The Application of Nonverbal Prosody in Scratches, An Original Composition For Trumpet and Chamber Ensemble

Shane Courville
Louisiana State University and Agricultural and Mechanical College

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A Dissertation

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in

The School of Music

by
Shane Courville
B.Mus., Loyola University New Orleans, 2001
M.A. Philosophy and Theology, Loyola University Chicago 2005
M.Mus., University of Louisiana Lafayette, 2014
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ABSTRACT

This project uses research in prosody (the patterns of stress and intonation in language) to inform the compositional process of an original piece of music for trumpet, piano, string quartet, and sign language entitled Scratches. In this paper, I propose that both verbal and nonverbal prosody affects music across all cultures at both the subtle and overt levels of consciousness. It shows up in chanting and rhythmic structures of folk music as well as composers who use the influence of language explicitly. In conjunction with this document, I will discuss and perform the piece I compose through the inspiration of my research in a lecture recital format. The culmination of this research is especially relevant and personal to me in that it combines both my major in trumpet performance and my minor in composition. The end result for this project is especially relevant to me in that it combines both my major in trumpet performance and my minor in composition.
INTRODUCTION

The first chapter of this dissertation defines prosody by going through each of its four types: syllabic, accentual, accentual-syllabic, and quantitative. I then provide a brief account of the history of prosodic research with examples found in Virgil’s *Aeneid*, e.e.cumming’s *what if a much of a which of a wind*, and Dylan Thomas’s *In my Craft or Sullen Art*. Chapter 1 concludes by showing that contemporary study (such as the evolution of prosodic study and prosody without words) has a particular influence on my own composition.

Chapter 2 concerns various linguistic connections to music expressed through culture, including nonverbal language. Some musicologists and linguists suggest that the prosody of a given culture’s speech patterns can affect the entire structure of that particular region’s music and, as a result, have developed a way to measure this. One study, conducted by Aniruddh Patel, finds that rhythmic patterns in English and French have directly affected the musical themes in each of those regions and so there now is an empirical basis in which to make these claims.¹

There is also a study authored by Lauren Applebaum, Marie Coppola, and Susan Goldin-Meadow where prosody in a communication system without a spoken language model exists (such as sign language) which suggests that rhythm and intonation go much deeper than spoken language and actually appear in body movement.²

Chapter 3 will explore how selected composers throughout history have used prosody in their compositional processes. First, Gregorian chant and folk music have been influenced

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directly by language, albeit unconsciously.\textsuperscript{3} Second, there are some composers who use prosody very specifically: for example, Karlheinz Stockhausen in \textit{Michaels Reise}. Other composers acknowledge the influence of prosody but use it less explicitly, such as Gjorgy Ligeti in his \textit{Glissandi} and Steve Reich in \textit{The Cave}.

Chapter 4 explains my own compositional process for \textit{Scratches}. The above research guided the creation of \textit{Scratches} and will also use speech and body movement prosody I have encountered from three distinct times in my life. The first movement is based on my parent’s Cajun speech patterns, the second movement is derived from my time learning Spanish on the streets of Tijuana, and the third movement is inspired by the time I was in the crowd for Barack Obama’s 2008 presidential victory speech in Chicago. Each of these three experiences has greatly influenced my music and my use of the trumpet in my composing and playing in particular.

Accompanying the trumpet in the first movement will be a string quartet – two violins, one viola, and one cello. These instruments provide the chordal and timbral accompaniment for the trumpet solo. They also form the “landscape” for the trumpet and have short conversations with the trumpet by responding to and repeating what the trumpet plays. The second movement is accompanied by piano only, which supports the trumpet’s Spanish mimicry. I listened to Coldplay during my time in Tijuana and have based the piano parts on Coldplay’s style. The instrumentation for the third movement consists of piccolo trumpet, string quartet, piano, and a person signing in American Sign Language (ASL). The piccolo trumpet expresses those languages that tend to be higher pitched with rapid prosodic structure. The two violins and viola play a direct rhythmic transcription of Obama’s 2008 speech mentioned above while the cello

expresses the prosodic structure of languages with lower pitched and slower prosody. The ASL signer will be signing the parts of Obama’s speech that I use in the strings, which shows how prosody also manifests itself in body movement.

