

Three Newly Commissioned Works for Bass Clarinet:

A Recording and Performance Practice Guide

by

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ABSTRACT

New works for the bass clarinet as a solo instrument are uncommon. In the interest of expanding the repertoire of the bass clarinet, three new works for bass clarinet were commissioned from three different composers, all with different instrumentations. The resulting works are *Industrial Strength* for bass clarinet and piano by Kenji Bunch; *Dark Embers* for two bass clarinets by Theresa Martin; and *Shovelhead* for bass clarinet and interactive electronics by Steven Snowden. Although all three works feature the bass clarinet, they are all very different and pose unique challenges to the performer.

To accompany these pieces, and as an aid to future performers, a performance practice guide has been included with recommendations for individuals who wish to perform these works. Included in the guide are recommended fingerings, practice techniques, and possible adjustments to the bass clarinet parts designed in collaboration with the composers that make the works more technically accessible. Accompanying this guide are full scores of all three works, a recording of them performed by the author, and a chart that contains recommended altissimo fingerings.

DEDICATION

This paper is dedicated to bass clarinet enthusiasts everywhere.

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CHAPTER 1

Dark Embers

Information on the Composition

Dark Embers was commissioned in 2010 and completed in January of 2011. By Theresa Martin, it is an aggressive, virtuosic duet for two bass clarinets that displays the technical abilities and powerful sound of the instrument. The decision to commission a new duet for bass clarinets was influenced by the fantastic recordings and works written for the Sqwonk duo, a bass clarinet duo comprised of Jonathan Russell and Jeff Anderle, including *Black* by Marc Mellits and *Sojourn of the Face* by Cornelius Boots. Between the two bass clarinet parts, *Dark Embers* encompasses a range from the bass clarinet's written low C, one octave below middle C, to the altissimo E above the treble staff. It is a single-movement work of approximately six minutes, with a tempo range from 80 to 160 bpm. Prospective performers should be technically proficient on the bass clarinet, with the ability to quickly and accurately navigate the thumb keys, and be able to rapidly switch between registers.

Dark Embers Program Notes

Theresa Martin wrote the following program notes to be included with the score.

When I began writing a duet for two bass clarinets, I knew I wanted to showcase the instruments' power and agility. The title came to me as I was gathering ideas and sketching motives at the beginning of the writing process. "Dark Embers" evoked images of smoldering hot, smoky coals which can spark a fire at

any moment. Fittingly, the character of the music is fast with volatile changes of gestures. At times the instruments play a single melodic line in unison and then break apart, slightly out of synchronization, creating a blurring of the line. Other times, the instruments play in propelling parallel gestures, depicting the always present danger of spontaneous combustion. When the “Embers” encounter a final wave of momentum, will it lead to ignition or irrigation?¹

Biography of the Composer

Theresa Martin (b. 1979) is a composer of energetic, melodious, and rhythmically driven music. She often draws her inspiration from literature, images, nature, and personal experiences. She enjoys writing chamber music, and, given her expertise in clarinet performance, is frequently commissioned to write for the instrument. Dr. Martin’s music has been heard throughout the U.S., and has been performed in Canada, Great Britain, Sweden, China, and Taiwan. She has been commissioned by clarinetists Robert Spring, Jana Starling, Anne Watson, Yenting Chuang, Wesley Ferreira, Matthew Miracle, and Andrew Hudson as well as tuba player Sam Pilafian, oboist Michele Fiala, bassoonist Albie Micklich, the Barnett Foundation of Chicago, and the Ann Arbor Symphony Orchestra. Her music has been recognized by the American Composer’s Forum (2004), the ASCAP Morton Gould Young Composer’s Competition (2005), and NACUSA Young Composer’s Competition (2006), and has been performed at the International Clarinet Association’s “ClarinetFest” (2007-08, 2010), Aspen Music Festival (2007), Sewanee Summer Music Festival (2010), Midwest Composer’s Symposiums (2006-07), Society of Composers National Conferences in Texas, Arizona, and West Virginia (2005-06), and the American Composer’s Alliance Summer Music Festival in New York (2004). Studying both composition and clarinet performance, she completed her DMA in composition at the University of Michigan, where she studied composition with Michael Daugherty, William Bolcom, and Evan Chambers and clarinet with Deborah Chodacki. She received two masters degrees from Arizona State University in 2004, studying composition with Randall Shinn, James DeMars, Rodney Rogers, and Jody Rockmaker and clarinet with Robert Spring. She

¹ Theresa Martin, *Dark Embers*, (Appleton, WI: Verdant Music Publishing; Tempe, AZ: Potenza Music Publishing, 2011).

currently resides in Appleton, WI with her husband, Josh, and her son, Aidan.²

Practice and Performance Recommendations

The dynamic changes at the opening can be interpreted with some freedom by the performers. The first measure should be a full *forte*, but take care that the figure is not played too loudly, as many sections of the piece are marked *forte*, and must be differentiated by slightly different dynamic levels. The second measure should be played very quietly, preferably *pianissimo* if possible, to provide maximum dynamic contrast for dramatic effect.

Beginning at m. 6, the rhythmic integrity of the ensemble can become an issue. In order to make the rhythms sound “correct,” Bass Clarinet 1 should play the written bottom-line E in m. 6 louder than *mezzo-forte*, due to the natural drop in the intensity of the sound as the bass clarinet rises in its tessitura from the lowest notes to the throat tones. This increase in dynamic level is recommended occur every time either player ascends to this pitch through m. 13.

The rhythmic accuracy of the ensemble may continue to be an issue throughout the next section, beginning at m. 14. Frequently, the two parts combine briefly to form a single rhythmic figure, but just as quickly regain their independence, an example of which can be seen in Figure 1.

² Theresa Martin, “Theresa Martin, Composer Biography,” Theresa Martin, <http://www.theresamartin.net/bio.html> (accessed March 1, 2012).



Figure 1. *Dark Embers* mm. 16-17.

These rhythmic difficulties continue until m. 27, where a new rhythmic amalgamation occurs along with the shift to 3/4 time. Be careful throughout this section to closely observe and adhere to the changes of dynamic level and the articulation markings. The performers should avoid the tendency to accent the downbeats of mm. 27-28, as the downbeats are marked with only a staccato at this point. At m. 43 the figure returns, now with accent marks used more freely, and so this time the figure can be played more aggressively.

Similarly, the dynamics change frequently between mm. 27-48, alternating between *forte* and *piano*. Observing the dynamic changes carefully will not only make the piece more musically effective, but give the performers clues as to whether or not they are arriving together in rehearsal.

At m. 39, the character changes and may be played freer than the preceding music. The performer playing Bass Clarinet 1 may alter the sound to get a breathier, less focused sound, akin to a jazz saxophone. The bass clarinet recordings of jazz great Eric Dolphy are recommended as one possible example of tonal possibilities. Playing

mm. 39-42 “jazzier” will give the audience a brief respite from the aggressive, driving passages surrounding them.

Technical challenges are found in m. 50 in both parts, but can be alleviated through careful practice and application of certain techniques. In beats three and four of m. 50, coordinating the alternating fourth-finger fingers in the Bass Clarinet 1 part can be a challenge, but by leaving the right-hand fourth-finger key depressed the passage can be played more accurately without any “ghosted” notes in between the D-flat and C. Similarly, in the Bass Clarinet 2 part, the thumb key from low D-flat can be left depressed during the first two beats of the measure. Due to the homorhythmic nature of this section, it is imperative that the performers practice together slowly to ensure the rhythms are correct.

In mm. 63-64, the descending intervals in the Bass Clarinet 1 part may pose a challenge to many performers. The tendency of the bass clarinet, if not addressed, is to remain in the upper register when moving to the lower register. To counteract this, the notes must be played very short, with a stopped articulation. Perform the measure as though the last sixteenth-note before each descent from the clarion register were marked staccato, as shown in figure 2.



Figure 2. *Dark Embers* mm. 63-64 with added staccato marks.

In m. 68, the Bass Clarinet 1 part enters the altissimo register for the first time.³ While voicing the open fingering of the altissimo Eb is not as easy as playing the normal fingering used on soprano clarinets, at this higher dynamic level the performer should be able to accurately produce the pitch via the open fingering without too much difficulty. Keep the air stream steady, the tongue light on the reed, and raise the tongue and soft palate before the Eb sounds in order to avoid significant undertones.

