Royal
Conservatoire
The Hague

The Improvisational Ear

A Framework for Conversational Improvisation

By

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Jazz Piano

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A Framework for Conversational Improvisation

How can musicians build improvisational musical language through the study of speech?

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ABSTRACT

This artistic research investigates the transcription process in improvisational musical landscapes. Particularly the transcription process of speeches and speech patterns for the main purpose of developing and furthering jazz language to communicate more effectively as a communicator-improviser.

This research asks the question, how can musicians build improvisational musical language through the study of speech?

Effective methods of transcribing practice with the goal of developing the musical ear are developed during this research. These are demonstrated with analysis, harmonisation, survey, additional experiments and a set of improvisations and compositions. A systematic approach to improvisation in a spoken style will be shaped and consequently, the 'voice on the piano' will be found. These outcomes will be presented with the aspiration to venture toward melodic and harmonic possibilities of functional harmony not yet established in improvisational vocabulary.

DECLARATION

This is to certify that

- The thesis comprises only my original work towards the Master of Music Performance (by research) degree
- Due acknowledgement has been made in the text to all other material used;
- The thesis is (19,500) words in length, inclusive of footnotes, but exclusive of tables, maps, bibliographies and appendices.

Signed: Name: Date:

HUE WILLIAM BLANES 04/03/2019

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PROLOGUE

Everyone has hummed or sung a tune in their lifetime no matter how simple or complex the music. Ever since one of my earlier piano teachers used to say, 'play like you're speaking to someone' have I long grappled with the idea of intertwining speech and music. Many of my teachers would often mention that a jazz improvisation or 'solo' is and must be a form of communication. They implied that without communication in music there would be no intention.

Is music in fact like a conversation? Can an ordinary conversation or speech be explored in a musical, namely improvisational context?

Pianist Jason Moran states, "every person who speaks with their throat is singing a melody in their intonations[1]". Thus, each sentence spoken is a transcribable melody. Humans can change and adapt our voice with a level of complexity not matched by any other animal on our planet[2]; such is the power of words and the 'miracle' of talking in general.

Pianist Keith Jarrett[3] grunts while he plays, quite often in the spaces between phrases and he sings along with the melody as he plays an improvised solo, particularly in a trio setting[4]. This is another 'code' language of the music through a form of communication that Keith uniquely understands[5] [6].

Music is constantly around us, that is, the music of speech. In the last 2 years I have, as a rather interesting experiment, not listened to any recorded music, only to live music, to try and 'ready' my ears to receive this speech stimuli as music.

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[1] Moran, 2018
[2] Humans possess a low larynx that enables a 'high degree of sound modification'. Gregg 431
[3] 'A transcendent artist in communion with higher powers', Schachter, 2013
[4] For further reading on the reception of Jarrett's performances of mystical acts see Elsdon, 2013, pp 40-43
[5] He explores this concept briefly in the DVD, 'The Art of Improvisation', 2010
[6] "Autumn Leaves" as recorded on the 1995 live album *Keith Jarrett at the Blue Note*, represents one of the trio's most expansive standard tune interpretations, clocking in at over twenty-six minutes in length, Schachter, 2013

CHAPTER 1 – INTRODUCTION

Part 1: Why I choose to research music in speech

As a vocalist and pianist[1] I have always been fascinated by the various inflections and tones in the act of speaking. Influenced by Hermeto Pascoal, Jason Moran, and others, I decided in 2016 to start transcribing speeches exactly 10 years after I had first taken a lesson with Moran. This inspired me to create a performance proposal that revolved around the musicality of speech for a commission funded by PBS FM radio to be performed at the Melbourne International Jazz Festival. This opportunity allowed me to build upon that initial inspiration to transcribe, compose, and play speech compositions live in a project called 'Things That Have Been Said (TTHBS)'[2].

In this research, I wish to analyse the process of transcription, harmonisation and/or composition from the first listen to a speech to the very last phase of practicing musical material attained from the findings.

Part 2: The need for current study

Existing information is published about speech and how it can sound more like song with perpetual repetitions[3]. Deutsch discovered the 'speech-to-song illusion', in which a spoken phrase was heard as sung rather than spoken. This illusion has also indicated a strong connection between speech and music. The academic world and the 'jazz' world need more literature about the musical aspects of speech, particularly in an improvisational context[4].

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[1] The piano is an instrument that is perhaps far removed from the sound of the voice. Grainger: A brilliant concert Pianist, hated the piano. He called it the "box of hammers" and wrote practically no original solo music for it. Almost all his solo works are dazzling re-workings of his chamber and orchestral stuff, undertaken mainly at the insistence of his publishers'. Bird, 1999, p 379

[2] Commissioned by PBS, 'Things That Have Been Said (TTHBS)', June 2017, Melbourne International Jazz Festival Premiere, financed by Mark Newman.

