicing long tones at various dynamic levels, we can follow two sequences on a single pitch:

1) begin with air only— add reed vibration— then add flutter— remove flutter— then remove reed vibration— end with air only and similarly,

2) begin with air only— add flutter— then add reed vibration— remove reed vibration— then remove flutter— end with air only

Maintaining a steady pitch level while continuing to support in a familiar manner is essential. The addition of the bocal follows, with the player adjusting to changes in air stream and resistance. More resonance and freer vibration will be noticed at this point. Since the reed and bocal combination results in a fairly fixed pitch, maintenance of a single pitch may be practiced as described above for the reed alone.

Practice continues in this manner, with further adjustments and observations noted as the tenor, boot, bass and bell joints are added. The
player will notice that resonance and the characteristic bassoon sound develop much more after adding the boot joint. Various vowel sounds and corresponding shapes in the oral cavity may be used to demonstrate preferences with either type of fluttetongue. Moving the tongue back slightly to the hard palate may help produce the front flutter. Changes in resistance and resonance as well as requirements of air and support will be discovered during this process. When the performer is playing on the fully-assembled bassoon (F2 or open F), maintenance of this single pitch can serve as a goal of the process as well as a foundation from which to explore the remainder of the instrument's range.

I find that using the literal (front) fluttetongue becomes extremely difficult into the third octave. Maintenance of accurate pitch in this range requires more embouchure pressure with the literal roll. The tendency is for this method to result in flatter pitch in the higher range. Keeping the tongue in the center of the hard palate and an 'ee' vowel shape may help these pitch issues. The action of rolling the tip of the tongue also demands a faster airstream of greater volume than normal playing.

As tendencies and limitations are discovered, the player can practice specific, single pitches to further experiment. Considerations such as resistance, support, airstream, sound, attack, release, and dynamic levels become issues to be dealt with, as may variables in reed requirements. Moving from normal playing to fluttetongue and back again can be developed during long-tone practice. The exercises mentioned above for reed alone can be applied here.
Continued discovery in applying fluttetongue can be demonstrated through use of the technique on more familiar material. This can include scales and arpeggios, études, and solo pieces already known by the player. Since such repertoire is already familiar, the focus can remain on using the effect in a more musical context than the previous isolated exercises. The player will continue to notice differences in many areas as compared to traditional playing. I recommend the introduction of either the literal or uvular method singly, later repeating the process using the second type of fluttetongue.

Application to Literature: Observations and Suggestions

Miklós Maros (b. 1943), *Air pour basson* (1973)

Hungarian-born Swedish composer Maros demands the use of fluttetongue in just two instances in this piece. The first involves eleven articulated notes within the range of B1 to E2. The effect is marked fortissimo with accents on the first two notes. Notation for the effect is clear, both marked "flatter tongue" and indicated with three slashes above each note head or through each note stem. One breath indication is provided, and from the third through eleventh notes a rhythmic acceleration is notated. This case is preceded by a sustained forte D4 and leads to groups of articulated pitches ranging from F2 to D♯3. Moving the embouchure slightly toward the tip of the reed and switching to an ‘oo’ vowel can help the transition from D4 to the fluttered B1.

The second example in the piece occurs at the top of page two and involves four articulated notes including the pitches B1 and C♯1
exclusively. This second instance, again marked fortissimo, may require a slight pause before its initiation due to the playing which immediately precedes it: the indication is to “blow into a trumpet mouthpiece or something similar; play in the low register!” Though a breath mark follows this notation and precedes the second instance of fluttertonguing, the composer does not indicate whether playing with the trumpet mouthpiece is to occur on the bassoon itself, thus necessitating a substitution of mouthpiece for reed, or separate from the instrument. Either way, it is assumed that replacing the reed or placing the mouthpiece down before starting the fluttertongued B1 will take a few seconds’ time. This example leads directly to a sustained piano A3 in conjunction with a sung piano D3, offset by a breath indication.

Patrice Mestral (b. 1945), Bloc V pour basson solo (1982)

The first four instances of fluttertongue in this work are very clear. All occur on the pitch C1 and the composer indicates that the notes are fluttered by “Flatt.”, a wavering sustained line, and a “Z” above the notehead and/or stem. A subsequent example occurs in line four on the pitch C#2. Though no “Z” is present, I also interpret this note as fluttered due to its relative length and indication with a wavering sustain line. At the end of line four, another fluttered note is clear, yet its clef seems ill-defined; it appears at the end of a line notated entirely in tenor clef, though this would sound G1 rather than C1 as prefigured by the first four examples in the piece. In terms of its proximity to these instances of fluttered C1, I

also interpret this note as C1, thus in bass clef. The flutters on C1 may be
more easily produced with an 'oo' vowel sound.