After a caesura mark in m. 69, the tempo abruptly changes at m. 70. Players should avoid playing this section faster than marked for two primary reasons. First, these four measures are the first tempo change in the work, and performing them at the marked tempo gives the audience a short break from the driving tempo and rhythms that dominated the previous section. Second, the tempo relationship between m. 70 and m. 74 is a simple doubling of the pulse, and so if m. 70 is played too quickly, then the music at m. 74 will either become

³ Consult Appendix A for recommended altissimo fingerings.

unplayable for most performers or the performers will have to destroy the tempo relationship in order to make m. 74 technically easier.

Open fingerings are recommended for the altissimo fingerings in mm. 72-73, as listed in Appendix A. The louder dynamic levels present in mm. 72-73, like in m. 68, allow the performer to use the open fingerings without having to worry about undertones as long as a light articulation is used. Performers should make certain that the accents in these measures are produced by air only rather than aggressive or overly hard articulation.

At m. 74, time signature changes from duple to triple. The combination of the fast tempo and articulated sixteenth notes may pose some technical issues. While some may wish to try a multiple articulation approach, it is easier if the performers simply add slurs on the first two notes of each three-sixteenth-note grouping, as demonstrated in Figure 3. The bass clarinet's lower register provides a natural sustain unless a very short staccato articulation is used, reducing the likelihood that the added slurs would be heard by the audience.



Figure 3. *Dark Embers* mm. 74-76 with added slurs.

The descending intervals in mm. 90-91 in the Bass Clarinet 1 part may pose a challenge to many performers, as the bass clarinet's

tendency, due to its large reed, is to remain in the upper register through the brief lower pitches. To counteract this, the same approach as in mm. 63-64 can be used; the performer can significantly shorten the upper notes and completely stop the vibration of the reed before playing the lower notes, applying the markings as shown in Figure 4.



Figure 4. *Dark Embers* mm. 90-91 with added staccato marks.

The Bass Clarinet 2 part has a very challenging passage from mm. 98-124, but the most difficult section lies in mm. 109-116 due to the off-the-beat accent markings. The performer needs to carefully observe the accents and avoid any natural accents produced on the downbeats or when the pitches enter the lowest register. These displaced accents can also make the Bass Clarinet 1 entrance in m. 111 challenging, and so the performer should count carefully. It may help to try to ignore the Bass Clarinet 2 part somewhat from mm. 109-116 in order to avoid becoming confused by the unusual accent pattern.

Both performers may have a tendency to overplay the dynamic markings beginning at m. 98, thus changing the character of this

section. Though it is marked at a very quick tempo, the character of the section from mm. 98-116 should feel more relaxed than the previous one. This will help the dramatic, driving music at m. 117 to sound more aggressive by comparison without forcing the performers to exaggerate the phrasing.

In the Bass Clarinet 1 part, m. 123 is possibly the most difficult measure in the piece, as the rapid leaps into and out of the upper register frequently result in either the lower or higher D-flat speaking incorrectly. If technically feasible for the performer, the side fingering for D-flat, found in Appendix A, may be used in this measure to provide a greater chance for the higher D-flat to speak correctly. If the performer is unable to use that fingering, the intervals become less predictable with, and the high D-flat may undertone or otherwise speak incorrectly.

A significant dynamic change occurs at m. 125, and, stylistically, the music reverts to the homorhythmic writing used at the beginning. This change in dynamic and character should be abrupt, and to best accentuate it, it is recommended that performers try to exaggerate the accents and sustain the dynamic level through mm. 123-124. The same abrupt change is suggested be made when the same music appears a few measures later at m. 132.

The tempo change at m. 144 also appears suddenly, as the music reverts to the opening tempo and the composer brings back the music from m. 50, now one octave higher in both parts. Again, the

accents and staccatos must be observed carefully, and any unmarked accents on the downbeats should be avoided. Otherwise, much of the material from this section is the same as it was earlier.

The articulation pattern in the Bass Clarinet 1 part is changed at m. 182 from the first presentation of this material in m. 64, but to make performance of this passage with the added slurs easier, the performer can shift the last slur one sixteenth note towards the end of the bar, as shown in Figure 5. This will make the descending F-Eb interval much easier than slurring it.



Figure 5. *Dark Embers* m. 182 with changed slur position.

The Bass Clarinet 2 part at m. 189 can be challenging if the performer does not have a properly balanced reed. A balanced reed is vital to the consistent production of the bass clarinet's low notes, and an improperly balanced reed can cause notes to play a partial higher than intended. If the low D and E pitches do not speak, speak late, or speak a twelfth higher, carefully examine the balance of the reed, as an improperly balanced reed will greatly impair the response of the bass clarinet's lowest notes.

The rapid leaps into and out of the altissimo register beginning at m. 193 in the Bass Clarinet 1 part can be challenging as well. Instead of using the traditional altissimo E fingering, which tends to speak late and have a tone color that greatly differs from the pitches of the upper clarion on the bass clarinet, the fingering provided in Appendix A is recommended. While it requires a larger shift in the oral cavity, this fingering will produce a tone that is purer and blends better. If the performer has difficulty producing the pitch accurately, play the altissimo E with the recommended fingering more quietly than the other notes, and slightly apply more pressure to the reed. It is preferable, due to the delicate nature of this ending, that the E not speak rather than speak too loudly.

Finally, the two performers should strive to *diminuendo* throughout the last few measures in order to provide musical closure appropriate to the piece, so that the audience imagines the embers dying away as they give off their last bit of light, as suggested by the composer. Again, it is preferable that the last notes do not fully speak rather than speak too loudly.

CHAPTER 2

Industrial Strength

Information on the Composition

Industrial Strength for bass clarinet and piano was commissioned in 2010, completed in July of 2011, and premiered at the International Clarinet Association's ClarinetFest 2011 at the California State University – Northridge. It is a three-movement work for bass clarinet and piano approximately twelve minutes in length. The first movement is marked at 90 bpm to the quarter note, the second at 60, and the third at 126. The first movement is three and a half minutes, the second movement is six minutes, and the third movement is three minutes. Each movement has a different character: mechanical in the first, a slow blues in the second, and the third features a driving energy throughout. It uses a large range, from the bass clarinet's lowest written D to altissimo G-sharp. Prospective performers should be very comfortable in the bass clarinet's altissimo register.

Industrial Strength Program Notes

Kenji Bunch wrote the following program notes to be included with the score.

Industrial Strength, for bass clarinet and piano, is music inspired by the sounds, motions, and powerful forces of factories, assembly lines, and other machine generated industry. In contemplating these qualities, I also found certain emotions to be inexorably connected to them, from the excitement and optimism of booming production to the heartache and disillusionment of abandoned rust belt dreams.

The three short movements of this work explore the notions, from the jagged, mechanical rhythms of the first, to the desolate blues of the second, to the humming full-tilt motion of the finale.⁴

Biography of the Composer

Kenji Bunch has emerged as one of the most engaging, influential, and prolific American composers of his generation. Hailed by the New York Times as "A Composer To Watch" and cited by Alex Ross in his seminal book "The Rest Is Noise," Mr. Bunch's unique blend of wit, exuberance, lyricism, unpredictable stylistic infusions, and exquisite craftsmanship has brought acclaim from audiences, performers, and critics alike.

Mr. Bunch's symphonic music has been performed by over forty orchestras, and his genre-defying chamber works have been performed in premiere venues on six continents. His music is regularly broadcast on national radio, including NPR, BBC, and NHK, and has been recorded on labels including Sony/BMG, EMI Classics, Koch, Kleos Classics, RCA, Naxos, Pony Canyon, GENUIN, Capstone, MSR Classics, Innova, ARS, and Crystal.

As a composer, his residencies include Mobile Symphony (Meet The Composer Music Alive), Spoleto USA, Bravo! Vail, Sound Encounters, the Chintimini Chamber Music Festival, and the Craftsbury Chamber Players. He also served for two years as the composer in residence for Young Concert Artists, Inc. His collaborations with renowned choreographers David Parsons, Nai-Ni Chen, and Darrell Grand Moultrie have received great acclaim.

