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The Music of Language

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ABSTRACT

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Spoken languages are musical. Tonal languages from East Asia and Africa use pitch to convey meaning. Clicking languages from southern Africa use percussive consonants not found in other languages. Constructed languages such as whistled languages from the Canary Islands, and drumming and xylophone languages from Africa are musical-surrogate representations of spoken languages. After a comparison of the musical qualities of these languages, this document will examine how twentieth-century composers have explored the music of language in a way previous Western composers had not. This includes natural languages in the works of Ernst Toch, John Cage, Steve Reich, Vinko Globokar and Georges Aperghis, as well as constructed languages in the music of Kurt Schwitters, Milton Babbitt, Luciano Berio, Cathy Berberian, Stuart Saunders Smith, Adriano Celentano, and Eduard Khil. Unlike previous research of language-inspired music that has focused on individual composers and their works, this document aims to create connections between twentieth-century compositional techniques and to create categories of differentiation between spoken language music.
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INTRODUCTION

Spoken languages are musical. All spoken languages use pitch to convey meaning and aid understanding,¹ but for some languages, pitch can change the core meaning of a word.² These tonal languages, such as Mandarin Chinese, Japanese, and the Bantu languages of Central and Southern Africa, have a melodic character by nature and therefore sound more musical. Furthermore, the Bantu Languages Zulu and Xhosa, as well as the Khoisan language Khoekhoe, use percussive, clicking consonants not found in other languages, adding a unique musical quality to those languages. After a survey of the musical characteristics of natural spoken languages, this document compares how twentieth-century composers have used natural spoken languages in their music, focusing on the works of Ernst Toch, John Cage, Steve Reich, Vinko Globokar and Georges Aperghis. This is not an exhaustive list of language-inspired composers or their works, however, these examples were chosen because they represent either the earliest or the best known examples of innovation. Unlike previous research of language-inspired music that has focused on individual composers and their works, this document aims to create connections between twentieth-century compositional techniques and create categories of differentiation between spoken language music.

This document is divided into two parts. Part I of this document encompasses the first category of differentiation, “natural languages,” surveying their innate musical characteristics, and comparing the music of the aforementioned composers. Then, Part II of this document encapsulates the second category of differentiation, “constructed languages,” concentrating first on their musical features, and then their use by twentieth-century composers such as Kurt Schwitters, Milton Babbitt, Luciano Berio, Cathy Berberian, and Stuart Saunders Smith. Once again, this list is representative, not exhaustive. The aim of this document is not to study composers or their works individually, but to compare the different categories of separation within the totality of spoken language-music literature. Both Part I and Part II can be further divided into music that uses electronics and music that does not. Schwitters, Toch, Globokar, Aperghis, Berberian and Smith all write for the acoustic voice, while Cage, Reich, Babbitt and Berio have examples of both electronic and acoustic works. Furthermore, this document focuses solely on concert music that incorporates spoken languages, both intelligible or gibberish, and therefore does not include music containing non-lexical vocables such as scat singing, beatboxing, foley art, eeping, Inuit throat singing, kabuki theater, konnanol, or tabla bols.

Diana Deutsch studied the musicality of spoken language in 2011. Her research suggests that speech and song utilize similar neural regions, and that speech can seemingly be perceived as transforming into song with repetition.³ Deutsch’s discovery of

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this remarkable aural phenomenon was further studied by the National Institute of Mental Health in 2012, proving Deutsch’s findings and reinforcing the theory that overlapping linguistic and musical neural areas can lead to inhibition in one or both areas.4

Musicians have been utilizing the melodic properties of spoken language in their compositions since the time of the Ancient Greek Chorus, but its popularity declined around the fifth century BCE.5 It wasn’t until 1930 that the speaking chorus was re-popularized with Ernst Toch’s *Geographical Fugue*, which used the rhythm and the sound of spoken text as the piece’s musical elements. Toch’s creative use of language encouraged a heightened interest in music containing speech, leading to the further development of repertory where language itself is the instrument of musical expression.

John Cage exhibited an interest in the rhythmic qualities of natural spoken language in his piece *Living Room Music*. Additionally, Cage experimented with other techniques involving language such as deconstruction in *A Flower* (1950) and *Aria* (1960), the technique of collage in *Speech 1955*, and chance operations in *Mureau* (1970). Steve Reich was also known for incorporating spoken language into his music, for example, *Different Trains* (1988), in which the transcribed melodies of recorded speech is echoed by a string quartet. Vinko Globokar’s piece *Toucher* (1978) is another example of language used musically: the sounds of percussion instruments mimic the


sounds of spoken language. Additionally, George Aperghis uses a similar mimicry in his piece *Le Corps a Corps* (1978), but also demonstrates an additive technique in *Recitations* (1977-78), and a collage technique in *Machinations* (2000). These examples show the variation of techniques possible as twentieth-century composers incorporate natural spoken languages into their pieces.

Besides natural languages, artificially constructed languages such as Klingon, Valyrian, and Na’vi are treated so realistically by fantasy enthusiasts that the languages find their way into the soundtracks underscoring their respective universes. Other constructed languages like Esperanto and Solresol were intended for global communication. Still others known as surrogate languages are musical representations of extant spoken languages such as the Yoruba drumming language, the Silbo whistled language, and the Seenku xylophone language. A survey of these examples will display the myriad musical characteristics of constructed languages.

An innovative category of constructed languages is gibberish languages. With roots in mysticism and literary nonsense, the combination of gibberish and music was first seen in the works of Medieval composer Hildegard of Bingen, but was not popularized until the nineteenth century by Edward Lear and Lewis Carroll. Gibberish language was also one of the key components for the improvisational comedy games of twentieth-century theater academic Viola Spolin. The use of gibberish languages in twentieth-century music composition can be seen in the work of Kurt Schwitters, whose
Ursonate (1932) uses spoken gibberish language as its melodic material and also displays additive processes and the use of musical forms. Another composer that uses spoken language in his music is Milton Babbitt, whose piece Philomel (1964) juxtaposes the sounds of sung vocals with the sounds of spoken text, recorded vocals and synthesized accompaniment. Babbitt’s other language-inspired pieces, Sounds and Words (1964) and Phonemena (1979), apply serial techniques to sung and spoken gibberish phonemes. Luciano Berio’s pieces Thema (Omaggio a Joyce) (1958), Visage (1961), Sequenza III (1965), and Sinfonia (1968-69) also exhibit the use of gibberish languages and incorporate the techniques of collage, musical pointillism, and an attempt to transmit emotions through gibberish text. Berio’s wife Cathy Berberian was the inspiration for much of his language music, and she also composed her own gibberish language piece Stripsody using comic book drawings and onomatopoeia. Finally, Stuart Saunders Smith’s Songs I-IX is another example of music composition which uses gibberish language, similarly to Globokar and Aperghis, by mimicking the sounds of percussion instruments with the voice. Gibberish language has also been used in popular music compositions such as Adriano Celentano’s Prisencolinensinainciusol and Eduard Khil’s Trololo, showing the pervasive appeal of gibberish.

The examples in Parts I and II of this document will display the variations of techniques possible as twentieth-century composers incorporate both natural and constructed languages into their music. Whether languages are tonal or not, natural or
constructed, used as surrogate languages or just complete gibberish, spoken languages are musical, and are a fertile area for music composition.

PART I: NATURAL LANGUAGES

Can YOU read this document? Can you READ this document? Can you read THIS document? A rise in pitch applied to different words of identical sentences creates vastly different meanings. For example, the first sentence is specific about who will read this document, implying there might be other possible readers, the second sentence questions the reader’s literacy, while the third sentence is specific about which document is to be read, suggesting other extant documents.

All naturally occurring spoken languages use pitch to convey meaning, and in the article *English Intonation*, W.R. Lee, mentions nine functions of intonation: attitude expression, grammatical clarity, distinguishing ideas, connecting ideas, adding emphasis, discourse function, organization, measuring vivacity, and showing identity.⁶ These melodic variations in spoken language not only help people communicate more clearly and avoid ambiguity, but they can also be used to connect ideas and create larger structures, similar to how melodies are used in tonal music.

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Although English uses nuances in pitch to aid in understanding, it is not a tonal language and therefore pitch does not have an effect on word meaning. For example, “butter” means “butter” whether it has a high-low or a low-high pitch pattern. Tonal languages are languages in which the pitch of the word can change the meaning of the word. Not just its nuances, but its fundamental meaning. After a comparison of the musical characteristics of natural languages, Part I will discuss the most current musical-linguistic research and then exhibit how natural languages are used in twentieth-century music composition.

Contour Tone Languages

The most widely spoken tonal language in the world is Mandarin Chinese, a member of the Sino-Tibetan language family. In Mandarin, the meaning of tones are distinguished by their contour, with each tone having a different internal pattern of rising and falling pitch. This is known as the contour tone system. For example, the one syllable tone “ma” can have five different meanings in Mandarin depending on the pattern of rising and falling tones used: mother, hemp, horse, the verb “to scold,” or an interrogative suffix. Many Mandarin words, especially monosyllabic ones, are differentiated solely by tone, and multisyllabic words are comprised of combinations of

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7 Yip, Tone, 1.

8 Ibid., 178–184.
syllables with different tones. While Mandarin does use pitch similarly to English to convey the nine functions described by Wells, each Mandarin word and phrase has its own internal tonal structure, so naturally, it and other tonal languages tend to have a more melodic character. Other languages that utilize a contour tone system include Cantonese, Thai, Lao, Hmong, Vietnamese and the Kru languages.

Register Tone Languages

The Bantu languages from the Niger-Congo language family, spoken primarily in Central and Southern Africa, utilize tonality in a different way. The meaning of tones in Bantu languages is distinguished by their pitch level relative to each other. This is known as the register tone system. In addition, multisyllabic words might carry a single tone for the entire word rather than having tonally different syllables like Mandarin. Still, pitch influences meaning. For example, in Dagaare, a Gur language spoken in Ghana and Burkina-Faso, the word “yuori” with a high-low pitch pattern means “name,” while the same word with a low-high pitch pattern means “penis.” Misunderstandings can arise if speakers of tonal languages are imprecise with the pitches of their speech. Other languages that use a register tone system include Burmese, Hausa, Ewe, Igbo, Kasem and Yoruba.


10 Yip, *Tone*, 2.
Tonally Limited Languages

Many languages use intonation in a more limited way, such as Japanese, in which some words have a drop in pitch that affects meaning depending on which syllable the drop follows.\textsuperscript{11} For example, the Japanese word “kaki” has different meanings depending on the position of the drop in pitch. When pronounced with a high-low pitch pattern “kaki” means “oyster,” while a low high pitch pattern (kaki) changes the meaning to “fence,” and a neutral pitch pattern means “permission.”

Other languages that use tone to convey meaning in a more limited way include Chadic, Omotic, Swedish, Norwegian, Lithuanian, Latvian, Punjabi, Cherokee, Navajo and Apache. Although tonal languages are uncommon in the United States, Europe, and parts of Asia, it would be conservative to estimate that between fifty and sixty percent of the world’s languages are tonal.\textsuperscript{12} This means over half the world’s population thinks of language melodically and are accustomed to hearing speech-melodies in their everyday life.


\textsuperscript{12} Yip, \textit{Tone}, p.1.
Click Languages

There are languages in Southern and Eastern Africa that are not known for being melodic, but rather for their use of clicks. These percussive clicking sounds are merely consonants that exist in a handful of African languages like the Khoisan language Khoekhoe and the Bantu languages Zulu and Xhosa. The International Phonetic Alphabet (IPA) recognizes five varieties of click consonants.¹³ Dental clicks are squeaky sounds made by sucking on the backs of the front teeth and are used in English to express pity or shame, and sometimes to call an animal. Lateral clicks are also squeaky sounds, usually louder than dental clicks, and are made by sucking on the molars of either side (or both) of the mouth, and in English, is the sound often used to get a horse moving. Labial clicks are made by smacking the lips together but without pursing the lips as in a kiss. Alveolar clicks are achieved by pulling the tongue down sharply from the roof of the mouth, sometimes using exaggerated jaw motion, making a hollow “pop” sound like the cork being ejected from a bottle. Finally, palatal clicks are made by pulling a flat tongue down sharply from the roof of the mouth, producing a popping sound louder than alveolar clicks, like clapping hands.¹⁴ Although these sounds are not particularly melodic, they


can definitely be thought of as musical. Similar sounds are heard in the traditional Inuit practice of throat singing, or katajjaq, and are also found in the late nineteenth-century rural Tennessee vocal technique called “Eephing,” a kind of rhythmic hiccuping-wheezing thought of as one of the precursors to modern beatboxing.