When I sit down to compose, the first sounds to spring up in my mind are the vocal sounds I encounter day to day. Particular words do not surface, but rather their general sound and rhythm. I often try to imitate these sounds when improvising on the trumpet – so my compositional process stems from this very basic mimicry. I grew up with a Cajun accent which has a very distinct tone and rhythm, examples of which I will show in this document. In the first movement of Scratches, I applied this rhythm to melodic passages passed around the string quartet and in the solo trumpet.

In 2005 I was sent to Tijuana by the Jesuits to live on the streets for six months without any knowledge of Spanish. In order to learn the language, I listened to the rhythm and tonal inflections used by the locals and would try to mimic them until I started to understand particular words and phrases. The second movement of Scratches is a guided improvisation imitating this process. The trumpet tells a musical story using tonal inflection, timbral change, and rhythm particularly through employing half-valve technique which is a method of playing which requires partially pressing the valves of the trumpet down. This technique can create a very human-sounding timbre and is effective in expressing this process.

I was in Chicago in November 2008 when Barack Obama won the U.S. presidential election. While standing in the Grant Park crowd for his victory speech, I heard many different languages being spoken simultaneously. I have a distinct memory of hearing the rhythmic and tonal play of the combined languages very distinctly. In the final movement of Scratches, the soloist and each instrument of the group (including someone using ASL) take on a particular
language through timbre and rhythm and combine to form something akin to what I experienced in that crowd on that historic night.
PART I. PROSODY
CHAPTER 1. UNDERSTANDING PROSODY

Contemporary prosody is the study of pitch and rhythm of speech and how these elements contribute to the meaning of language. It is typically applied to those aspects of speech that apply to a level above that of the individual phoneme (any distinct unit of sound) and often to sequences of words. Those who study prosody call the sequences of words above the level of a phoneme suprasegmentals, thus prosody can be said to be concerned with the phonetic study of the suprasegmental aspects of speech. At the phonetic level, prosody is concerned with vocal pitch, loudness, and rhythm.\(^4\) Most scholars studying these elements concentrate on measuring these characteristics.

Prosody has been studied from very different perspectives across the spectrum of linguistic science and because of that there has been a diversity in approaches. Distinctions occur from looking at prosody through the perspective of discourse, grammar, pragmatics, and of phonetics. Through the lens of discourse, prosody is seen as solely as communicative – giving meaning through conversation. Grammatically, prosody adds another dimension to language by giving it grammatical rules that preserve a language. Pragmatics examines the distinction between the literal meaning of a sentence and the meaning intended by the speaker, such as attitude (sarcasm, irony, humor, etc).\(^5\) And finally, phonetically speaking, it concerns itself with the basic fundamentals of the structure itself.

Prosody tends to overlap with emotion in speech. The same acoustic features that are used to express prosody (intensity, pitch, rhythm, etc.) are also affected by emotion in the voice. Speech has different levels of information. Its linguistic aspect is the direct expression of


meaning. Its paralinguistic aspect indicates attitude or membership of a speech community. Its nonlinguistic aspect indicates something about the speaker’s vocal physiology or emotional state.\(^6\)

The paralinguistic aspect, interestingly, features an indication of a speaker’s membership within a particular speech community. Effectively they are markers of socioeconomic and sociolinguistic status. For instance, Cajun French speech patterns are very distinguishable from Parisian French patterns. It goes even deeper within these communities as well. A farmer in the country may have a very different pronunciation and pattern for a given phrase than, for example, a business owner in the city.

Gender is another differentiator, which has both paralinguistic and non-linguistic aspects. Some features may be regarded as more masculine or feminine by a speech community (degree of the use of nasal sounds for instance like in the Arabic community),\(^7\) but, features that are purely a consequence of physiological differences are non-linguistic aspects of speech. A speaker’s emotional state is often evident in the speaker’s voice. These features are linguistic to the extent that they are relevant to the immediate meaning of something. Even the state of health of someone can be evident in speech.\(^8\)

For this paper, I focus on linguistic and para-linguistic aspects of prosody using four distinct types of prosody are used. First, syllabic prosody counts a fixed number of syllables in each line, while accent, tone, and quantity play a secondary role. Second, accentual prosody measures only the accents or stresses in a line of verse, while the overall number of syllables

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\(^6\) Gross


may vary in a line. It is very common in Germanic, old English, and modern English verses.