In 2010, concerts devoted to his chamber music were given at the Stamford Music Festival in England, and at the Perpignan Conservatory in the south of France. Upcoming projects include the world premiere of his Piano Concerto in May 2011 with pianist Monica Ohuchi and the Colorado Symphony. In October, 2011, he will appear as the soloist with the American Composers Orchestra in the world premiere of his viola concerto "The Devil's Box" in Zankel Hall at Carnegie Hall.

⁴ Kenji Bunch, *Industrial Strength*, (New York: Kenji Bunch Music Publishing, 2011).

Mr. Bunch maintains an active career as a violist, and is widely recognized for performing his own groundbreaking works for viola. A founding member of the Flux Quartet (1996-2002) and Ne(x)works (2003-present), Mr. Bunch is a veteran of the New York new music world. A versatile musician with a deep interest in vernacular American music and improvisation, he also plays bluegrass fiddle and sings with the band Citigrass, and is a frequent guest performer, recording artist, and arranger with many prominent rock, jazz, folk, and alternative/experimental artists. In the spring of 2011, he [released] a recording of his complete works for solo viola on Bulging Disc Records.

A native of Portland, Oregon, Mr. Bunch studied at The Juilliard School, receiving his Bachelor and Master of Music degrees in viola with Toby Appel, and in composition with Robert Beaser. Other composing mentors include Eric Ewazen and Stanley Wolfe.

Now a dedicated teacher himself, Mr. Bunch has developed and conducted residencies, workshops, and master classes across the country in composition, viola performance, improvisation, music appreciation, and arts education to students ranging in age from kindergarten to adult professionals. He teaches at the Juilliard Pre-College, and lives in Brooklyn with his wife Monica and rescued pit bull Coffee.⁵

Practice and Performance Recommendations

The first movement of *Industrial Strength* is marked “Mechanical,” and should be played very metronomically, with a strict adherence to the dynamic and accent markings throughout. The bass clarinet’s first entrance, at m. 5, is marked *piano*, but should be played at the lowest dynamic level that can still be heard alongside the piano, so that the following *sforzando* markings sound abrupt and emerge and fade back into the texture as much as possible. This opening requires very slow practice, at first with a very small dynamic change;

⁵ Kenji Bunch, “About Kenji Bunch,” Kenji Bunch, <http://www.kenjibunch.com/about.php> (accessed March 1, 2012).

an example of this approach is shown in Figure 6. The performer can then gradually increase the tempo and the dynamic level of the *sforzandi* until the final level is reached.



Figure 6. *Industrial Strength* I m. 9 with increasing dynamics.

Another suggestion for practice is to add a slur from the note preceding each *sforzando* marking to the note marked *sforzando*, as shown in Figure 7. This will help to counteract the natural tendency to voice the upper pitch too high as a matter of habit carried over from years of performing on soprano clarinets.



Figure 7. *Industrial Strength* I m. 9-10 with added slurs.

Measure 16 contains the first use of the altissimo register in the piece, with staccato accented sixteenth notes ascending to altissimo G-sharp. In performance, the author uses the second fingering for F-natural (written here as E-sharp) in Appendix A. However, for some performers, particularly those performing on Buffet-Crampon bass clarinets, the recommended fingering for F-natural, using the register key and A key, will be too flat to be usable. In that case, performers

should consult Jean Marc Volta's *La Clarinette Basse*⁶, which contains dozens of alternate altissimo fingerings.

Measures 31-40 can pose a challenge to both the soloist and the pianist, as the rhythmic figures interlock and are traded between parts throughout. It is imperative that these measures be played metronomically, and the performers must take care to weave their lines together to produce a single unbroken stream of sixteenth notes.

The large, descending, slurred leaps at m. 35 can also pose a challenge. Getting the low G to sound without any overtones of the clarion D can be difficult when slurred. If necessary, begin practice by removing the slur completely, as shown in Figure 8, and then gradually introduce a softer articulation between the notes until it is barely noticeable. Lowering the tongue and soft palate as well as slowing the speed of the air stream will also help performers accomplish the leaps more easily.



Figure 8. *Industrial Strength* I m. 35 with no slurs and legato articulation.

The next altissimo pitch, D in m. 37, should be played with an open fingering. The extended altissimo passage in mm. 39-41 presents many possible altissimo fingering options. The fingering choices used

⁶ Jean Marc Volta, *La Clarinette Basse* (Paris: International Music Diffusion, 1996).

and recommended by the author consist of playing C-sharp with the first finger, E with the A key, and a combination of two fingerings for F. Both occurrences of F in m. 40 should be played with the A key and the second trill key. This will provide an in-tune F that speaks easily and is technically accessible from the preceding pitches. Measure 41, though, is technically easier if F is played with the A key and the register key. Again, this fingering may not be in tune on all instruments, in which case the fingering recommended for m. 40 will work very well.

Additionally, m. 41 is easier if the sixteenth notes are slurred in groups of two throughout the measure, as shown in Figure 9. This articulation pattern will lessen the likelihood that any altissimo notes played with open fingerings will speak improperly, sounding a twelfth lower than intended, as articulation tends to increase the possibility of sub-tones in the altissimo register of the bass clarinet.



Figure 9. *Industrial Strength I* m. 41 with added slurs and legato marks.

The various octave and multi-octave leaps throughout the next section require a combination of precise voicing, secure fingering choices, and legato articulation. The slurred, descending, two-octave intervals beginning at m. 42 can be performed with the same idea offered for m. 35, where the performer uses a legato articulation to

impair the reed's vibration enough that, in conjunction with a slowed air stream and lowered tongue and soft palate, the lower note sounds without any unwanted overtones.

The multi-octave G-sharp pitches in mm. 45-47 are conveniently marked staccato, and advantage for the performer because the less the reed is vibrating upon the descent to a lower pitch, the easier it is to produce the lower pitch without overtones. For the altissimo G-sharp, the author uses the fingering listed in Appendix A, with the left-hand thumb, first finger, and the bottom trill key depressed. For other fingering options, consult *La Clarinette Basse* by Volta.

The majority of the remaining music in the first movement is largely repeated from earlier passages, with the exception of mm. 65-70. These measures provide little technical challenge other than the tendency to voice the pitches higher than necessary, resulting in a squeak. Performers should fight their natural instincts developed from playing soprano clarinet and keep the tongue and soft palate lower in the mouth, particularly throughout the *decrescendo*, to avoid squeaks.

The second movement of *Industrial Strength* is intended to sound like an improvisatory blues solo. As such, other than a few easily identified places, the majority of the movement features the soloist playing with a large degree of *rubato*. The soloist should listen and learn the musical identifiers that tell when the pianist reaches a

new measure, at which point the soloist can play the next figure with a large degree of freedom.

Nearly all of the measures that require the soloist and pianist to arrive together occur at the beginning of the movement. In mm. 9, 11, 13, and 14 the parts must be played together on the first pitch of the ascending eighth note figure. During the measures that feature more rapid rhythmic figures, though, the soloist can play *rubato* as desired. The thirty-second notes before m. 17 can be especially free, but the last triplet should be played in time to re-establish the tempo at the downbeat of m. 17.

Measures 17-23 provide a difficult tuning challenge, as clarion B and C are featured prominently in, and tend to be quite sharp on many bass clarinets. Furthermore, the low E in m. 23 is very flat on many instruments. In order to lower the pitches in mm. 17-23, the author suggests pulling out slightly at the middle joint before the beginning of this movement. To compensate for the flat low E at m. 23, play very quietly after the initial attack, using the bass clarinet's natural tuning tendencies to play sharp at softer dynamics.

The key to a musically successful performance of the second movement is pacing. Performers should be sure that both dynamic level and intensity build slowly, as mm. 27-46 consist of one long *crescendo*. Within this *crescendo*, however, performers are encouraged to take advantage of natural musical arrival points, and reduce the dynamic level immediately afterward if necessary. At m. 47, the

dynamic level drops significantly, and the tone could become breathier and the articulation more *legato*.

The piano stops playing at m. 55, and the next several bars are a cadenza for the bass clarinetist. While there are countless ways the passage could be played, one option is for performers to continue the slow pacing, observing the numerous rests placed throughout. The descending sixteenth notes in m. 65 should be played in the opening tempo so that the pianist can clearly find the pulse and correctly place the entrance at m. 66. Early published editions of the piece have an incorrect note in the last measure of the movement. The low E from m. 73 should be sustained through the last measure, rather than rising an octave.