LINGUISTIC RESEARCH

Whether a language is tonal or not does not limit its potential to be musical. Diana Deutsch, professor of Psychology at the University of California, San Diego, has done research regarding how the brain recognizes music and speech. Her research determined that the pitch variations in speech are not usually perceived (in English) in one hearing, suggesting that the region of the brain controlling pitch recognition becomes latent while listening to speech. She also found that exact repetition of speech can lead to the enhancement of pitch recognition and the activation of musical neural circuitry. The

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result is what Deutsch refers to as the “Speech-to-Song Illusion.”\textsuperscript{17} While producing her second album of musical illusions in 2011, Deutsch had the phrase “sometimes behave so strangely” on a loop while she left the room. After a minute or two she thought she heard someone singing, but it was actually her own voice speaking the text. With her statement on a loop, most listeners begin to hear the musical qualities emerge from the spoken text. If one were to listen to the full statement again, when she comes to the sentence, “sometimes behave so strangely,” it seems as though Deutsch is bursting into song (see Example 1).\textsuperscript{18}

Example 1: Diana Deutsch’s “Speech-to-Song” Illusion (2011).\textsuperscript{19}

Brain imaging research was done by the National Institute of Mental Health in 2012 to codify Deutsch’s research since her findings were based solely on behavioral studies. Their research corroborated Deutsch’s conclusions that speech and song activate similar language-associated neural regions, and that repetition of speech will cause a


\textsuperscript{18} Deutsch, “Speech-to-Song Illusion.”

\textsuperscript{19} Ibid.
“speech-to song” perceptual transformation, especially if spoken syllables have more stable fundamental frequencies or more closely align with conventional musical patterns. This research points to the conclusion that spoken language might have more musical potential than previously thought, and explains why recent composers may have been drawn to language-centered music in their compositions.

NATURAL LANGUAGES IN MUSIC COMPOSITION

The Ancient Greek Chorus

All spoken languages have an innate musical character, and since the very beginnings of human music-making, it can be speculated that the voice has intertwined with music. Although archeological evidence of human music-making dates back to the Stone Age in the form of bone flutes from 36,000 BCE, Ancient Greece is the earliest European civilization that offers enough evidence to construct a well-rounded view of


musical culture. According to Bahn and Bahn, Greeks believed the spoken word was a living thing and vastly preferable to the dead symbols of a written language. Socrates himself is known for his lack of written records. Everything we know about the great philosopher is second hand, suggesting, as Bahn asserts, that he believed once something had been written down, it lost its ability for change and growth.

Greek theater provided the opportunity for spoken words to intertwine with music because the performances always included a chorus of twelve to fifty performers who spoke in unison, commenting on the dramatic action and helping the audience follow the action. The speaking chorus’ popularity was reinforced outside of the theater with performances of lyric poetry at religious festivals and family functions such as marriages, funerals, etc. The importance of the chorus declined after the fifth century BCE, however, as dialogue and characterization of multiple actors became more important.

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25 Ibid., 3.


Since the decline of the Greek chorus, spoken language in music composition has remained subsidiary to the music itself. Composers continued to synthesize language with music: tone painting in Gregorian chant, word painting in sixteenth-century madrigals and Baroque oratorios, and programatic music of the Romantic era and beyond, but in all these cases the words are always sung. Even the innovative “sprechgesang” (speaking-singing) created by Englebert Humperdinck in his melodrama *Konigskinder* (1897) and developed by Arnold Schoenberg in *Pierrot Lunaire* (1912) can only be considered “speech-like” because it still also resembles song.\(^{29}\) Thus, for many centuries, the music of speech was implicit but rarely explicit in concert repertoire. Vocal music continued to mirror the structure and nuances of speech without directly exhibiting its intrinsic musicality. That changed in the twentieth century. Composers began to use speech for its inherent musical value, thinking of the sound of language itself as a musical instrument. This exploration of language capitalized on the natural rhythms and melodies of speech, and composers used the techniques of combining speech with acoustic and electronic music, layering spoken sounds into collage, deconstructing speech to its phonemes, and even inventing their own languages for use in their compositions.

Ernst Toch

It was not until the work of Ernst Toch (1887-1964) that we saw spoken language used within a musical composition. Toch was a composer of classical music and film scores but was best known for his revival of the spoken choir genre with his *Geographical Fugue*, which was the third movement of his *Gesprochene Musik (Spoken Music) Suite* (1930). Written for four voices in strict fugal form, each performer speaks the names of various cities, countries and other geographical locations in Toch’s notated rhythms (see Example 2).

Example 2: Ernst Toch’s *Geographical Fugue* (1930), (m.1-4).31

Because Toch’s subject entries are spoken text, not melodies, he relies on the rhythm of the spoken syllables to add interest and uniqueness to his fugue subject. The

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dramatic rests after the subject’s initial statement “Trinidad” (m.1), in addition to the
dynamic contrast make the subject’s entrances recognizable. Also, the repeated consonant
sounds in words such as “Mississippi” and “Titicaca” (m.1-2), as well as repeated words
like “Mexico, Mexico, Mexico” (m.3) become distinguishable characteristics that help
listeners identify recurring subject entries. Although Toch’s piece does not sound as
melodic as a typical fugue, the structural elements are audibly intact, and the fugal
process is effective with the spoken language.

The *Spoken Music Suite* was meant to be performed by a choir and recorded on
gramophone records, then replayed at a much higher speed. Toch’s original program
notes explain: "increasing the tempo, and the resulting pitch level created a type of
instrumental music, which lead the listener to forget that it originated from speaking."32
This phenomenon is similar to Deutsch’s speech-to-song research, but instead of speech
being transformed into music because of repetition, Toch’s speech-to-music
transformation originated from tempo and pitch being transformed into non-natural
speech patterns. The *Spoken Music Suite* was performed in German only once in 1930,
but completely by chance, the audience happened to include John Cage, who absconded
with the score for the third movement *Geographical Fugue*. When Toch arrived in the
United States in 1935, as a refugee from Nazi Germany, Cage sought him out and
obtained permission for the Fugue to be translated to English and published in Henry

Cowell’s New Music journal.\textsuperscript{33} Even though Toch regarded the piece as an unimportant diversion, it is ironically Toch’s most performed work.\textsuperscript{34}

John Cage

One of the great musical pioneers of the twentieth century was John Cage (1912-92). His music broke boundaries and challenged his audiences to answer the question, “Is this music?” Cage is known for his use of the I-Ching, indeterminacy, and silence, in addition to his inventiveness with prepared piano, and his incorporation of electronics in the form of radios, contact microphones and tape recorders. Cage, although widely criticized for his unconventional techniques, has left his enduring influence on the future of music. While Arnold Schoenberg mentored Cage, he was not impressed with his work, but in a later interview he said, “… [Cage] is not a composer, but he’s an inventor — of genius.”\textsuperscript{35}

John Cage’s creativity extends to the use of language in his music. Many of his early works were written for voice, or voice and piano, and his piece \textit{A Flower} (1950) for voice and closed piano is a demonstration of Cage’s deconstruction of language. There is no text. The vocal line is constructed almost entirely from just four pitches and consists merely of phonemes such as “wah” and “uh.” Cage instructs the performer to sing

\textsuperscript{34} Ibid., 37-59.
without vibrato, and that some passages ought to sound “like a pigeon” or “like a wild duck” (see Examples 3 and 4).  

Example 3: John Cage’s *A Flower* (1950) “Like a Pigeon” (m.30).  

Example 4: John Cage’s *A Flower* (1950) “Like a Wild Duck” (m.36).  

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37 Ibid., 12.  

38 Ibid., 13.
This simple piece is just the beginning of Cage’s experiments deconstructing language. Further examples can be heard in Cage’s Solo for Voice No.1 (1958) and in his “Song Books,” comprised of eighty-nine more vocal solos. Cage also composed using a language-collage technique combined with an abstract-expressionist visual art score in his piece Aria, for voice (1958). Dedicated to Luciano Berio’s wife, Cathy Berberian, who will be discussed later, the text of Cage’s Aria is drawn from vowels, consonants and words from five languages: Armenian, Russian, Italian, French and English. The score is freely notated: Cage explains that duration and pitch are “roughly suggested rather than accurately described,” and that “all aspects of performance which are not notated may be freely determined by the performer.” Cage draws vocal lines in a variety of colors which correspond to different vocal styles chosen by the performer, and symbols are used to represent non-musical noises such as clapping, laughing, or barking like a dog (see Example 5).³⁹

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Cage appreciated the musical qualities of language and tested their capabilities in his compositions using the devices of both deconstruction and collage. Inspired by Ernst Toch’s *Geographical Fugue* (1930), Cage uses spoken language for its inherent musical characteristics in his piece *Living Room Music* (1940), a quartet for unspecified instruments, all of which may be found in a typical living room. The first and last movements are written for household items such as magazines and cardboard, but the second movement features language uniquely by having the performers recite Gertrude Stein's poem “The World Is Round”, while adhering to Cage’s written rhythms (see Example 6).
Example 6: John Cage’s *Living Room Music* (1940), movement II: *Story* (m.1-4).\(^{43}\)

Cage’s spoken music is similar to Toch’s in that specific rhythms for speaking the text are prescribed by both composers, but they differ in that Cage’s piece, although it includes many instances of imitation, is not a strict fugue.\(^{44}\) Besides Cage’s spoken piece being simpler in form than Toch’s, it is also written with a simpler underlying rhythmic structure. As soon as Toch has the Alto voice enter in measure four, the polyrhythm of 2:3 stays consistent throughout the rest of the piece. Although Cage’s piece does include the same polyrhythm, it does not appear until measure twenty two and is used only sporadically after that. Cage’s piece uses a regular sixteenth note subdivision throughout the entire piece, giving it simpler, more beat-driven sound.\(^{45}\)

\(^{43}\) Ibid, 6.

\(^{44}\) Ibid., 6-12.

\(^{45}\) Ibid., 6-12.
Another piece by Cage that features spoken language is *Speech: 1955* (1955) for five radios and newsreader. This piece is about forty minutes long and the score includes timings for the various radio events such as changing stations, varying dynamics, and even moments marked “espressivo.” Performers use stopwatches to keep track of the music and synchronize their events. One performer is instructed to read the newspaper: some stories are to be read aloud and others are read silently. This piece exhibits Cage’s use of electronics in his language-music, in this case highlighting the difference between spoken voice and amplified voice, as well as the evolution of the way we interface with the media.

Another language-music piece in which Cage incorporates electronics is his piece *Mureau* (1970) for one or more speakers and tape *ad lib*. Cage does not incorporate synthesized electronic sounds as do the composers Milton Babbitt and Luciano Berio as will be discussed later, but instead, Cage uses electronics to create an indeterminate soundscape to accompany the spoken text. The text of *Mureau* is compiled from all the remarks by Henry David Thoreau about music, silence and the sounds he heard that are indexed in the Dover Publication of *The Journal* that Cage subjected to a series of randomized manipulations, or “chance operations” using the ancient Chinese divination tool, the *I Ching*, to determine the results. Personal pronouns are varied according to such operations. The title “*Mureau*” for example, is the first syllable of the word “music”

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together with the second syllable of the name “Thoreau.” A performance lasts about an hour, and sections of the text are easily comprehensible, yet others experience a breakdown of understanding into stuttering repetitions of jumbled words that stop mid-sentence like radio static between moments of clarity. His idea of having spoken text undergo chance operations can also be seen in his piece *Muoyce* (1983) based on the text of *Finnegan’s Wake* by James Joyce, *Sixty-Two Mesostics Re Merce Cunningham* (1971) based on Cunningham’s own text “Changes: Notes on Choreography,” and *One12* (1992) in which performers are instructed to create their own text to subjugate to chance operations.  

Steve Reich

Another influential composer of the twentieth century is Steve Reich (b.1936). As a pioneer of minimalism, Reich is known for his “process music” in which pieces slowly and gradually evolve over time. Many of his works employ his “phase-shifting” technique in which two identical musical ideas are offset slightly (out of phase) producing cacophonous results, for example his electronic tape pieces *It’s Gonna Rain* (1965) and *Come Out* (1966), which both use recorded spoken language as their

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Reich’s compositional style was greatly influenced by a trip to Ghana in 1970, where he heard drumming and clapping that used interlocking hocket rhythms and call and response. Upon his return to the United States, these sounds found their way into Reich’s music, for instance his pieces *Drumming* (1971), *Clapping Music* (1972), and later *Nagoya Marimbas* (1994). Reich combined his early electronic work with tape loops and his passion for African hocket rhythms in his Grammy award winning piece *Different Trains* (1988), which also uses language as a key element.

Written in three movements for string quartet and tape, *Different Trains* uses recorded interviews of people in the United States and Europe speaking about their experiences leading up to, during, and after World War II. Independent melodic gestures from the viola and cello imitate the melodic contour and rhythm of the recorded speakers, turning their short spoken phrases such as “From Chicago to New York” into abstract musical gestures (see Example 7).

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Example 7: Steve Reich’s *Different Trains* (1988) “From Chicago to New York” (m.41).

Besides the speech-to-music transformation that takes place throughout the piece, the string quartet continues a rhythmic ostinato that alternates between high and low pitches in the African hocket rhythms Reich learned in the 1970s. Similar to Diana Deutsch’s research, as Reich’s melodies are repeated and intertwined with the recorded speech, the melodic character of the speech emerges.

Reich continued to develop his technique of combining language and music with other works such as his multimedia opera *The Cave* (1993), his amplified chamber ensemble *City Life* (1995), and *WTC 9/11* (2011) for string quartet, a work similar to *Different Trains* in that it dealt with human tragedy juxtaposed against everyday life.

