

A Recording Project Featuring
Four Newly Commissioned Pieces for
Clarinet
by
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A Research Paper Presented in Partial Fulfillment
of the Requirements for the Degree
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ABSTRACT

The primary objective of this research project is to expand the clarinet repertoire with the addition of four new pieces. Each of these new pieces use contemporary clarinet techniques, including electronics, prerecorded sounds, multiphonics, circular breathing, multiple articulation, demi-clarinet, and the clari-flute. The repertoire composed includes Grant Jahn's *Duo for Two Clarinets*, Reggie Berg's *Funkalicious* for Clarinet and Piano, Rusty Banks' *Star Juice* for Clarinet and Fixed Media, and Chris Malloy's *A Celestial Breath* for Clarinet and Electronics. In addition to the musical commissions, this project also includes interviews with the composers indicating how they wrote these works and what their influences were, along with any information pertinent to the performer, professional recordings of each piece, as well as performance notes and suggestions.

DEDICATION

To Mom, Dad, Meg, Ed, and Devin

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CHAPTER 1

INTRODUCTION

The primary objective of this research project is to expand the clarinet repertoire with the addition of four new pieces. Each of these new pieces use contemporary clarinet techniques, including electronics, prerecorded sounds, multiphonics, circular breathing, multiple articulation, demi-clarinet, and the clari-flute. The repertoire composed includes Grant Jahn's *Duo for Two Clarinets*, Reggie Berg's *Funkalicious* for Clarinet and Piano, Rusty Banks' *Star Juice* for Clarinet and Fixed Media, and Chris Malloy's *A Celestial Breath* for Clarinet and Electronics.

In addition to the musical commissions, this project also includes interviews with the composers indicating how they wrote these works and what their influences were, along with any information pertinent to the performer, professional recordings of each piece, as well as performance notes and suggestions. The composer and performer interview questions include:

Composer Interview Questions

1. How did you become interested in composition? What about your compositions differentiates you from other composers?
2. What are your musical influences, and from where do you draw inspiration? What was your inspiration for the piece?
3. What elements do you find to be the most important within your musical compositions? Are there any particular motives or thematic ideas that you use throughout the piece?
4. Where do you find ideas for the titles of your compositions? Do you usually come up with a title first or the music? Does the title have any special meaning? If so, how would you like that meaning manifested during performance?
5. How does this piece fit into your body of compositional works?
6. Did you take into consideration the qualities of individual performers when writing for them?

7. Do you have any stylistic concerns or considerations for this piece? What performance suggestions can you provide the musician when preparing your piece? What are some of the main technical concerns for the performer(s)?
8. Have you ever studied clarinet? If so, in what capacity?
9. Have you ever written for the clarinet and/or electronics before? What problems did you run across? What aspects weren't you completely sure about? Did (do) you enjoy writing for the clarinet?
10. Are the electronics meant to blend into the clarinet sound, or to be heard as two different entities? What is the role of the clarinet and the electronics?
11. What, if anything, did you learn about writing for clarinet/electronics while writing this piece? Anything the performer should keep in mind while performing?
12. Are you concerned with audience perception of your music? To what extent do you consider audience reception?

Performer Questions:

1. What musical advice would you give a performer before they begin to learn this part?
2. Should performers be aware of any technical difficulties? Are there any specific fingerings that are needed to perform difficult passages?

CHAPTER 2

DUO FOR TWO CLARINETS

Composer Grant Jahn is known for his use of extended techniques in his clarinet works. Jahn is a clarinetist who completed his Bachelor of Music in Composition at Arizona State University in the spring of 2016. As a clarinetist, he has developed an interest in writing extended techniques for the instrument, similar to the ideas of composers William O. Smith and Eric Mandat. I approached Jahn after hearing *Ritual*, one of his solo clarinet pieces, to ask if he would be interested in writing a piece that works progressively for two clarinets through multiphonics and demi-clarinet, ending with clari-flute. Demi-clarinet uses the mouthpiece attached to one of the two halves of the clarinet—either the upper joint and barrel or the lower joint and bell. Jahn uses the latter configuration, which creates a different scale than the traditional clarinet, and offers new timbral possibilities. Clari-flute is similar to an end-blown flute, where the clarinetist removes the mouthpiece and barrel from the instrument and blows across the top of the upper tenon to make sound. The resulting piece, which incorporates these techniques, was *Duo for Two Clarinets*. To view the score, please visit www.grantjahncomposer.com.

I: Chant

The first movement, *Chant*, focuses on difference tones. When two tones sound simultaneously, another tone can sometimes be heard, creating the “difference tone”, which is the difference in frequency between the two original pitches. In order to make this movement work, both clarinetists will need to cue carefully in places when they are playing by themselves. The first instance occurs at the beginning. The second clarinetist will cue the first clarinetist when starting the multiphonic in m. 2 (see Ex. 2.1). The first multiphonic in m. 3 needs to have more sound in the G3, rather than the D5 above. You will also need to ensure you are finding the correct upper pitch, as it has the tendency to be a higher pitch than the D5. It helps to practice this multiphonic many times to ensure that it will speak each time it is played within the movement. Each time you play these two consecutive measures (single tone to multiple tones, m. 2-3) your single note (G3) should be *forte* before reaching the multiphonic. Sometimes, the waves caused by the difference tones in the multiphonic from the second clarinet will disrupt the first clarinet’s multiphonic, so if there are problems in maintaining the multiphonic, try to create a sound barrier between the first and second clarinetists to block the sound waves, such as a clear acrylic plastic shield (see Ex. 2.1).

Pensive ♩ = 72

Clarinet in B \flat 1

Clarinet in B \flat 2

n *f* *overblow* *n*

overblow *n* *n*

Ex. 2.1. Grant Jahn: *Duo for Two Clarinets, Chant*, mm. 1-5, single to multiple tones.

In mm. 11-22, the first and second clarinets trade the theme. In m. 12, the first clarinet needs to cue to ensure both clarinetists arrive at m. 13 together (see Ex. 2.2). From here, the second clarinetist will be able to follow along with the first’s part. In m. 16, take enough time in the

extended rest to take a breath and set the mood for the next thematic occurrence before beginning again (see Ex. 2.2). In m. 16, slide the right hand third finger onto the tone hole to create the descending glissando that is indicated and fade out completely (see Fig. 2.1). The first clarinetist can still lead until m. 19, where both clarinetists will need to communicate the pulse. Again, be sure to take enough time to allow a short silence in m. 22 before beginning the next melodic idea.

The image shows a musical score for two clarinets, measures 11-16. The top staff is in treble clef and the bottom staff is in bass clef. Measure 11 starts with a rest for the first clarinet and a note for the second. Dynamics include *n* (piano) and *f* (forte). The word *freely* is written above the first staff. In measure 16, there is a descending glissando indicated by a line with a downward arrow and the word *fall*. A fingering diagram for the glissando is shown above the staff, consisting of a vertical line of seven circles, with the bottom circle being open and an arrow pointing to it from the left. A triplet of eighth notes is marked with a '3' above it.

Ex. 2.2. Grant Jahn: *Duo for Two Clarinets, Chant*, mm. 11-16, cueing and extended rest.



Fig. 2.1. Grant Jahn: *Duo for Two Clarinets, Chant*, m. 16 descending glissando fingering.

The first jarring dissonance that stands out in this movement is heard in m. 23 (see Ex. 2.3). Both performers must breathe and attack together to make this dissonance as aurally upsetting as possible. Both clarinetists will need to communicate and synchronize throughout the piece to ensure that instances such as the *forte piano* on beat four in m. 24 are as effective as possible (see Ex. 2.3).

Ex. 2.3. Grant Jahn: *Duo for Two Clarinets, Chant*, mm. 23-25, communicate beats.

The first clarinetist will lead m. 32, as well as cut off each held dissonance in mm. 33 and 34. The more dynamic change made in the *Forte Piano* crescendo, the more effective the section will sound. Continue in the same fashion from mm. 35-39 (see Ex. 2.4). In mm. 37-38, the grace notes should be before the beat to help differentiate the beat. Measures 40-44 will be reminiscent of the very beginning of the piece, and should provide an aural relief between sections.

Ex. 2.4. Grant Jahn: *Duo for Two Clarinets, Chant*, mm. 34-39, grace notes before the beat.

Ensure that the end of mm. 44 and 45 make a jarring dynamic difference—the second clarinet can start with a cue to the first clarinet to cut off and begin; the same goes for the repeat in m. 45 (see Ex. 2.5). In m. 46, the first clarinet can play with *rubato* (see Ex. 2.6), but needs to show the downbeat of m. 47 to help the second clarinet place beat three. The first clarinet will make a descending glissando in m. 52 by slowly sliding the third finger of the right hand over the finger hole, gradually bringing the sound to silence.