Third, accentual-syllabic prosody counts both the number of syllables and accents in each line. We commonly find it in English poetry. And finally, quantitative prosody does not measure the number of syllables, but depends on the duration of syllables. This can be determined by the amount of time used on pronunciation, such as a free-verse poem that consists of unmeasured lines. We find this type of prosody in Roman and classical Greek poetry.

Syllabic prosody is the most straightforward. Each line consists of a particular number of syllables. Some poems will keep the exact number the same and others will alternate to create a pattern. A good example of the former is Dylan Thomas’s “In My Craft or Sullen Art.”

In my craft or sullen art
Exercised in the still night
When only the moon rages
And the lovers lie abed
With all their griefs in their arms,
I labour by singing light …
But for the common wages
of their most secret heart.

Each line consists of seven syllables, except the last line. The natural accents of English are not followed here, just the number of syllables.

A good example of accentual prosody can be found in e.e. cummings’s “what if a much of a which of a wind.”

what if a much of a which of a wind
gives the truth to summer’s lie;
bloodies with dizzying leaves the sun
and yanks immortal stars awry?
Blow king to beggar and queen to seem
(blow friend to fiend: blow space and time)…

Each underlined segment represents the stress of a phrase and each line consists of four of these.

Just looking at the accents, it comes down to long, short, short, long, short, short, long, short,
short, long – almost like a waltz in music. Each line, though, does not contain the same number of syllables which distinguishes this type of prosody from syllabic prosody.

Virgil’s *Aeneid* is a good example of quantitative prosody. The opening line “Arma virumque cano, Troiae qui primus ab oris..” elucidates a stress pattern that is irregular. Quantitative prosody is unconcerned with number of syllables but with the duration of syllables. ARma viRUmque caNO, TROIAE qui PRImus ab orIS. Each capitalized segment is stressed based on the time it takes to naturally pronounce the line.
CHAPTER 2. STUDIES IN PROSODY

As the study of prosody began to evolve, the ways in which it could be discussed increased. Some musicologists and linguists suggest that the prosody of a culture’s speech patterns can affect the entire structure of the music of a particular region. As a result, these scholars have developed a way to measure this change. Aniruddh Patel conducted a study which found that rhythmic patterns in English and French have directly affected the musical themes in each of those regions and so there is an empirical basis upon which to make these claims.9 Another study authored by Applebaum, Coppola, and Goldin-Meadow showed that prosody in a communication system without a spoken language model exists (such as sign language) and suggests that rhythm and intonation go much deeper than spoken language and actually show up in body movement.10

Patel’s study measures the ways in which humans produce organized rhythmic and melodic patterns in two forms: prosody and music. While these patterns are typically studied by different research communities, their relationship has long interested scholars in both linguistics and musicology. For example, linguists such as Nick Nicholas have borrowed musicological concepts in building prosodic theories and musicologists including Gerald Abraham have used tools from linguistic theory to describe musical structure.11 Patel claims that a composer’s music reflects prosodic patterns in their native language, and scholars over the past half century have voiced this idea repeatedly.12 For example, the English musicologist Gerald Abraham explored this topic at length, citing as one example Ralph Kirkpatrick’s comment on French keyboard

11 Patel
12 Ibid.
music: “Both Couperin and Rameau, like Fauré and Debussy, are thoroughly conditioned by the nuances and inflections of spoken French. On no Western music has the influence of language been stronger.”¹³ In essence, Kirkpatrick, a harpsichordist and musical scholar, was claiming that French keyboard music sounded like the French language. Similar claims have been made about the instrumental music of other cultures. For instance, the linguist David Hall, for instance, suggested a resemblance between Elgar’s music and the intonation of British speech.¹⁴

What makes these claims interesting to me is that they concern instrumental music. It might not be surprising if vocal music reflected speech prosody because that sort of music is directly involved with the rhythmic and melodic properties of a given text in a specific language. But the idea that speech patterns are mirrored in instrumental music is much more controversial. But in his study, Patel found a way to quantify this concept in his study. Without getting into detail beyond the scope of this paper, Patel uses an nPVI or “normalized Pairwise Variability Index” to measure the degree of durational contrast between successive elements in a sequence and was developed to explore rhythmic differences between “stress-timed” and “syllable-timed” languages. Evidence gathered using the nPVI supports Patel’s theory.¹⁵