[3] Deutsch – *Musical Illusions and Paradoxes* (1995); *Phantom Words and Other Curiosities* (2003)

[4] 'Music improvisers often need to develop a context or 'common ground' for themselves and their

The importance of exploring this topic further comes from several reasons. There is no guide for how to transcribe[1] a speech and set it to music. Steven Neville mentions that 'scholars seem reluctant to engage with the application of recorded speech to jazz performance practice'[2].

One perplexing aspect of this topic is that both musicians and non-musicians are not widely aware of the musical possibilities that speech[3] inherently has in it. As shown in my exam survey question,[4] "Would you like to see more concerts like this in the future"? One answer was simply, "not really".

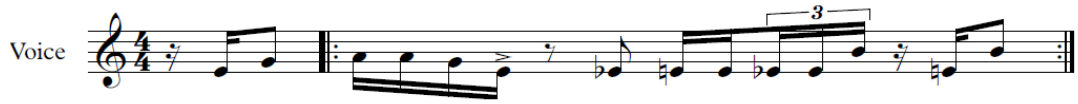

Figure 1-1 Looped voice on 'Ringing My Phone (Straight Outta Istanbul) 'Moran'-Neville

In the history of Jazz, few musicians[5] have used speech to create improvisational frameworks[6]. Jason Moran talks about how he came up with the idea to record 'Ringing My Phone'[7] (Figure 1-1). In an interview conducted for this paper, he talks about his first encounter on hearing speech music.[8]

> "This is the first time that I heard it implemented in a way that totally charged me and I wanted to know more about who Hermeto was[9]."

community and may seek music outside their practice' quote from Gary Peters,' that appears in Hannaford, 2012

[1] Hannaford talks briefly about the history of recorded sound in Jazz and is surprised that it is not more widely implemented, Hannaford, 2017

[2] Neville, 2014

[3] "Speech is special", Studdert-Kennedy et al, 1970

[4] Given to the audience at the May 2018, Hue Blanes' 1st Year Master Recital, KvB Zaal, Den Haag.

[5] Ted Panken 'experimental attitudes' (Journalist and affiliate of Association for the Advancement of Creative Musicians AACM) mentions Monk (Thelonious Sphere Monk, October 10, 1917 – February 17, 1982) using influences and experiences with speech but Monk does not connect with the use of 'Recorded speech in a music setting'.

[6] Pieces with repetitive chord structures to allow for improvisation

[7] 'Ringing My Phone (Straight Outta Istanbul) from his album The Bandwagon, Live at the Village Vanguard (2003).

[8] Moran talks about the pianist Nikki Yeoh (London) who, while in London, first introduced the iconic Hermeto Pascoal recording, 'Hermeto Pascoal e Grupo - Festa dos Deuses (1992)' to him.

[9] Moran, 2018

Hermeto was an influence on Moran, the same way that Moran is an influence on my playing.[1]

There are great advantages to studying speech, including being labelled a 'contemporary and current voice in improvised music'. For instance, Jason Moran has been described as 'Jazz's wild card, a probing conceptualist who transforms everything he touches into a bracingly contemporary statement'[2].

Part 3: Methodology

Each chapter has its own inherent methodology within it. Various methods were

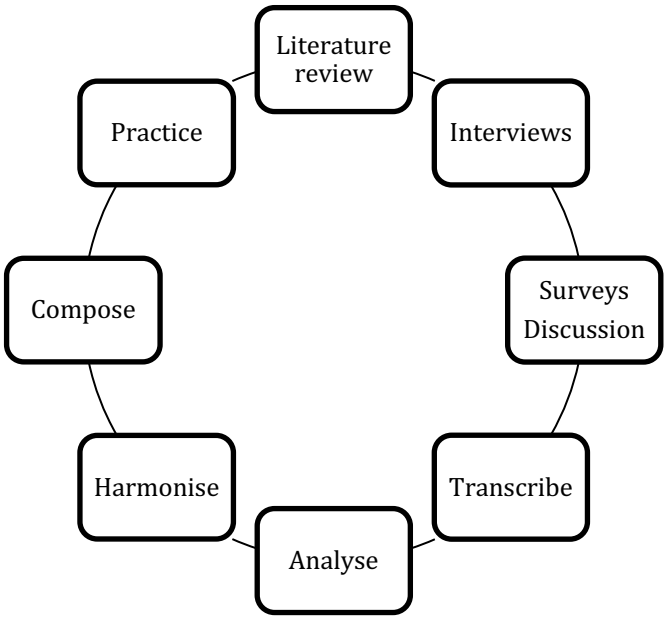

Figure 1-2 Various methodologies used to explore the musicality of speech

used for the body of this research (Figure 1.2). Briefly, the literature review provided an overview of what has been achieved in the field of speech music. Surveys and interviews were used to expand on the literature review. These findings then determined the approach on how to effectively build a structure of speech-music practice. This begins at the reading/survey level, then moves to more practical aspects that consist of i) transcribing, ii) analysing, iii) harmonising, iv) composing,