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52 Ibid., 5.
54 Ibid., 182.
Another composer who incorporates language for its natural melodic and rhythmic characteristics is Vinko Globokar (b. 1934). Known for his use of unconventional and extended techniques, especially with the acoustic voice, Globokar’s 1978 composition *Toucher* does this by juxtaposing the sounds of the spoken French language with the sounds of percussion instruments. The piece consists of six scenes from Berthold Brecht’s play *Leben des Galilei* (1939-42), translated from German to French. The scenes are recited by a percussionist who also plays seven instruments that correspond to seven spoken French vowel sounds. The piece begins with what Globokar calls the *Announcement*, a brief demonstration of the vowel sounds and their corresponding percussion instruments. The piece then launches into the text by Brecht; all thirteen characters’ parts being recited by the percussionist while playing along with the corresponding vowels (see Example 8). 

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Example 8: Vinko Globokar’s *Toucher* (1978): Announcement.57

In the first and sixth scene, the percussionist is instructed to speak full volume, giving the voice and instruments equal importance. The second and fifth scene are to be spoken quietly, making the sounds of the instruments more prominent while the sounds of the language dissolve away. Scenes three and four are mouthed only, not spoken, with the percussion instruments completely replacing the sound of the voice.58 The effect of this process is a gradual shift of perception that undermines the importance of intelligibility and instead emphasizes the musical aspects of language itself.

Much of Globokar’s music is centered around language and communication, and, although he does not use electronics, many of Globokar’s extended techniques involve

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57 Ibid., 3.

58 Schick, *The Percussionist’s Art*, 149.
speaking or singing while playing instruments. He has written a series of chamber pieces throughout his career, all of which are titled *Discours*, and he also wrote a series of solo works in 1994 which are titled *Dialog.* A 1999 interview with British composer John Palmer reveals Globokar’s linguistic compositional process: “The *Discours* is a series of eight works … that attempt playing an instrument as one would speak. I’m not interested in the semantic aspect of what is ‘being said,’ as I am equally not interested in the content of the text itself,” says Globokar, “… My main focus is on the different aspects of speech and human communication.”

*Discours II* for five trombones (1967-68), for example, attempts to reproduce the timbres of spoken language (vowels and consonants) on the trombone by manipulating its sound with different mutes and extended techniques. Globokar says the aim of the piece is to achieve timbral control of the trombone and expand its stereotypically idiosyncratic sound palate using techniques that derive from linguistics rather than music.” For example, Globokar instructs the performer to speak into the trombone, and also to create percussive attacks of the tongue by pronouncing the syllable “fla” into the mouthpiece. This technique creates a percussive sound similar to the clicking sounds of Bantu and Khoisan languages. At times, Globokar indicates that the music should sound like a question, an explanation or an order. The composer’s notes to the score highlight his

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61 Ibid.
attempt at combining speech and music: “In the soloist’s ‘discourse’ (p.11-14), The French text serves as the basis of the part which is played. This played discourse should give the impression of a spoken discourse, an explanation. The rhythmic interpretation should resemble that of the French text recited in normal fashion” (see Example 9).\textsuperscript{62}

Example 9: Vinko Globokar’s *Discours II* (1967-68): the soloist’s “discourse” (p.11).\textsuperscript{63}

In the aforementioned interview with John Palmer, Globokar goes on to describe *Discours III* for five oboes (1969) as a similar exercise in playing music like one is reciting text.\textsuperscript{64} Globokar’s score to *Discours III* includes instructions for the performers to sing and play simultaneously, to whisper consonant sounds into their instruments, to murmur words in rapid succession while holding the oboe reeds lightly in their mouths, as well as to perform passages as “descriptions, commentary, interpretations or


\textsuperscript{63} Ibid., 11.

\textsuperscript{64} Palmer, “In Conversation with Vinko Globokar.”
developments.” Globokar’s notes to *Discours III* explain his treatment of spoken text in greater detail:

The Discours is an instrumental interpretation of the verse *La Nature est un temple*… Faithful adherence to the phonetical structure of the text is of major importance… Whilst playing, the soloist should attempt to articulate each individual word: timbre of syllables, vowels and consonants and appropriate speech rhythm. The overall effect which the player should try to create is not a “played” performance, but rather a recitation.65

There are two passages involving text that are unique to *Discours III*: one in which rapid utterances of the verse *La Nature est un temple* are interjected with an increasing number of short notes played on the oboe until the spoken text is gradually transformed into an oboe melody, in addition to a passage in which performers are instructed to sustain a note on the oboe and interject words sung at the same pitch as the note being played (see Examples 10 and 11).66


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65 Ibid.


67 Ibid., 17.

These techniques are similar to the ones used in Globokar’s piece *Toucher*, combining the timbres of voice and instruments, and blurring the lines between speech and music.

Globokar’s interview with John Palmer goes on to describe *Discours VI* for string quartet (1981-82) as a study on the use of gesture in speech in which musicians are asked to speak in musically-shaped phrases, pantomime, and dance while they play.  

*Discours VII* for wind quintet (1987) uses spatialization by having performers surround the audience, but it also incorporates the interesting linguistic component of having the tuba player speak into his/her instrument instead of playing it in the traditional sense.  

Lastly, *Discours IX* for two pianos (1993) also includes sections where the performers are asked to speak, first consonant sounds, then vowels, then both combined. Vocalizations become more frequently interspersed with the piano music and eventually erupt into a chant-like section, followed by falsetto singing and screams.

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68 Ibid., 17.

69 Palmer, “In Conversation with Vinko Globokar.”

70 Ibid.

Other pieces by Vinko Globokar that use language include *Ombre* (1987) for percussion and electronics, *L’Exil No. 1* and *No. 2* (2012) for soprano (or tenor) and chamber ensemble.

Georges Aperghis

Georges Aperghis (b. 1945) is another composer known for his experimental music compositions, especially his work with musical theater and electronics. Aperghis is also known for incorporating the speaking voice into his compositions, for example *Recitations* (1977-78) for solo voice, *Le Corps a Corps* (1987) for solo percussion (voice and zarb), *Machinations* (2000) for four female voices and computer, and *Avis de tempete* (2005), Aperghis’ opera with chamber ensemble and electronics. As a student of Iannis Xenakis and an admirer of John Cage, Aperghis combines Cage’s theatrical elements with Xenakis’ complex rhythmic structures, but then adds his own obsession with the spoken voice and electronics. His piece *Recitations* (1977-78) for solo voice is a purely acoustic example of Aperghis’ fixation on the musical qualities of speech. The composer explains his process: “Rather than creating melodies simply by combining higher and lower notes I use syllables and phonemes, the components of our language.”

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process that elongates phrases to an extent that makes it difficult for the performer to breathe (see Example 12).

Example 12: Georges Aperghis’ *Recitations* (1977-78), No.11 (excerpt).\(^73\)

Another noteworthy acoustic example of Aperghis’ combination of language and music is *Le Corps A Corps* (1978) for solo percussion. Scored for zarb (a small Arabic hand drum) and spoken voice, the performer is asked to recount a day at the racetrack in French while portraying many different roles: the driver, the commentators, the audience, and even the car itself. Aperghis combines the musical gestures and spoken text into decreasingly smaller pieces as the drama intensifies, including copious instructions for

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the extended techniques such as shouting (cri) and percussive tongue clicks (langue). *Le Corps A Corps*, like many of Aperghis’ works, walks a thin line between music and theater (see Example 13).74

Example 13: Georges Aperghis’ *Le Corps a Corps* (1978), (line 10).75

Another work by Aperghis that showcases language and electronics is *Machinations* (2000) for four female voices and computer. Each performer pronounces phonemes, which gradually overlap to form mixtures of different “languages,” while the computer performer manipulates and deconstructs the spoken language into dense counterpoint. *Machinations* shows different concentrations of phonemes and different ways to pronounce them and is yet another example of how language is used musically in music composition in conjunction with electronics.76 Since there is no published score,


every performance is mostly improvised and therefore unique. The original performance was at the Whittener Days for New Chamber Music in Germany (2000), in which stage designer Daniel Levy created four seated stations for the performers that included dramatic lighting and overhead cameras that projected imagery of handheld “natural” objects (stones, leaves, tree bark, etc.) along with the performance. In 2009, Dutch performance group VocaalLab’s artistic director Romain Bischoff obtained Aperghis’ permission to attempt a confrontational conception of the piece involving the four performers standing among the audience, surrounding them with the sounds of spoken text, the enchanting movements of modern dance, and projected film images of the phrases: “So we are machines, or better: man is a machine. Are women machines? I am a machine myself.”


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77 Ibid.

PART II: CONSTRUCTED LANGUAGES

So far we have only discussed the musicality of natural languages, meaning languages that have evolved organically in humans through use and repetition and without premeditation. These natural languages and their musical characteristics have been used by twentieth-century composers in their works, and are to be distinguished from formal languages and constructed languages.\(^79\) Formal languages, used in mathematics and computer science, work well for solving equations or programming computers, but the symbolic fragments and limited grammar do not allow formal languages to work well as spoken languages.\(^80\) Therefore, formal languages have limited musical capacity.

For Artistic Purposes

Constructed Languages on the other hand, are languages that have been deliberately created for artistic purposes, or to encourage international communication, and they have great potential for music composition. The Elvish languages constructed by J. R. R. Tolkien for his trilogy *The Lord of the Rings* add a layer of historical realism to his fantasy universe. Tolkien’s approach to creating languages was scholarly. Not only


\(^{80}\) Stefano Crespi Reghizzi, *Formal Languages and Compilation (Texts in Computer Science)* (New York: Springer, 2009), 8.
was he a professor of language and literature at Oxford, but he was a philology specialist, meaning he studied languages in oral and written historical sources with a special interest in the Old Norse language. In the foreword to the second edition of *The Lord of the Rings*, Tolkien describes his process of creating languages while considering influential factors like wars and migrations: “It was primarily linguistic in inspiration and was begun to provide the necessary background of ‘history’ for Elvish tongues”. Besides the works of J. R. R. Tolkien, constructed languages that have been used to enhance the realism of renowned fictional worlds include Klingon from the science-fiction franchise *Star Trek*, Dothraki and Valyrian from *Game of Thrones*, and Na’vi from the *Avatar* universe.

Fantasy enthusiasts treat these constructed languages so realistically that they are imbued into the soundtracks underscoring their respective universes. Howard Shore’s film score for *Lord of the Rings* incorporates extensive vocal music, the great majority of which uses Tolkien’s invented Elvish languages. As for Klingon, there are at least twenty examples of Klingon songs and at least three Klingon operas referenced in the various *Star Trek* series. There have also been subsequent productions of *A Klingon Christmas Carol*, by Christopher Kidder-Mostrom, in addition to the Klingon opera-ballet “wa’ saD ram wa’ram je,” composed by Jon Silpayamanant to a libretto by Jon

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Silpayamanant and Robert Bruce Scott, and the Klingon opera ‘u,’ with music composed by Eef van Breen and libretto by Kees Ligtelijn. The following example is the Klingon phrase, “Revenge is a dish best served cold,” written with creator Marc Okrand’s Klingon alphabet that was adapted into the TrueType plqaD font by Dr. Lawrence Schoen (see Example 14).

Example 14: Klingon: “Revenge is a dish best served cold.”

Game of Thrones’ composer Ramin Djawadi did not write any songs for the warmongering Dothraki. Their fierce, indigenous character is personified instead by taiko drumming. However, R. R. Martin’s High Valyrian language was further developed by David J. Peterson and is used in main character Daenerys Targaryen’s theme song “Mhysa.” The following example is the Valerian phrase, “His Valerian is terrible!”

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using the Valyrian alphabet devised by Tsikhi known as Valyrio Tengvar based on Tolkien’s Tengwar (Elvish) script (see Example 15).\textsuperscript{89}

Example 15: Valyrian: “His Valyrian is terrible!”\textsuperscript{90}

\begin{center}
\includegraphics[width=0.5\textwidth]{valyrian.png}
\end{center}

Lastly, the Na’vi language of the Avatar universe, created by Paul Frommer, was used extensively in the Avatar soundtrack to create an alien, indigenous sound. The film’s composer James Horner created an upbeat “weaving song,” a solemn “tree song,” and the powerful “hunt song,” all of which incorporated the Na’vi language.\textsuperscript{91} The following example is the Na’vi phrase, “Come with me if you want to live!” using the Na’vi script created by Ian James (see Example 16).\textsuperscript{92}

Example 16: Na’vi: “Come with me if you want to live!”\textsuperscript{93}

\begin{center}
\includegraphics[width=0.5\textwidth]{navi.png}
\end{center}


\textsuperscript{90} Ibid.

\textsuperscript{91} Wanda Bryant, “Creating the Music of the Na’vi in James Cameron’s Avatar: An Ethnomusicologist’s Role,” Ethnomusicology Review 17 (2012).


\textsuperscript{93} Ibid.
For Communication

Besides constructed languages being used for artistic purposes, they have also been intended for international communication. The most widely used constructed language for this purpose is Esperanto. Published in 1887, L. L. Zamenhof’s book *Unua Libro* was more popular than other constructed international auxiliary languages like Volapuk because Esperanto was easier to learn for speakers of Indo-European languages. It has evolved to include an estimated two million speakers worldwide including about one thousand native speakers who were taught Esperanto from birth. A remarkable attempt at a universal language, Esperanto draws its roots from many other languages. It uses a Latin-derived alphabet, a Slavic sound inventory and semantics, and a vocabulary that derives mostly from the Romance languages. Written in Esperanto, the following example shows Article One of the United Nations’ Universal Declaration of Human Rights (UDHR), “All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood” (see Example 17).