Empirical work in phonetics has revealed that the nPVI of vowel durations in sentences is significantly higher in stress-timed languages such as British English than in syllable-timed languages such as French.¹⁶ Patel applied the nPVI to the durations of notes in instrumental classical themes from England and France and found that English music had a significantly higher nPVI than French music.¹⁷

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¹³ Patel  
¹⁴ Ibid.  
¹⁵ Ibid.  
¹⁶ Ibid.  
¹⁷ Ibid.
Going even further, Patel asks whether speech melody is reflected in music. The original idea of a connection between prosody and instrumental music was not just about rhythm but also about melody. Patel’s study addresses this issue via a quantitative comparison of intonation and musical melody. Earlier work on rhythm had the benefit of an empirical measure which could readily be applied to music. In the case of intonation, no such measure was available. To overcome this problem, this study employs a recent computational model of speech intonation perception known as the “prosogram”. The prosogram converts a sentence’s fundamental frequency contour into a sequence of discrete tonal segments, producing a representation which is meant to capture the perceived pitch pattern of a speech melody. \(^\text{18}\) This representation allows a quantitative comparison of pitch variability in speech and music. \(^\text{19}\)

The rhythms and melodies of speech and instrumental music can be quantitatively compared using tools from modern phonetics. Using these tools, an investigation of language and music from England and France confirms the intuition that music reflects the prosody of a composer’s native language. The approaches developed here can be applied to the study of language-music relations in other cultures and may prove useful in quantifying non-native prosody. These findings can also give creative power to composers who want to use prosody as a conscious basis for their music.

I am also interested in how prosodic structures show up not just in vocal language but also in physical language. According to a study conducted by Lauren Applebaum, prosody is considered to be the “music” of language and is an important aspect of all natural languages, spoken and signed. She asks the question: \textit{if a child were not exposed to a conventional language}

\(^{18}\) Patel  
\(^{19}\) Ibid.
and had to construct his own communication system, would that system contain prosodic structure? She addresses this question by observing a deaf child who had received no sign language input and whose hearing loss prevented him from acquiring spoken language. Despite his lack of a conventional language model, this child developed his own gestural system. In this system, features known to mark phrase and utterance boundaries in established sign languages were used to consistently mark the ends of utterances, but not to mark phrase or utterance internal boundaries. A single child can thus develop the seeds of a prosodic system. I intuit that composers are affected this way as well.

Prosodic structures, like all other language properties, are produced not only by the vocal cords of spoken language users, but also by the hands, faces, heads, and bodies of sign language users. Although the physical realization of prosodic features differs in signed and spoken languages, their function is the same; in both types, prosody is used to mark structure at syntactic, semantic, and discourse levels of analysis.

Even though prosody shows up differently in spoken and signed languages, the features in each type serve similar functions. For example, the breath, which can mark intonational phrases in spoken languages, is comparable to the blink in sign languages: both are necessary biological events; both can be only temporarily postponed; and both play similar roles by marking intonational phrases. Even beyond natural biological constraints, features in spoken language have their equivalent in sign language. For example, facial expressions are considered the melodies of sign languages; pitch accents and boundary tones are the melodies of spoken language.

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20 Applebaum
21 Ibid.
22 Ibid.
23 Ibid.
24 Ibid.
25 Ibid.
languages.\textsuperscript{26} Research has also shown that prosodic markers used in sign languages, such as eye gaze, body leans, and eyebrow movements, are used and coordinated with speech in hearing individuals, a pattern that begins to develop as early as the second year of life.\textsuperscript{27}

The studies by both Patel and Applebaum draw the conclusion that the formation of prosodic structure in any type of communication is innate for humans. Whether through vocal word formation or body movement patterns of communication, there are stress and rhythmic structures that develop and aid in understanding and communicating. This shows up in a culture’s music as well. For centuries this was done unconsciously, but with the onset of greater experimentation in music from the mid-20\textsuperscript{th} century and onward, prosody has actually been explicitly used to compose music.