Ex. 2.5. Grant Jahn: *Duo for Two Clarinets, Chant*, mm. 40-45, dynamic differences.

Ex. 2.6. Grant Jahn: *Duo for Two Clarinets, Chant*, mm. 46-48, clarinet one's fluidity in m. 46.

In m. 58, the second beat must line up in both clarinet parts, as beat one for first clarinet is a quick ascending and descending run (see Ex. 2.7). The multiphonic for the first and second clarinets in mm. 59 and 60, respectively, both need to be the same dynamic and speak with the same intensity (see Fig. 2.2). From m. 61 to the end of the movement, the clarinetist with triplets can place a tenuto on the last note of beat four to ensure the downbeat of the next measure is together (see Ex. 2.8). The more dynamic contrast both clarinetists can make, the more effective the dovetailing between parts will be. In the final measure, fade into silence together (see Ex. 2.8).

Ex. 2.7. Grant Jahn: *Duo for Two Clarinets, Chant*, m. 58, align beat two.

Fig. 2.2. Grant Jahn: *Duo for Two Clarinets, Chant*, m.59 multiphonic.

Ex. 2.8. Grant Jahn: *Duo for Two Clarinets, Chant*, mm. 61-end, moving triplets into held trill, fade into silence at the end.

II: Dance

The second movement of *Duo for Two Clarinets*, entitled *Dance*, uses the demi-clarinet in its second half. To create this instrument, the first clarinetist will insert the mouthpiece directly into the bottom joint (with the bell still attached) of the clarinet (see Fig. 2.3). The clarinet is held with the right hand (thumb under the thumb rest in the regular hand position), and the left hand is used to hold the bell if needed. This movement is divided into three smaller sections, each interrupted with a fermata. The demi-clarinet is used for the second two sections, and maintains the melodic line. The melodic line will always remain the same throughout the piece, but the underlying rhythm is modified throughout each section.



Fig. 2.3. Grant Jahn: *Duo for Two Clarinets*, Program Notes, Demi-clarinet.

The first section uses two full clarinets. The main rhythmic motive is heard in the first clarinet from mm. 1-11, and will be maintained throughout the movement in a few varied ways, but always continues to have a 7/8 feel (see Ex. 2.9). In this rhythmic line, the clarinetist will hold down the F/C key with the right hand and move the designated fingers shown above the score in the finger diagram. In m. 1, the right hand third finger is raised and lowered, m. 2 raises the left hand middle finger, and m. 3 raises all three fingers together on the right hand, then goes back

down in pattern (see Ex. 2.9). Accent each grouping as marked to keep the ongoing 7/8 feel. Volume may need to be adjusted when the second clarinet enters so both lines can be heard. The tremolos, such as in m. 10 in the second clarinet, are timbre trills—use the A-flat/E-flat right hand pinky key to ensure the pitch is varied enough (see Ex. 2.10). In m. 12, the first clarinet must trill the B-flat4 side key—hold the clarinet bell between your knees and use your right hand thumb to do this.

Flowing ♩ = 144

Clarinet in B \flat 1

Clarinet in B \flat 2

Ex. 2.9. Grant Jahn: *Duo for Two Clarinets, Dance*, mm. 1-3, rhythmic motive.

10

w/ low Eb key

n

Ex. 2.10. Grant Jahn: *Duo for Two Clarinets, Dance*, mm. 10-11, timbral trill.

In m. 12, the rhythmic theme is stated in clarinet two. Again, when the first clarinet enters, the second clarinet may need to adjust their volume for balance, especially because the multiphonics and overblown notes speak very quietly. In m. 16, Jahn is asking the clarinet to play an A5, but allow for the undertone F4 to speak (see Ex. 2.11). Finger the A5 and adjust your voicing to allow this lower note to speak; it will be soft. In order to get the multiphonic with G5 to

speak with the E4, you will need to adjust your voicing more than the previous multiphonic to allow it to speak.

The image shows a musical score for two clarinets, measures 16-17. The top staff is in treble clef and contains a multiphonic with undertones. The notes are marked with asterisks and a bracket, with the instruction: "* use fingerings for upper notes (undertones)". The dynamic marking is *mp*. The bottom staff is in bass clef and contains a rhythmic line of eighth notes with slurs.

Ex. 2.11. Grant Jahn: *Duo for Two Clarinets, Dance*, mm. 16-17, multiphonics with undertones.

Measures 35-37 are more complex; the second clarinetist must accent each beat while making the key clicks audible. In mm. 36, 40, 42 and 43, the first clarinet will play a multiphonic, as well as the theme above it. The glissando is more important than allowing the multiphonic to speak, but try to make both happen (see Ex. 2.12). It may be challenging to get the C6-D6 to speak above the multiphonic, but Jahn wishes the glissando to be the most important idea in this measure. If these notes do not speak over the multiphonic, the multiphonic may be left out for those two notes. In mm. 38, 39 and 41, the first clarinet will need to make sure the rhythmic line is heard, as well as the theme. When practicing this, get B5 in the multiphonic to speak first, then move the left hand middle finger to hear the lower notes change (see Ex. 2.13). You will hear the bottom notes changing, but the held note should remain static.

Ex. 2.12. Grant Jahn: *Duo for Two Clarinets, Dance*, m. 36, multiphonic motive and C6-D6 glissando.

Ex. 2.13. Grant Jahn: *Duo for Two Clarinets, Dance*, mm.29-39, rhythmic motive with theme played above as a multiphonic, clarinet 2 key clicks.

Measures 51-56 are a second clarinet solo. They can be played freely and playfully. During this time, the first clarinet needs to quickly reassemble their clarinet into the demi-clarinet. Use your left hand to cover the bell slightly so the overblown note is not too wild. This also allows more overtones to speak (see Ex. 2.14). This demi-clarinet outburst begins the second section. In m. 58, the second clarinet plays the new rhythmic motive. The 7/8 measures are grouped as duple, duple, triple (with the 5/8 duple, triple). As seen in Ex. 2.14, the third beat of m. 58 looks to have a multiphonic, but the middle note is a glissando from B4 to E3. The new rhythmic pattern is as follows: the first two duple beats in the 7/8 measures (the first beat in 5/8) are played without the register key (E3); on the triplet (third big beat), the second clarinet should press the register key for the first note of the triplet to get B4 and release the register key to then allow the throat to glissando down on the second note of the triplet, making it back to E3 on the final triplet note (see Ex. 2.14). In m. 62, the second clarinet transitions up a half-step to F/C (instead of E/B) and the register key will be pressed for the first beat of the triplet, making the quick glissando from C4 to F3 on the third beat of the triplet.

Abrasive and Relentless (a little faster) ♩ = 155

mp < *f* > *mp* < *f* > *mp* < *f* > *mp* < *f* > *mp* < *f* >

Ex. 2.14. Grant Jahn: *Duo for Two Clarinets, Dance*, mm. 57-63, overtones in m. 57 growl and new rhythmic pattern.

When the demi-clarinet enters, all fingerings are played as normal in the right hand, therefore C4 would be all-open on the right hand, B-flat3 would be the right hand first finger, etc. The pitches in C are written above the demi-clarinet part to be able to match on the piano during

practicing (see Ex. 2.15). In m. 68, this glissando from B-flat3 down to A3 can be accomplished using the throat/lips instead of the fingers. The trill in the demi-clarinet in m. 74 uses the left hand over the bell, anchored at the palm, pivoting the hand toward and away from the bell to make a quick trill or wah-wah effect (see Ex. 2.16). In the demi-clarinet part, mm. 77-87 and 90-92, the multiphonic is difficult to produce so quickly after playing G3 (see Ex. 2.17). Push your jaw out toward the mouthpiece and say “Heee” to get F5 to speak. For the trill in m. 81, move the third finger as quickly as possible—this is tricky because your pinky will want to move, too. Measures 88-90 are the hardest measures in the piece, rhythmically. Do not be deceived by the low C4 seen in beat two of m. 92—it will actually sound higher than the multiphonic on beat one (see Ex. 2.18).

Ex. 2.15. Grant Jahn: *Duo for Two Clarinets, Dance*, mm. 64-69.

Ex. 2.16. Grant Jahn: *Duo for Two Clarinets, Dance*, mm. 70-74, Hand over bell trill.

Ex. 2.17. Grant Jahn: *Duo for Two Clarinets, Dance*, m. 75-81, multiphonic.