The final line of page one is primarily text indications by the
composer which demand of the performer a long improvisation (the
entire length of the breath) with alternation of fluttetongue, voice, and
roulé sounds.\footnote{Roulé or rolled sounds occur on single pitches and may be produced in two ways: specific
fingerings alone or specific fingerings with various adjustments in the throat, larynx, and
embouchure pressure.} Obviously, this instance of fluttetongue represents a
highly variable context demonstrating an infinite possibility of
interpretation.

Subsequent examples of fluttetongue in the work occur on page
three, lines five and six. Here, the performer is required to sing and flutter
while playing a tremolo between C2 and E2. This follows a sequence of
articulated, repeated multiphonics and brief vocal shouts of "Ah ta",
resuming the multiphonic articulations immediately after the instance of
sing/flutter/tremolo. I recommend practicing each pair of effects (sing and
flutter, flutter and tremolo, sing and tremolo) before practicing the three
together. Focusing on an 'ee' vowel for the sung notes may help. In line
six, the combination of singing and tremolo returns, though the indication
of "Flatt." is omitted. It may be an editorial error or intentional reduction
of effects as this section of the piece is sonically relaxing in preparation for
the following section.

A single instance of fluttetongue is found on page four, line four. It
occurs on a sustained C3 and is clearly indicated by both "Flatt." and a "Z"
under the notehead, as seen near the opening of the piece. What is less
clear is the context and indications written just below the staff where the fluttered C3 appears. The composer has indications for roulé sounds from the beginning of this line, with indications for keys to be added or removed to produced the desired roulé effects. An occurrence of a roulé B2 immediately precedes the fluttered C3, and an indication of “+ Do♯2” appears just before and simultaneous with the flutter. I see this key indication as belonging exclusively to the roulé B2 and not the fluttered C3, as addition of “Do♯2” would change the fluttered pitch to C♯3.

The final three instances of fluttertongue in the work appear on page five, lines five and six. Here, Mestral is again very clear in indicating that the fluttertongue take place by writing “Flatt.”, “Z” and returning to the wavering sustain line. A notable variable here is pitch, as Mestral indicates “son le + aigu”, which will vary from player to player. The highest possible pitch that can be fluttered may be qualified by the use of teeth on the reed and/or an ‘ee’ vowel. The context of these final three fluttertongued notes includes a sustained D4 with slowly controlled vibrato as well as a sequence of improvised notes following a schematic representation on the staff. The flutters sound as isolates in this context.

Scott R. Meister (b. 1950), Fantasmi for solo bassoon (1987)

Eight instances of fluttertongue occur in this work, which is divided into five movements. In the first movement, “Incantagioni”, the initial example follows a sequence of sustained pitches and a crescendo from piano to forte; a group of four grace notes connects the sustained pattern to
a fluttertongued G2, which is indicated both by “fltg.” and a wavering line over the pictorial duration of the note. The second instance occurs again at forte but encompasses a repeating pattern of notes in the range of F#2-E3. The final instance in this movement is similar to the first in range and context: Gb2 at forte following a group of four grace notes. Here, however the fluttered note leads directly to a specified multiphonic before a breath is indicated.

In the second movement, “Vibrazioni”, three notes are fluttered and are also similar in their context and presentation. The fluttered pitches of F1 (line one), A3 (line three) and B3 (lines three to four) are all articulated, marked by accents, and define syncopated rhythms. Their duration is relatively similar (2.5, 3.75, and 2.25 beats respectively) and each is followed by silence noted in different ways: an eighth rest, a general pause, and a breath mark. Notable in the effect of the fluttered notes in this movement is the use of aluminum foil over the bassoon bell, adding to the percussive nature of fluttering as well as lending to the movement’s title.

No fluttertongue is called for in the third or fifth movements, though two final instances may be seen in the fourth movement, “Frenesia”. The first occurs on a Db3 half note tied from an unfluttered eighth note at the same pitch level, fortепиано growing to fortississimo. The final example demands the most continuous flutter in the entire piece. Beginning at the bottom of page four and continuing across most of the next line, this sequence encompasses a descending scheme in the range
of B4-A\textsuperscript{b}1. Begun at quarter note= 80, a slow acceleration is notated throughout, culminating in a sforzando-piano growing to a fortississimo on C2. During this final crescendo, the player is instructed to insert a second (extra) reed into the embouchure. I interpret this indication and its appearance in the score to mean that vibration of the second reed begins during the sustained, fluttered C2— lending visual and sonic support to the title of the movement.

Christfried Schmidt (b. 1932), \textit{Solo für Fagott} (1982)

Nineteen examples of fluttertongue may be found in this piece, which is divided into five sections (A-E) of differing tempo indications. I find it interesting in the case of this piece that each example is defined by a single fluttered note— no melismatic flutters are present.