\textsuperscript{26} Ibid.  
\textsuperscript{27} Applebaum
CHAPTER 3. COMPOSITIONAL PROCESS AND PROSODY

Composers have often used prosody in their compositional processes. First, Gregorian chant is directly affected language. Second, there are some composers who use prosody very specifically: for example, Karlheinz Stockhausen in *Michaels Reise*. He took essential elements of their compositional styles from both Greek prosody and intuitive moments of guttural vocal expression. There are also some composers who acknowledge the influence of prosody but use it less explicitly, such as Gjorgy Ligeti in his *Glissandi* and *Artikulations* and Steve Reich in *The Cave* and *Tehillim*.

Gregorian chant and folk music are obviously affected by prosody. Language is directly used by both and its musical structure is based on words and phrasing. Chants/cantillations in different languages affect the rhythmic motion and intonation of the “music”. Gregorian intonation, based in Latin, tends to remain around the ordinary male pitch structure. The same goes for the same cantillations in Hebrew. Rhythm and pitch movement is directly connected the individual language of each region.28

*Michaels Reise* is the 2nd act of Stockhausen's opera, *Licht* with *Donnerstag Aus Licht* (*Thursday from Light*), being the section it is part of. *Licht* is a work for acoustic and electronic operatic instruments divided into the seven days with one opera for each day. This opera cycle revolves around three archetypical characters, Michael, Eve and Lucifer, and over the work’s 29 hours, each of these characters are introduced, come into conflict, face temptation and finally come into union. The music is almost entirely based on a “super-formula”, which is a 3-layered melodic-thematic representation of the 3 characters. These formula-themes are threaded throughout the opera's vocal and instrumental fabric. Story-wise, actors and narrative can (and

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often do) change from act to act and the libretto text is sometimes made up of non-traditional grammar, or even purely phonetic sounds.

*Donnerstag* (Thursday) is about Michael’s experience as a human being on Earth, and the celebration of his return to "Heaven". Act II, *Michaels Reise um die Erde* (*Michael’s Journey Around the Earth*) depicts Michael solely by a trumpet theme, and this theme "visits" various cities on Earth and interacts with their individual characters/textures. While traveling to the seventh Station (Africa), a basset horn (representing Eve) is heard, at which point the trumpet pursues the basset horn in a seductive dialogue. Eventually the pair fly off into the distance in harmony.

*Michael’s Reise* is not a typical composition with melodic phrasing supported by harmonic formulae. Instead, it consists of guttural starts and stops, similar to a child first learning language through making noise. The entrance begins with aggressive brass stabs followed by the trumpet playing Michael’s formula: high D-A-B-flat followed by a dotted-eighth note A-flat and sixteenth note D-flat, quarter note D-flat.

![Figure 1. Trumpet Theme from Michaels Reise um die Erde by Karlheinz Stockhausen.](image)

This motif appears throughout the piece. After this happens, Michael departs and soft, hesitant figures sound, mimicking the sound of crying and longing. In each station that follows, the trumpet comes into conversation with instruments associated with each part of the world. Stockhausen does not use the prosodic structure of each region, but uses basic intuitive guttural expressions found in all human language, in the sort of way filmmakers portray “cavemen”.29

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29 Stockhausen, Karlheinz. *Michales Reise um die Erde* Score.
The Cave is a multimedia opera in three acts by Steve Reich, set to an English libretto by his wife, Beryl Korot. It was first performed in 1993 in Vienna by the Steve Reich Ensemble conducted by Paul Hillier. The title of the opera refers to the Cave of the Patriarchs, located in Hebron, where Abraham and Sarah (and several other major religious figures) are buried.

Brief spoken extracts from interviews with individuals from three major religious contexts were used both as they were recorded during the interviews, but also as repeated musical phrases. The melodic phrases used in the opera are all taken directly from the intonation, tone, stress, and rhythm of the natural spoken phrases and sentences used by the individuals interviewed. In other words, the musical phrases are based on the prosody which can be heard in the phrases and sentences spoken by the individuals. Images of the interviewees are also shown on an array of video screens shown during the performance.