Ex. 2.18. Grant Jahn: *Duo for Two Clarinets, Dance*, mm. 88-92, rhythmically challenging passage.

Measure 93 marks the beginning of the third section. There is a return to the first rhythmic bass line, but with a more intricate melody from the demi-clarinet. The second clarinet part is a mixture of the first clarinet melody from the first section (mm. 36-43) and the second clarinet bass line in the second section (mm. 58-80). In the first clarinet, the sixteenth notes must remain rhythmic and not too quick (see Ex. 2.19). In m. 102, the first clarinet eight notes should be accented and drive into the *forte piano* flutter tongue in m. 103 (see Ex. 2.20). The second clarinet should maintain the two different characters between mm. 102-106 (see Ex. 2.21). Measures 107-109 are a short second clarinet solo, but make sure the finger glissando into m.

110 is strong and rhythmic. This is the same idea as the theme and rhythm motive from the second section, gradually getting softer until there are just key clicks and air sounds. Again, the left hand should cover the demi-clarinet bell to allow more overtones and not be too wild. These sounds should blend well together.

Ex. 2.19. Grant Jahn: *Duo for Two Clarinets, Dance*, mm. 93-95, rhythmic line with static multiphonic above.

Ex. 2.20. Grant Jahn: *Duo for Two Clarinets, Dance*, mm. 100-103, two characters in second clarinet line.

Sounding
pitch in C

136

*Overblow (as before)
with violence!*

fff
*Overblow
with violence!*

fff

Ex. 2.21. Grant Jahn: *Duo for Two Clarinets, Dance*, mm. 136-end, rhythmic key-clicks; raucous final note.

III: Reflection

The third and final movement of *Duo for Two Clarinets* is entitled *Reflection*, which uses the demi-clarinet that was heard in *Chant*, and also uses the clari-flute. The instructions on how to play clari-flute can be referenced in the Program Notes at the beginning of the piece. The clari-flute can be played in a few different ways, and will begin by removing the mouthpiece and barrel from the clarinet.

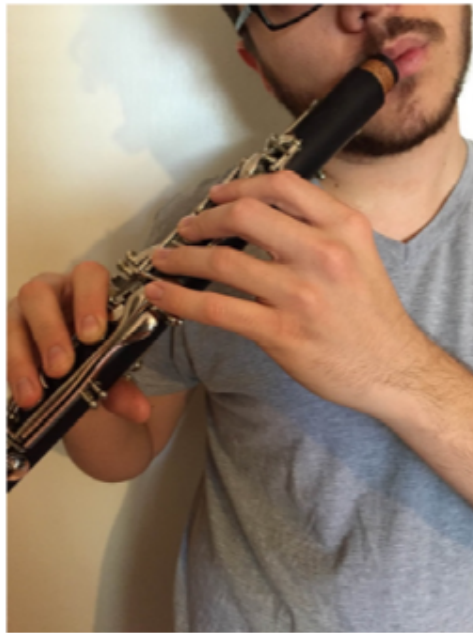
In the first method for playing clari-flute, you will hold the clarinet like normal, and blow across the hole at the top of the upper joint like an end-blown flute (see Fig. 2.4). This is the same concept as blowing across the top of a glass bottle, but you will need to ensure you use the proper embouchure to create the right pitch. Place your lower lip on the top edge of the top upper joint tenon and create a small aperture between your upper and lower lips. Your upper lip will be farther out than your lower lip, making it seem as if you are frowning.



Clari-flute (directly over the hole)

Fig. 2.4 Grant Jahn: *Duo for Two Clarinets*, Program Notes, Clari-flute.

In the second method, you will hold the clarinet to the right side, angled at about 45 degrees, and blow diagonally to allow your air to hit inside the top of the upper joint tenon on the opposite side (see Fig. 2.5). When playing this way, the right side of your lips are touching the top tenon of the upper joint; you will still need to create a small aperture between your upper and lower lips in the center and left side.



Clari-flute (side-blown)

Fig. 2.5 Grant Jahn: *Duo for Two Clarinets*, Program Notes, Clari-flute.

Once you are able to make a sound, practice removing the clarinet from your lips and resetting your embouchure before trying to play again. This will ensure that you are able to find the correct placement before starting the piece and will be able to play the first pitch without multiple attempts. To ensure you are playing the correct pitches, practice with a piano by playing the sounding pitches notated in C above the clarinet line. Once you have mastered this technique, try to create the vibrato requested for this movement through air fluctuations, not jaw motion.

To start this movement, the first clarinet (on demi-clarinet) will need to practice opening and closing the bottom of their clarinet bell with their left hand. “HOB” means “Hand over bell” and “O” stands for “Open”. In m. 1, this hand movement will be quick. Try not to allow a glissando to occur between the written E3 and G3 (see Ex. 2.22). In m. 3, the written glissando will require a slower hand movement, producing a sigh-like effect (see Ex. 2.22). Follow the same pattern for mm. 4-8. The trill in m. 5 is marked with an “x” on the finger chart and should move the third finger of the right hand. Start it slowly and gradually speed up into the downbeat A-flat3.

Meditative ♩ = 60

See instructions for clari-flute in Program Notes

Ex. 2.22. Grant Jahn: *Duo for Two Clarinets, Reflection*, mm. 1-3, “Hand Over Bell” to “Open” hand placement and hand glissando.

The main gesture of the piece is heard in the second clarinet in m. 10 (see Ex. 2.23). The second clarinetist should use mm. 8 and 9 to lead into m. 10 through vibrato and dynamic intensity. The first clarinet enters in m. 11 to provide the bass, while the second clarinet repeats this line again, heading towards the same gesture at the end of m. 12. Both clarinets will fade into silence together in m. 12 (see Ex. 2.24).

Ex. 2.23 Grant Jahn: *Duo for Two Clarinets, Reflection*, mm. 6-10, main motive m. 10.

Ex. 2.24 Grant Jahn: *Duo for Two Clarinets, Reflection*, mm. 11-13, fade into silence m. 13.

In mm. 16-34, the first clarinet has a harmonic tremolo that is a support of the melody in the second clarinet (see Ex. 2.26). The intensity of each measure should lead into the next downbeat, especially when there is a change in harmony. Care should be taken to ensure the harmonic heard above the bass note matches what the second clarinet is playing. At each breath mark or *niente* (before mm. 21 and 26), breathe in time and begin the next measure together (see Ex. 2.25). At the end of this section, after the final fermata where both clarinets fade into silence

in measure 35, the second clarinetist should not breathe until after the main motive in m. 36. This will allow the first clarinetist to set the mood of the first theme from the beginning from silence.

The image shows a musical score for measures 16-20 of Grant Jahn's *Duo for Two Clarinets, Reflection*. The score is in 16/8 time. The first clarinet part (top staff) features a tremolo marked "tremolos most important" with a harmonic above bass F3. The piano accompaniment (middle and bottom staves) includes dynamics from *p* to *fp* and a "LU slide" instruction. The piano part consists of a series of chords and a melodic line with various dynamics and articulations.

Ex. 2.25 Grant Jahn: *Duo for Two Clarinets, Reflection*, mm. 16-20, tremolo with harmonic above bass F3.

The final theme from the beginning of this movement is played in canon between the two clarinets starting in m. 37 (see Ex. 2.26). Each measure's downbeat should be deliberate to ensure the overlapping melodies are played in time together. Make sure the grace note speaks in the second clarinet part in mm. 40 and 44 (see Ex. 2.26 and 2.27). In the first clarinet part in m. 41, allow the trill to lead in to the A-flat3 at the downbeat of m. 42 (see Ex. 2.2) (this is also the same for clarinet two in m. 42 to 43).

36

a tempo

HOB O

p

slide

O → HOB , HOB O

n

p

a tempo

fp

p

slide

n

Ex. 2.26 Grant Jahn: *Duo for Two Clarinets, Reflection*, mm. 36-40, theme in canon.

41

tr

mf

slide

O → HOB

p

fp → *fz*

slide

p

fp → *fz*

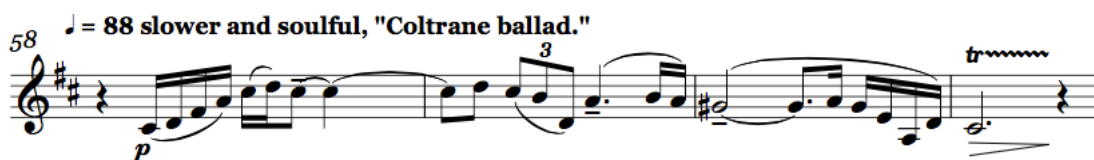
Ex. 2.27 Grant Jahn: *Duo for Two Clarinets, Reflection*, mm. 41-end, second clarinet grace notes.