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Example 17: Esperanto: Article One, UDHR.97

Čiuj homoj estas denaske liberaj kaj egalaj laŭ digno kaj rajtoj. Ili posedas racion kaj konsciencen, kaj devus kondui unu al alia en spirito de frateco. 
(Artikolo 1º de la Universala Deklaracio de Homaj Rajtoj)

The main criticism of Esperanto was that it was aggregated from European languages exclusively, meaning potential speakers outside Europe would have a more difficult time learning the language.98

A more recent attempt at a constructed language for global communication is Toki Pona, a minimalist language created in 2001 by Sonja Lang. With only fourteen sounds and one hundred twenty three words, Toki Pona is intended to simplify communication and thereby the speaker’s thoughts as well.99 An advantage of Toki Pona is that the sounds were chosen to be easy to pronounce for all people regardless of their linguistic background. The vocabulary of Toki Pona comes from various languages, including English, Esperanto, Finnish, French, Croatian, Japanese, Dutch, Mandarin Chinese, and Welsh. Besides the Latin script, many different scripts are used to write Toki Pona: Sitelen, a script developed by Jonathan Gabel based on the Mayan script, and the Toki Pona Script, which uses the dingbats font as well as mathematical symbols. There are also ways to write Toki Pona with the Runic and Tengwar (Elvish) scripts. The

97 Ibid.


following example shows the difference in appearance of these scripts as they translate Article One from the Universal Declaration of Human Rights (see Examples 18-20).\textsuperscript{100}

Example 18: Toki Pona, Latin Script: Article One, UDHR.\textsuperscript{101}

\begin{displaymath}
\text{jan ali li kama lon nasin ni: ona li ken tawa li ken pali. jan ali li kama lon sama. jan ali li jo e ken pi pilin suli. jan ali li ken pali e wile pona ona. jan ali li jo e ken pi sona pona e ken pi pali pona. jan ali li wile pali nasin ni: ona li jan pona pi ante.}
\end{displaymath}

Example 19: Toki Pona, Sitelen Script: Article One, UDHR.\textsuperscript{102}

\begin{center}
\includegraphics[width=0.8\textwidth]{sitelen.png}
\end{center}

\textsuperscript{100} Ibid.


Only about one hundred people speak Toki Pona fluently, with several hundred others having some knowledge of the language. It is mostly used in online forums, and on social media by constructed languages enthusiasts. Other universal constructed languages that were less successful than Esperanto or Toki Pona include, but are not limited to: Volapuk, Ido, and Lojban. We will see in the works of many twentieth-century composers that constructed languages can have melodic and rhythmic characteristics like natural languages, and can be used in music composition in innovative ways.

Constructive Musical Languages

Musical Languages are constructed languages based on musical sounds, which, unlike tonal languages where pitch and duration are relative, musical languages use precise pitches and

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104 Ibid.
duration to convey meaning. The best known constructed musical language is Solresol.\textsuperscript{105} Around the same time Zamenhof was experimenting with Esperanto, Jean-Francois Sudre was writing his book \textit{Langue musicale universelle}. Published posthumously in 1866, Sudre’s language Solresol uses the seven tones of the Western major scale as its phonemes and represents them in a number of ways: music notes on a staff, spoken solfege syllables (Do, Re, Mi…), the seven colors of the rainbow, numbers, and a specifically designed set of Solresol symbols. Thus, Solresol can be communicated through melody, speaking, singing, signing, flags/lights of different color, writing, even painting.\textsuperscript{106} The following example shows the phrase, “I speak Solresol,” written in Latin script, numerical notation, and colored block notation (see Example 21).

Example 21: “I Speak Solresol:” Latin Script, Numerical, and Colored Block Notation.\textsuperscript{107}

\begin{center}
\begin{tabular}{c}
\textit{Dore domilado Solresol} \\
12 1361 525 \\
\end{tabular}
\end{center}

\begin{center}
\includegraphics[scale=0.5]{solresol_example}
\end{center}


\textsuperscript{106} Ibid.

Just as Solresol was gaining popularity in the late nineteenth century, the French government banned teaching sign languages in schools. This, along with the increasing success of other auxiliary languages like Esperanto, sent Solresol into obscurity until it was used as the inspiration for the mathematical-musical language in Steven Spielberg’s 1977 film *Close Encounters of the Third Kind*. It has since been used marginally by constructed language enthusiasts.\(^{108}\) Other constructed musical languages that have a small following of hobbyist speakers include: Eaiea, a version of Solresol developed by Bruce Koestner which included all twelve tones of the Western chromatic scale,\(^{109}\) Hymmnos, a musical language created by Akira Tsuchiya for the *Ar Tonlico* video game series,\(^{110}\) as well as the musical languages Sarus,\(^{111}\) Moss,\(^{112}\) and Nibuzigu.\(^{113}\)

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Drumming Language: Yoruba

Surrogate languages are constructed languages that take natural languages and transpose them to non-linguistic forms. Examples of surrogate languages include the Yoruba drumming language, the Hmong and Silbo whistled language, the Gaviao flute language and the Sambla xylophone language. It is important to note that surrogate languages are not static, but as are as dynamic as the natural languages from which they derive, incorporating new vocabulary over time and adapting meaning alongside cultural changes. The Yoruba people of what is present-day Nigeria and Guinea are known for their drumming language using the kalengo or “talking drum.” The double-skinned drum is hour-glass-shaped, with the opposing skins laced together in such a way that when a performer squeezes the laces, tension raises the pitch of the drum. Expert players are able to imitate the rise and fall of the human voice, simulating the rhythm and inflections of their own tonal language, and thus send signals or hold conversations with other players, or speak to those able to interpret the drum language.

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Whistled Language: Silbo

The people of La Gomera in the Canary Islands are known for their Spanish-based, whistled language Silbo. The language was historically used to communicate across the island’s deep ravines and narrow valleys, and could carry a message over three miles. Because Spanish is not a tonal language, the Silbo whistled language retains the articulatory features of Spanish while transforming the vowel sounds into pitch variations. Most other whistled languages, of which there are over seventy worldwide, are based on tonal languages. Tonal whistled languages replicate the melody of the spoken language while eliminating the articulations. Examples include; the Yupik language of Alaska, Desano from Colombia, Hmong from Vietnam, and many others throughout Mexico, Central America, Africa and Asia. Some whistled languages like the Gaviao and Wayapi languages of Western Brazil incorporate the use of a flute or leaf to help project the language over greater distances.

119 Busnel and Classe, Whistled Languages.
Xylophone Language: Seenku

The Sambla people of Burkina Faso in West Africa are known for their surrogate xylophone-language Seenku. Sambla xylophone master Mamadou Diabate explains the Seenku surrogate language: “We can tell everything verbally expressible with the tunes of the xylophone. Without opening the mouth we can tell our stories, report on current events, chat with the people around, mock people who annoy us, and even flirting [sic].”

The xylophone he refers to is a balafon or marimba, sometimes called baan or gyil, an idiophone from West Africa comprised of sixteen to twenty-seven wooden keys tied to a bamboo frame and suspended over gourd resonators fitted with buzzers. The music of the baan is complex and multi-faceted: it employs a speech surrogate system that is capable of extemporaneous speech both within the performance of a song and during interludes between songs. Spectators are encouraged to engage in conversation with the soloist, who responds with musical speech on the baan. Further explanation and examples can be seen in the video “Konkolikan Samba Bann Burkina Faso” on the spectaclemedia YouTube channel.

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122 McPherson, Seenku phonology in the Samba xylophone surrogate language.


CONSTRUCTED LANGUAGES IN MUSIC COMPOSITION

Origins in Mysticism and Literary Nonsense

Natural languages and their multitude of applications in music composition was shown in Part I, for example, their innate musical characteristics of melody, rhythm and their ability to be shaped and developed in musical ways. Constructed languages are used not only by language enthusiasts seeking realism for their fantasy universes or possibly seeking global communication, but constructed languages, although mystical and literary in origin, also find their way into the musical works of composers throughout history.

Hildegard of Bingen

The first European composer to use a constructed language in music was Hildegard of Bingen (1098-1197), a Benedictine abbess, writer, composer, philosopher, and Christian mystic. Hildegard is known for her mystical, constructed language “Lingua Ignota,” or “unknown language,” in addition to authoring the earliest, surviving musical morality play Ordo Virtutum (c.1150), and also for her theological visions.125 Hildegard claimed that she had visions her entire life, and when she was forty two, she believed she received instructions from God to record her

125 Clemens Jockle, Encyclopedia of Saints (Old Saybrook: Konecky & Konecky, 2003), 204.
theological visions and experiences.\textsuperscript{126} Besides her theological writings, Hildegard has one of the largest oeuvres among Medieval composers: \textit{Ordo Virtutum} itself is a compilation of eighty two songs, and sixty nine of Hildegard’s other compositions survive, each with its own original poetic text.\textsuperscript{127} In addition to her contribution to the canon of Western music history, Hildegard’s “Lingua Ignota" is regarded by many language enthusiasts as a Medieval precursor to modern constructed languages.\textsuperscript{128} Like her theological visions, Lingua Ignota was attributed to divine revelation. Her work \textit{Lingua Ignota per simplicem hominem Hildegardem prolata} (ca.1150) describes the language and includes a glossary of 1011 words as well as Hildegard’s invented alphabet (see Example 22).

\textsuperscript{126} Evelyn Underhill, \textit{Mystics of the Church} (Pennsylvania: Morehouse Publishing, 1925), 77.


Example 22: Hildegard’s Lingua Ignota alphabet (ca.1150).\(^{129}\)

Lingua Ignota is most similar to Latin grammatically, but it contains substitutions of Hildegard’s uniquely invented vocabulary.\(^{130}\) Although only one short excerpt survives, Hildegard used the constructed language in her canticle *In dedicatione ecclesiae*, which contains five Lingua Ignota words (in *italics*) within its Latin structure:

\begin{quote}
O *orzchis* Ecclesia, armis divinis praecincta, et hyacinto ornata, tu es *caldemia* stigmatum *loifolum* et urbs scienciarum. O, o tu es etiam *crizanta* in alto sono, et es *chorzta* gemma.\(^{131}\)
\end{quote}

Unfortunately, only one of these Lingua Ignota words, “loifol,” or “people,” is found in Hildegard's surviving glossary. The others remain a mystery. A translation yields the following incomplete phrase:

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\(^{131}\) Saint Hildegard, *Hildegard of Bingen's Unknown Language: An Edition, Translation, and Discussion*. 
O orzchis Ecclesia, girded with divine arms, and adorned with hyacinth, you are
the caldemia of the wounds of the people, and the city of sciences. O, o, you are
the crizanta in high sound, and you are the chorzta gem.132

Hildegard’s motive for creating Lingua Ignota might have been to increase solidarity
among her nuns,133 but to the untrained listener, the language was unintelligible
gibberish. Regardless, Lingua Ignota remains the earliest example of constructed
language used in Western music composition.

Besides constructed languages having origins in mysticism, there are literary
techniques that experiment with language in unexpected ways. Literary nonsense is a
category of literature that balances sensical and nonsensical elements with the aim of
subverting language or logic and creating humor or novelty.134 This use of nonsense in
literature is a technique that eventually led to the construction of gibberish languages and
their use in music composition.

The history of literary nonsense is a combination of seventeenth century oral folk
traditions of games, songs, and dramas, such as the nursery rhyme “Hey, Diddle, Diddle,”
in addition to the more sophisticated, yet absurd inventions of Medieval poets,135 for
example, this stanza from an anonymous Medieval nonsense ballad:

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132 Ibid.


134 Wim Tigges, An Anatomy of Literary Nonsense (Amsterdam, Rodopi, 1988), 47.

A cowe had stolyn a calf away
And put her in a sake;
Forsoth, I sel no puddynges today;
“Mysters, what doo youre lake?”

In his book, *The Origins of English Nonsense*, Sir Noel Robert Malcom describes the rich history of nonsense verse, including sixteenth century nonsense poets such as Sir John Hoskyns and John Taylor. Although not the first to write nonsense verse, nineteenth century poet Edward Lear was responsible for developing and popularizing the genre with his 1846 *A Book of Nonsense* along with his many other writings. His collections of nonsensical limericks, songs, stories and drawings were an inspiration to many, including Lewis Carroll (1832-98), whose poem “Jabberwocky” from his 1871 book *Through the Looking Glass* is regarded as quintessential nonsense literature. Here, for example, is the first stanza:

’Twas brillig, and the slithy toves
Did gyre and gimble in the wabe:
All mimsy were the borogoves,
And the mome raths outgrabe.

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138 Ibid.