Glissandi (1957) is the first electronic composition that Ligeti wrote. It precedes his better known Artikulation, which was written a year later. In Glissandi, the sole effect of music is the glissando, or a continuous slide upward or downward between musical notes. Why does he choose the glissando as a sole element for this piece? Ligeti was interested in speech patterns, especially its articulation. In the study of prosody, smooth pitch movements are thought to be important for their “cumulative function”. In a sentence, the pitch slides up and down, much like a glissando. Ligeti’s focus on glissandi in this piece takes apart the consonant articulation of speech and only uses the pitch changes in language. From there he constructs different types of glissandi: upward and downward motion in the mid-high frequency range, downward glissandi in the mid frequency range with harmonic spectra which sound “nasal”, colored noise glissandi, glissandi controlled by controlling the speed of a recorded tape and sinusoidal glissandi in

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counterpoint within the high range. Unlike Reich, Ligeti took a more abstract approach to prosody and used his interest and intuition to guide his composition.
PART II. SCRATCHES
CHAPTER 4. COMPOSER’S STATEMENT

Scratches I

In the first movement of Scratches, I use my parents’ Cajun speech patterns as the basis for the rhythmic and accentual structure of the melody. Cajun is technically considered a dialect of the French language, although Cajun and standard French are not always mutually intelligible. The French language is classified as a Romance language belonging to the Italic subfamily of the Indo-European family of languages. A wide variety of French dialects can be found around the world, from Africa to Haiti, Canada, Indochina and more; so, the Cajun French spoken in central and southern Louisiana is just one of many types of French, a truly global language.

Generally speaking, Cajun French is considered to be a flat, monotonous language with many repeated tones in one sentence. Its accents tend to be at the beginning of a sentence and the speaker’s tongue sits low and towards the back of the mouth. For example: The famous phrase, “Laissez les bon temps rouler” is accented at the “Lai” syllable only. This phrase can be written as accented 16\textsuperscript{th} note-8\textsuperscript{th} note-16\textsuperscript{th} note followed by 4 eighth notes.

![Figure 2. “Laissez les bon temps rouler”](image)

The opening statement of the trumpet in the first movement of Scratches is based off of this. In measure 32 the trumpet comes in with its opening statement almost identical to “Laissez…” The same thing occurs again at measure 51 with some variation in pitch movement (though it’s only a

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32 Whatley.
Cajuns have the reputation of being boisterous conversationalists. Oftentimes I remember my family speaking over top of each other in very quick, short snippets of phrase that almost sounded like they were making fun of each other – almost mockingly. I try to imitate this in measure 36 with the conversation that happens between the trumpet and the second violin.

The violin starts the conversation with a quick two-note utterance followed by the same in the trumpet immediately. The violin tries to say it three times with the trumpet interrupting each time but finally gives in by the second measure. The trumpet continues the conversation and finishes it by laughing (the triplets in measure 40).
The first and second violins continue the same conversation almost like the second violin telling the first violin what just happened.

Finally, I close the first movement with a phrase my dad used often: “It’s easy to be a good person rather than a bad one.” He would never say “easier.” I have the trumpet move pitches here while the viola and cello keep the monophony going. Each end note of the phrase is brought up a fifth, then a fourth in the trumpet ending on a high C. The movement closes with the long tones from the very beginning of the movement.

![Figure 6. Scratches I measure 55](image)

**Scratches II**

In the second movement of Scratches, I use my experience of learning Spanish in Tijuana as a starting point. The trumpet part is accompanied by a fairly minimalist piano part. During my time in Tijuana, I listened to the band Coldplay often and I associate a lot of memories from this time with them. Accordingly, the piano part mimics Coldplay’s use of the Zen principle in music (minimalism) used by bands like U2 and others. Chords are arpeggiated or repeated rapidly for extended lengths of time. On top of this minimalist piano part is a muted trumpet using half-valve technique throughout in order to represent the accentual prosody of the Spanish I heard in Tijuana.

The Spanish language is distinct in its sound – whether in Spain or Latin America, people are able to mimic its prosodic structure fairly easily. This is how I learned Spanish – through
mimicry. The trumpet technique being used is an attempt to sound human. By holding the valves halfway down and using hand stops and hand motion at the bell of the trumpet a “humanlike” sound is made. King Oliver, jazz trumpet player in the early 20th century, was adept at this.

King Oliver was an American jazz cornet player and bandleader. He was particularly recognized for his playing style and his pioneering use of mutes in jazz. Also a notable composer, he wrote many tunes still played today, including Dippermouth Blues, Sweet Like This, Canal Street Blues, and Doctor Jazz. He was the mentor and teacher of Louis Armstrong. His mute work was well known, and he used a variety of different types in order to get the human-like sound he was known for. Besides mutes, he used derby hats, bottles and cups to alter his sound.