CHAPTER 3

FUNKALICIOUS

Reggie Berg, composer and classical/jazz pianist, received his Bachelor's Degree in Composition at the University of Denver, as well as studied at The Eastman School of Music and Indiana University. He currently works as an in-demand accompanist and jazz pianist in Denver, Colorado. Reggie wrote *Funkalicious* for clarinet and piano to be a flashy and jazzy finale for a clarinet recital. His piece contains three sections: the middle section is a jazz ballad, in the style of John Coltrane, with a short cadenza that quotes Gershwin's *Rhapsody in Blue*, and the two outside sections featuring a "Funkalicious" groove that shows off the virtuosity of the clarinet. To purchase the score, please email Reggie Berg at beggiererg@gmail.com.

The middle section, mm. 58-98, should be velvety and soulful. The tempo is much more effective when played slower than marked, closer to quarter note = 70 (rather than 88). The clarinetist may add vibrato, especially on the long held notes (m. 58, beats 3 ½ - 4; see Ex. 3.1), as well as *rubato* on scalar figures helping to lean into chromatic leading notes (such as A4 in beat 4 of m. 71 leading into G-sharp4 of measure 72). The sixteenth notes in the piano will be the guide for the tempo. As mm. 62-66 are restating the melody from mm. 58-61, add some dynamic and accented variety to add interest to this second line (see Ex. 3.1).



Ex. 3.1 Reggie Berg: *Funkalicious*, mm. 58-61, vibrato on longer notes.

From mm. 58-74, the clarinet melody can glide gracefully above the piano line. Measures 75-79 will push forward gradually; the clarinet can add intensity for each two-measure phrase until the D6 at m. 80, where the clarinet can sing out and gradually decrescendo and *ritard* to the end of the phrase. The clarinetist should wait before the cadenza in mm. 84-86 to allow the pianist to set the mood before m. 86. During the cadenza, the clarinet can start gently, but still create some intrigue, such as accenting the grace notes (see Ex. 3.2; the first grace note seen in

m. 87 beat 3, and again in the second line of the cadenza, mm. 93-95). Breathe before the G3 trill on the downbeat of 96 to ensure enough air to get to m. 99 (see Ex. 3.3). The quote from Gershwin's *Rhapsody in Blue* should be played similarly to the original, as it will make the abrupt section change more effective.



Ex. 3.2 Reggie Berg: *Funkalicious*, mm. 86-90, cadenza.

95 ("Rhapsody in Blue") (optional glissando)

pp *p*

$\text{♩} = 100$
accel.

97 *mf cresc.*

Ex. 3.3 Reggie Berg: *Funkalicious*, mm. 95-98, *Rhapsody in Blue* glissando excerpt, play at downbeat of m. 97 with piano.

The beginning (mm. 1-57) and end (mm. 99-143) sections are more effective and playable at quarter note = 104 (instead of 120). This will allow the clarinetist to create more accents and to "ghost," or un-accent, less important notes in each gesture. At the beginning, the clarinetist can let each gesture lead into the high note (mm. 3 and 5; see Ex. 3.4). Measures 10 and 11 are suitable places to utilize ghosting; the accented notes are the most important, so emphasize each one and allow the other notes to be quieter (Beats 1, 2, and the "e" of beat 4 in measure 10; see Ex. 3.5). In mm. 12-14, the clarinetist must remain rhythmic as the piano enters during m. 14 to set up the melody beginning in m. 15 (see Ex. 3.6). The last two beats of m. 14 should grow in intensity and lead into m. 15 (see Ex. 3.6).



Ex. 3.4 Reggie Berg: *Funkalicious*, mm. 1-3, lead to E6.



Ex. 3.5 Reggie Berg: *Funkalicious*, mm. 9-11, accents and ghosting notes.



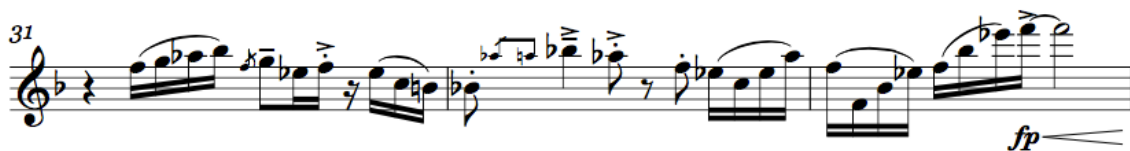
Ex. 3.6 Reggie Berg: *Funkalicious*, mm. 12-14, very rhythmic section.

The groove beginning in m. 15 can be felt throughout the remainder of this beginning section. In m. 17, the clarinetist should slur the first two beats, articulate D4 in beat three, and slur into C4 after it, then use the written articulation (see Ex. 3.7). This section will flow easily; there are some embellishments added in, such as grace notes (as seen in m. 32, beat 1 ½), but the clarinetist can add in more, such as a short throat glissando from the E-flat6 in measure 33, beat 3 going into F6 (see Ex. 3.8). To make the melody more effective in mm. 37-39, the dynamics

should be exaggerated. The final section of this melody before the middle ballad section (starting in m. 44) should be more virtuosic and explosive than previously. The clarinetist can even add a short glissando between the octave F's (F5-F6) in m. 50 to make the ending of this section “groove” more.



Ex. 3.7 Reggie Berg: *Funkalicious*, mm. 15-18, articulation.



Ex. 3.8 Reggie Berg: *Funkalicious*, m. 31-33, added throat glissando.



Ex. 3.9 Reggie Berg: *Funkalicious*, mm. 35-36, offbeats in m. 36.

The final section of this piece is similar to the first section's melody, but is more embellished. The melody also transposes up a half-step in its seventh measure (m. 105, compared to m. 21), so many of the passages seen previously in the first section are not identical. In m. 113, avoid breathing on beat 3 (see Ex. 3.10). Exaggerate the dynamics in mm. 121-123 to help lead into the finale. In mm. 128-129, allow the piano to take the lead—the

clarinetist can follow after with similar figures, although both are together in mm. 130-131 (see Ex. 3.11). From mm. 134-140, keep the tempo steady—it may tend to drag (see Ex. 3.12). The clarinetist will need to gradually transition from *mezzo piano* to *fortissimo*, and not let the eighth notes not be too vertical. The last three measures (mm. 141-143) should be practiced with a metronome that subdivides triplets (see Ex. 3.12). The timing of the glissando must be precise so that both clarinet and piano arrive on the downbeat in the final measure together. From D5, the clarinetist can glissando up to G6 (see Fig. 3.1).



Ex. 3.10 Reggie Berg: *Funkalicious*, mm. 112-114, embellished phrase.



Ex. 3.11 Reggie Berg: *Funkalicious*, mm. 128-129, follow piano motives.

Ex. 3.12 Reggie Berg: *Funkalicious*, mm. 133-end, final glissando landing on G6 with piano.

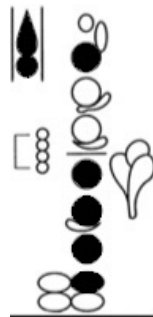


Fig. 3.1 Reggie Berg: *Funkalicious*, m. 143, G6 fingering.

CHAPTER 4

STAR JUICE

Rusty Banks, composer, conductor and guitarist, teaches at Millersville University in Pennsylvania. His compositions include modern techniques not only on instruments, but also with his use of electronics and video/audio installations. Banks has written a number of pieces for clarinet and electronics. In *Star Juice*, the clarinet plays with a fixed media electronic part. The tempo is constant, and there are no places where the clarinetist must wait for electronic cues. The media part does, however, have cues within that play with the clarinet part, so it is critical that the clarinetist synchronizes with the media throughout the piece. The fixed media part has electronic noises depicting water sounds, along with pre-recorded clarinet figures that add to the texture. In various places, a bass line in the media plays along to accent the clarinet line. To purchase the score and fixed media part, please email Rusty Banks at Rusty@RustyBanks.org.

Begin practicing this piece by playing the electronic fixed media part with the click track while following the clarinet score, perhaps with clarinet in-hand. Do this multiple times, until you are familiar with how the parts align, and have it marked in your clarinet part accordingly.

The fixed media begins right at m. 1 on the first beat (there is no lead into the first bar). The clarinet enters in the m. 6, where the eighth notes should be short and biting. Emphasizing the accents will help setup the groove. In mm. 14, 17, and 21, accent the “and” of beat 1 first, then on beat 2 begin the flutter tongue (see Ex. 4.1). Make this flutter strong and noisy. The first instance of the piece’s main motive is in m. 19. Be aware that the triplet figure is always on the beat and is not rushed.