[1] https://www.youtube.com/watch?v=06Qm-Z5OsHw Música da Lagoa, Hermeto Pascoal
[2] SFJAZZ **SFJAZZ** Center is a hub of art, music, culture, and community in the Civic Center performing arts district, https://www.yelp.com/biz/sfjazz-san-francisco (SF JAZZ 2012)

and v) practising improvisational material based on the above findings. The order of this structure is important to provide a solid foundation for speech practice.

The interviews were self-conducted, and the information sourced comes from direct contact with the artists themselves.

For anything that did not make it to this paper for size reasons, you can find these files via the link below. They are worth a listen, look, read.

Dropbox Video, Recordings, Scores, Transcripts (Found on research catalogue)

Part 4: Limitations in this research

This paper focuses on both the pitch[1] and harmonic capabilities of speech study. When rhythm is a concern, I simplify my rhythmic analysis by stating the message or the intention of the speech.

Recurring rhythms are rarely used in human speech and therefore further work is needed to identify a solution to the study and notation of its workings. Perhaps it would be easier to study speech rhythms if humans could be more like birds[2].

All elements of speech and music cannot be covered in this single paper. The full '*gestalt*'[3] can only be found through the undertaking of further research.

[1] Every instrument contains an example of relative pitch, i.e. 'the memorisation of the qualities found on various pitches of the instrument' See pg. 35 Coker. An E on the piano will have unique characteristics from the E in the same register on the violin.

[2]Messiaen (December 10, 1908 – April 27, 1992 (http://www.oliviermessiaen.org/messbiog.html). Since the age of eighteen Messiaen had been collecting the songs of thousands of birds throughout France and the world. Early works showed inkling of birdsong influence but after the war in the late 40s and 50s he began notating their songs in great detail and this became a vital musical source for him.

[3] 'A face is comprised of a nose, mouth, lips, eyes etc. However, the simple isolated knowledge of these elements will not help to form a face. You need to know the relationship between all of these elements to get the full picture/image', Daneer 2018, Den Haag, Netherlands

Part 5: Literature Review

At the commencement of this research it was important to try to answer the question, what is speech and what is music? Burns[1] says, 'music first developed as, and still largely remains, a *social* phenomenon associated with religious or other rituals that, like *language*, necessitated an easily remembered common framework like improvisation.'

Of importance was identifying the various elements that form the overall body of a piece of communication. 'Certain things mean certain things in certain settings'[2]. It was important to find similarities between the human voice and commonly known music.

There is already an affiliation with the speaking voice and the western notation system. Ross[3] says,

> "In about 70 percent of the speech sounds, these ratios were bang-on musical intervals. This predominance of musical intervals hidden in speech suggests that the chromatic scale notes in music sound right to our ears because they match the formant ratios we are exposed to all the time in speech, even though we are quite unaware of this exposure."

And, 'intriguing similarities between musical scales and speech continua in the relationship between identification and discrimination and in the separation of categories along their respective continua[4].' Jazz artists such as Max Roach, Robert Glasper and Dan Weiss have all experimented with the application of recorded speech[5]. Keith Potter, in his book, *Four Musical Minimalists*, mentions that modern US composers were inspired by, 'the use of raw material drawn from everyday life[6].'

Then there is Hermeto Pascoal who, as an influential figure in the music world, found unique ways to investigate this 'everyday life'. He wondered, 'the sound of the aura

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[1] Burns, 1999
[2] Paul F. Berliner, 1994
[3] Ross, 2007
[4] Burns, 1999
[5] Neville, 2014.
[6] Four Musical Minimalists: La Monte Young, Terry Riley, Steve Reich, Philip Glass (Music in the Twentieth Century)

that I have perceived since childhood, that people are singing instead of speaking, could it be only in my head that this happens?'[1]. Pascoal[2] possesses a gift. 'He has perfect pitch, which has led him to perceive music in everyday situations'[3]. Pascoal says, 'Speech is perceived by the musician in terms of its rhythmic-melodic contours'[4]. I hope to find a logical relationship between music in speech by 'doing' and learning' and being practical in approach[5].

Moran notes that speeches 'challenge my notion of what is a melody[6]'. In an interview conducted for this paper Moran adds to this by seeking to find the 'code' in each person's communication. Finding the meaning, searching for the minute details that are unique to the individual[7].

Part 6: Summary

Although there are articles available about the musicality of speech, there has been little research about speech in jazz transposition, composition and improvisation. While an improviser transcribes speeches 'we start to see a different approach to phrasing that is a direct result of the study of speech patterns'[8].