The beginning of the second movement starts out with the piano only playing very rapid sixteenth note hand trills in Cm7. It then moves through Cm7 adding a D, Bbsus, Ab2, Bb7, Eb, Bbm7, Db, Ab2, and so on for a 32 measure sequence. At measure 33, the piano jumps up an octave and the trumpet enters using half-valve-muted technique. The trumpet line is only one line with the central line indicating the most comfortable register of the trumpet’s range – around a G above middle C. Each measure following contains a line indicating the direction of the trumpet should take in its improvisation. This movement is a very loose memory of hearing Spanish spoken through the walls of the chapel I slept in at the convent in Tijuana. I remember phrases starting out high and almost glissing low unless there was a question which then it would gliss upwards.

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34 Martin.
Scratches III

The third movement of Scratches is based off of the first two paragraphs of Barack Obama’s acceptance speech in Chicago in 2008 and the myriad languages I heard around me while standing in Grant Park. The piano is used as a base and is played freely while the rest of the instruments play their lines separately and not in tempo with each other. They come together at the end of the piece following the piano’s ostinato figure and slowly morphing into playing the ostinato with the piano.

The two violins and viola are used as Barack Obama’s voice. Obama has a very distinct prosody. The strings mimic the rhythm and accent of his use of language:

Hello, Chicago! If there is anyone out there who still doubts that America is a place where all things are possible; who still wonders if the dream of our founders is alive in our time; who still questions the power of our democracy, tonight is your answer.

It's the answer told by lines that stretched around schools and churches in numbers this nation has never seen; by people who waited three hours and four hours, many for the very first time in their lives, because they believed that this time must be different; that their voices could be that difference.35

He starts and stops in ways that pull the listener in, demanding their attention, so I try to copy this exactly.

The piccolo trumpet is representative of the higher pitched, sing-song languages like Hindi and other Asian languages. They rise and fall very quickly. The opening is an example of this:

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The trumpet bounces on the same note until near the end of the phrase when it jumps up and falls very quickly.

The cello is representative of the lower pitched, slower languages like Russian and Polish. Eastern European and Russian languages tend to be slower and have downward glisses. The cello mimics this by glissing downward at the beginning of each phrase:

These languages also tend to have large skips in pitch between words and the cello follows this as well:

These three sections and the piano begin the piece in different tempi. As soon as the piano starts its arpeggios, the other instruments lock into its tempo. This is to represent how I felt the people in the crowd reacted to Obama’s speech: slowly, they began to merge together.

Everyone, all different races, nationalities, and age were united by Obama’s message that night
and so the instruments rhythmically come together. Eventually, the piano starts an ostinato on C and the other instruments begin the same until they are all playing the C ostinato.

![Musical notation](image)

Figure 10. Scratches III measure 116

**Conclusion**

The overall harmonic structure of Scratches is simple. The first movement is centered in C, the second movement is centered in A-flat, and the third movement moves back to C. The first movement uses the ostinato in the strings as basis for its harmonic structure which stays in C for the entire piece except for a measure of E-flat major in measures 38, 59, and the final repetition measures 64 to the end.

Throughout history, composers like me have been inspired by language in both direct and indirect ways. Having been inspired by this phenomenon, especially as manifest by Stockhausen, Ligeti, and Reich, I composed *Scratches*, an original composition for trumpet and chamber ensemble using various prosodic situations from my past. The study of prosody has recently shed light on how it affects musical composition and there are now ways of measuring this – in particular how different cultures languages affects the rhythm and intonation of its music. I hope this dive into my own musical inspiration will enliven further studies and compositional practice.
SCRATCHES: AN ORIGINAL COMPOSITION FOR TRUMPET AND CHAMBER ENSEMBLE BY SHANE COURVILLE

Instrumentation

C trumpet
A piccolo trumpet
Piano
Violin I
Violin II
Viola
Cello
Signer in American Sign Language (ASL)

Program Notes

Research in prosody (the study of accents and intonation in language) guided the creation of Scratches. It uses speech and body movement prosody I have encountered from three distinct times in my life. The first movement is based on my parent’s Cajun speech patterns, the second movement is derived from my time learning Spanish on the streets of Tijuana, and the third movement is inspired by the time I was in the crowd for Barack Obama’s 2008 presidential victory speech in Chicago.