Ex. 4.1 Rusty Banks: *Star Juice*, m. 14, accented E3 to flutter tongue.



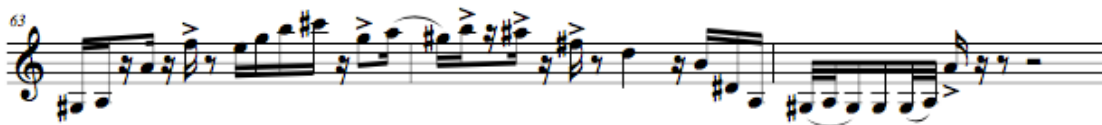
Ex. 4.2 Rusty Banks: *Star Juice*, m. 19, main motive.

The timbral trill fingerings, starting in m. 37 can vary, but generally, you will want a fingering that creates the best tone variance. For D5, rest your clarinet in your knees and take the right thumb from the thumb rest and use it to trill the second side key from the top (B-flat). For G5, A-flat5, B5 and C6, trill the right hand E/B key. For G-sharp4 and A4, trill all three fingers of the right hand together. Measure 48 begins the second recurring motive. Relax to avoid letting the offbeats rush (see Ex. 4.3).



Ex. 4.3 Rusty Banks: *Star Juice*, mm. 48-50, second reoccurring motive.

Jazz rhythms can be found throughout the piece. Think of these jazz figures in a very relaxed manner and avoid rushing the offbeat patterns. Examples are seen in mm. 63, 103, 109, and 125 (see Ex. 4.4). In mm. 73-77, focus on the larger gesture; you will hear a clarinet in the fixed media part in the rest (see Ex. 4.5). Be aware as well that the accidentals are intended for the indicated octave only.



Ex. 4.4 Rusty Banks: *Star Juice*, mm. 63-65, jazz figures.

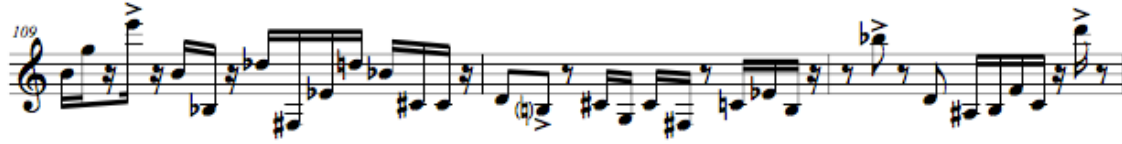


Ex. 4.5 Rusty Banks: *Star Juice*, mm. 73-77, electronic fixed media contains similar clarinet figures here.

In mm. 100-101, the triplet and quintuplet figures are with the electronic media and need to be synchronized accordingly (see Ex. 4.6). From mm. 103-104 and 109, marking where the downbeats align within the rhythm may help the performer (see Ex. 4.7). At m. 110, you are back with the fixed media part (and mm. 113-115).



Ex. 4.6 Rusty Banks: *Star Juice*, mm. 100-101.



Ex. 4.7 Rusty Banks: *Star Juice*, mm. 109-111, feel offbeats, careful voicing in measure 109.

Measure 142 begins the final section. In m. 154, allow G6 to glissando down for the full two beats before starting beat 3 (see Ex. 4.8). Make sure all marked accents are stronger than the surrounding notes, and remain consistent with recurring motives.



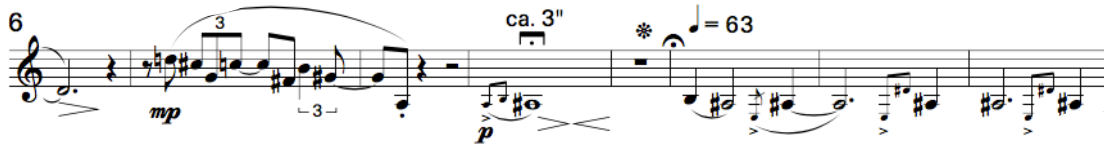
Ex. 4.8 Rusty Banks: *Star Juice*, mm. 152-155, G6 glissando, groove motive.

CHAPTER 5

A CELESTIAL BREATH

Chris Malloy is chair of the Composition Department at the University of Denver, and teaches a studio of composition majors, as well as orchestration classes. Malloy has written new music that has been performed across the world at numerous festivals and events. *A Celestial Breath* is written in a similar manner to *Star Juice* in that the electronic portion is fixed. This piece is played at the same tempo with the fixed media, and the electronic material's tempo is marked in the score. Malloy has composed an animated score with the full electronic sound set that follows the metronome markings and notates where you are at in the score with a blue dot above the clarinet line. Written fermatas designate places the prerecorded sound is heard by itself, and the animated score cues in the performer in the next (or current) tempo. In order to perform this piece, you will need to download this animated score onto a laptop and will read the music from the screen instead of printed music. You can start playing the piece with the video displayed in full screen, but do not actually start the video until m. 9. The video can be triggered using a foot pedal, or an assistant to do it when cued. To purchase the score and animated score, please email Chris Malloy at Chris.Malloy@du.edu.

The first eight measures are clarinet alone. This is the one place the player is able to take their own tempo and really exaggerate the dynamics and use *rubato*. Cue the animated score/electronics starting in m. 9. There will be a four-beat cue that appears in blue text on the animated score to cue the clarinet entrance in m. 11. In the next section (mm. 11-25), grace notes should be played before the beat (see Ex. 5.1). This being said, grace notes can be accented or a tenuto can be placed on specific notes to lead toward the note to which the grace notes are attached. An example can be seen in m. 11 beat 4. In order for the D-sharp4 to respond fully, you may need to put a tenuto on the E3 grace note, and it will be slightly longer and more accented than the D-sharp4, allowing the player to lead into the A-sharp3, which is the main note (see Ex. 5.1). Another good example is seen in m. 24, where there can be a tenuto on the first grace note (E5) to help successfully lead through the final three grace notes and apply more stress on the G5 on beat 2 (see Ex. 5.2).



Ex. 5.1 Chris Malloy: *A Celestial Breath*, mm. 6-13, grace notes.

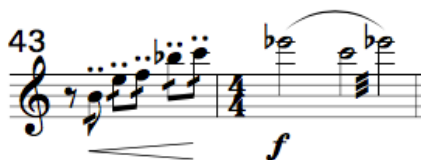


Ex. 5.2 Chris Malloy: *A Celestial Breath*, mm. 24-25, tenuto on grace notes.

In the animated score, there is a four-beat cue-in for the new tempo (quarter note = 144) in the fermata bar before m. 26. In this section, you must be very accurate with the tempo because of the mixed meter. Eighth notes remain constant. Multiple articulation may be necessary in figures similar to measure 34 (see Ex. 5.3). Since the electronic media is unforgiving, timing is critical throughout these figures. Multiple articulation may help if single articulation cannot be used at this tempo. The articulation in m. 34 should be twice as fast as the notes in m. 27. In mm. 44 and 46, play C6 and trill the throat A4 key to tremolo between C6 and E-flat6 (see Ex. 5.4). Be sure to end the tremolo on C6. The “growl glissando” is a vocal glissando, rather than a clarinet glissando (see Ex. 5.5). Sing (“growl”) a pitch into your clarinet and then lower the sung pitch during the half note until beat 3. The flutter tongue in mm. 60-64 should be loud and overly obnoxious. Gradually let the dynamics fade from mm. 69-73, easing into the final note of this section in m. 74.



Ex. 5.3 Chris Malloy: *A Celestial Breath*, mm. 31-36, multiple articulation.



Ex. 5.4 Chris Malloy: *A Celestial Breath*, mm. 43-44, C6-E6 tremolo.



Ex. 5.5 Chris Malloy: *A Celestial Breath*, mm. 48-56, growl glissando.

In mm. 77-96, each new section between the fermatas gets quicker, leading to the final, longest and fastest gesture, ending in m. 96. These are meant to sound rubato-like, so there is no need to stretch the notes more than is already written, although you are able to accent/anchor where needed, such as the B3 on beat four of m. 79 (see Ex. 5.6). The final gesture (mm. 89-96) must sound effortless and fluid, especially because of the notated rubato. If this is played exactly as written, it will sound slightly robotic, so find places to linger slightly in order for it to sound more flowing.



Ex. 5.6 Chris Malloy: *A Celestial Breath*, mm. 78-80, anchor note B3 in m. 79.



Ex. 5.7 Chris Malloy: *A Celestial Breath*, mm. 86-88, anchor note G-sharp5 in m. 86.