This research focuses on the study of speech through musical practice and on how speeches can be applied to build improvisational musical language. Other literary sources will be quoted in the following chapters according to the topic in question.

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[1] Neto, 2000
[2] Pascoal (1992) Festa dos Dueses the songs 'Aula De Natacao' and 'Pensamento Positivo' have speech excerpts.
[3] Neto, 2000
[4] Neto, 2000, p 131
[5] Hannaford 'Synchronicity between "doing" and "learning" results in process that constantly reinvents the artist while he continues to produce informed art'.
[6] Moran, 2013, interview with the Kennedy Center, Washington, DC, USA.
[7] Moran, 2018
[8] Neville, 2014

CHAPTER 2 – THE IMPROVISATIONAL SPEECH TOOLBOX

Part 1: Basic Definitions and terms

This section defines important words and terms found in this paper and how they fit in the context of the present research.

Accented notes forming key points of emphasis: this signifies that the speaker is expressing something at an above average velocity. Accented notes do not necessarily form the basis for harmony (see *Principal Tones)*.

Accented time point: accented time points are marked by conventional accents. [1] In my research accented time points that affect the harmonisation are described as *Principal Tones.*

Communication: the imparting or interchange of thoughts, opinions, or information by speech, writing, or signs.

Consonance: accord or agreement.[2]

Consonance: the ratio 2:1 (octave) is the most consonant interval, the ratio 3:2 (fifth) is the next most consonant, and so on. Consonance, in general, decreases with increasing ratio complexity (larger integer ratios).[3]

Dissonance: 'if the ratio is more complex, such as 10:9, or if it is slightly mistuned from a simple ratio, there will be many nearly coinciding harmonics that will interact to create a sensation of beating or roughness. This sensation is presumed to be related to dissonance.[4]

[1] Roeder, "Interacting Pulse Streams in Shoenberg's Atonal Polyphony", p 234
[2] Infants' Perception of Consonance and Dissonance in Music. Marcel R. Zentner, Jerome Kagan 1998
[3] Burns, 1999, p 240
[4] Helmholtz (1877/1954), Hajda J.M. (2007)

Grouping Schemes-Dotted Slur: a grouping scheme is a self-devised term used to define a set of transcribed 'speech notes' that fall into one harmonised chord. It is illustrated in some figures by the dotted slur. Any chord can be applied to any note.[1]

Harmonic Intervals: intervals that occur simultaneously constituting harmony[2].
Harmonic Tension: when the harmony feels the need to resolve from *dissonance*.

Improvisation: the act of improvising, or of composing, uttering, executing, or arranging anything without previous preparation. Musical improvisation involves imagination and creativity.
Inflections: to play grace notes or combinations of notes to support the *supporting tone or principal tone.*[3]
Intervals: a space between things, points, limits, etc.; interspace: an interval of ten feet between posts.[4,5]

Melodic Contour: the terrain of the melody outlining the levels of pitch spoken.
Melodic or Sequential Intervals: different pitches played one note after the other.[6,7,8]
Median Note[9]: the middle note of a sequence or phrase. In a 10-note phrase the median note is the 5th consecutively highest note.
Main Note is the gravitational centre in between either two notes or in a *grouping scheme*. It can be estimated by finding the range of the phrase. I.e. F$^{\#}$ and C the main note would be D$^{\#}$. It can be calculated by using the mean + median /2 equation explained later in chapter 4.
Mean Note: used to calculate the average or mean note value in a *grouping scheme* or phrase. It can be found by assigning each note a number that corresponds to its position in the phrase from the lowest note to the highest. I.e. Lowest note = 1

[1] https://www.youtube.com/watch?v=e2xpxeRD17E – Jacob Collier and Herbie Hancock
[2] Zatorre & Halpern, 1979
[3] Can give the illusion of gliding between pitches
[4] Groupings of intervals Attneave & Olson, 1971; White, 1960
[5] Melodic information in music is mediated by the frequency of ratio relationships among tones i.e. the musical intervals not by their absolute (individual) frequencies
[6] *Melodic Intervals:* Intervals that occur sequentially constituting a melody. Burns & Ward, 1978; Rakowski, 1990; Siegel & Siegel, 1977a, 1977b
[7] Melody is one of the 'essential elements of music, along with harmony and rhythm'- Coker
[8] 'In general only musicians are able reliably to label musical intervals, and only musicians show evidence of categorical perception (context) for musical intervals', Burns
[9] See chapter 4

highest note = 5. If the answer after averaging out the values is 1 then the mean note is the note given in the table with 1. Usually the average note found in a phrase is the note that is played/spoken the most. I.e. E = 1 F = 2. The phrase is 1, 2, 1, 2, 1, 2, 1, 1, 1 = Sum 12 / total numbers 9 = 1.33. The average note is closer to an E (1).