Lewis Carroll

Not only is Lewis Carroll renowned for his fantastic plots, characters and imagery, but also for his fanciful use of language. Carroll uses the literary device portmanteau; the joining of two words to form a hybrid, like “smog” derived from the words “smoke” and “fog.” Carroll created many portmanteau words for “Jabberwocky,” and some of them have been accepted into common use by the Oxford English Dictionary like “chortle,” a combination of “chuckle” and “snort,” and “galumphing,” a combination of “galloping” and “triumphant.”

Carroll also uses gibberish to describe his fantastic worlds, further undermining the semantics of language and logic. The names for his mythical creatures in “Jabberwocky;” the Jabberwock itself, the toves, borogoves and raths of the first stanza, as well as the Jujub bird, Bandersnatch and Tumtum tree are all fantastic inventions of Carroll. He also uses the gibberish verb “gimble” to mean “make holes like a gimlet.” Readers must rely on context and similarity to the name of the hole-boring tool “gimlet” to discern meaning. Although Carroll explains his intentions for much of his gibberish, the words vorpal and tulgy are both left undefined, and uffish, which Carroll explains in


142 Ibid., 272.
an 1877 letter to child-friend Maud Standen, “a state of mind when the voice is gruffish, the manner roughish, and the temper huffish,” his definition as cryptic as his gibberish words.143

The nonsense writings of both Lewis Carroll and Edward Lear made a lasting impact on the English-speaking literary world, inspiring Dr. Seuss (1904-91), Edward Gorey (1925-2000), and many others.144 Appealing greatly to young children, nonsense and gibberish might be connected with establishing early literary interest, as well as reinforcing language skills and nurturing creative problem-solving.145

Viola Spolin

The value of gibberish was also cultivated by Viola Spolin (1906-94), a twentieth-century American theater academic known for developing acting exercises (Spolin games) to help actors stay focused on the present moment and develop improvisation. Her games are the basis for all improvisational comedy including the television show


Whose Line is is Anyway? Spolin explains why gibberish is so important to her method:

The meaning of a sound in gibberish will be understood only when the player conveys it by action, expressions, or tone of voice. Because gibberish uses sounds of language minus the symbols (words), communication is put on a direct-experiential level for other players and the audience. Gibberish forces the player to show and not tell, and players must listen and watch each other closely if they are to understand one another.

Spolin devotes an entire chapter to gibberish in her books Improvisation for the Theater and Theater Games for the Classroom, showing how integral she thought gibberish was for developing spontaneity in her students. She devised games in which students speak to each other in gibberish, try to sell something to others in gibberish, translate each others’ gibberish, and finally act out scenes while switching between gibberish and English.

In the Spolin game “Gibberish English,” audience members suggest who and where two performers might be, and what their objective is, while a third performer acts as a “referee” and unexpectedly signals the other performers to switch between English and gibberish throughout the scene. Spolin instructs the “referee” to be sure to switch

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148 Viola Spolin, Improvisation for the Theater (Evanston, Northwestern University Press, 1999), 112.
mid-idea as a test to see if the performers have a clear grasp of their sub-text; to see if the performer’s gibberish continues to convey the same idea that began in English.149

Being able to communicate ideas and emotions clearly is important to actors and musicians alike, especially if trying to communicate with atypical languages. The focus and spontaneity required to perform gibberish was used by Spolin to teach her students freedom from preconceived ideas about performance and experience a direct connection to other actors and the audience.150 The gibberish-language music compositions of Kurt Schwitters, Milton Babbitt, Luciano Berio, and Stuart Saunders Smith also contain a spontaneous quality which requires the performer to create his/her own melodic interpretations of the text, similar to musical or theatrical improvisation. Gibberish languages might therefore be the most musical of all languages because they are not bound by rules or conventions, and are completely free to express the imagination of the composer. This freedom, as with Spolin games, might also encourage an increased connection between performer and audience.

Kurt Schwitters

The musicality and freedom of gibberish language finds its quintessential masterpiece in the Ursonate of Kurt Schwitters. Kurt Hermann Eduard Karl Julius


150 Viola Spolin, Theater Games for the Classroom: A Teacher’s Handbook.
Schwitters (1887-1948) was a German artist of many ideologies and disciplines: dadaism, constructivism, surrealism, poetry, sound, painting, sculpture, graphic design, typography, and installation art. He is most famous for his collages, which he called “Merz pictures” using fragments of found objects such as bus tickets or newspaper clippings which were often combined to create witty connections to politics and current events. Alongside his collages, Schwitters experimented with architecture, transforming at least six rooms of his family home in Hanover into what he called the “Mertzbau” (1923-37), a livable, sculptural-environment art installation (see Example 23).

Example 23: Kurt Schwitters’ Merzbau (1923-37).


The Mertzbau was considered by Schwitters to be one of his two great masterpieces; the other was the *Ursonate*, which was inspired by the text-sound poem-poster *fmsbwtozau* (1918) by Raoul Haussmann (see Example 24).\(^{154}\)

Example 24: Raoul Haussmann’s *fmsbwtozau* (1918).\(^{155}\)

![fmsbwtozau](image)

Literature critic Richard Cochrane claims that Schwitters’ sound-poem, the *Ursonate* (1922-32), meaning “original sonata” or “sonata in primitive sounds,” is speculated to have been a kind of nihilistic satire: a reduction of poetry to senselessness—reflecting a society that had itself lost all meaning.\(^{156}\) As the name implies, the poem is constructed in

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sonata form like a Classical symphony, but the text is written entirely in Schwitters’ own constructed gibberish language “Urlauten,” or, the “original language.” Nineteen textual themes which Schwitters calls “melodies” are deconstructed and intertwined, attempting to create discernible order from unintelligible gibberish (see Example 25).  

Example 25: Kurt Schwitters’ Ursonate (1922-32), Introduction.

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The Ursonate consists of four movements: Rondo, Largo, Scherzo, and Presto.

Compared to standard Classical structure, Schwitters reverses the first and last movements, placing his Rondo first, and his Sonata-Allegro movement last. Besides

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Schwitters’ apparent subversion of poetic norms, his reversal of traditional musical form could be further satire of expected artistic conventions. Although the order of movements is reversed, Schwitters’ first movement does resemble a typical Classical rondo in which a principal theme alternates with contrasting themes, or episodes. Whereas the “principal theme” in a Classical rondo is usually a single melody, the Ursonate’s “principal theme” is comprised of four textual statements which are performed together sequentially in their simplest forms: 1. Fumms bo wo taa zaa uu, 2. Dedesnn nn rrrrr, 3. Rinnzekete bee bee nnz krr muu, and 4. Rrummpff till toooo? (see Example 26).

Example 26: Kurt Schwitters’ Ursonate (1922-32), “principal theme.”

159 Ibid.
Schwitters’ quadripartite “principal theme” is effective because the sequential combination of all four textual statements is intended to be easily recognizable upon each repetition, similar to the recognizability of the principal theme in a Classical rondo. After the first statement of Schwitters’ “principal theme,” each one of the four nested themes is then developed in turn using additive techniques similar to those used in Georges Aperghis’ *Recitations* (see Example 27), and these developmental sections, or episodes, are separated by recurrences of the “principal theme.”

Example 27: Kurt Schwitters’ *Ursonate* (1922-32), I. Rondo, additive development.

\[
\begin{align*}
& \text{fö} \\
& \text{böwö} \\
& \text{fümmsbö} \\
& \text{böwörö} \\
& \text{fümmsböwö} \\
& \text{böwörötää} \\
& \text{fümmsböwötää} \\
& \text{böwörötääzaää} \\
& \text{fümmsböwötääzaää} \\
& \text{böwörötääzaääUu} \\
& \text{fümmsböwötääzaääUu}
\end{align*}
\]

The second movement, Largo, is in a strict ternary form: the only variations between sections are the long vowel sound “Oooo” changing to “Aaaa” for the middle section and then back again, and the replacement of one utterance of “ann ze” with “Enn ze,” also in

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160 Ibid.
161 Ibid.
the middle section. Instructions are given by Schwitters to speak in a regular four-beat cadence, giving one quarter note to each syllable, and imparting a rigid, martial character to the text (see Example 28).

Example 28: Kurt Schwitters’ *Ursonate* (1922-32), II. Largo.

![Example 28 notation]

The third movement mimics the customary three-beat structure of a Classical Scherzo by organizing the text into groups of three short fragments. The same text fragment “Lanke trr gl!” begins each group, creating continuity similar to the repetition of a rhythmic downbeat. Each section of the tripartite Scherzo contains a nested ternary form, illuminating the intricate, multilayered, musical structure Schwitters used for the *Ursonate* (see Example 29).

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162 Schwitters, *My Ursonate*.
163 Schwitters, *Ursonate*.
164 Ibid.
Example 29: Kurt Schwitters’ *Ursonate* (1922-32), III. Scherzo.\textsuperscript{165}

\begin{quote}
\begin{verbatim}
Larke ttr gll
pe pe pe pe pe
Ooka ooka ooka ooka

Larke ttr gll
pii pii pii pii pii
ziïka ziïka ziïka ziïka

Larke ttr gll
Rrmn
Rrmf
\end{verbatim}
\end{quote}

The final movement, Presto, is written in typical, Sonata-Allegro form, including a direct repetition of an exposition, and subsequent sections of development and recapitulation which Schwitters labels “development” and “resolution.” The exposition is comprised of four textual themes: 1. Grimm glim gnimm bimbimm, 2. Tilla loola luula looa, 3. Tatta tatta tuïEe tuïEe, and 4. Tilla lalla tilla lalla. Whereas typical Sonata-Allegro form usually only contains two themes, Schwitters, similarly to his first movement, Rondo, uses more textual statements to convey the same structure that might only require one or two melodic themes in a purely musical counterpart. As Schwitters proceeds to the development, he immediately fragments and combines his four themes, introduces unique ones, and also recalls themes three and four from his first movement, Rondo, “Rinnze kette beebee nnzkr muu,” and “Rrumpff tilff too,” spelled slightly differently (see Example 30).

\textsuperscript{165} Ibid.
Example 30: Kurt Schwitters’ *Ursonate* (1922-32), IV. Presto, development.\(^{166}\)

```
Ooobee tatta tuiiEe tuiiEe
Ooobee tatta tuiiEe tuiiEe
Tatta tatta tuiiEe tuiiEe
Tatta tatta tuiiEe tuiiEe
Lümppf tîmff trîll
Ziùu lèn trîll
Ziùu lèn trîll
Rrumpff tîlff too
Rinnzë kettë bêe
Rinnzë kettë bêe
```

The recapitulation begins as an exact repetition of the exposition, but only the first two themes are repeated. Halfway through Schwitters’ “resolution,” he writes a cadenza that introduces new material and also echoes material from all four movements. The written cadenza, he indicates, can be replaced by an improvised cadenza of similar character. The emotional finale of Schwitters’ *Ursonate* is constructed from two more completely unique textual “melodies,” thwarting any sense of a return to familiarity. The discomfort and instability created by this lack of return is only compounded by Schwitters instructions to read the text “emotionally; moved; excited,” then “more emotionally,” “very emotionally,” and finally “grieving; heartbroken.”\(^{167}\)

Schwitters uses his constructed gibberish language for its musical value. The strict construction of Schwitters’ *Ursonate* consists solely of gibberish text with sparse

\(^{166}\) Ibid.

\(^{167}\) Ibid.
instructions for the performer to sing, growl, and to use German pronunciation, but the underlying musical structure is the framework which allows Schwitters to exhibit the musicality of his gibberish language. The use of repetition and musical forms creates a narrative out of the apparent chaos of Schwitter’s gibberish. Not only does Schwitters’ repetition of textual themes create “melodic recognizability” similar to the clarity of musical forms, but repetition within the additive processes of his developmental sections adds further continuity to the Ursonate’s seemingly random composition.

Because of a 1986 lawsuit regarding recording rights of Schwitters’ Ursonate, a recording ban was placed on the work that was not resolved until 2002. Since then, the work has experienced a great revival, being performed by musicians and performance artists alike, including famed American percussionist Steve Schick and Dutch avant-garde composer and performance artist Jaap Blonk.

Milton Babbitt

Experimentation with constructed gibberish language continued throughout the twentieth century alongside the previously discussed examples of natural language music from Cage, Reich, Globokar and Aperghis. With the development of the the Magnetophon K1 tape recorder in 1935,¹⁶⁸ and the RCA Mark II programmable Sound

Synthesizer in 1958, composers such as Milton Babbitt and Luciano Berio were able to expand the previous limitations of the voice by augmenting it electronically.

Milton Babbitt (1916-2011), American composer, music theorist and teacher, was most well known for his electronic music, his development of integral serialism, and for his controversial 1958 article in *High Fidelity* magazine, “Who Cares if You Listen?” (1958). Babbitt’s best known composition is *Philomel* (1964), a serial work that combines the synthesizer with both live and recorded soprano voice realizing a libretto by American poet John Hollander. The three untitled movements of *Philomel* are based on Roman poet Ovid’s version of the Greek myth *Philomela* about a woman unable to speak, her escape from a tyrant King, and her final transformation into a nightingale, thereby regaining her ability to sing.