In mm. 98-116 there are three short sections – each grows with intensity, dynamics, rhythm and chromatic leading. These outbursts are broken apart by short fermatas with electronic cues. This melodic intensity turns into frantic off beats, seen in mm. 111-116. Throughout this section, be sure to stress the chromatic leading notes. An example in m. 107: stress the C-sharp6 as it leads into C6 (see Ex. 5.8).



Ex. 5.8 Chris Malloy: *A Celestial Breath*, mm. 106-108, chromatic leading.

From mm. 118-123, there is still the intense feeling from the passages before, although it is not heard in rhythm, but in altissimo and clarion range. Choose fingerings with excellent intonation and allow fluid technique. The G5 and F-sharp5 in m. 118 are best played with the fingerings below since you do not need to move many fingers (see Fig. 5.1 & 5.2).

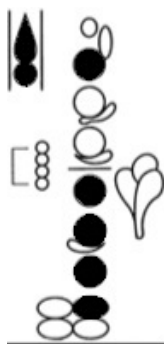


Fig. 5.1 Chris Malloy: *A Celestial Breath*, m. 118 G6 fingering.

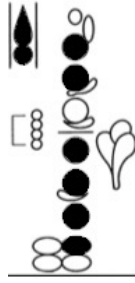


Fig. 5.2 Chris Malloy: *A Celestial Breath*, m. 118 F-sharp6 fingering.

Measure 125 begins the cool down from the previous intensity. Use similar grace note styles as in the beginning, and ensure that tremolos are consistent and end on the lower note. Measure 128 should continuously lead into m. 129 without a gap; the same goes for m. 129 into 130 (see Ex. 5.9).



Ex. 5.9 Chris Malloy: *A Celestial Breath*, mm. 125-129, continuous tremolo over bar lines.

In the final section of the piece (mm. 132-140), the tremolos always land on the lower note. From mm. 134-136, the tremolos should be continuous, although the first note of each tremolo set can be elongated slightly—avoid breaks between them. Measures 136-137 are a written *ritardando* of the final tremolo, as the dynamic fades away (see Ex. 5.10).



Ex. 5.10 Chris Malloy: *A Celestial Breath*, mm. 136-138, written *ritard*.

APPENDIX A

INTERVIEW WITH COMPOSER GRANT JAHN

1. How did you become interested in composition? What about your compositions differentiates you from other composers?

Besides growing up in a musical household with both my parents being professional singers and conductors, I became interested in composition when I was in middle school dabbling at the piano. At the time, I was not taking formal music lessons of any kind on clarinet or piano, but I played clarinet in band. During my junior and senior years in high school, I wrote some pieces for the solo and ensemble competitions in Tucson that were performed by members of the wind band and then in my senior year, I was part of the Tucson Symphony Orchestra's "Young Composers Project", which gave us the opportunity to work with professional orchestra players and then hear a full orchestral piece performed at a concert. It was at that premiere of my music that I knew I wanted to compose music.

I pride myself in my compositions being both musically interesting and pleasing to the ear. My goal in my compositions is to spread to a wide audience from the avid listener and music student to the casual listener. As I've fallen in love with extended techniques, particularly on the clarinet, my ultimate goal is to use them in musical ways so that none of the listeners of my work feels displaced from the music.

2. What are your musical influences, and from where do you draw inspiration? What was your inspiration for the piece?

I am heavily influenced by many 20th Century composers, namely Stravinsky, John Adams, and Steve Reich. In addition, when I write for clarinet, I am heavily influenced by the extended technique works of Eric Mandat. The inspiration for this piece came from my interest in religious practices and ritual, particularly meditation and dance.

3. What elements do you find to be the most important within your musical compositions? Are there any particular motives or thematic ideas that you use throughout the piece?

For me, the most important thing in my music is to balance the presentation of new non-traditional techniques and sounds with some traditional harmonies and melodic figures so that the average audience can remain connected to my work but still experience something new. For *Duo for Two Clarinets*, this was my main goal because of the non-traditional performance practices and use of demi-clarinet and clari-flute.

4. Where do you find ideas for the titles of your compositions? Do you usually come up with a title first or the music? Does the title have any special meaning? If so, how would you like that meaning manifested during performance?

Usually, I begin writing a piece before I name it. As I write a piece, I try to simultaneously discover what exactly it is I am trying to say in the music. Because of this, I usually apply a meaning to a piece after it has already been started because it turns from an abstract idea to a more concrete one in my head. Because of the emotive and somewhat spiritual feelings of this piece though, I felt it best not to name it and instead give a brief title to each movement so that there is some idea of what each movement is about.

5. How does this piece fit into your body of compositional works?

This piece is a very unique one in my compositional output because of the unconventional performance practices. However, it is now one of three works I have written that utilize extended techniques on the clarinet, which I plan on continuing in many future works.

6. Did you take into consideration the qualities of individual performers when writing for them?

Having a performer be able to play my work is incredibly important to me so if something does not seem to be working, I would rather change it to put the performer at ease than to have them play it wrong. I worked very closely with the performers on the sounds I wanted, particularly the multiphonics, which will vary from performer to performer. That being said, I

knew that both of the people playing “Duo” were incredibly talented and could play anything I wrote.

7. Do you have any stylistic concerns or considerations for this piece? What performance suggestions can you provide the musician when preparing your piece? What are some of the main technical concerns for the performer(s)?

The biggest thing that should be taken into consideration is to connect every idea within each movement. If this isn't taken into account, the piece runs the risk of sounding choppy or disjointed. This also leads to performance of multiphonics and clari-flute: if the desired effect cannot be maintained, it is better to leave it out for a portion so that notes don't squeak or fade in and out when they shouldn't.

8. Have you ever studied clarinet? If so, in what capacity?

I began playing clarinet in the fourth grade and continued playing throughout high school, mainly in marching band. I am currently in the clarinet studio at Arizona State University and am taking lessons with Dr. Robert Spring and Dr. Joshua Gardner. I consider myself a fairly skilled player with a knowledge of extended techniques that help me use them in my compositions more effectively.

9. Have you ever written for the clarinet and/or electronics before? What problems did you run across? What aspects weren't you completely sure about? Did (do) you enjoy writing for the clarinet?

This is my third work for clarinet using extended techniques. In addition, I've also written several chamber works that utilize clarinet. The main problems with this piece I ran into was the lack of consistent performance of certain extended techniques from performer to performer. When writing the piece, I was able to get out almost all of the multiphonics but they proved more difficult for the performers at times. I had to re-evaluate the clari-flute part in the third movement as well because the performer of it had a much more powerful clari-

flute sound than I did while writing the piece. In other words, the collaboration with the performers was key to creating a complete work.

10. Are the electronics meant to blend into the clarinet sound, or to be heard as two different entities? What is the role of the clarinet and the electronics?

N/A

11. What, if anything, did you learn about writing for clarinet/electronics while writing this piece? Anything the performer should keep in mind while performing?

This was my first experience writing extended techniques for more than one player. This experience helped me learn that it is not as easy to conceptualize what a piece or effect will sound like when it has to be in more or less strict time because the players have to be together in the music. This showed me how I can utilize extended techniques in future works, especially on the clarinet.

12. Are you concerned with audience perception of your music? To what extent do you consider audience reception?

Audience reception to my music is my main focus above all other things. This is why I attempted to put motives and ideas in the piece that the audience could hang on to while being exposed to new unconventional techniques or sounds they may not be prepared for.

APPENDIX B

INTERVIEW WITH COMPOSER RUSTY BANKS

1. How did you become interested in composition? What about your compositions differentiates you from other composers?

I started learning guitar at age 10. In high school I had a rock band and we were primarily interested in doing original material. I wasn't all that interested in the vocal aspects of what we were doing and didn't really enjoy singing so I started writing more instrumental stuff. I went into my undergrad as a double emphasis in classical guitar and composition without a clear idea of what it meant to be a composer. In my freshman year of college I was introduced to Cage, Penderecki, Crumb, as well as the minimalists, Glass, Reich, Riley, and Adams. This was the real start of my composing with a "capital C."

I'm not sure what it is that distinguishes me. I feel like I'm re-inventing myself on every piece but people who regularly perform my work laugh when I say this. Whenever they play a new work of mine, they feel it is "classic Banks." So there must be something that makes my music stylized.

2. What are your musical influences, and from where do you draw inspiration? What was your inspiration for the piece?

Although I don't hear it much in my music, some turning points in how I approached music were discovering the composers Crumb, Reich, and Andriessen. And whenever I listen to Prince's album "Purple Rain" I can hear things that might have influenced my melodic writing.

I also draw a lot of inspiration from visual art and nature. Water is an element prominently dealt with in my music.