In section A, marked quarter note = ca. 132, the first three flutters are similar in duration and dynamic context. A B\textsuperscript{b}3 at forte for one quarter note, F\textsuperscript{#}3 at fortissimo for a dotted eighth, and C\textsuperscript{#}1 again at fortissimo for a quarter note are each clearly notated with three slashes through the note stem. The context of each example poses slightly different performance challenges. The first represents an isolated forte quarter note which follows a rhythmic and dynamic diminution, leading to an isolated B1 at piano. The second and third examples demonstrate more progression in their placement within events. Each occurs within a loud context and leads directly into multiphonics of varying duration. The final example of this section represents a different type of challenge in its range. Occurring at fortissimo, a half note E4 is fluttered with its context involving a
glissando from C\#4 to E4, which is sustained for a quarter note before changing to the flutter. In this case, I recommend using the uvular roll due to the extreme range of the demanded flutter. It is perhaps a small consolation that the E4 is sustained briefly before the flutter is added, but this does allow for a more secure initiation of the effect. The following section (B) contains no instances of fluttentongue.

Moving to section C, which has an identical tempo marking as the first section, we encounter nine fluttered pitches— the most in any section of the piece. Each is indicated at the high dynamic levels of forte or fortissimo, with one also specifying sforzando, an effect which may or may not be clear in context. Large register leaps tend to offset fluttered notes in this section, though the isolated manner in which Schmidt presents them makes this an issue of little concern. In line three of the section, two successive pitches are fluttered— the only instance in the entire work— though they are still separately articulated. The range of the nine fluttered pitches is fairly low in this section. All but one occur within B^b1-A^b2, the exception being B^b4.

In section D, marked with the piece’s slowest tempo of quarter = ca. 40, a single fluttered note is to be found. Occurring at B3, this instance is notable in its dynamic indication of mezzopiano. If the performer had been using a tongue roll for many of the previous examples, this might be a case to consider a uvular roll. The dynamic context is the primary reason for my recommendation here.
Four final examples may be seen in section E, marked quarter = ca. 100. Encompassing a range of D1-G♯3, these instances are again notated at high dynamic levels with one exception and one qualification. The first is marked sforzando-piano growing to forte. Here, Schmidt does not notate fluttertongue in his previous manner, rather choosing to specify frullato. I also see this as an instance of fluttertongue, though a roulé sound is also possible. However, as the piece was composed specifically for the Heckel system bassoon and not the Buffet system basson, it seems unlikely that a roulé sound was intended. A sforzando is specified in the second example of this section, and again I question whether this might be perceived in its context of rhythmic acceleration and dynamic growth.

Patrick Kavanaugh, *Debussy Variations No. 7* (1977)

In examining the use of fluttertongue in this work, I will treat each of the fifteen examples individually. Due to the visual and notational complexity of the score, I hope that this may be a clearer manner of describing how the composer uses this technique. Jon Beebe aptly describes Kavanaugh's style of notation: “three strata; one of playing the bassoon, one of humming or singing, and one of key-slap percussion effects are combined and contrasted in an often very complex polyphony.”24 The piece is composed of eleven systems of strata, each visually separated by boldface horizontal lines. In more traditional notation, each system of three strata might be considered as a single staff.

The first example of system one begins immediately at the opening of the piece. This fluttetongue occurs on a fingered C2, though the composer specifies "WSO" or wind sound only--thus, merely the percussive effect of the fluttetongue is heard. The flutter begins in the instrument and the player is instructed to continue, moving out of the instrument while humming begins. At the same time, key percussion occurs. As this percussion ends, the humming continues and the flutter returns to 'in' the bassoon, though still as wind sound only. The second example follows a breath indication and is again defined as wind sound only. The initiation of this flutter appears to be simultaneous with a new articulation of humming. During this flutter, the performer moves out of the bassoon, continuing both flutter and hum while introducing key percussion. This leads directly into a fingered tremolo of a perfect fourth (C2-F2), during which the next flutter begins in conjunction with humming, key percussion, and moving out of the bassoon. This third flutter continues through a brief sequence of key percussion, which end simultaneously. The last example of this system begins while moving into the bassoon. Here, humming continues from the previous example, key percussion returns and follows into the next system.

A single flutter occurs in the second system. Here, key percussion continues and the flutter begins during a sequence of eight "WSO" notes ranging from C2-F2, leading directly to an instance of humming. The first case of a flutter on a played note (as opposed to "WSO") can be seen in the third system. Here, a combination of effects again occurs: a sustained C2 is colored with pedal trills (timbre trills, here produced by trilling the B^1 and
B1 keys), and by adding the flutter. Also indicated by Kavanaugh is an effect he refers to as “thump tone”, which is described in the performance directions by the composer: “within the bracketed areas, reduce lip pressure to create a repeated ‘thumping’ or ‘popping’ sound on the indicated pitches, whether they exact 12-tone pitches or graphic lines, involving a combination with glissando.” 25 What the composer requests here is not entirely clear.

Two further instances of fluttetongue may be seen in this system. The next occurs during a sequence of key percussion and is marked “WSO”; the initiation of a played C1 appears to be included in this flutter, though the pitch continues once the flutter ends. An ascending glissando from this C1 arrives at C4 (next system, following page) and involves “thump tone” again as well as a brief instance of fluttetongue. Specific pitches are not indicated, though a range of C2-G3 seems approximate.