The first movement is a juxtaposition of the live and recorded voice in counterpoint with electronically synthesized accompaniment. Almost all of the text is sung with the exception of a few instances of sprechstimme. However, the five brief interludes that punctuate the first movement include the recorded sounds of solo speaker and speaking choir reciting fragments of Hollander’s text, “Not true tears - - Not true trees … Pillowing melody, honey unheard … Feeling killed, Philomel stilled, her honey

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unfulfilled,” The recorded voice echoes the live voice throughout the piece with scarce moments of hocketing interaction until the very end of the movement when the voices coalesce on the phrase, “What is this humming? I am becoming my own song!” (see Example 31)\textsuperscript{172}

Example 31: Milton Babbitt’s \textit{Philomel} (1964): mvt.1: vocal coalescence (p.17).\textsuperscript{173}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{example_31.png}
\caption{Example 31: Milton Babbitt’s \textit{Philomel} (1964): mvt.1: vocal coalescence (p.17).}
\end{figure}

The second movement of Philomel is written in echo verse, a favorite form of Hollander, who had written a book on the subject.\textsuperscript{174} As with the first movement, Babbitt cleverly uses the musical device of echoing the live voice with the recorded voice to further reinforce the poetic form of the second movement. In one particular passage, Hollander’s echo verse reads, “O bright gull, aid me in my dream! Above the riddled


\textsuperscript{172} Ibid., 17.

\textsuperscript{173} Ibid., 17.

beaker’s cream! Scream!” Babbitt’s innovative development is that before the listener hears the live voice sing the word “scream,” the recorded voice actually screams a high E-flat with a falling glissando (see Example 32). This vocal effect further reinforces the poetic form and creates a text to sound transformation similar to those found in Diana Deutsch’s research, except instead of being elicited by repetition, this transformation was only possible with Babbitt’s skillful use of the RCA Mark II Sound Synthesizer.


The third movement consists of five arias in which Philomel has regained her voice and sings the story of her troubled life. Together, Babbitt and Hollander created new ways of combining musical and verbal expression. Because the synthesizer was able to reproduce rapid rhythmic figures with precision, Babbitt was able to better replicate

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175 Babbitt, Philomel: for soprano, recorded soprano and synthesized sound.

176 Ibid.
the articulation of the voice, allowing the music to be more speech-like. The first aria of
the third movement exemplifies this cohesion between voice and music with the
electronic accompaniment matching the voice in rhythmic unison. This integration is
further enhanced with the final passage, in which the recorded voice, live voice and
electronics are unified rhythmically.

The same year Babbitt composed *Philomel*, he also wrote a short piece called
*Sounds and Words* (1964) for voice and piano. Instead of using poetry or prose for the
text of his piece, Babbitt used phonetic sounds, phoneme combinations, and a handful of
actual words. The beginning of the score contains Babbitt’s pronunciation guide for the
vowel sounds (see Example 33).


<table>
<thead>
<tr>
<th>Vowel Sounds:</th>
<th>ą as in <em>bait</em></th>
<th>ą as in <em>bait</em></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ą as in <em>father</em></td>
<td>ą as in <em>father</em></td>
</tr>
<tr>
<td></td>
<td>ą as in <em>dawn</em></td>
<td>ą as in <em>dawn</em></td>
</tr>
<tr>
<td></td>
<td>ą as in <em>bat</em></td>
<td>ą as in <em>bat</em></td>
</tr>
<tr>
<td></td>
<td>ę as in <em>bet</em></td>
<td>ę as in <em>bet</em></td>
</tr>
<tr>
<td></td>
<td>ę as in <em>beet</em></td>
<td>ę as in <em>beet</em></td>
</tr>
<tr>
<td></td>
<td>ą as in <em>bit</em></td>
<td>ą as in <em>bit</em></td>
</tr>
<tr>
<td></td>
<td>ą as in <em>bite</em></td>
<td>ą as in <em>bite</em></td>
</tr>
<tr>
<td></td>
<td>ą as in <em>boat</em></td>
<td>ą as in <em>boat</em></td>
</tr>
<tr>
<td></td>
<td>ą as in <em>now</em></td>
<td>ą as in <em>now</em></td>
</tr>
<tr>
<td></td>
<td>ą as in <em>but</em></td>
<td>ą as in <em>but</em></td>
</tr>
<tr>
<td></td>
<td>ą as in <em>boot</em></td>
<td>ą as in <em>boot</em></td>
</tr>
</tbody>
</table>

The “sounds” and “words” Babbitt refers to in his title include these twelve specific
vowel sounds, corresponding to the twelve tones of the chromatic scale used in Babbitt’s

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178 Ibid.
serial music. By including the vowel sounds in his serial process, Babbitt creates unique combinations of phonemes such as, “ma, ti, mi, bi, eb, et, and ah,” gibberish words such as “ownt, lui, tahp, and taw,“ and a few intelligible words such as owl, law, cup, bin, and now.” Furthermore, the piano accompaniment plays mostly in hocketing rhythms with the voice, although there are some simultaneities as well. The rhythmic structure of the piano and vocal parts, though complex at times, do not contain nearly the complexity seen in Philomel. The rhythmic capability of the synthesizer far exceeded that of the piano, and was utilized by Babbitt to help express his text-music allusions. Although Sounds and Words did not achieve notable popularity, Babbitt’s gaining interest in the pronunciation of nonsensical phonemes was the inspiration for his other pieces of gibberish language-music.

Over a decade later, Babbitt resumed his gibberish language studies when he composed Phonemena (1979), which continues to greater specificity the phoneme-fragmentation techniques he began in Sounds and Words. Babbitt’s pronunciation guide for Phonemena is three times as long. It contains most of the same twelve vowel sounds, and also includes twenty four consonant sounds (see Example 34).

\[\text{Ibid.}\]
Example 34: Milton Babbitt’s *Phonemena* (1979): pronunciation guide.¹⁸⁰

<table>
<thead>
<tr>
<th>Consonants</th>
<th>Vowels</th>
</tr>
</thead>
<tbody>
<tr>
<td>p (as in pin)</td>
<td>ĕ (as in beat)</td>
</tr>
<tr>
<td>b (as in bin)</td>
<td>i (as in bit)</td>
</tr>
<tr>
<td>t (as in tin)</td>
<td>ā (as in bait)</td>
</tr>
<tr>
<td>d (as in gin)</td>
<td>e (as in bet)</td>
</tr>
<tr>
<td>ch (as in chain)</td>
<td>a (as in pat)</td>
</tr>
<tr>
<td>j (as in Jane)</td>
<td>ah (as in pot)</td>
</tr>
<tr>
<td>k (as in kale)</td>
<td>aw (as in bought)</td>
</tr>
<tr>
<td>g (as in gale)</td>
<td>ō (as in boat)</td>
</tr>
<tr>
<td>f (as in fail)</td>
<td>u (as in put)</td>
</tr>
<tr>
<td>v (as in veil)</td>
<td>ū (as in boot)</td>
</tr>
<tr>
<td>th (as in thig)</td>
<td>uh (as in but)</td>
</tr>
<tr>
<td>th (as in thy)</td>
<td>ū (as in burn)</td>
</tr>
<tr>
<td>s (as in seal)</td>
<td></td>
</tr>
<tr>
<td>z (as in zeal)</td>
<td></td>
</tr>
<tr>
<td>sh (as in shale)</td>
<td></td>
</tr>
<tr>
<td>zh (as in azure)</td>
<td></td>
</tr>
<tr>
<td>m (as in mail)</td>
<td></td>
</tr>
<tr>
<td>n (as in nail)</td>
<td></td>
</tr>
<tr>
<td>l (as in lane)</td>
<td></td>
</tr>
<tr>
<td>ng (as in rang)</td>
<td></td>
</tr>
<tr>
<td>r (as in rain)</td>
<td></td>
</tr>
<tr>
<td>y (as in your)</td>
<td></td>
</tr>
<tr>
<td>w (as in wail)</td>
<td></td>
</tr>
<tr>
<td>h (as in hail)</td>
<td></td>
</tr>
</tbody>
</table>

These phonemes are combined to create the syllables of Babbitt’s gibberish language.

The text from the first page of his score contains thirty unique syllables which, when united, create the illusion of language (see Example 35).

Example 35: Milton Babbitt’s Phonemena (1979): gibberish language.\textsuperscript{181}

\begin{verbatim}
DĒ SHE JÈ TÈ SHA LE RA ZHUH ĀNG SŌ
THAW VE THĀ Ė VI SU FŪ VŪ VU FU
ZUH CHŪ SUH GŪ JĀ KŪ CHU GUH
JA CHAH
\end{verbatim}

The rhythmic interaction between voice and piano is similar to that seen in Philomel and Sounds and Words, a contrasting of vocal and instrumental sounds in hocketing rhythms with the occasional simultaneity.

Babbitt was a leading advocate of the nonhierarchical properties of the serial technique, preventing emphasis of any one note, giving all notes equal importance. Babbitt applies this technique to language in both Sounds and Words and Phenomena, breaking the verbal language into its fundamental parts, and recombining them into a gibberish language that gives all syllables equal importance. Babbitt’s Phonemena inspired two other compositions: a version of Phonemena for soprano and synthesized tape released in 1975, and a subsequent work, More Phonemena (1978) for twelve-part chorus. The electronic version is a testament to Babbitt’s preference for the synthesizer and its ability to perform with precision previously impossible, and in an interview with Frank J. Oteri for New Music U.S.A. Online, Babbitt reveals that due to the complexity of More Phonemena, he never obtained a suitable recording and therefore does not perform the piece often.

\textsuperscript{181} Ibid., 1.
Luciano Berio

Another twentieth-century composer to demonstrate the musicality of constructed language was Luciano Berio (1925-2003). Renowned for his pioneering work in electronic music, and also his experimentation with extended performance techniques, Berio’s compositions *Thema (Omaggio a Joyce)* (1958), *Visage* (1961), *Sequenza III* (1965), and *Sinfonia* (1968) all showcase language and its musical capabilities. Berio’s interest in language originated from his lifelong friendship and collaboration with Italian linguist and novelist Umberto Eco (1932-2016), as well as his marriage to vocalist Cathy Berberian (1925-83), for whom eight of his compositions were written.

Berio’s piece *Thema (Omaggio a Joyce)* (1958) is an electronic elaboration of Cathy Berberian’s recorded performance of the poem *Sirens* from James Joyce’s novel *Ulysses*. The first two minutes of the piece features Berberian’s interpretation of Joyce’s text and the following six minutes comprise the electronic elaboration. This was the first time that recorded text was broken down electronically, categorized by phonetic sounds and sonorous structure, reorganized, and developed in a musical way. In his


185 Romina Daniele, *Il dialogo con la materia disintegrata e ricomposta, un’analisi di Thema (Omaggio a Joyce) di Luciano Berio* (Milan, RDM, 2010).
essay on poetry in music, Berio explains the compositional process for *Thema* was based on his perceived underlying musical character of Joyce’s writing, and insists that Joyce created textual references to musical techniques such as trill with the phrase “Imperthnthn thnthnthn,” staccato with the words “Chips, chip pickings,” appoggiatura with the text “Warbling. Ah, lure,” glissando with the words “A sail! A veil awake upon the waves,” and hammered articulation with the phrase “Deaf bold Pat brought pad knife took up,” Berio’s score graphically represents the combination of Berberian’s fragmented text and his electronic manipulations (see Example 36).

Example 36: Berio’s *Thema (Omaggio a Joyce)* (1958): graphic score.

Even though Berio used electronics to fragment and re-order the spoken text, he also utilized the natural musical capabilities of language. Similar to Vinko Globokar’s

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replacing the sounds of text with the sounds of percussion instruments in *Toucher*, Berio blends the sound of the letter ’s’ as spoken by Berberian with the electronic swishes and hisses created therefrom. He even circles the letter ’s’ throughout one passage of his score, connecting each ’s’ with curved lines to visually show the sound’s prolongation (see Example 37).

Example 37: Berio’s *Thema (Omaggio a Joyce)* (1958): prolongation of the letter ’s.’

In addition to focusing on the sustaining musical sounds of text such as the letter ’s,’ Berio also deconstructs Berberian’s spoken words into tiny fragments and combines them in rapid succession to create electronic, pointillistic textures that are visually apparent in the score (see Example 38).

\[\text{Ibid., 3.}\]
Example 38: Luciano Berio’s *Thema (Omaggio a Joyce)* (1958): electronic pointillism.\(^{189}\)

In his author’s notes to the composition, Berio elaborates on his philosophy behind incorporating language into his piece *Thema*:

> We often find more poetry in prose than in poetry itself and more music in speech and noise than in conventional musical sounds. In *Thema*, I was interested in obtaining a new kind of unity between speech and music, developing the possibilities of a continuous metamorphosis of one into the other [until] it is no longer possible to distinguish between word and sound, between sound and noise, between poetry and music.\(^{190}\)

This fascination with converging music and language is seen in Berio’s *Thema*, as well as his other language-inspired works.