3. What elements do you find to be the most important within your musical compositions? Are there any particular motives or thematic ideas that you use throughout the piece?

I usually start the composition process by sitting down and composing 30-60 seconds of music by just "feeling it out." Then I tinker with that until I'm satisfied with that section. Then I

analyze it to see what makes it “work.” I use that information to structure the rest of the form. That’s particularly important for the pitch material. For the timbral aspects of the piece, some of that is decided after the form is fleshed out a bit. That’s not to say I don’t have ideas about the sound world of the piece, because I do. But once I have the performer’s part of an electroacoustic piece composed, I like to record the performer doing that part and use altered snippets of those recordings to flesh out the electronics of a piece.

4. Where do you find ideas for the titles of your compositions? Do you usually come up with a title first or the music? Does the title have any special meaning? If so, how would you like that meaning manifested during performance?

I remember Celeste as a swimmer when she was young. So “water” was as logical as it is comfortable to make the piece about. Many of the sounds in the electronic parts are made from the “bloop” sound recorded when I was putting a camera underwater. Originally, I was going to call the piece “Star Liquid” combining wordplay on Celeste’s name with the theme of water. Once the piece was finished it was just too funky/gritty for that, so I changed the name to “Star Juice.”

5. How does this piece fit into your body of compositional works?

My wife is a clarinetist, so I’ve probably written for the clarinet more than any other instrument. It’s not radically different from my other clarinet and fixed media pieces but it is a bit updated in its nods to popular styles. In a lot of ways it’s similar to a piece I wrote in the 90s called “S L (i) T” that references industrial music (Nine Inch Nails, Ministry, etc.). “Star Juice” references more modern EDM sounds.

6. Did you take into consideration the qualities of individual performers when writing for them?

Yes. If I'm familiar with someone's playing I tend to hear their tone and tendencies in my head while I compose. If I'm unfamiliar with someone's playing, or haven't heard them in a long time, I'll request recordings of them for my studying.

7. Do you have any stylistic concerns or considerations for this piece? What performance suggestions can you provide the musician when preparing your piece? What are some of the main technical concerns for the performer(s)?

I want the performer to be aggressive. Also, there are a lot of things in the electronics that make the clarinet sound like it's doing things that aren't possible. The performer should work to make these "tricks" happen. Also, paying attention to the mix in a way that a conductor would work to balance sections is important. The performer shouldn't be afraid to adapt things to the performance space. Often, when I'm assisting with a performance of my work I'll automate the volume of the stereo playback. The piece should *work* in any hall with the level set at the soundcheck. But from one hall to another it might be helpful to "ride" the levels or re-EQ it a bit. Again, a good performance doesn't require this. But I say that mainly because I don't want performers to feel that the soundfile is an absolute that is untouchable. It's better to think of it as a fellow performer who is VERY consistent but might need to adjust his performance from space to space and is very amenable to that.

8. Have you ever studied clarinet? If so, in what capacity?

Nope.

9. Have you ever written for the clarinet and/or electronics before? What problems did you run across? What aspects weren't you completely sure about? Did (do) you enjoy writing for the clarinet?

I've written a lot that uses clarinet. I work with very good performers typically so the main problem is that they just won't tell me if something is unreasonably hard. I like writing for the clarinet. It's nice that clarinetists typically use very little or no vibrato unless asked to. I enjoy

the low notes and the high notes. The middle stuff I see as more utility-- great to fill in a chord but bland on its own. In chamber situations it's hard to get by without clarinet! It just covers so much in terms of range and dynamics and timbre.

10. Are the electronics meant to blend into the clarinet sound, or to be heard as two different entities? What is the role of the clarinet and the electronics?

For this piece the performer should sound like a "soloist" but still in the same "room" with the electronics. The performer should feel enveloped in the sound. However, blend is very important for making the echo, reverse, panning, etc. effects convincing.

11. What, if anything, did you learn about writing for clarinet/electronics while writing this piece? Anything the performer should keep in mind while performing?

I used a new (to me) compositional process for some sections of this work. I "scatted" in a large section into my recording software. I had the software transcribe those pitches and rhythms. Then I edited that material quite a bit. This was a quicker way for me to find the "right" rhythms for the piece. It wasn't as useful for pitches. I mean, let's be real here: I'm not a very good singer.

12. Are you concerned with audience perception of your music? To what extent do you consider audience reception?

I'm not overly concerned with the audience. We live in a time when we can compose what we want then go FIND the audience for that. So generally, I use these two criteria for composing: 1) Create the music I wished existed. Would I think this was cool? 2) Can I imagine this being someone's (not everyone's, but someone's) favorite piece? If not, why?

APPENDIX C

INTERVIEW WITH COMPOSER CHRIS MALLOY

1. How did you become interested in composition? What about your compositions differentiates you from other composers?

After a long period of wandering aimlessly from one career path to another, I finally committed to composition at the age of nine.

My family had moved into our first house, and we had room for a hi-fi. So we bought one, with a record player. Then we bought a record, with a young Colin Davis conducting four orchestral works: Wagner's *Siegfried Idyll*, Mendelssohn's *Hebrides Overture*, Beethoven's *Fidelio Overture*, and Brahms' *Variations on a Theme by Haydn*.

I played that record thousands of times. The opening of the Beethoven was a series of explosions, and an aftermath of simple, quiet dyads. Brahms was more even, more deceptive, opening with a theme that was tranquil, and very beautiful, followed by the majesty of the first variation -- and then, POW!

As a hubristic, nine-year-old boy, drawn to energy, violence, and power, I wanted to do what Beethoven and Brahms had done. I wanted to be a composer.

And now, turning to the left cerebral hemisphere: one thing that separates *A Celestial Breath* from the music of other composers is its use of algorithm.

To write mm. 77-117, I used an algorithm that correlates durations to voice leading relationships between random permutations of a single hexachord. The algorithm allows me to shape phrases by adjusting pace, register, and other parameters. I used this algorithm to generate 120 phrases.

I treated the best of these phrases as raw material to be sculpted. The algorithm produced durations that did not correspond to beats or measures; I transcribed these into conventional notation. Some opening or closing passages were not compelling; I truncated these arbitrarily. If a segment from phrase 47, transposed up two semitones, flowed well into a segment from phrase 109, down three semitones, then I transposed.

Most algorithmic composers take a more purist approach: the composer writes the algorithm, and the algorithm writes the music. There is no transcription, truncation, or transposition. There is no sculpting. "The patch is the piece," they say. That method has

produced some amazing music, and I am not arguing against it. But I wonder why more composers don't treat algorithmic material flexibly? Perhaps the best evidence for the power of my approach is a comment from the dedicatee for *A Celestial Breath*. Before I had mentioned anything to her about algorithm, she pointed at m. 77, and said, "This is my favorite part."

Another feature of *A Celestial Breath* that is unusual is its animated score, an updated version of the "follow the bouncing ball" format. I can't recall ever seeing anything quite like this.

2. What are your musical influences, and from where do you draw inspiration? What was your inspiration for the piece?

I am influenced and inspired by every sound that I hear.

Shakuhachi music was one specific sound that was in my ear while writing *A Celestial Breath*. The long, sustained tones, punctuated by intense ornamentation – come to think of it, traditional shakuhachi playing is not so different from the sudden, unexpected changes in the works of Beethoven and Brahms that caught my attention when I was small.

In a broader sense, I am inspired by the tendency of most Western time art to rely on a dramatic contour of exposition, development, climax, and denouement. It is still possible for a composer to create powerful music in that model. I find inspiration in the words of Shakespeare's *Othello*:

"If after every tempest come such calms,
May the winds blow till they have waken'd death!"

A tempest does accumulate in *A Celestial Breath*. And it is followed by calmness.

3. What elements do you find to be the most important within your musical compositions? Are there any particular motives or thematic ideas that you use throughout the piece?

Intervallic content matters very much to me. The DNA of *A Celestial Breath* is an interval class vector of <421242>. Everything the clarinet plays is based on that i.c. vector. The clarinet's durations in mm. 77-117 are governed by the number of common tones from one collection to the next, and depending on the level of transposition (excluding the trivial transposition by i.c. 0), there will be as many as four common tones, or as few as one. In my algorithm, this unusually variegated i.c. vector yields a high level of rhythmic discontinuity, supporting an extended upbeat to the climactic return of the opening tune in m. 118.

4. Where do you find ideas for the titles of your compositions? Do you usually come up with a title first or the music? Does the title have any special meaning? If so, how would you like that meaning manifested during performance?

A Celestial Breath is an obvious reference to the dedicatee, a wind player named Celeste. I took this title from Shakespeare's *Venus and Adonis*. Venus says,

"I'll sigh celestial breath, whose gentle wind
Shall cool the heat of this descending sun."