Systems four and five each contain one example of the technique. Toward the end of system four, a flutter out of the bassoon moves in while key percussion progresses. When the key action stops, the flutter continues and involves the pitches of C2 and C1, which sustains after the flutter ends. In system five, the performer completes a playing sequence, holds the fingering of C2 while humming first in then out of the bassoon. Here, a flutter is added and the player moves back in to the instrument; a fluttered trill from C2-D♭2 and humming occur simultaneously for a brief time before the humming ends and the fluttered trill continues. There are

no examples of flottetongue in systems six, seven or eight, and only one instance may be seen in system nine. Here, a multiphonic sounds, $A^b_3$ is isolated from it and sustained as a single pitch. The flutter is then applied before humming is added and the $A^b_3$ ascends to C4.

System ten features two flutters. The first begins during a sequence of key percussion and modifies an action of blowing into the bassoon ("WSO") while moving out of the instrument. Midway through the indicated flutter, humming also begins into the bassoon and continues out of it. In the same phrase, a second flutter begins out of the bassoon and continues in while a second layer of key percussion is added and the humming continues. This second flutter follows into normal playing (range of $B^b_1$-$C_2$), while all previous key percussion and humming ends.

The final two instances of flottetongue occur in system eleven. The first modifies a sustained $A_3$ which is raised by a quarter tone. During this flutter, an indication of "WSO" is notated. I interpret this to mean that the pitch is first sustained, then fluttered, then stopped (only the flutter sounds), then the pitch returns and the flutter stops. It seems misleading in its notation of a sustained pitch marking during the course of the fluttered "WSO", as the pitch itself does not sustain—merely the fingering does. A final flutter is marked during a sustained $C_3$ at the end of the piece, here coupled with a hum low in the performer’s vocal range.
CHAPTER 3: SINGING WHILE PLAYING

Definitions and Descriptions

Singing while playing the bassoon combines normal playing with activation of the vocal chords to produce two sounds. The technique may be expressed in notation as specific pitches (determinate) or in a more variable, graphic manner (indeterminate). One concern is immediately evident, as the mouth and oral cavity are engaged in specific tasks to produce “normal” sounds on the instrument. Adding vibration of the vocal chords results in a hummed sound as the mouth is essentially closed to play normally.

In considering various sources which describe the technique, references tend to be instrument-specific. In the case of a more general source, Gardner Read describes singing while playing in terms of its literal definition as a type of multiphonic sound production:

The concept of multiphonics also includes sung and hummed pitches superimposed on blown tones. That is, the wind player is asked to sing or hum either the same pitch he is blowing or a different note, thus creating a simple two-voiced polyphony with two distinct timbres. The brass instruments as well as the woodwinds are capable of utilizing this technique; indeed, multiphonics for the brasses are limited to this type of multiple-tone production and thus to two-note structures only.1

A second relevant consideration with this technique involves notation. Howard Risatti recommends the vocal notation to be in the form of an ‘x’: “Instrument plays regular note, and voice sings approximate note shown by the ‘x’.”2 David Cope offers another method, specifying, “vocal part

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1 Read, 151 (see note 2 above).
always a square note." This version is perhaps easier to read as well as
more accurate in its rhythmic representation. Kurt Stone presents two
further possibilities: "To indicate hummed pitches, small notes should be
used, along with the verbal direction hum. (The instrumental notes
remain full-sized.) If specific octave positions for the hummed pitches are
desired, and if such pitches are very far from the instrumental ones, an
extra cue-sized staff should be added." Nancy Toff offers four notational
variants: sung pitches indicated in normal notation with an "S" next to
the note, an "x" for the sung pitch, a square notehead for the sung pitch,
and a sung pitch in which the notehead includes an internal dot.

Moving to sources which are more instrument-specific, we find
descriptions for clarinet, flute, trombone and bassoon. In Phillip Rehfeldt's
New Directions for Clarinet, the author describes effecting specific vocal
pitches: "Although producing precise pitches . . . generally requires
considerable practice, the technique required for this effect is not difficult as
long as the throat muscles are relaxed." In sources aimed toward flutists,
Thomas Howell credits the existence of this effect and describes its use for
the flutist:

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29 Kurt Stone, Music Notation in the Twentieth Century: A Practical Guidebook (New
York: W. W. Norton and Company, 1980), 188.
30 Toff, 234.
31 Rehfeldt, 68.
This technique was introduced by popular and jazz musicians such as Herbie Mann. Though simultaneous singing and playing produces combinatorial tones that are distinctly heard, the effect is not nearly as striking as in such instruments as trombone, in which the vocal, embouchure and resultant sounds cannot be distinguished by the listener. With flute the voice remains a distinct quality, partly because the embouchure formation is external to the instrument and partly because of the flute's relative lack of overtones.32