Berio’s composition *Visage* (1961) was also written for his wife Cathy Berberian, and takes his experimentation with language to a deeper emotional level. Instead of focusing only on synthesizing the sounds of spoken text as he did in *Thema*, Berio

\(^{189}\) Ibid., 2.

combines vocal sounds with electronic ones. This juxtaposition of both sound sources allowed Berio to transition seamlessly between speech and music, and create textures and effects previously unheard. In Berio’s author’s notes to *Visage*, he comments on his attempt to infuse emotion into unintelligible words:

*[Visage] is based on the symbolic and representative charge that is carried by vocal gestures and inflections, with the “shadows of meanings” and the mental associations accompanying them. Visage can also be regarded as a transformation of real examples of vocal behavior that go from unarticulated sound to syllable, from laughing to weeping and singing, from aphasia to types of inflections derived from specific languages: English … Italian … Hebrew, Neapolitan dialect, etc. Thus, Visage does not offer a meaningful text or a meaningful language: it only develops the resemblance of them.*

Berio’s *Visage* begins with the electronically-produced sound of breathing layered with Berberian’s fragmented vocal phonemes. But this arrangement is quickly reversed as the electronics begin to imitate and elongate the vocal sounds while the score indicates a “sigh of relief” and also, “breathing; tired” (see Example 39).

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Example 39: Luciano Berio’s *Visage* (1961): “sigh” and “breathing.”

The spoken fragments are emotionally charged, and sound at first like someone struggling to breathe. Throughout the piece, the score indicates emotional realizations for the text such as: painfully, amazed, astonished, cynically, ironically, secretly, erotically, like an orgasm, like a fairy-tale, like reciting poetry, as a dramatic interjection, in outer space, persevering, and plaintive, in addition to indications to sing, scream, whisper, laugh, and to cry for your mother anxiously. As *Visage* progresses, the fragmented text is combined in increasingly longer durations, transforming mere utterances into words and sentences of gibberish language (see Example 40).

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193 Ibid., 1-16.
Example 40: Luciano Berio’s *Visage* (1961): vocal fragments become language-like.\(^{194}\)

Besides stringing vocal fragments together to form language-like prosody, Berio also combines textual fragments in rapid succession to form a pointillistic texture similar to the technique he used in *Thema*. These passages are labeled “phonetic fragmentation,” and the unique texture can be clearly seen. One passage in particular is labeled “phonetic and prosodic fragmentation,” and consists of fragmented gibberish language combined with phonetic sounds (see Example 41).

\(^{194}\) Ibid., 4.

There is one intelligible word in Berio’s *Visage*: “parole,” or “words” in Italian. It is heard five times over the course of the piece, usually surrounded by laughter, and whispered each time until the last occurrence in which it is screamed. With most of the text being comprised of gibberish, “parole” could be a comparison of the intelligible and the unintelligible, or a commentary on the ambiguity of spoken language. Berio’s author’s notes include his admission that he, “composed *Visage* just before he left the Studio di Fonologia Musicale of the Italian Radio in Milan, and it was intended as a tribute to the radio as the most widely used means of spreading useless words.”

Berio continued his explorations into the music of language with another piece for his wife Cathy Berberian titled *Sequenza III* (1965) for female voice. Berio’s pieces *Sequenza I* through *XIV* are a series of virtuosic solo works for various instruments composed between 1958 and 2002 that explore the extended techniques of each

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195 Ibid., 10.

Sequenza III does not use any electronics but instead explores the musical capabilities of the solo female voice, consequently creating sounds similar to those heard in Berio’s electro-acoustic pieces. The sound material for Sequenza III consists of sung and spoken words from Markus Kutter’s text, “Give me a few words for a woman, to sing a truth allowing us, to build a house without worrying before night comes,” as well as fragmented phonemes, whispered, unvoiced sounds, and noises such as laughter, coughs, and mouth clicks as well as snapping fingers and using the hands to mute the voice in different ways.

Similar to the score for Visage, Berio includes copious instructions for an emotional realization of the nonsensical language in Sequenza III, including: “tense muttering, urgent, distant and dreamy, witty, nervous laughter, impassive, giddy, relieved, wistful, bewildered, ecstatic, whimpering, faintly, apprehensive, tender, languorous, noble, joyful, frantic, subsiding, whining, gasping, increasingly desperate, echoing, serene, intense, anxious, very excited, and fading.” In one particular passage, Berio has the vocalist shifting emotions rapidly for each gesture, requiring great prowess by the performer and creating an intensely evocative sonic result (see Example 42).

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199 Ibid., 1-5.
Example 42: Luciano Berio’s *Sequenza III* (1965): rapidly changing emotions.\(^{200}\)

Besides Berio’s instructions imbuing emotions into the spoken and sung gibberish text, he also instructs the performer to create pointillistic textures similar to the electronic sounds in both *Thema* and *Visage*, including indications to make sung or spoken sounds “as short as possible,” in addition to multiple notations for “as fast as possible,” and “repeated quickly in a random and slightly discontinuous way.”\(^{201}\) Berio’s author’s notes to *Sequenza III for female voice* reveal a deeper view of his compositional process:

… I tried to assimilate many aspects of everyday vocal life, including trivial ones, without losing intermediate levels or indeed normal singing. In order to control such a wide range of vocal behavior, I felt I had to break up the text in an apparently devastating way, so as to be able to recuperate fragments from it on different expressive planes, and to reshape them into units that were not discursive but musical. Sequenza III can also be considered as a dramatic essay whose story, so to speak, is the relationship between the soloist and her own voice.

Berio creates an inner dialogue for the performer of *Sequenza III*, commenting on her own performance and entertaining her own fanciful ideas between fragmented utterances of Kutter’s text. Although these “tense mutterings” are largely unintelligible, this

\(^{200}\) Ibid., 2.

\(^{201}\) Ibid., 1-5.
technique is similar to the one employed by Vinko Globokar in Toucher as the race car driver’s inner dialogue becomes part of the intended performance.

Berio continues to experiment with language on a grander scale with his Sinfonia (1968-69) for orchestra and eight amplified voices. Constructed in five movements, the piece does not resemble the Classical form, but rather adopts the more literal definition of the title “sounding together.” Berio comments on the piece in his author’s notes: “The musical development of Sinfonia is always conditioned by the research for a continuity and an identity between voices and instruments, between spoken and sung words on one side and the whole harmonic structure of the work on the other.”

The untitled first movement consists of a series of short textual fragments from Le cru et le cuit (The Raw and the Cooked) by Claude Lévi-Strauss. Berio focuses primarily on sung vowel sounds but also incorporates sung and spoken text fragments in addition to longer recitations of text, sometimes in polyphony, sometimes homophonic consisting of a solo voice with seven accompanists. One passage in particular combines sung vowel sounds, the sung words “fire” and “rain,” the spoken text, “… and still today, towards the end of the rainy season, we see rains appearing in the sky, in the sky, all clean and renewing the appearance of the seven stars of the Pleiades,” in addition to a quickly articulated, fragmented version of the same text (see Example 43).

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Example 43: Berio’s *Sinfonia* (1968-69): Polyphony of different textual techniques.

The second movement of Berio’s Sinfonia is titled “O King” in tribute to Martin Luther King, and consists of sonic fragments of his name which are sung in polyphony by the eight voices. The name “Martin Luther King” is obscured at first, but as the piece progresses, more simultaneities occur until finally, his name is clearly sung in all voices. Although this movement is entirely sung, it echoes the process of traveling from unintelligibility to intelligibility that Berio used in *Visage* with his use of the word “parole.”

The third movement constitutes an intricate collage of musical quotations, mostly from the third movement scherzo from Mahler’s Second Symphony, but many other

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204 Ibid., 4.

205 Luciano Berio, “Sinfonia — Author’s note.”
quotations are intertwined, including excerpts from Bach, Schoenberg, Brahms, Strauss, Beethoven, Stravinsky, Berg, Webern, Boulez, Berio himself, and many others. Although the work consists mostly of musical quotations, the eight amplified voices also speak textual quotations from various sources, mostly from the first page of Samuel Beckett's novel *The Unnamable*. Other text fragments include references to James Joyce, graffiti Berio noticed in Paris during the May 1968 protests in addition to notes from Berio's diary which, according to Berio, “generate a large number of ‘daily life’ references and quotations.”

The fourth movement echoes the tonality of the second movement, and is much more tranquil than the frantic third movement. It begins with a Mahler quotation for both orchestra and voices: the chorus from the end of Mahler’s Second Symphony. Afterwards, the eight amplified voices mimic, rather than speak clearly, textual fragments from the preceding three movements, making use of different vocal effects including whispers, fragmentation, and distortion.

All five movements of Berio’s *Sinfonia* are very different, and it is the fifth movement that connects those differences, elucidating the hidden unity of the previous movements. As Berio states in his author’s notes to Sinfonia, “In the fifth part … the

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206 Ibid.


208 Luciano Berio, “Sinfonia — Author's note.”

209 Ibid.
discourse begun in the first part finds its conclusion: all other parts flow together into it, either as fragments (third and fourth parts) or in its complete form (second part). The fifth part can thus be considered as a true analysis of *Sinfonia* conducted with the ‘language’ of the composition itself.” The fifth movement begins with a quotation from Lévi-Strauss which is a subtle reference to Mahler's second symphony: the fifth movement of *Sinfonia* opens with the words "rose of blood,” and the fourth movement of Mahler's symphony begins with the words "O red rosebud!” Berio is therefore using language not only for its inherent musical qualities, but also to make extra-musical connections to his quoted-musical material.

Berio’s language-inspired works approach language in different ways: *Thema* is a milestone for electronic music as the first piece to synthesize spoken text, *Visage* blends synthesized vocal sounds with completely electronic sounds, *Sequenza III* explores the capabilities of the solo voice, and *Sinfonia* combines eight voices and orchestra in a multi-movement work. Despite apparent differences, Berio uses similar compositional techniques to incorporate language into his music, such as fragmentation and collage, with an ultimate desire to reveal the “shadows of meaning” in language and to blur the boundaries between language and music. Other pieces by Berio that explore language

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210 Ibid.


212 Luciano Berio, “Thema (Omaggio a Joyce) – Author's note.”

Cathy Berberian

Besides being the inspiration for many of Berio’s language-music works, Cathy Berberian also pursued composition with her piece *Stripsody* (1966). Although Barbarian had experience singing with electronics, her piece *Stripsody* is purely acoustic. Written to exploit her own virtuosity as a performer of extended vocal techniques, *Stripsody* includes many sounds derived from comic books (onomatopoeia) and mirrors this performance style with a graphically notated score created by Italian cartoonist Roberto Zamarin.\(^{213}\) The text of *Stripsody* includes sound effects such as, “Slam, slap, smash, smack, snap, snort, splash, split-spot, sprang, and stach,” as well as animal sounds, “Meow, ruf, oink, honk, buk-buk, muuuuuuu, squeek, and zzzzzzzzz” (see Examples 44 and 45).

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\(^{213}\) Kate Meehan, “Not Just a Pretty Voice: Cathy Berberian as Collaborator, Composer and Creator” (PhD diss., Washington University in St. Louis, 2011).
Example 44: Cathy Berberian’s Stripsody (1966): sound effects (p.12).\footnote{214}

Example 45: Cathy Berberian’s Stripsody (1966): animal sounds (p.11).\footnote{215}

There are also a few short phrases of prose that appear to be written by a young child, for example, “You stupid kite, come down out of that tree!” and, “I’m Frieda and I have naturally curly hair … do you like girls with naturally curly hair?” Still other vocal sounds are represented by merely a cartoon and no text at all, but generally, the drawings help to clarify the sounds for the performer and the audience. Berberian’s program notes for Stripsody connect the work to the experimentation with “the word in sound and

\footnote{214}Cathy Berberian, Stripsody (New York, C.F. Peters, 1966), 12.

\footnote{215}Ibid., 11.
music” that started with Berio’s *Thema (Omaggio a Joyce)* almost a decade earlier, making an explicit association between her novel composition and a recognized piece of “serious” contemporary music. Berberian’s composition *Stripsody* continued her exploration of the freedom of language while simultaneously pushing the creative boundaries of vocal performance and graphic notation.

Stuart Saunders Smith

The freedom and creativity of gibberish language can also be found in the musical compositions of Stuart Saunders Smith (b.1948). Smith does not utilize electronics, but he’s written over one hundred innovative works using different compositional aesthetics in every piece, always incorporating an underlying focus on language; body language, melody and speech, which, according to Smith, helps listeners contemplate how they perceive and interact with the sounds they hear around them.

His piece *Songs I-IX* (1980-82) for Actor-Percussionist is written very freely so each performer will have their own unique interpretation. The piece requires the performer to act and perform a monologue while accompanying with small percussion instruments and various kitchen items. Smith’s use of language is surprising, novel and even confusing at

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216 Meehan, “Not Just a Pretty Voice: Cathy Berberian as Collaborator, Composer and Creator.”

times; he uses familiar words in seemingly random order and also intersperses gibberish words for the sheer joy of nonsense (see Example 46 & 47).

Example 46: Stuart Smith’s *Songs I-IX* (1980-82), “Song V,” words in random order.\(^\text{218}\)

![Song V]

Example 47: Stuart Smith’s *Songs I-IX* (1980-82), “Song VI,” gibberish.\(^\text{219}\)

![Song VI]


\(^{219}\) Ibid., 5.
Some vocal styles and gestures are specifically prescribed, for example, “Song V” instructs the performer to deliver the text as “a faith-healer, Bible-wielding, very Southern preacher,” but there are also many moments where the performer is free to improvise and add their own interpretation. Smith elaborates on his musical philosophy:

When the mind parts from the body into two separate beings – that is the day of arrival – the beginning of wisdom. The separation stimulates a conversation between body and mind; and allows us to experience mortality rather than immortality. Much of the world musical cultures strive for a music of reconciliation – trying to heal the “rift” between body and mind. I want music that separates mind and body to such an extent that it creates a dissociative state which enriches both states rather than trying to combine them into one.