Although there is nothing funny about my title, there are moments of comic relief in the piece. My hope is that the title will remind the performer that this piece is serious. The occasional silly sound – a growl gliss, or an electronic “boing” – is the clown in a Shakespeare tragedy. Eventually, when the curtain drops, nobody in the audience will be laughing.

5. How does this piece fit into your body of compositional works?

A Celestial Breath continues some techniques from my previous works: specifically, a hexachordal organization of pitch, and an algorithm in which durations are governed by voice leading.

This is the first piece in which I have produced an electronic mix entirely from additive synthesis. Until now, my electroacoustic work had relied on the complexity of sound in nature. But the mix for *A Celestial Breath* is entirely derived from sine waves, the most basic building block of sound. I was forced to introduce imperfection.

6. Did you take into consideration the qualities of individual performers when writing for them?

Playing very high notes is one of the dedicatee's many strengths. I sensed that she would welcome an opportunity to show off in that range. The piece climaxes up there, which should make a lasting impression in live performance, where the listener does not have the option of turning down the volume.

7. Do you have any stylistic concerns or considerations for this piece? What performance suggestions can you provide the musician when preparing your piece? What are some of the main technical concerns for the performer(s)?

My rhythmic writing tends to be precise, and is often systematic. *A Celestial Breath* opens and closes in *tempo rubato*, but the durations in between should be played exactly as written.

The animated score may present some technical concerns. It only needs to be triggered once, in m. 9. After that, though, it is mostly inflexible. And there is no way to add written reminders, such as fingering – unless we make suggested fingerings a permanent feature of the video, perhaps as an option, like captions in a film.

8. Have you ever studied clarinet? If so, in what capacity?

I have never studied clarinet. Woodwinds are my weakest area by far. Before composing *A Celestial Breath*, I prepared by reading Phillip Rehfeldt's *New Directions for Clarinet*, and by consulting Jeremy Reynolds, my colleague at the University of Denver.

9. Have you ever written for the clarinet and/or electronics before? What problems did you run across? What aspects weren't you completely sure about? Did (do) you enjoy writing for the clarinet?

I have written many times for clarinet, and for electronics, but until this piece, I had never combined the two.

I do love writing for the clarinet. At first glance, it is primarily a single-line instrument, with an extremely simple timbre. But there is so much more to it. Experimenting with synthetic sounds that could work with the clarinet, I discovered that its timbre was not so simple, after all. There is an extreme range of intensity from chalumeau to altissimo. The overall contour of my piece is largely shaped by that range.

There was one monumental challenge in composing *A Celestial Breath*: I'm a very poor programmer. I can provide excellent examples of how NOT to write code. My algorithm for *A Celestial Breath* required frequent rebooting. My playback patch produced glitches every few seconds. The tune that we hear in m. 10 is culled from 32 performances of the same sequence, crossfading from one performance to another to avoid the glitches, like a car swerving from lane to lane to avoid potholes.

10. Are the electronics meant to blend into the clarinet sound, or to be heard as two different entities? What is the role of the clarinet and the electronics?

The relationship between the clarinet and the electronic sounds is integral, with the electronic sounds entirely derived from the manipulation of odd-numbered partials. But, yes, they are two different entities. There is no point at which I have attempted to produce sounds that precisely emulate a clarinet.

I view live performance with electronic sounds as something like a miniature concerto – an opportunity to produce a limitless range of density, in support of a virtuosic soloist.

11. What, if anything, did you learn about writing for clarinet/electronics while writing this piece? Anything the performer should keep in mind while performing?

I learned some new JavaScript code, and then designed a scripting syntax for automating parameters of my voice leading algorithm. This made it possible to give instructions such as, “Play fast notes in the chalumeau range, with a continuous pulse; add some notes above the break; decelerate; play slow notes, of varying durations, in the altissimo range,” and so on, all governed by algorithmic voice leading rules.

I also learned how to produce basic animation in iMovie. This was my first attempt to work with video. I have since graduated to Final Cut Pro, which I used to produce *Operation Deep Pockets*.

I learned to be more mindful of the clarinet’s second break. At the recording session, upon hearing the awkwardness of the rapid tremolos that cross that boundary in mm. 128-130, I slapped my ample forehead.

Of the things that I learned while composing *A Celestial Breath*, I hope the performer will bear in mind that I apologize for mm. 128-130.

12. Are you concerned with audience perception of your music? To what extent do you consider audience reception?

I have a target audience of two people: whoever commissions the work, and myself. If one of us doesn’t like it, I’ll go back to the drawing board. It’s great if other people like it, too. If they don’t, I’m OK with that.

APPENDIX D

INTERVIEW WITH PERFORMER PATRICK ENGLERT

1. What musical advice would you give a performer before they begin to learn this part (clarinet two, *Duo for Two Clarinets*, Grant Jahn)?

I would advise any performer interested in learning this piece that, although there are many extended techniques, one should always endeavor to create musical phrases that include the extended techniques. Grant has done an excellent job in downplaying the 'parlor trick' aspect of the microtones, multiphonics, and clari-flute, and utilized these techniques in just as expressive a manner as 'traditional' clarinet playing. Too often, performers, of all skill levels, do not account for extended techniques in the shaping of musical lines; this piece will fail if this approach is taken though.

2. Should performers be aware of any technical difficulties? Are there any specific fingerings that are needed to perform difficult passages?

There are several technical difficulties within this piece. Mostly these fall into the difficulties associated with the extended techniques. The most difficult would be maintaining the tone during the clari-fluting movement, since this is a difficult technique to begin with, and the movement requires a rather high amount of proficiency with this technique. Another major difficulty would be the multiphonics. The difficulty with these lies in transitioning from single to multiple tones, as well as maintaining extended multiphonics.

Specific fingerings are necessary for many of the passages, as the microtones, multiphonics, and clari-flute all call for non-traditional fingerings to achieve the desired effect. These are included in the score though, and require little, if any, adjustment in terms of fingerings.

APPENDIX E

INTERVIEW WITH PERFORMER GAIL NOVAK

1. What musical advice would you give a performer before they begin to learn this part (piano, *Funkalicious*, Reggie Berg)?

Take a moment to see where the clarinet and piano have rhythms together and where they are different. It makes the ensemble work much better.

2. Should performers be aware of any technical difficulties? Are there any specific fingerings that are needed to perform difficult passages?

It is definitely written in a jazz style. The chords were different than I usually play. Some of the ascending and descending patterns were a little awkward. The most difficult part for me was the piano solo. The speed and the writing made it almost impossible.

APPENDIX F
LETTERS OF PERMISSION



EXEMPTION GRANTED

Joshua Gardner
Music, School of
-
Joshua.T.Gardner@asu.edu

Dear Joshua Gardner:

On 10/8/2015 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Clarinetrics - Electrifying the Modern Clarinetists
Investigator:	Joshua Gardner
IRB ID:	STUDY00003312
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	<ul style="list-style-type: none">• Interview Questions, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);• Consent Form, Category: Consent Form;• Protocol Template for IRB, Category: IRB Protocol;

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 10/8/2015.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Celeste Case-Ruchala
Joshua Gardner
Celeste Case-Ruchala

Permission to Use Participant's Name

I understand that my interview will be used as part of the research of this publication and that parts may be quoted in the publication itself, with myself being directly attributed as the source. I agree to this and give you my permission to use my name in the research publication.



Signature of participant

2/23/16

Date

Grant Jahn

Printed name of participant

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James C. "Rusty" Bayles March 5, 2016
Signature of participant Date

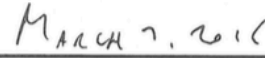
James C. "Rusty" Bayles
Printed name of participant

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Signature of participant



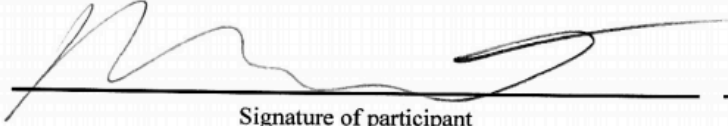
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Signature of participant

3-16-16

Date

Patrick Englert

Printed name of participant

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Gail Novak

Signature of participant

2/29/2016

Date

Gail Novak

Printed name of participant

APPENDIX G

DUO FOR TWO CLARINETS RECORDING

[Consult Attached Files]

APPENDIX H
FUNKALICIOUS RECORDING
[Consult Attached Files]

APPENDIX I
A CELESTIAL BREATH RECORDING
[Consult Attached Files]

APPENDIX J
STAR JUICE RECORDING
[Consult Attached Files]