Stokes and Condon echo the credit described by Howell: "The technique of singing and playing is relatively new, but is now used in both contemporary jazz (e.g., Roland Kirk, Ian Anderson) and advanced contemporary music. The sung and played lines can move together or independently, and should be written as such."33 Nancy Toff also credits jazz players for the introduction of singing while playing the flute: "More commonly, the player may be required to sing and play simultaneously. This technique was introduced by jazz flutist Herbie Mann and is quite common in jazz and popular music. It is extremely difficult to perform. . . ."34 A final example for the flutist's use of this technique is that of Thomas E. Rainey, Jr.:

Although used a lot in jazz, contemporary composers have begun to use the special effect of singing into the flute with relative success. Basically, this technique involves the singing and playing of notes simultaneously. With practice, it is possible to sing a line completely independent of the notated music. This singing is basically a hum produced by keeping the vocal chords tight enough so that they vibrate as air passes them on its way to the flute.15

Rainey's example demonstrates the technique in notation of sung parts with "x" noteheads, as seen previously.

32 Howell, 30.
34 Toff, 217.
35 Rainey, Jr., 180.
Arthur Weisberg, well-known as a performing bassoonist, offers a rather general description of the technique: “There is also a new technique which involves humming a particular note while playing either the same note or another. This will produce either the two notes, or a gurgling noise, or even three different notes. A very interesting technique is to hum, using a glissando, which causes a changing series of effects.”

Weisberg’s observations may prove to be a useful basic guide for one’s initial trials with the technique. A source specifically describing the technique as it applies to the bassoon is that of Stanley Petrulis: “Using this technique, combination tones can be produced which form chords of several tones. However, this is a technique that has not been explored to any extent because it is very difficult to control and is rather hard on the throat.” Though probably accurate at the time, the assertion that the technique hadn’t been explored was to be disproven less than a decade later by Alexandre Ouzounoff.

Ouzounoff provides a more useful and comprehensive description of this technique as it applies to the bassoon than any other source located by this author. His “advice for bassoonists” will be referenced in the following section of this work. The text in this section of Ouzounoff’s work is brief yet thorough, commenting on such concerns as manner of production, notation and vocal practice:

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The use of the voice in instrumental playing requires some practice of the proper voice in which to sing. To allow the sound of the voice to pass, it suffices to open the upper lip slightly and to carefully apportion the output of air between the bassoon and the voice. A notation on two staves (voice notated in bass clef on the upper staff) is preferable because it allows clear and distinct reading of the two parts (my translation).

Ouzounoff continues, advising composers to avoid writing in which the bassoon part is extremely high and the vocal part is extremely low. Writing in which both parts are very high is also discouraged, though it is “possible nonetheless (my translation)”.

Approach and Practice Suggestions

Before embarking on a step-by-step approach to the practice of singing while playing, an issue of importance is worth discussing: vocal range. Naturally varying from one performer to the next, the vocal range of an individual may determine whether or not a composer’s intentions for the technique are met. A performer who is unable to sing requested pitches (whether too high or too low for their vocal range) may assume that an octave displacement is a fair interpretation. The composer may disagree with this default action of the performer. It is my opinion that the responsibility lies first with the composer, then with the performer, to clearly represent and produce the desired result. Several sources examined earlier also refer to this as an issue worth consideration. Gardner Read addresses the point:

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Ouzounoff, 98.  
Ibid.

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There is one further problem for the notater of multiphonics that include hummed or sung pitches, albeit a minor one: to be realistic, two vocal pitches ought to be indicated, one for a high (or female) voice and another at the lower octave for a low (male) voice. This is no token gesture to Women's Liberation but is a matter of compositional accuracy; the register relationship of the vocal to the blown tones will naturally vary according to the gender of the performer.40

I feel that consideration should be given to the capabilities of individual vocal ranges rather than a performer's gender. Stuart Dempster offers a few solutions for the trombonist:

Women will discover that many works have parts written too low for their voices, and the woman player must try octave displacement or other compromises in order to perform some of them. For instance, I occasionally find a piece that is out of my vocal range as well, but I have discovered that reversing the parts (the voice below the lip) will generally solve the problem.41

Kurt Stone is still more forgiving in his choice of descriptive words: "the octave position for hummed tones should be left to the performer, since vocal ranges vary greatly."42 Stokes and Condon support these views: "The range of notes sung is limited only by the vocal range of the performer, and includes the falsetto."43 In recommending a vocal range effective with characteristics of the flute, Thomas Howell raises another point: "it is wise to keep the vocal range in the area common to female altos and sopranos (c₁ to d₂, roughly), unless the composition is intended for a specific performer exclusively."44 Howell’s qualification is notable in that while a specific performer’s abilities may be showcased, much of the

40 Read, 152 (see note 2 above).
41 Dempster, 7.
42 Stone, 188.
43 Stokes and Condon, 8.
44 Howell, 30.
driving force behind my project is the idea of making this type of composition accessible to many performers.