According to the research carried out by Deutsch et al., this separation described by Smith is exactly what happens in the brain when listening to music that contains text. Musical neural centers are inhibited so that linguistic centers can distinguish meaning from the text. Once meaning is established, musical neural centers are disinhibited so that musical nuance can be better perceived. Since the gibberish text in Smith’s Songs I-IX is never fully understood, the listener is left suspended between comprehension and apprehension, most likely activating both musical and linguistic neural centers without

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220 Ibid., 1-6.


222 Tierney, Deutsch, and Sereno, Speech versus Song: Multiple Pitch-Sensitive Areas Revealed by a Naturally Occurring Musical Illusion.
either one becoming inhibited. It would be interesting to see further research regarding how the brain perceives gibberish compared to language and music.

Smith accomplishes this separation in his music by not adhering to standard compositional conventions such as musical form or linguistic structure; not giving the brain anything to anticipate as repetitive. Whereas many songs are based on poetic structures such as strophic repetitions, binary, ternary, or rondo forms, Smith’s *Songs I-IX* are through-composed with new music for each of his nine “songs,” held together by seemingly little besides stylistic similarities. Smith says, “I no longer care about form because I no longer care about time. In order to have form you have to have a concept of time — memory. I’m interested in a music that has no memory.”

Yet closer examination of Smith’s *Songs I-IX* reveals subtle formal outlines that reinforce a complete narrative. The first three movements and the last three movements are more similar in that they are shorter, use a similar staff-based notation, incorporate more percussion instruments, contain more interaction between percussion and text, and contain far fewer theatrical instructions to the performer. The middle three movements can be viewed as contrasting material due to their longer length, more text-based notation, use of fewer or no percussion instruments, more passages of unaccompanied text,

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copious instructions for executing a theatrical performance, and the addition of the
gibberish language “Quay.” Thus the structure of Smith’s *Songs I-IX* can be viewed as
AAABBBAAAA, or simply ABA. Even though different sounds and techniques are used
in each movement, which can make it difficult to consider any two movements very
similar, Smith’s interpretation of ternary form offers at least a stable outline to the piece’s
structure.

Formal stability is also found in the repetition of the spoken phrase “gathered
together” that appears in both the first and fifth songs, as well as the sung syllable “ma”
that appears in both the second and last songs. These recollections, however short, are
enough to spur memories of previous occurrences and add subtle structure to Smith’s
freely composed piece (see Example 48 and 49).

Example 48: Stuart Smith’s *Songs I-IX* (1980-82) “Gathered Together.”

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226 Ibid., 1-6.

227 Ibid., 1-6.
Example 49: Stuart Smith’s *Songs I-IX* (1980-82) “ma.”

One final unifying element in Smith’s *Songs I-IX* is the underlying theme of friction. The text of Song II mentions “fricative surfaces” directly, and every one of the “songs” includes friction sounds from the percussion instruments and/or the text. “Song I” aligns the sound of the scraped sandpaper block with the word “possess,” emphasizing the friction of the letter ‘s.’ “Song II,” as mentioned, includes the text “fricative surfaces” while creating friction sounds on the sandpaper blocks, shaken jug of water, and kissing sounds made with the performer’s mouth. “Song III” emphasizes the friction in the letter ‘h’ as laughter transforms into the word “Hot!” and then the sandpaper blocks once again reinforce the repeated ‘s’ sound in the text “continuous stimulation surfaced.” “Song IV” does not use friction instrumentally, however it does emphasize both the ‘s’ and the “ch” sounds in the text “Test ass latchet, Wrench ratchet cast, Map ask it, Plastic lass.”

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228 Ibid., 1-6.
V” emphasizes the ’s’ sound subtly throughout, and adds the friction of the sound of the maraca. “Song VI” calls for the performer to whistle and sing at the same time, creating a grating sound that is paired with the sound of steak knives scraped on the edges of glass jars. “Song VII” uses the steak knives on a frying pan while growling with the voice and speaking the text “Zzzzzzilchingly vacuous.” “Song VIII” incorporates more growling and the friction sound of a ratchet. And finally, “Song IX” again uses steak knives against glass jars accompanying the text “expulsed at incessants” and adds the sound of a shaken paper bag filled with broken glass.229

Smith uses language to keep the listener in a dissociative state somewhere between text comprehension and music appreciation. Although Smith’s use of gibberish is sparse, his Songs I-IX are somehow less intelligible than Schwitters’ Ursonate. Schwitters’ strict use of musical forms frees his gibberish language from semantic obligation, while Smith’s text continues to grasp for meaning, and Songs I-IX is instead held together by subtle stylistic and sonic parallelisms. Similar to Globokar’s use of language in Toucher, and Berio’s use of language in Thema, Smith uses the sound of language itself in his compositional palate. In Songs I-IX, Smith focuses on friction sounds, and intertwines them with the friction sounds of percussion instruments. This creates a recurring motif that offers unity between the “songs,” a demonstration of the blurring of linguistic and musical elements, and another example of how the musicality of language can be used in composition.

229 Ibid., 1-6.
Gibberish in Popular Music

Gibberish language has also found its way into popular music composition, proving its pervasive appeal. *Prisencolinensainciusol* (1972) is a song composed by Italian singer Adriano Celentano that was featured on the Italian television station RAI and was a number one hit in Italy, France, Germany, Belgium and Luxembourg. The song is intended to sound as if it were sung in English with an American accent, vaguely like Bob Dylan, but the lyrics are written almost entirely in Celentano’s constructed gibberish language with the exception of the words "all right,” which are written “ol rait.” (see Example 50).\(^{230}\)

Example 50: Adriano Celentano’s *Prisencolinensainciusol* (1972).\(^{231}\)

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Go mo men
Iu bicos tue men cold
Dobrei gorls
Oh sandel

Ai ai smai sesler
Eni els so co uil piso ai
In de col men seivuan

Prisencolinensainciusol ol rait
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Celentano asserts his intention with the song was not humor or novelty, but to explore the barriers of communication. The song has since been remixed and covered by many European and American artists, and was even featured on the American television series *Fargo* (2017) and *Trust* (2018).\(^{232}\)

Another example of gibberish language used in popular music composition is the song *Trololo* (1976) by Russian singer Eduard Anatolyevich Khil. The song is a non-lexical vocable version of the song *I am very glad, as I'm finally returning back home* by Arkady Ostrovsky, and the name *Trololo* originates from the sounds Khil makes during the song. Khil created his gibberish version to mask the original sentimental lyrics about an American cowboy and his sweetheart that was censored by Soviet Russia during the Cold War.\(^{233}\) Originally uploaded to YouTube in 2009 by RealPapaPit, the video now has well over twenty-nine million views, and has since been featured many times on British and American television.\(^{234}\)

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\(^{232}\) Guy Raz, “It’s Gibberish, But Italian Pop Song Still Means Something.”


SUMMARY

Spoken languages are musical. Whether they are natural or constructed, tonal or not, used as musical surrogates or just complete gibberish, spoken languages have more musical value than previously thought, and are a fertile area for music composition. Tonal languages such as Mandarin, Japanese and Bantu languages, as well as percussive languages like Zulu, Xhosa and Khoekhoe, in addition to non-tonal languages such as English, French, Italian and German, all use pitch and melody to relate meaning and encourage understanding. This means most people are hearing speech melodies every day whether they realize it or not, and, according to Deutsch’s research, their musical neural centers are only activated with repetition or conscious effort. These melodies remain active in our speech but latent in our awareness, and therefore remain a relatively unexplored subject for cross-disciplinary studies between language and music.

Previous research of language-inspired music has focused on individual composers and their works, but this document creates a new body of literature, “language-music,” and analyzes it in totality instead of individually. This document makes connections between the contrasting techniques of twentieth-century composers, and also creates two categories of differentiation, “natural language-music pieces” and “constructed language-music pieces,” which can be further subdivided based on a composer’s proclivity towards the use of electronics.
Part I of this document highlighted natural languages and their variations of use in the natural language-music compositions of Ernst Toch’s, John Cage, Steve Reich, Vinko Globokar, and George Aperghis. For example, the combination of different spoken rhythms in Ernst Toch’s *Geographical Fugue* was the impetus that propelled the mid-twentieth-century interest in language music. John Cage’s *Living Room Music* is a similar example, and Cage also used other language music techniques such as deconstruction in *A Flower* and *Aria*, the technique of collage in his electro-acoustic piece *Speech 1955*, and chance operations in *Mureau*. Steve Reich’s electro-acoustic *Different Trains* transformed the sound of recorded speech into melodies played by a string quartet, similar to the speech-to-music transformations studied by Diana Deutsch. Vinko Globokar’s piece *Toucher* uses the sounds of percussion instruments to mimic the sounds of spoken language. Lastly, George Aperghis uses a similar mimicry in his piece *Le Corps a Corps*, but also demonstrates an additive technique in *Recitations*, and a collage technique in *Machinations*. These examples showed the multitude of techniques possible as twentieth-century composers incorporated the musicality of natural spoken languages into their pieces.

Part II of this document focused on constructed languages and compared their varied use in the compositions of Kurt Schwitters, Milton Babbitt, Luciano Berio, Cathy Berberian, and Stuart Saunders Smith. Artistic languages such as Klingon, Valyrian, and Na’vi, earned their place on the list of musical languages for their extensive use in the
soundtracks of their respective universes. Other constructed languages were highlighted such as Esperanto and Solresol, exhibiting global communication as a motivation for new languages. Surrogate languages were studied such as the Yoruba drumming language, the Silbo whistled language, and the Seenku xylophone language, which showed an innovative fusion of language and music and emphasizes their inseparable connection.

Part II went on to discuss gibberish language and its origins in the musical mysticism of Hildegard of Bingen, the literary nonsense of Edward Lear and Lewis Carroll, and the theater games of Viola Spolin. The use of gibberish languages in twentieth-century music composition was seen in Kurt Schwitters *Ursonate*, which uses spoken gibberish language as its melodic material and also displays additive processes and the use of musical forms. Milton Babbitt’s electro-acoustic piece *Philomel* was shown to juxtapose the sounds of sung vocals with the sounds of spoken text, recorded vocals and synthesized accompaniment, and Babbitt’s other language-inspired pieces, *Sounds and Words* and *Phonemena*, apply serial techniques to sung and spoken gibberish phonemes. Luciano Berio’s electronic pieces *Thema (Omaggio a Joyce)* and *Visage*, in addition to his acoustic works *Sequenza III*, and *Sinfonia*, also exhibit the use of gibberish languages and incorporate the techniques of collage, musical pointillism, and an attempt to transmit emotions through gibberish text. Berio’s wife Cathy Berberian was the inspiration for many of his language music works, and she also composed her own gibberish language piece *Stripsody* using comic book drawings and onomatopoeia. Finally, Stuart Saunders Smith’s *Songs I-IX* is another example of gibberish language
music which mimics the sounds of percussion instruments with the voice, similar to Globokar’s *Toucher*, but done with gibberish instead of French. The use of gibberish language was also seen in popular music compositions such as Adriano Celentano’s *Prisencolinensinainciusol* and Eduard Khil’s *Trololo*.

Because this study was not exhaustive, it lends relevance for future researchers to complete a comprehensive collection of extant language-music works, and to continue documenting new compositions as they are created. Future research might also include connections to music containing “non-lexical vocables” such as scat singing, beatboxing, foley art, eeping, Inuit throat singing, kabuki theater, konnanol, and tabla bols. Specific to Diana Deutsch’s speech-to-song research, it would be interesting to see further research regarding how the brain reacts to gibberish compared to language and music.

The topic of language-inspired music runs parallel to many other topics for future research, such as the role of technology in language-music composition, the visually artistic nature of most language-music scores, the dynamic character of language and how that influences the performance practice of language-music over time, and also the relationship between language-music and semiotics, for example, does the visual appearance of a written language influence the performance of the spoken version of that language?

With twentieth-century composers like John Cage setting the bar for the contemplation of the question, “Is this music?” How can composers in the 21st century continue to challenge audiences with that same question? I believe gibberish could
contribute to the answer. Examples like Erin Gee’s *Mouthpiece* series (2016), which layers amplified, extended vocal techniques over experimental chamber music, and Ali Puskulcu’s *Gibberish Shreds* (2018) for solo violin, voice and loop pedals, show the potential for the use of gibberish in the future of new music.

Gibberish blurs the boundaries between music, literature and visual art. It awakens within us a childhood rebelliousness and creativity, and encourages us to look at the world in new ways. It evokes a similar experience in all listeners regardless of their native language or musical background: a continual state of “trying to understand.” Such is the human experience. Whether this leads listeners to frustration, or to the dissociative state and arrival of wisdom described by Smith, is unimportant. What matters is that we continue to listen, and continue to expand our definition of what music is.
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