The third movement begins in a similar fashion to the first, with a repeated four measure figure in the piano over which the bass clarinetist plays a downbeat-obscuring rhythm. Also like the first movement, the dynamic level in the solo part includes several *subito* changes. Performers should strive for a true *pianissimo* in the opening, and can play the *mezzo-piano* and *mezzo-forte* dynamics slightly louder than marked to accentuate the changes.

In order to prevent the pitches after the grace notes in mm. 8 and 12 from squeaking, performers should practice the finger motion between the two octaves of A slowly. The first finger A key must close completely before the other keys can close, otherwise the A key opening will act as a register vent and produce the higher twelfth.

In m. 20, and again in m. 48 when the same figure occurs, both the altissimo E using the A key and the G-sharp fingering in Appendix A are recommended. To counteract the natural break in sound occurring when crossing partials between the E and G-sharp, the author uses a *glissando* between the notes in performance.

At m. 52, the fingering for altissimo F that uses the side trill key rather than the register key is preferred, as the index finger can usually move faster than the thumb. A very slight pause at the end of m. 57 will help make the descent from altissimo G to clarion D much easier, and will make the *subito* dynamic change more effective as well.

The end of the third movement contains a large amount of altissimo writing, as well as frequent, very quick register changes. Proper voicing throughout this section will require careful practice. Some performers may find it necessary to lightly articulate the last note in m. 70 to facilitate the descending interval. Performers should also be careful not to play mm. 70-72 too loudly, as the loudest measure of the movement should be m. 79 in order to continue the climax through to the end of the movement.

CHAPTER 3

Shovelhead

Information on the Composition

Shovelhead was commissioned in early 2011 and completed in October of 2011. It was premiered on October 23, 2011, at Arizona State University. It is written for bass clarinet and interactive electronics, using a software patch that runs in Max/MSP software. The result is a variety of computer-generated effects during the course of the work, including fixed and variable rate delays, real-time pitch harmonization, dynamic threshold triggers, and playback of a fixed audio track. The work is inspired by the shovelhead engine produced by Harley Davidson throughout the 1960s, 70s, and 80s. As such, the fixed audio track incorporates many different motorcycle sounds. Potential performers need to own, or have access to, a microphone and an audio interface they can use with their computer, and they should download the Max/MSP runtime software⁷. The character changes frequently, but the tempo is marked 120 bpm to the quarter note throughout. Performers should be very comfortable with the altissimo register of the bass clarinet, as the work has a range from the bass clarinet's written low C to one octave above altissimo D.

⁷ In performance the author uses an M-Audio Fast Track Pro interface and an Audio Technica ATM350 microphone. The Max/MSP runtime software can be downloaded from <http://cycling74.com/downloads>.

Shovelhead Program Notes

The Shovelhead was a notoriously cantankerous, but much beloved V-twin motorcycle engine manufactured from 1966 to 1984 by the Harley Davidson Motor Company. The name was derived from the way in which the engine's rocker boxes resemble the inverted heads of coal shovels. Though prone to oil leaks, hard-starting and over heating, this engine defined the unique Harley sound that many love (or hate) today. Thanks to my friend, Amber Alarcón, and my Harley, Fricka, for providing all of the source material upon which this piece is based.⁸

Biography of the Composer

Steven Snowden creates music for a diverse array of settings including theater, dance, film, multimedia installations, and the concert stage. He has focused much of his recent work on interdisciplinary collaboration and is quite active as a performer in both acoustic and electronic mediums. Raised in rural Southwest Missouri, Snowden began composition studies in 2002, received his Masters degree in composition at the University of Colorado and is currently pursuing his DMA at the University of Texas at Austin. He is a co-founder/director of the Fast Forward Austin new music organization and his works have been performed by many outstanding ensembles at numerous festivals and concert series across five continents.

He has recently received awards and fellowships from the Aspen Music Festival, the Left Coast Chamber Ensemble, the Austin Critics' Table, the George Lynn Memorial Foundation, ISCM World Music Days, Future Places Portugal and the ASCAP Morton Gould Awards among others. He is also currently in the final round of applicants for a 2011-2012 Fulbright Grant to develop interactive motion tracking systems in Portugal.⁹

Practice and Performance Recommendations

Because *Shovelhead* requires extreme register playing, it is important that performers do not play with a reed that is too soft.

Playing with a slightly harder reed will also make the harmonized

⁸ Steven Snowden, *Shovelhead* (Austin: Talking Rocks Press, 2011).

⁹ Steven Snowden, "Steven Snowden Bio," Steven Snowden, <http://www.stevensnowden.com/bio.html> (accessed March 1, 2012).

sections easier, as the piece frequently requires the performer to fade in and out over the course of several measures. Appropriate reed strength will depend upon the mouthpiece used, but for a Selmer C* or similar mouthpiece a Vandoren 3 1/2 or similar is recommended.

A click track is played by the software throughout the work through the monitors, so in-ear monitors are suggested. While it is possible to perform the work without the click track, it would be prohibitively difficult, requiring the performer to watch the measure count displayed on the computer for much of the piece. Balance between the speakers and the live bass clarinet is an important consideration as well. The amplifier should be set to a level that just begins to cover the live bass clarinet, and then turned down slightly. This will help the quieter and more subtle elements of the fixed audio track to be heard. In some performing venues, particularly smaller ones, the ideal speaker volume may not be attainable, and so the performer should lower their dynamic levels somewhat to match the speakers.

Figure 10 shows the patch interface. Many of the individual sound settings within the patch can be adjusted to suit the needs of each performer and the audio interface and microphone. In the upper left-hand corner is a large "Play" button that begins the computer patch. Directly underneath that is a dropdown menu that allows the performer to begin at several different places throughout the score for rehearsal purposes. The large "Bar #" display in the center shows the

current measure the patch is playing, and below that are four counters that act as a visual metronome, displaying the beat pattern.

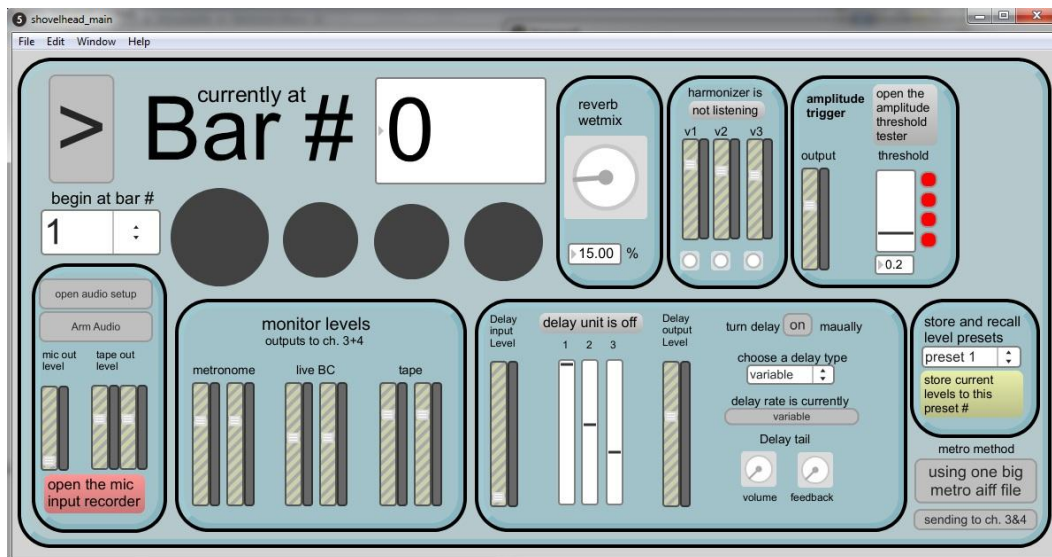


Figure 10. *Shovelhead* Max/MSP patch interface.