Accompanying the trumpet in the first movement will be a string quartet – two violins, one viola, and one cello. These instruments provide the chordal and timbral accompaniment for the trumpet solo. They also form the “landscape” for the trumpet and have short conversations with the trumpet by responding to and repeating what the trumpet plays. The second movement is accompanied by piano only, which supports the trumpet’s Spanish mimicry. I listened to Coldplay during my time in Tijuana and have based the piano parts on Coldplay’s style.

The instrumentation for the third movement consists of piccolo trumpet, string quartet, piano, and a person signing in American Sign Language (ASL). The piccolo trumpet expresses those languages that tend to be higher pitched with rapid prosodic structure. The two violins and
viola play a direct rhythmic transcription of Obama’s 2008 speech mentioned above while the cello expresses the prosodic structure of languages with lower pitched and slower prosody. The ASL signer will be signing the parts of Obama’s speech that I use in the strings, which shows how prosody also manifests itself in body movement.

**Performance Notes**

**Scratches I**
1. This movement is straightforward. The first violin should direct the various entrances for the quartet.
2. The violins at the beginning and end should bleed seamlessly into one another as if they are one instrument.

**Scratches II**
1. The trumpet should compress their valves half-way throughout this entire movement.

2. The direction of the line indicates the direction of the pitch.
3. The lines are suggestions/guidelines for register and contour with pitches indicated at arrival points.
4. Some lines are curved more than others. The performer should follow the lines reasonably close. If a line has a higher curve, make the pitch change more. If the line has less of a curve, move in a more direct motion to the next pitch.

5. The performer should feel free to improvise in order to create a vocal-like sound; ie using the hand over the mute to make the “wa-wa” sound. A plunger is recommended.

Scratches III

1. The trumpet, piano, and cello are each a separate line while the two violins and viola work as a single voice.
2. Each instrument or group may start at a different time and go at a different tempo until the piano starts the arpeggiated ostinato.
3. The first violin should aid in the starts of each phrase for the trio.
4. When the instruments hear the piano ostinato, they are to move into that tempo to finish out the piece.
5. The American Sign Language Signer should feel free to sign throughout the piece. They do not have to follow the rhythm of the strings but find their own rhythm. It should look as close to a dance as possible.
6. The piece finishes after all the instruments have played the final C ostinato for 30 seconds or more.
7. The trumpet should drop out first, followed by the violins, viola, cello, and finally the piano.
begin half-valve improvisation
Scratches

III

Shane Courville

Score

Piccolo Trumpet in A

Piano

Violin I

Violin II

Viola

Cello

improvised glisses

ASL

Hello Chicago!

©
if there is anyone out there who still doubts that America is a place where all things
possible who still wonders if the dream of our founders is alive in our time
who still questions the power of our democracy.
tonight is your answer.

It's the answer told by lines
that stretched around schools and churches in numbers this nation has never seen
that their voice could be that difference.
Picc. Tpt.

Pno.

Vln. I

Vln. II

Vla.

Vc.

10 seconds

15 seconds

15 seconds

15 seconds

20 seconds
play until all instruments have dropped out

etc.
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VITA

Shane Courville was born in Lafayette, LA and started playing the trumpet in the 6th grade. After finishing his BM in trumpet performance at Loyola University New Orleans he entered the Jesuits and taught high school band in Tampa, FL while composing and performing for different groups including Rome Festival Orchestra. He finished his MA in Philosophy at Loyola University Chicago focusing on social justice advocacy, gender and music and has lived in Bolivia, Mexico, and Italy which have influenced his music and art. After leaving the Jesuits in 2009 he moved to New Orleans where he taught and collaborated with different groups including Chard Gonzalez Dance Theatre and Rivertown Repertory Theatre. After finishing his MM at UL Lafayette in trumpet performance and founding their New Music Ensemble he began working on his DMA in trumpet performance and composition at LSU in Baton Rouge. He currently is a member of Versipel, a New Music Ensemble based in New Orleans and is collaborating with multiple composers throughout the South. His opera, The Return, was premiered during his residency with the Acadiana Center for the Arts in 2016 and has two more currently being finished.