Neighbour: also *enclosure:* a person or thing (musical note) that is near another.

Octave Equivalence: although far from universal in early and primitive music *Octave Equivalence* also seems to be common to more advanced musical systems including speech[1].

Principal tone: the pitch that is most used by the speaker in a *grouping scheme*[2]. I.e. G-A-A-B-C-F-F-E-A. In this example the note **A** becomes the *principal tone* and **A** could determine the chord harmony used. Only when the *principal tone* is difficult to determine at a glance, the *mean note* and the *main note* mathematical formulas should take effect.

Scale Degree: a note that belongs to the scale referenced by the chord. I.e. Bb7 is a Mixolydian mode chord that may include the 4th (IV) scale degree (Eb).

Semiotics: behaviour; the analysis of systems of communication, as language, gestures, or clothing.

Speech[3]*:* the faculty or power of speaking; oral communication; ability to express one's thoughts and emotions by speech sounds and gesture. The expression of or the ability to express thoughts and feelings by articulate sounds.

Supporting Tone: A pitch that supports a *Principal Tone.*

Through composed melody: melody composed on the spot with little to no relevance to what is being played either before or after[4].

Tones: most tones in music and in voiced speech are complex periodic tones whose partials are harmonically related[1].

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[1] Nettl, Bruno. "Theory of the origins of music" 1956,

[2] This should not be confused with the *Accented notes forming key points of emphasis*

[3] https://en.oxforddictionaries.com/definition/speech

[4] This means that the note G has no real significance unless it is placed in a musical situation with other notes. One word in isolation rarely has significance unless placed in a sentence (context).

Transcribe: transferring information from one medium to another, i.e. from sound to paper. Mainly used in musical tasks.

Transcriber: a person who performs the task of transferring music to the page, or to the brain (see chapter 3).

Transcriptions: recorded dictations of music or speech.

Wrong notes: 'there's no such thing as a wrong note' Herbie Hancock[2].

Part 2: Human Speaker vs Jazz Improviser

It is agreeable to say that this close comparison between speech forms and improvisation is perhaps a 'convenient' way to describe this very complicated situation/phenomenon[3]. There are however a lot of common communicative traits shared between the Human Speaker and the Jazz Improviser (see Table 1).

Table 1. Human Speaker vs. Jazz Improviser-Communication

Value	Human Speaker	Jazz Improviser
Intent[4]	Can change mid phrase	Can change mid phrase
Reactivity	External Factors	External Factors (mostly music)
Continuity[5]	Pressure to continue	Pressure to continue (less)
Shared Experience	Leads to more effective conversation	Leads to more effective conversation
Proficient Improvisers	Respond quickly[6]	Respond quickly
Communication Failure	Lack of understanding / dialogue	Lack of Understanding/dialogue

Dialogue vs. Concept 'follow the script' or 'go with your gut'

[1] Burns, 1982

[2] https://www.youtube.com/watch?v=C-GrRIgdmW8.

[3] Human speaker and a jazz improviser-O'Connor 2018

[4] O'Connor mirrors Moran on a statement about the spontaneous way 'intent can change' collectively in a group setting and individually. Different 'paths' can unfold and the music or speech can go in any direction the jazz improviser or speaker wishes, to clear intent from 'a mistake or fumble'.

[5] O'Connor mentions 'Conversational motifs form a common thread that distinguishes your conversations with friend X from those with friend Y, and involve an element of play, anticipation and momentary pleasure that might bear similarity with some forms of music making'. Effective dialogue often contains 'references to shared experience' See Table 1. O'Connor, 2018

[6] What separates the poor improviser with a good one is that 'proficient improvisers and speakers are able to respond quickly and creatively to those external factors that play on the moment'.

> The deepest musical relationships are those where the interaction isn't dialogical but conceptual, i.e. one strong concept of sound organisation that manages to coexist with another in a way that is mutually empowering and aesthetically pleasing (subjective of course) [1].

This contextual interplay could be deemed/defined as *contextual dialogue*[2].

Part 3: Summary

Many 'powerful' musical possibilities lie within speech and the potential of it needs to be harvested and made into music as currently defined. When the line is crossed, and the two entities of music and speech come together it 'literally morphs in front of everybody ears' and becomes 'powerful'[3]. From this, you can conclude that the role of the speaker is like that of a jazz improviser. Take the Southern Baptist Preacher for example. 'The preacher is just speaking to an audience and by the end of that moment it has become a song'[4].