Continuing across the top of the patch, the amount of reverb currently in use is displayed by means of a dial and the percentage of wet, or processed, audio. To the right of the reverb display is the harmonizer area, which displays whether or not the harmonizer is currently listening to the performer and modulating pitches in real-time, and three individual sliders allow the performer to adjust the volume levels of the harmonized pitches produced by the computer. At the far right of the top row of display is the amplitude trigger that controls the sound of motorcycles starting at the beginning of the piece. The amplitude trigger monitors the dynamic level received through the microphone, and when the pre-determined dynamic level is reached, the software triggers a sound file of a motorcycle starting. The performer has control over both the volume of the motorcycle

sound files, controlled via the output slider, and the dynamic level at which the sound files are triggered, controlled by the threshold slider. If the sound files are being triggered too early in the appropriate measures, the performer should raise the threshold; if the sound files are not being triggered at all, the performer can lower the threshold. Within the threshold area is a button labeled "open the threshold amplitude tester" that will open a window enabling the performer to see exactly where the threshold should be set to trigger the motorcycle sound files.

In the bottom left corner of the display are the audio interface controls. By clicking the "open audio setup" button, the performer can access the audio controls to ensure that the correct microphone inputs and speaker outputs are being used by the patch. The two sliders in this area control the master levels of the unaltered, or dry, bass clarinet sound and the volume of the fixed audio track. Performers will likely not need to alter these levels; instead balance the dynamic levels with the dials on the amplifier or speakers. The recorder option in this area was originally used in testing the patch, and is needed by performers.

To the right of the audio interface controls are the monitor levels. Here, the metronome, live bass clarinet sound, and fixed audio track levels can be adjusted for the monitor only. This is useful if performers find themselves unable to hear the metronome click track over the sound of the audio track in loud sections of the piece. Further

right is the delay control area, where the delay levels can be controlled by the performer if need be. The delay input level will adjust automatically throughout the course of the piece, but performers can turn the delay output level up or down depending on the balance of the delayed sounds in a given performing venue.

At the far right of the bottom row are two simple controls: the presets controls and the metronome controls. The presets area allows performers to save different settings that they have found work best for them. Changes made to the amplitude trigger, threshold, delay output, monitor, or main tape levels can be saved and recalled without manually reconfiguring the levels every time the patch is opened. The “metro method” area gives the performer a choice between two different methods of metronome click track production. The default setting is for the patch to trigger one large sound file that will begin at the same time that the patch does when the “Play” button is clicked. The secondary option is for the computer to trigger smaller sound files to play each time a beat is reached. Both methods produce the same effect, though the default method, using the single large audio file, is less prone to trigger sounds at the wrong time because it requires less computational resources.

The opening figure in the bass clarinet part, beginning in m. 4, is very aggressive and is backed by loud motorcycle and spoken sounds in the fixed audio track. Play with a full *fortissimo* dynamic, but avoid playing the *staccato* notes in the upper register too short,

because this can cause the bass clarinet to produce undertones. There are many fingering options possible for m. 6, so performers unsure of altissimo fingerings should consult the fingering chart in Appendix A or Jean Marc Volta's excellent resource *La Clarinette Basse*.

Beginning in m. 10, the score indicates a rapidly repeated figure in the bass clarinet part at a *pianissimo* dynamic. The exact pitches are unimportant, as the primary role of this section is to provide a minimum dynamic threshold for the next event, which occurs in mm. 12–13. In m. 12, the performer plays a rapidly ascending run accompanied by a rise in dynamic level. Again, the exact pitches are unimportant, as is indicated by the use of "x" in place of noteheads in the score. The most important part in this figure, and the following figures in mm. 16 and 21, is the extreme increase in dynamic volume. The software patch is set to trigger the sound file of a motorcycle starting when a set dynamic level is reached. As was noted above, the volume required to trigger the patch can be adjusted by moving the "threshold" slider up or down. Ideally the sound of the motorcycle starting should coincide with the loudest dynamic level and highest pitch level reached during the ascending figure.

At m. 31, the bass clarinet part features a "low C gliss effect." During this passage the performer fingers a written low C, the lowest note on the bass clarinet, and alters the shape of the oral cavity in order to produce a large-scale glissando that can easily encompass more than an octave without changing fingerings. The general contour

of the line should be followed, but performers can improvise the exact motion of the glissando. Measure 36 is simply marked “multiphonic” with an A in the staff notated. This A is the pitch of the motorcycle horn that is sounding in the background through measures 36-38, and serves only to inform the performer that a multiphonic centered around an A is preferred. One possible multiphonic is played by fingering an A below the staff and altering the oral cavity so that the top space E in the staff is also produced. Any multiphonic that prominently features the pitch A may be used, though.

The first real-time pitch harmonization occurs in m. 65. As the performer is sustaining the written pitch, the computer generates three pitches by modulating the sound heard through the microphone. The pitches generated by the computer are notated with small, circular noteheads with a dot in the middle. At m. 70, the harmonized pitches are incorporated into a repeated-note figure that swells dynamically. These swells usually begin and end with a very quiet dynamic marking, frequently *ppp*. Performers should start as quietly as possible, even if the first note does not fully speak. If the harmonized pitches sound significantly quieter than the live bass clarinet, first make sure that the microphone input on the audio interface is set to a fairly high level before adjusting the controls within the patch.

The repeated figures at m. 70 and following also present an interesting performance difficulty. Latency is a natural result of the time required to process the harmonized sounds in real-time, so the

sound comes out of the speakers later than the performer is playing. The delay is not significant, but is more than enough encourage the performer to adjust to match the timing of the speakers in the performer. However, this is impossible, because as the performer plays later to match the sound coming out of the speakers, the sound processing will be delayed further. The performer must listen to the metronome click track through the monitors and disregard the slightly delayed sounds produced by the speakers. If the hall is large enough, the performer can somewhat compensate for the delay by placing the speakers forward on the stage and standing slightly behind them.

The harmonized pitches at m. 149 also use a long fixed-rate delay that is not notated in the score. Though a specific dynamic level is not marked, performers may have to play quite loudly to produce the amount of desired delay, which should last roughly until the next bass clarinet note is played. While the notes at m. 149 and following are marked staccato, performers may also find that playing them longer will help the patch produce a longer-lasting reverb.

Glissandos are notated in mm. 172, 175, and 176, but performers may have difficulty bending the notes as much as would be heard in a true *glissando*, since the bass clarinet is very inflexible throughout the lower register. A secondary way to produce the notated *glissandos* is to move the fingers very slowly as they close the pads so that the pitch is significantly flattened before the next notated pitch sounds.

At m. 179, the style reverts to that of the opening, and features a much denser texture in the audio track. The bass clarinet part becomes very rhythmic and is frequently in unison with various sounds in the audio track. As a result, all rhythms and syncopations must be observed carefully. Once the performer has practiced the passage to the marked tempo, practicing this section with the patch will help the bass clarinetist to learn the rhythms.

The “funky” section beginning at m. 195 lowers the intensity of the music, anticipating the virtuosic ending. The bass clarinet part becomes a walking bass line, and should be played in the style of a funk bass guitar player. The staccatos should be very short, and the lower notes played with more accent more than the upper pitches. The tone quality of the bass clarinet can also be altered by changing the shape of the oral cavity similar to what was used earlier to produce the low C multiphonic. This can produce a more “distorted” sound, like that of a slapped bass guitar string.

The music changes styles and registers in m. 211, moving to the altissimo for much of the rest of the piece, and the audio track becomes much busier. Performers can keep the “distorted” bass clarinet sound to blend with the audio track, but the amount of change possible within the oral cavity will be much less, as altissimo notes on the bass clarinet require a more specific shape than the lowest register in order to speak properly. In m. 215-216, the music enters the altissimo, so performers can consult the fingering chart in Appendix A

for potential fingerings. In m. 216, the trill keys used to play altissimo A can be left down while playing the C above without changing the pitch, and doing so will make the measure technically much easier. Though many pitches throughout the final section are marked staccato, they need not be played as a true staccato, but the performer should try to imitate the sound and mimic the articulation of a saxophone in a funk band.

Finally, in m. 226, the performer should play the final quarter note triplet out of time, so that the downbeat of m. 227 arrives early. In the audio track, a spoken line begins very early in m. 227, and in order for the entire line to be heard, the bass clarinetist must finish playing at the downbeat of m. 227. The final two notes in the bass clarinet part should coincide with the sound of a Harley driving off into the distance.