As described above in the section on fluttetongue, I recommend a step-by-step approach to the application of singing while playing. Here again, the production of this technique begins from a neutral point requiring neither the bassoon reed nor the instrument. The performer first sings in a comfortable range and in a normal manner. Singing the syllable ‘oo’ and consciously forcing a larger airstream out of the mouth is the next step. The addition of the bassoon reed logically follows, though without vibration; merely singing (humming) with the reed perched between the lips is sufficient. Now, focusing on a larger exiting airstream may be added.

The next step represents the essential challenge with the technique of singing while playing the bassoon: adding vibration of the reed. At this point, the performer can facilitate this new sensation by relying on the intensity and support of the airstream rather than the fact that two sounds are now being produced. Once the performer realizes the ability to produce both a sung and played pitch on the reed, simple exercises can strengthen the technique before adding the instrument. We may again practice long tones of different dynamic levels, following two sequences:

1) begin with air only— add sung note— then add reed vibration— remove reed vibration— then remove sung note— end with air only and similarly,

2) begin with air only— add reed vibration— then add sung note— remove sung note— then remove reed vibration— end with air only
Sustaining a pair of tones with consistent pitch while retaining familiar support is essential to development of this technique. The addition of the bocal follows, with the performer adjusting to new demands of resistance and/or airstream as necessary. Here, it may be helpful to begin considering issues of balance, as the voice will tend to be softer than the sound of the instrument itself. Practice continues with the performer noting further adjustments as the tenor, boot, bass and bell joints are added. Again, changes in resistance, resonance, and airstream requirements will be experienced, as well as further concerns of balance. It is important for each performer to be familiar with their own comfortable vocal range during the course of these exercises.

At this point, practice throughout a player's vocal range can be explored while sustaining F2 on the instrument. Demands of the effect can be demonstrated by repeating this last step with much higher and lower played pitches. I recommend exercises similar to those found in Ouzounoff's concise description of the technique for the next level of challenge: singing specific pitches while playing other specific pitches.45

In considering application to literature, I recommend practicing the vocal parts separately, then following the approach steps above. This work process can apply to both specific and aleatoric vocal lines since the physical considerations of the effect will continue to develop. This method results in the same type of physical memory that assists monophonic playing of the bassoon.

45 See note 3 above.
Application to Literature: Observations and Suggestions

Miklós Maros (b. 1943), *Air pour basson* (1973)

Singing while playing is called for in four places in this work. In system seven, the first instance is found following ascending glissandi from D3 to *circa* F3. This is convenient in that the first sung and played pitch is a unison D3. Here, the voice remains fixed on D3 while the bassoon ascends from the unison to *circa* A3. The vocal part is marked mezzoforte while the played part is slightly lower in dynamic at mezzopiano. This is a sensible notation as the voice tends to have some difficulty in projecting through the instrument. Following a breath indication, the voice and bassoon together articulate the perfect fifth of D3/A3 at the same dynamic levels as before. Here, the played A3 remains constant while the voice descends in glissando to *circa* G1.

The second and third examples may be found in systems ten and eleven. Example two follows four fluttertongued notes in the lowest range of the instrument and refers to the perfect fifth described above: voice at D3, bassoon at A3. Here, the dynamic level is piano in both parts, and the bassoon line descends in glissando to F#3. Following a brief multiphonic, the third example also refers to previous material, this time of the sung and played unison D3. In this instance, both parts are notated at piano and expand outward through glissandi to the octave F2/F3. The final example of the technique in this piece is found in system fourteen, where the five-note motive of the opening returns. It is now doubled at the lower octave by the voice. This vocal doubling repeats after the statement of the
doubled motive, this time alone. It is unclear whether this instance of voice alone should be projected through the instrument or freely; no dynamics are expressly indicated in this example. I find it interesting that all examples of the technique in this piece have the voice at or below the pitch level of the bassoon, and a separate staff for the voice is provided.

**Patrice Mestral (b. 1945), *Bloc V pour basson solo* (1982)**

The first example of Mestral’s use of singing while playing is presented in an aleatoric context. The final system of page one is made up of text directions by the composer which request that the performer improvise for the entire length of the breath. Inspired by the written designs in systems three and four, the player is to include fluttetongue, voice and roulé sounds in this improvisation. Though not expressly demanded, it is reasonable to consider that the use of the voice here may be coupled with playing at the same time.

More explicit examples of singing while playing are to be found later in the work. On page three, two nearly identical cases may be seen. Here, the voice sings B3 twice while the performer plays a tremolo between C2 and E2. Mestral also requests the use of fluttetongue here. Following two measures later, the second case omits the fluttetongue and requires one sung B3. These examples occur in a context full of unusual sounds: rapid, articulated multiphonics lead to vocal shouts of “Ah ta” just before these examples.