[1] O'Connor, 2018
[2] Collins English dictionary
[3] Moran, 2018
[4] Ibid

CHAPTER 3 – THE SPEECH TRANSCRIPTION PROCESS

Speech is a monophonic and a linear practice[1]. There are generally no pitch relationships from one note to the next. Frequencies are determined by the words spoken and the intention behind what the speaker is saying. A transcriber must first assign the most relevant pitch according to the western tuning system[2] and then form a conclusion as to what the appropriate points of commencement and departure[3] in each sentence are. An experimental process will take place and these sentences will have a pitch[4] and a grouping scheme assigned to them (see Chapter 5) adding to their perceived musicality and instrumentalism.

Part 1: The Selection Process

i) Why transcribe a speech?

Moran points out how a Bud Powell line requires a different technique to that of a laugh'[5]. Moreover, 'by setting a transcription task you want to be forced to play something or find ideas that you're not used to playing'[6]. Thus, 'by transcribing music, regardless of the style, one's ability to improvise will improve greatly[7]. Transcribing speech would mainly be used to 'escape the gravity of musical style'.

[1] Monophonic: a single musical line. Sometimes two monophonic melodies will be spoken simultaneously.
[2] Equal Temperament, the 12-tone chromatic scale, Edward M Burns *1999, Fyk "(1982a, 1982b)*
[3] Accented notes or principal tones
[4] In relation to the problem of speech not containing notes from Western pitch, a comparison could be made to *ragas* found in Indian classical music whereas the *shrutis* or microtones are slight variations of certain intervals, the exact values of which are dependent on the individual melodic framework *raga* being played (Burns, 1999). Each speech therefore must be analysed/transcribed based on the system of notes, and not in isolated cases
[5] Moran, 2018
[6] Ibid
[7] Hannaford, 2017

O'Connor[1] mentions that the improviser can 'develop new approaches to phrasing' by exploring the human voice.

Neville explores other features of the voice such as the 'mood and emotion of a speech excerpt, as opposed to its rhythmic and /or melodic qualities'[2]. Moran goes further explaining the curiosity of hearing sounds and tones.

> "What is the tone of the phrase? You know, a loving tone vs. an angry tone[3]"

O'Connor[4] describes a good reason for transcribing speech, 'there is a considered approach to contour and inflection that is independent of musical syntax and convention'. This transcription would mainly be used to 'escape the gravity of musical style'.

ii) Good Speech, Bad Speech

Moran says he does not want to transcribe anything that he does not want his kids to hear[5]. He does not want to 'cross the line to certain kinds of speeches because that's not what I'm here to promote'[6]. In the transcriptions of Donald Trump, the Adolf Hitler excerpt, and the Pauline Hanson speech/podcast, while the language isn't promoted, I am touching on the parts of speech that are, to use Moran's term 'a little bit gross'. It is interesting musically to focus on the negatives as well as the positives as music needs to contain consonance and dissonance for it to have a healthy balance.

iii) Unlocking speech

Moran briefly explains that there are 'language codes' in music as well as in speech, such as in Schoenberg's 'Pierre Lunaire' or Wagner's 'Ring Cycle'. The code is aimed at an audience who have the potential to unlock it, and not aimed at people who

[1] O'Connor, 2018
[2] Neville, 2014
[3] Moran, 2018
[4] O'Connor, 2018
[5] Moran, 2018
[6] Ibid

may disagree with that code. Trumps 'Build a Wall'[1], is perhaps code for something far more relatable to his followers. In other words, codes and metaphor can have the potential to be more powerful than messages that are literal because 'they can be more visceral, and more emotional'[2].

Part 2: Methods of Transcribing

i) Introduction

In order to learn how to play a piece or how to copy elements from a section of a piece, an artist may listen to versions of the same piece played by another artist that they want to play themselves. For instance, if one wants to learn the tune *Autumn Leaves*[3], the Keith Jarrett Recording live at the Blue Note[4] would be a great reference recording for the following reasons. First, Jarrett takes a 32 Bar A-A-B form and develops many structural and melodic permutations with added ostinatos that although staying in the temperament of the piece, transforms it into a piece of epic size (26 min). In Jarrett's opening introduction he plays in many different tonal centres and uses fragments of the melody to navigate through the improvisation. This enables the listener or the transcribing artist to discover seemingly endless possibilities that an artist can utilize[5].

[1] I.e. A Donald Trump speech, Moran does not want to even know what it feels like to play the speech 'in his hand'. Moran, 2018

[2] Ibid

[3] Joseph Kosma, originally 'Les Feuilles mortes'

[4] Jarrett, Keith. *Keith Jarrett at the Blue Note*. ECM,1995. Recorded in 1994.

[5] Of the trio's other "Autumn Leaves" recordings, only '*Up For It'* (2002) features a similarly expansive treatment.