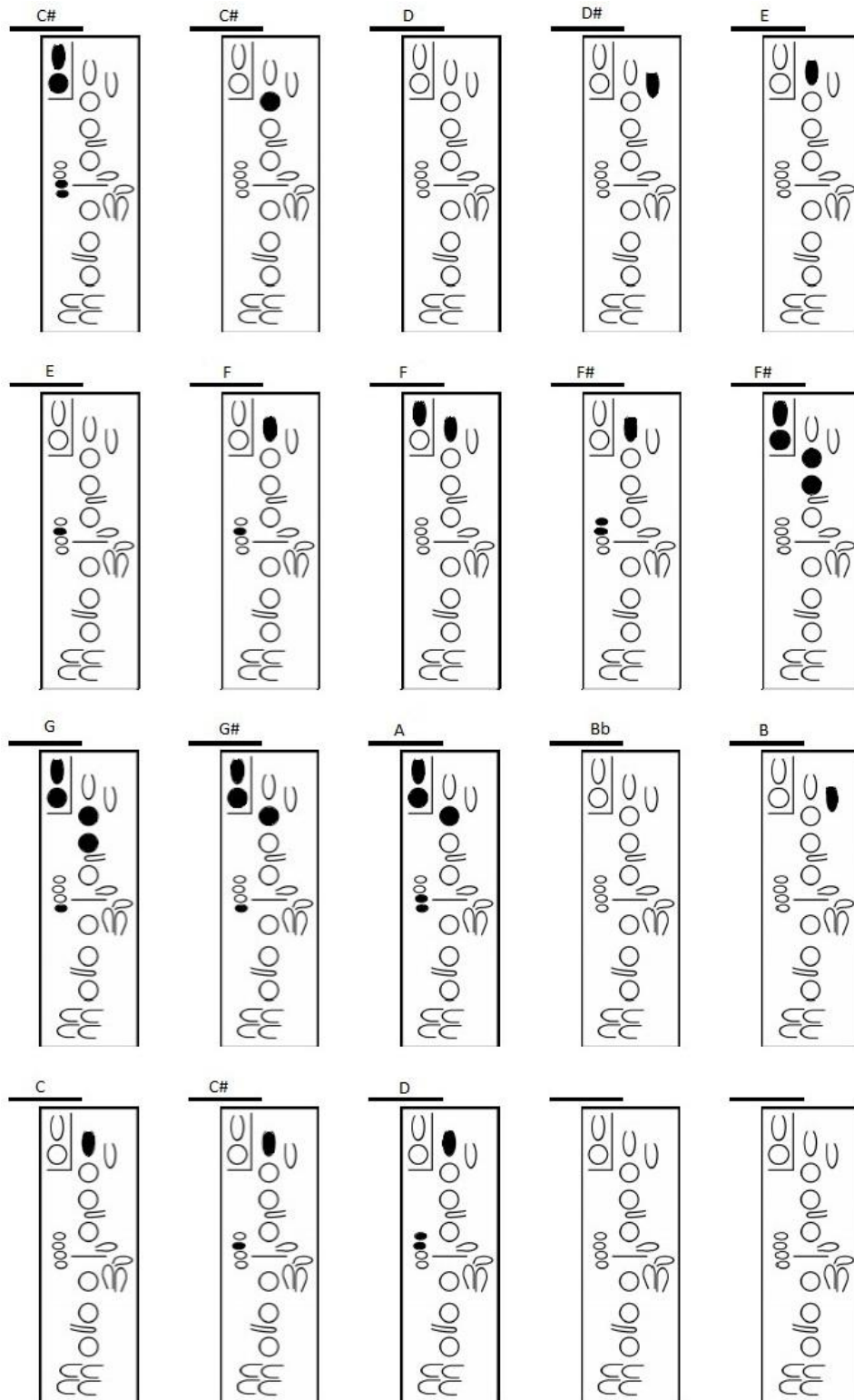
SUMMARY

The three pieces written as a result of this project are very convincing and unique. Each piece is technically idiomatic and well-suited for the bass clarinet, as well as musically pleasing to both performers and audiences. These works deserve to remain a permanent part of the bass clarinet's repertoire, and the author hopes that bass clarinetists throughout the world will enjoy playing these skillfully crafted works.

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APPENDIX A
ALTISSIMO FINGERING GUIDE



Empty fingering diagram © Eric Hansen. Used with permission.

APPENDIX B
LETTERS OF PERMISSION

Theresa Martin, Composer

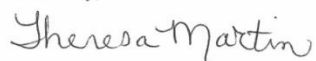
www.theresamartin.net | contact@theresamartin.net

Jan. 10, 2012

To Whom It May Concern,

Matthew Miracle has my permission to include in his doctoral dissertation a copy of the score and any excerpts of *Dark Embers* for bass clarinet duet. The work was commissioned by Mr. Miracle and was performed on his doctoral recital with Andrew DeBoer on Mar. 27, 2011. He also has my permission to include a recording of the work in non-circulating copies of the dissertation.

Sincerely,

A handwritten signature in cursive script that reads "Theresa Martin".

Theresa Martin

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To whom it may concern:

Feb. 25th, 2012

For use in his doctoral dissertation, Matthew Miracle has permission to include the score of *Industrial Strength* along with excerpts thereof in all copies of the dissertation, and to include a recording of the work with non-circulating copies of the dissertation.

Sincerely,

A handwritten signature in dark ink, appearing to be 'Kenji Bunch', with a long, sweeping horizontal line extending to the right.

Kenji Bunch

To Whom It May Concern:

Matthew Miracle has full permission to include all or part of the score and recording of my composition *Shovelhead* in his dissertation materials.

A handwritten signature in black ink, appearing to read 'Steven Snowden', is enclosed within a thin black rectangular border.

Steven Snowden

APPENDIX C
DARK EMBERS SCORE

Dark Embers

for Bass Clarinet Duet
Commissioned by Matthew Miracle

Theresa Martin
2011

With Energy ♩ = 108

Bass Clarinet 1

Bass Clarinet 2

f *p* *f*

p *mf*

8

13

16

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The image displays a page of musical notation, likely for a piano piece, consisting of five systems of staves. Each system contains a treble staff and a bass staff. The notation includes various musical symbols such as notes, rests, and dynamic markings (e.g., f , p , mf , ff). The time signatures vary across the systems, including 4/4, 3/4, and 2/4. The page is numbered 4 in the top left corner.

System 1 (Measures 34-36): Treble staff starts with a key signature of one sharp (F#) and a 4/4 time signature. Bass staff starts with a key signature of one flat (Bb) and a 4/4 time signature. Both staves feature eighth-note patterns.

System 2 (Measures 37-39): Treble staff changes to 3/4 time signature. Bass staff changes to 3/4 time signature. Both staves feature eighth-note patterns.

System 3 (Measures 40-42): Treble staff changes to 3/4 time signature. Bass staff changes to 3/4 time signature. Both staves feature eighth-note patterns.

System 4 (Measures 43-45): Treble staff changes to 3/4 time signature. Bass staff changes to 3/4 time signature. Both staves feature eighth-note patterns.

System 5 (Measures 46-48): Treble staff changes to 3/4 time signature. Bass staff changes to 3/4 time signature. Both staves feature eighth-note patterns.

$\text{♩} = 80$

mp cresc. poco a poco

mp cresc. poco a poco

ff

ff

$\text{♩} = 160$

74

78

82





107

mf

mp

System 1: Treble and bass staves. Treble staff has a melodic line with accents and a dynamic marking of *mf*. Bass staff has a rhythmic accompaniment with a dynamic marking of *mp*.



113

f

mf

System 2: Treble and bass staves. Treble staff has a melodic line with accents and a dynamic marking of *f*. Bass staff has a rhythmic accompaniment with a dynamic marking of *mf*.



118

f

f

System 3: Treble and bass staves. Treble staff has a melodic line with accents and a dynamic marking of *f*. Bass staff has a rhythmic accompaniment with a dynamic marking of *f*.