In a different mood, four further instances of the technique may be seen on page four. Here, the composer indicates much slower motion in tempo indication (*Très lent*), note values and time duration for the first
three systems. The technique begins in system three, where the vocal line follows the pitches D2-Db2-Bb2-E2-F2. Mestral avoids major intervals between the voice and bassoon, calling for the tritone, perfect fourth, unison, minor second and minor seventh. This context demands a high level of pitch awareness for the performer to produce such intervals. That the tempo is slow allows for quick pitch adjustments as needed in performance. Moving to system five, we can see that Mestral again favors similar intervals: minor ninth, octave, tritone and minor second. Here, the vocal line involves the two pitches of D^3 and G2. Systems six and seven each require a single use of the technique. Singing only an F2, the performer plays a minor second and tritone below, then a tritone below a sung G2.

The final example in the piece occurs at the end of page five. In the last system of the work, Mestral indicates four measures of continuous sixteenth notes without noteheads. Based on the composer's footnote at the outset of the piece where similar notation is seen, the performer is to "continue, approximately following the given scheme . . . (my translation)" This poses less of a question than Mestral's indication of "vocal" over the entire system. A horizontal arrow continues to the right over these four measures, though no pitch indications or "given schemes" appear for the vocal part. It is possible to interpret this as merely vocal, with the voice following the scheme of sixteenths. Also conceivable is that the voice simply sustains a pitch above the played sixteenths. A more

__continued en suivant, approximativement le dessin proposé . . . Mestral, 5.__

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challenging possibility is that both voice and bassoon follow the design of the notes given. The requests of the composer seem indefinite here, thus placing the responsibility on the performer to interpret and express the notation provided.

Scott R. Meister (b. 1950), Fantasmi for solo bassoon (1987)

A five-movement work, Fantasmi calls for singing while playing in the final three movements. Movement three, “Seduta spiritica”, includes four examples of the technique. Three of these are nearly identical and quite brief. Beginning in system four, an angular motive occurs twice. Here, a diminished twelfth (E1-B♭3) is specified for an eighth note of duration. Pitch location by the performer is challenging given that only one note is sung and that the preceding motive is very disjunct. System five demands a slightly different effect. A unison D♭3 is notated here with the added request of singing slightly out of tune, as indicated by a wavering line under the sung pitch. The final system of this movement returns to the angular motive described above, here with slightly different rhythmic notation.

Movement four, “Frenesia”, features a single example of the technique. In system four, a unison C2 occurs at pianissimo and Meister again specifies singing slightly out of tune with the played pitch. Many other vocal sounds are present in this movement, including a box of notation representing choices for improvisation. The final movement, “Vapori”, calls for three further uses of singing while playing. The first two are coupled with a multiphonic comprised of G2-A2-E3-F3, for which
Meister suggests a fingering. In the first example, a played pitch of A2 connects to this multiphonic, at which point the A2 is simultaneously sung for seven seconds. In the following system, a sung G2 connects to the same multiphonic and continues as a separate line through E3 and F3 for a total of nineteen seconds. This alone requires practice, but Meister also indicates several dynamic changes, placing further demands on the control of the airstream. A final example is seen just after this point, where a unison E2 (voice slightly out of tune) grows in dynamic toward a flourish of played notes which end the phrase. Meister is careful and explicit in his instructions for sung parts, noting that they may occur in any octave.

Christfried Schmidt (b. 1932), Solo für Fagott (1982)

Though many instances of vocalization appear in this piece, just four of these involve singing with concurrent playing. Three cases occur in section A, and Schmidt indicates that the notation of pitches with X-heads means "sung into the mouthpiece (my translation)". The first example is found in system four, where over a fortissimo sequence of played E♭1 pitches there is a sung motive of E♭-F-F-G♭-F-G♭-F-E♭, all in the second octave. A rhythmic palindrome is also superimposed. System nine of section A offers the next example, where a group of four eighth notes repeats in stringendo to a fortissimo B♭1. Schmidt again has the voice in motion (B♭-G♯2) over a stationary played A1. A crescendo toward the end of the six statements of this motive accompanies the acceleration.

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The final system of this section includes the only example of aleatoric singing while playing to be found in the work. A sustained B\textsuperscript{b}1 serves as the foundation for three nonspecific vocal lines. The first two lines basically descend and the final line ascends before descending, arriving on B\textsuperscript{b}2, here specified by an X-notehead. The played B\textsuperscript{b}1 continues beyond the sung line and leads to a brief pause between sections A and B.

The last system of section D represents the final example of the technique in this piece. Schmidt remains consistent in keeping one line unchanging and one line in motion, though here the vocal line appears below the played line and in a separate staff. A sustained F\textsuperscript{#}2 leads into the example, with this pitch continuing as a trill while the voice sings B2 below it. A played five-note motive follows, then the duet resumes for three note pairs: B2/F\textsuperscript{#}2, B2/C\textsuperscript{#}2, B2/F\textsuperscript{#}2. Beyond the challenge of keeping the sung B2 consistent, each of the four pairs of notes found here is articulated and separated by rests. This represents an opportunity for the performer to practice isolated pairs of brief notes for precision of pitch and articulation.