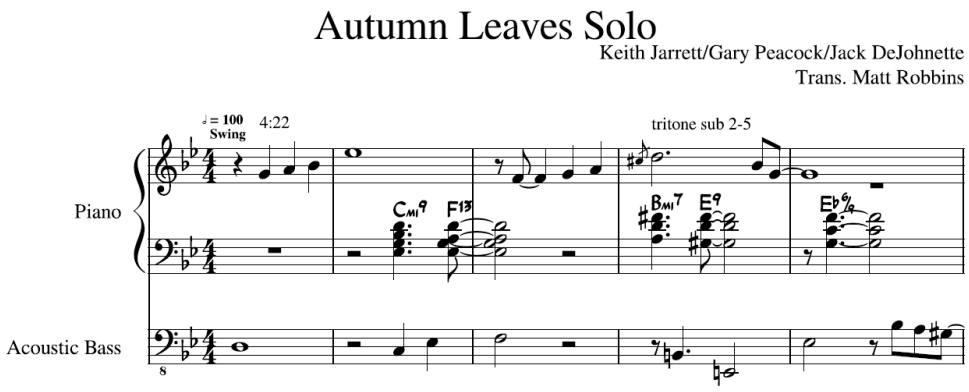

Figure 3-1 Autumn Leaves melody

Jarrett maintains a communicative element to his playing throughout the piece. He achieves this by playing simply and melodically (Figure 3-1). When one transcribes Jarrett one quickly discovers that something that sounds easy, is deeply complex, and difficult to transcribe, memorise and play. This is one of the reasons aspiring improvisers should engage in a process that episodically and cyclically turns the complex into the simple and vice versa.

Transcribing[1] ultimately enhances the professional or aspiring artists inner pitch, articulation and rhythm comprehension and through copying and emulating the masters of musical communication[2] the artist can thus communicate his or her own ideas to their audience in a more deliberate fashion. So, what about speech?

Transcribing the spoken voice is simply another way to further ones understanding of their own performing limits, especially as an improviser [3]. To transcribe a speech one needs to focus on the overall context of the tuning or placement of the notes to properly fathom what would be the best way to play it on an instrument.

Moran looks at the transcribing process through layers/steps providing a strong method for his speech studies to grow organically into compositions of their own.

[1] Relative pitch possessors can identify notes that are “out of tune” intervals. Burns and Ward, 1978
[2] ‘Communication comes from a place where both parties share a common understanding of what is meaningful, i.e. language, past experiences, previous interactions with others’, Hannaford, 2018
[3] ‘By setting yourself this task you want to be forced to play something or find ideas that you're not used to playing’. Burns, p 234, ‘It is clear, that the context had a significant effect on both the “discriminability” and by the subjective sizes of the intervals.’

So, how can one transcribe more efficiently?[1] That depends on what the transcriber wants to achieve[2].

ii) The segmental listening/writing method[3]

This method uses the program *Amazing Slow Downer* or *Transcribe* for easy looping of the segment. These programs enable the transcriber to adjust speed without compromising the pitch quality. You will need a score and a pencil to write (scribe) the notes and rhythm down. *Sibelius* or *Finale* are great tools in writing notes on a PC or MAC. Do this exercise without an instrument and use the following steps:

A. Choose two or three note segment/fragments to loop at 25% of the original speed and start writing the notes down. The rhythm will come later.
B. Continue this process until all the pitches of the segment that you wish to transcribe have been written.
C. Once the notes/pitches have been written, expand the listening scope to around eight notes.
D. Listen to these eight notes at 50% speed or whatever speed is most beneficial to hear the rhythms correctly.
E. Think of a metric sub-division other than the main pulse of the piece to truly and mathematically make the rhythm correct. For example, if the piece deals mainly in swung quavers (8^{th} notes) think in semiquavers (16^{ths}). If the rhythm does not fit into 16^{th} divisions try 32^{nd} divisions. This will help to negotiate and comprehend any irregularities in the rhythm. If this does not work, listen for tuplets in any numerical value[4].
F. Once the rhythm and pitch are correctly written the instrumentalist can play along with the precise score.

[1] Hannaford talks about the time taken to address the problem of transcribing and concludes that it does not matter how long it takes to get a result, 'It's just about the outcome'. Hannaford, 2018
[2] 'The improviser is aware on the first hearing, of the exact pitches used by other performers'. Coker, 1964
[3] See segmental listening/writing method video
[4] 'Jason Moran meets Hue Blanes' is a transcription with the most accurate rhythm using conventional notation to date.