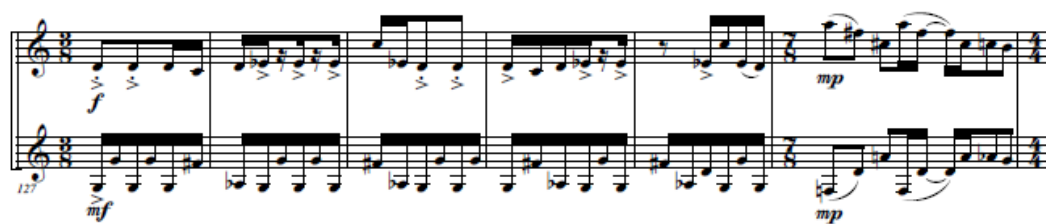


123

mp

mp

System 4: Treble and bass staves. Treble staff has a melodic line with accents and a dynamic marking of *mp*. Bass staff has a rhythmic accompaniment with a dynamic marking of *mp*.



127

f

mf

mp

System 5: Treble and bass staves. Treble staff has a melodic line with accents and a dynamic marking of *f*. Bass staff has a rhythmic accompaniment with dynamic markings of *mf* and *mp*.

133

f

138

f

141

ff

$\text{♩} = 108$

144

mf

147

p

f

System 1, measures 152-154. The music is in 3/4 time. Measure 152 starts with a piano (*p*) dynamic. Measure 153 continues with piano (*p*). Measure 154 features a fortissimo (*ff*) dynamic.

System 2, measures 155-159. The music is in 3/4 time. Measures 155-159 are marked with a mezzo-forte (*mf*) dynamic.

System 3, measures 160-163. The music is in 3/4 time. Measures 160-162 are marked with a piano (*p*) dynamic. Measure 163 features a piano (*p*) dynamic.

System 4, measures 164-167. The music is in 3/4 time. Measure 164 is marked with a forte (*f*) dynamic. Measure 165 is marked with a piano (*p*) dynamic. Measure 166 is marked with a mezzo-forte (*mf*) dynamic. Measure 167 is marked with a mezzo-forte (*mf*) dynamic.

System 5, measures 168-170. The music is in 3/4 time. Measure 168 is marked with a fortissimo (*ff*) dynamic. Measure 169 is marked with a forte (*f*) dynamic. Measure 170 is marked with a forte (*f*) dynamic.

171

174

177

180

183

ff

ff

This musical score consists of five systems of two staves each, spanning measures 171 to 183. The notation is in treble and bass clefs with a key signature of one flat. The music features a variety of rhythmic patterns, including eighth and sixteenth notes, and rests. Measure numbers 171, 174, 177, 180, and 183 are indicated at the beginning of their respective systems. The final two systems (measures 182 and 183) are marked with a forte dynamic (*ff*).

Musical score for measures 186-193. The score is written for two staves. The key signature has two flats (B-flat and E-flat). The time signature is 3/4. The music features complex rhythmic patterns, including triplets and sixteenth notes. Dynamics include *mf* (mezzo-forte) and *p* (piano).

Musical score for measures 189-196. The score is written for two staves. The key signature has two flats (B-flat and E-flat). The time signature is 3/4. The music features complex rhythmic patterns, including triplets and sixteenth notes. Dynamics include *mp* (mezzo-piano).

Musical score for measures 194-201. The score is written for two staves. The key signature has two flats (B-flat and E-flat). The time signature is 3/4. The music features complex rhythmic patterns, including triplets and sixteenth notes. Dynamics include *mp* (mezzo-piano).

Musical score for measures 198-205. The score is written for two staves. The key signature has two flats (B-flat and E-flat). The time signature is 3/4. The music features complex rhythmic patterns, including triplets and sixteenth notes. Dynamics include *mp* (mezzo-piano).

Musical score for measures 202-209. The score is written for two staves. The key signature has two flats (B-flat and E-flat). The time signature is 3/4. The music features complex rhythmic patterns, including triplets and sixteenth notes. Dynamics include *p* (piano).

APPENDIX D

INDUSTRIAL STRENGTH SCORE

Industrial Strength

I.

Kenji Bunch

Mechanical ♩ = 90

The musical score is written for piano and consists of four systems of staves. The first system shows the beginning of the piece with a piano introduction. The second system starts at measure 4, where a melodic line enters in the right hand. The third system starts at measure 7, and the fourth system starts at measure 9. The score includes various dynamic markings: *p* (piano), *sfz* (sforzando), and *8vb* (octave below). The bass line is complex, featuring many accidentals and a steady eighth-note pattern. The melodic line is more fluid, with some grace notes and a variety of note values.

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2 11

(8)

13

(8)

15

(8)

17

(8)

20 3

23

26

28

4 31

34

37

39

41 5

41 *p* *f*

43

43 *p* *f*

45

45 *ff* *ff*

60 7

62

64

66

69

p

p

8va

73

dim. al fine

pp

(8)

76

(8)

78

sfz

(8)

1 Vacant, still ♩ = 60

tr 11

Measures 1-4 of the musical score. The treble clef staff contains whole rests for the first three measures, followed by a trill in the fourth measure marked *pp*. The piano accompaniment begins in measure 1 with a *pp* dynamic, featuring a descending eighth-note scale in the right hand and a bass line with eighth and sixteenth notes in the left hand.

Measures 5-7 of the musical score. The treble clef staff has whole rests in measures 5 and 6, and a half note in measure 7. The piano accompaniment continues with a descending eighth-note scale in the right hand and a bass line with eighth and sixteenth notes in the left hand.

Measures 8-10 of the musical score. Measure 8 features a sixteenth-note triplet in the treble clef staff, marked *p espr.* in the piano part. Measures 9 and 10 continue the piano accompaniment with a descending eighth-note scale in the right hand and a bass line with eighth and sixteenth notes in the left hand.

Measures 11-12 of the musical score. Measure 11 features a sixteenth-note triplet in the treble clef staff, marked *tr* in the piano part. Measure 12 continues the piano accompaniment with a descending eighth-note scale in the right hand and a bass line with eighth and sixteenth notes in the left hand.

12
14

16

tenuto

a tempo

mf espr.

mp

18

20

l'istesso tempo

13

22 *pp*

25 *p*

27 *mp soulful*

29

The musical score consists of two staves, treble and bass clef. The key signature has one sharp (F#). The time signature is 12/8. The tempo marking is 'l'istesso tempo' with a note indicating that a quarter note equals a dotted half note. The score is divided into measures 22 through 29. Measures 22-25 are marked 'pp' and 'p'. Measures 27-29 are marked 'mp soulful'. The right hand features triplets and a five-measure rest in measure 27. The left hand features triplets and a six-measure rest in measure 29.

14

31

mp

33

35

mf

37

cresc.

Detailed description: This page contains a musical score for piano and voice, spanning measures 31 to 37. The score is written in a key with one flat (B-flat) and a common time signature. The piano part is in the lower register, featuring a mix of chords and moving lines. The voice part is in the upper register, with a melodic line that includes some grace notes and slurs. Measure 31 starts with a mezzo-piano (*mp*) dynamic. Measure 33 has a sixteenth-note triplet marked with a '6'. Measure 35 has a mezzo-forte (*mf*) dynamic. Measure 37 begins with a crescendo (*cresc.*) marking. The piano part in measure 37 has a long, sweeping line that spans across the measure.

38

39

40

41

42

43

44

3

tr

4

f

f

3

The image displays a musical score for measures 38 through 44. The score is written for a piano and a melodic line. The piano part consists of two staves (treble and bass clef), and the melodic line is on a single staff (treble clef). The key signature is one flat (B-flat). The time signature is 4/4. Measure 38 features a melodic line with a triplet of eighth notes and a piano accompaniment with a triplet of eighth notes. Measure 39 continues the melodic line with a triplet of eighth notes and a piano accompaniment with a triplet of eighth notes. Measure 40 features a melodic line with a triplet of eighth notes and a piano accompaniment with a triplet of eighth notes. Measure 41 features a melodic line with a triplet of eighth notes and a piano accompaniment with a triplet of eighth notes. Measure 42 features a melodic line with a triplet of eighth notes and a piano accompaniment with a triplet of eighth notes. Measure 43 features a melodic line with a triplet of eighth notes and a piano accompaniment with a triplet of eighth notes. Measure 44 features a melodic line with a triplet of eighth notes and a piano accompaniment with a triplet of eighth notes. The score includes various musical notations such as notes, rests, and ornaments (tr). Dynamics include *f* (forte).