Patrick Kavanaugh, Debussy Variations No. 7 (1977)

The first example of singing while playing in this piece is found in system three, where normal playing begins. Up until this point, Kavanaugh specifies all bassoon sounds as key percussion or "WSO"—wind sound only. In system three, a played C1 rises within a two-octave
diagrammatic pitch reference between $B^b_1$ and $B^b_3$. Near the end of this graphic line, a similar vocal layer, occurring in the middle-to-high register of the performer, is superimposed. The voice continues during a brief break in playing, which resumes at a higher pitch level and descends concurrently with the vocal part.

A more brief example occurs in system four, which begins the next page. Here, the context is described almost entirely by C octaves in the bassoon part: C4, C1, C3, then C2. During a sustained C1, the voice enters on C3 and sustains while the played pitch moves to C2. The voice then follows a graphic descent while the bassoon moves to a sustained C1, during which the voice descends to a drop-off. Example three follows in the next system, where a long section of relatively normal playing ends on a flourish at C2. The voice then joins and takes over, moving out of the instrument, adding a flutertongue, and moving back in to the bassoon, where for a moment a sung descent accompanies a played trill of C2-$D^b_2$.

The next three systems of the piece do not include any singing while playing. As mentioned earlier, systems seven and eight include the longest sections of relatively traditional playing found in the work. The technique returns again in system nine (second from the top of the final page) where a rhythmic canon between bassoon and voice can be seen. Through four notes, the played part ascends from E1 to $B^b_2$ while the sung part descends from E3 to $C^#_3$. Later in this system a played $A^b_3$ is joined by a sung C3 and while both parts grow louder, the played line ascends to C4, notated as
a grace note to a sustained C1. Here again, the voice takes over from the bassoon and follows a graphic scheme similar to the one seen earlier in this system.

Two examples of singing while playing can be seen in the final system of the piece. The first is not only brief in duration, but also minimal in pitch content. Here, a played A3 (raised by a quarter tone) is joined by the voice an octave lower; the vocal part ends while the played part continues. The last statement of the piece shows the bassoon sustaining a C3, during which the voice enters and ascends gradually, then descends and sustains low in the vocal register. Here, the played C3 is embellished with a brief flutertongue before the line ascends quickly upward, ending with an accent as high as possible in the played register. The vocal line then descends quickly, ending with an accent as low as possible in the performer's range. A punctuation of key percussion marks this event and closes the work.
CHAPTER 4: CONCLUSION

Advanced playing techniques such as fluttertongue and singing while playing have been requested by composers for several decades. In fact, the use of fluttertongue in the context of Western art music has been documented since the end of the nineteenth century. In spite of this, comparatively little information is available concerning their production. For performers unversed in these techniques, many pieces may not be at their disposal. Without additional knowledge, this repertoire will not gain performances by these players.

Development of newer playing techniques benefits performers by adding to their abilities. Other techniques such as multiple-tonguing, expansion of dynamic range, circular breathing, and extremes of register must also be developed in a similar manner. All of these tools can allow players to present new repertoire, benefiting composers through exposure and performance. Working directly with composers on the use of newer playing techniques can be an additional goal and application for the performer. Audience members can also benefit by experiencing new works and sensations.

A performer’s responsibility extends beyond producing newer playing techniques to include interpretation of composers’ notation. When questions of interpretation become evident, the performer must devise options to determine what is practical and serves the composer’s musical intentions. Development of any advanced playing technique can also encourage a performer to continue exploring new and challenging repertoire.
REFERENCES


Smith, Joan Templar. “Flutter-Tonguing.” In The Instrumentalist, XXI/5 (December 1966), 71-72.


VITA

Bassoonist Steve Vacchi holds degrees from the Eastman School of Music at the University of Rochester (Bachelor of Music, high distinction), The Hartt School at the University of Hartford (Master of Music), and Louisiana State University (Doctor of Musical Arts). He also studied at Yale University. His teachers have included Rebecca Eldredge, Charles Robert Reinert, Matthew Ruggiero, K. David Van Hoesen, Stephen Maxym, Frank Morelli and William Ludwig. An advocate of contemporary music, he has performed in nineteen countries and recorded for Argo, BMG Classics, Cortana, Centaur, NMC, Sony Classical and Imagine Records. Originally from Rhode Island, he has worked with such orchestras as the Rochester Philharmonic, Florida Orchestra, New Haven Symphony, Baton Rouge Symphony and New World Symphony.

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DOCTORAL EXAMINATION AND DISSERTATION REPORT

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Major Field: Music
Title of Dissertation: An Examination of Two Contemporary Techniques in Five Works for Solo Bassoon: Descriptions and Performance Suggestions

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EXAMINING COMMITTEE:

[Signatures]

Date of Examination:
June 26, 1997