16

46

3

8

8

48

3

3

50

52

4

8

This musical score is for a piano piece, spanning measures 46 to 52. It is written for two staves: a right-hand (treble) staff and a left-hand (bass) staff. The key signature has one sharp (F#), and the time signature is 3/4. The score is divided into four systems, each with a measure number at the beginning of the right-hand staff: 46, 48, 50, and 52. The first system (measures 46-47) features a triplet of eighth notes in the right hand and an eighth-note bass line in the left hand. The second system (measures 48-49) includes a triplet of eighth notes in the right hand and a steady eighth-note bass line. The third system (measures 50-51) shows a more complex right-hand melody with slurs and a consistent eighth-note bass line. The fourth system (measures 52-53) contains a quartet of eighth notes in the right hand and a steady eighth-note bass line. Various musical notations such as slurs, ties, and dynamic markings are present throughout the piece.

54 17

57 *mf*

60 *mp*

63 *p* *lunga* *a tempo* *pp* *tr*

18 (tr) 67 rit. al fine

3

f

70 (tr)

3

3

72

3

3

pp

ppp

n

1 Fast, persistent (♩ = 126)

pp

5

pp

8

mp pp mf

11

p mf

14

17

20

23

This musical score is for a piano and voice piece, spanning measures 14 to 23. The score is written in a key with two flats (B-flat and E-flat) and a 3/4 time signature. The piano part is written in a grand staff (treble and bass clefs), and the voice part is written in a single treble clef. The score is divided into four systems, each containing a voice staff and a piano grand staff. Measure 14 begins with a forte (f) dynamic. The piano part features a complex, rhythmic accompaniment with many sixteenth and thirty-second notes. The voice part has a melodic line with some grace notes. Measure 17 also starts with a forte (f) dynamic. The piano part continues with its intricate accompaniment, while the voice part has a more active melodic line. Measure 20 shows a change in the piano part's accompaniment, with a more prominent bass line. The voice part has a long, sustained note. Measure 23 begins with a new piano part accompaniment, featuring a more rhythmic and active bass line. The voice part has a melodic line with some grace notes.

26

28

30

32

The musical score consists of six systems, each with a vocal line (treble clef) and piano accompaniment (grand staff). The key signature has two flats (B-flat and E-flat). Measure numbers 26, 28, 30, and 32 are indicated at the start of their respective systems. The piano accompaniment features a steady eighth-note bass line and chords in the right hand. The vocal line includes a triplet in measure 26 and a long melodic line with a fermata in measure 32.

34

36

39

42

f

mf

f *mf*

f *mf*

This musical score is for piano and voice. It consists of four systems of staves, each with a vocal line and a piano accompaniment. The piano part is written in treble and bass clefs. The vocal line is in treble clef. The score includes dynamic markings such as *f* (forte) and *mf* (mezzo-forte). The measures are numbered 34, 36, 39, and 42. The music features a variety of note values, including eighth and sixteenth notes, and rests. The piano accompaniment includes arpeggiated chords and moving bass lines. The vocal line includes melodic phrases and rests.

37

Measures 37-38 of a musical score. The system consists of a single treble staff and a grand staff (treble and bass). Measure 37 features a treble staff with a half note G4, a quarter rest, and a half note A4. The grand staff has a treble staff with a half note G4 and a bass staff with a half note G2. Measure 38 features a treble staff with a half note A4, a quarter rest, and a half note B4. The grand staff has a treble staff with a half note A4 and a bass staff with a half note G2.

39

Measures 39-40 of a musical score. The system consists of a single treble staff and a grand staff (treble and bass). Measure 39 features a treble staff with a half note G4, a quarter rest, and a half note A4. The grand staff has a treble staff with a half note G4 and a bass staff with a half note G2. Measure 40 features a treble staff with a half note A4, a quarter rest, and a half note B4. The grand staff has a treble staff with a half note A4 and a bass staff with a half note G2.

61

Measures 61-62 of a musical score. The system consists of a single treble staff and a grand staff (treble and bass). Measure 61 features a treble staff with a half note G4, a quarter rest, and a half note A4. The grand staff has a treble staff with a half note G4 and a bass staff with a half note G2. Measure 62 features a treble staff with a half note A4, a quarter rest, and a half note B4. The grand staff has a treble staff with a half note A4 and a bass staff with a half note G2.

63

Measures 63-64 of a musical score. The system consists of a single treble staff and a grand staff (treble and bass). Measure 63 features a treble staff with a half note G4, a quarter rest, and a half note A4. The grand staff has a treble staff with a half note G4 and a bass staff with a half note G2. Measure 64 features a treble staff with a half note A4, a quarter rest, and a half note B4. The grand staff has a treble staff with a half note A4 and a bass staff with a half note G2.

This musical score is for a piano and voice piece, spanning measures 65 to 72. The key signature is B-flat major (two flats). The score is written in a grand staff with a vocal line on a single treble clef staff and piano accompaniment on a grand staff (treble and bass clefs). Measure 65 begins with a vocal line marked *f* (forte) and a piano accompaniment. The piano part features a complex, rhythmic pattern in the right hand and a more melodic line in the left hand. Measure 66 continues the piano accompaniment. Measure 67 shows the vocal line re-entering with a new melodic phrase. Measure 68 features a vocal line marked *f* and a piano accompaniment marked *mf* (mezzo-forte). Measure 69 continues the piano accompaniment. Measure 70 shows the vocal line re-entering. Measure 71 continues the piano accompaniment. Measure 72 concludes the system with a final vocal phrase and piano accompaniment.

75

Measures 75-76 of a musical score. Measure 75 features a treble staff with a melodic line of eighth and sixteenth notes, and a piano accompaniment in the grand staff consisting of eighth-note chords. Measure 76 continues the piano accompaniment with sustained chords.

77

Measures 77-78 of a musical score. Measure 77 shows a treble staff with a melodic line and a piano accompaniment of eighth-note chords. Measure 78 features a treble staff with a melodic line and a piano accompaniment of sustained chords.

79

Measures 79-80 of a musical score. Measure 79 features a treble staff with a melodic line and a piano accompaniment of sustained chords. Measure 80 features a treble staff with a melodic line and a piano accompaniment of sustained chords.

APPENDIX E

SHOVELHEAD SCORE

Shovelhead

Bass Clarinet in B \flat

Steven Snowden

Aggressive $\text{♩} = 120$

3

ff

3

6

3

3

mp

f

fff

gliss.

9

Amplitude trigger unit on

rapidly repeat pitches

pp

12

ff

pp

15

pp

ff

pp

19

pp

ff

mp

22

ppp

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25

pp

ffp

ffff

screaming and ugly

gliss.

Suddenly mysterious

29

Amplitude trigger unit off

2

*low C gliss effect

Variable rate delay lines fade in

pp

fp

mp

fp

f

34

p

mf

pp

mf

pp

multiphonic

40

ff

breath

ff (sempre)

key clicks

41

ppp

(ff)

46

2

f

ppp

mp

ppp

f

52

click track on

p

mf

mp

ppp

pp

81

91

95

103

108

111

114

118

ppp *mp* *f*

ppp *ppp*

mp *ppp*

f *pp* *f* *mp*

mf *ppp*

mp *ppp*

mp *f* *mp*

Harmonizer off 110

Harmonizer on

Harmonizer off

Bass Clarinet in B \flat

5

123 *Harmonizer on*

ppp *mp* *ppp* *Harmonizer off*

128

mp *f* *pp*

132

mf *ppp* *mp* *ff* *p* *ff* *p*

136

mf *ff* *p* *f* *pp*

140

mf *fp* *mf* *p* *mf* *ff*

144 *Harmonizer on*

149 *With growing suspense*

2

154

160

167

172

179 Aggressive, sassy

182

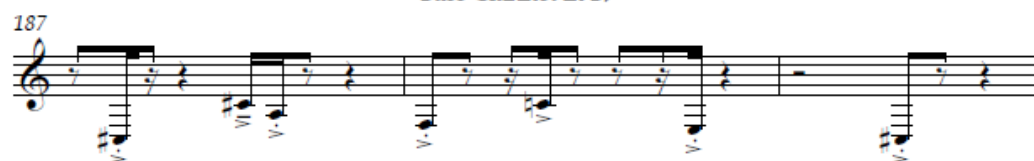
184

Harmonizer off

[aaaaaaai poppy]

3

2



208



211

Gritty, with an improvisatory feel



215



218



222



225