This method is effective from the first listen to the time taken to play the fragment perfectly, especially for a good reader and good listener. The negative to this method is the speech might take longer to internalise, and the transcriber might not develop his/her ear training and communication skills with an audience when improvising. This is because the method doesn't use his or her instrument in the process (See Figure 3-2)

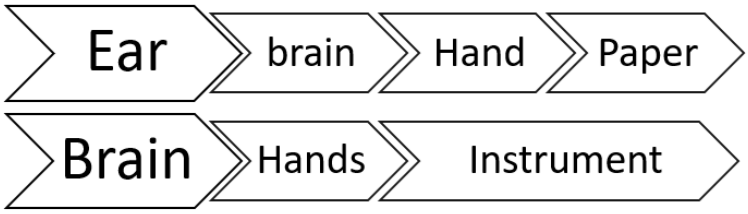

Figure 3-2 Segmented listening/writing method (top) vs. repetition ear method (bottom)-Coker

iii) The repetition ear method[1]

This method is all about listening to build your ear. Moran says,

> 'So, when I wasn't having it in my hand at the piano that I at least had it in my ear, and I could then start to find a nuance'[2].

This method uses the program *Amazing Slow Downer* or *Transcribe* for easy looping of the segment. You will need your instrument or voice to complete this exercise.

A. Choose a segment/fragment to loop and start playing along with it at about 25% speed. It will be difficult at first to be exact and may take days or weeks to get the notes precise.
B. Slowing down the audio (25%) for transcription does sometimes present its own problems. 'Slowing down the audio revealed rises and falls in inflection that led to two or more notes being present in a single syllable'[3].
C. Gradually add speed to the fragment. You will notice once again that the fragment will be difficult to play.
D. Continue increasing speed until you get to the original tempo[1].

[1] See video, Repetition Ear Method
[2] Moran, 2018
[3] Neville, 2014

E. Do not write out the transcription at any stage of this process.

Once this method is attempted the transcriber can then move onto the next fragment when a desired section of the piece is internalized. 'I was doing everything by ear and memorizing the piece straight away (*repetition ear method*) whereas previously in my undergraduate degree I would transcribe with paper and a pencil and I would write it down like a piece of classical music (*segmented writing method*) and then try and try and then try and play along to the recording'[2].

Internalisation means that the number of repetitive listens to a recorded fragment develops that music language inside of the transcribers mind/ear and becomes a natural part of their musicality in other situations including improvisation. The *repetition ear method* can take a long time to hear the pitches and rhythms of a Jarrett (*Repetition ear method*) or especially a Dolphy (*segmented listening method*) and can be frustrating when the playback speed is too rapid for any level of real-time comprehension.

iv) The reading method[3]

This is the fastest method between hearing a recorded solo and being able to play it on an instrument. It works as follows,

A. Acquire a score of a previously completed transcription.
B. Play the score without the recording at your own desired tempo, with the idea that you can build tempo gradually over time.
C. Try to play along with the recording.

The *reading method*, with conventional notation, enables the transcriber to visually see the shapes of the rhythms and pitch contours used by the improvising performer. If the 'transcriber' is a good note reader, he/she can play it near perfect

[1] "Many an hour was spent 'note bashing' on a piano just to achieve approximations of some notes and phrases, people don't talk in an equally tempered tuning system" Neville, 2014
[2] Hannaford, 2017
[3] See video, The Reading Method

at first glance. The downside to this method is the possibility that no internalization[1] is taking place in the performers' development as an improvising artist. This is unless he/she memorises the piece, and or chord structure.

v) The singing method[2]

This method only requires *Transcribe* or *Amazing Slow Downer,* and a voice. It consists of the following steps,

A. Listen a few times to a piece/speech that you would like to transcribe.
B. Sing along with the phrases as accurately as possible, repeat[3].
C. After being comfortable with the phrases in the piece, sing it without the recording

This exercise is simple but effective. An internal knowledge of the phrase is evident but transferring this knowledge to your instrument is where the difficulty will arise.

vi) The real time self-transcription method[4]

This method consists of a sentence of a self-transcribed speech harmonised and restructured to mimic the voice, done in real time. 'There's something about understanding where your ear is and where in relationship to the melody it is'[5]. This method goes as follows,

A. Record a sentence, a shorter sentence will ensure quicker progress
B. Play along to a loop of the recording with no real aim
C. Find the melody of the sentence
D. Create a harmonisaton of the melody
E. Find the 'flow' of the voice[6]
F. Play along with the sentence, put chords to it, mimic it, make fun of the imperfections of your own voice[1]. Vary the playback speeds.

---

[1] *Internalising* and *Memorising* are not the same ideas. Memorising enables a player to play a piece without sheet music. However, internalising the music requires a broader knowledge of the piece i.e. harmony, melody, structure, in order to improvise if necessary.
[2] See video, The Singing Method
[3] Olivia Chindamo, Secret Love, https://www.youtube.com/watch?v=tdfTYh4vUg0
[4] See video, The Real Time Self Transcription Method
[5] Moran could be making a comment about bringing the ear ever so closer to the melody of the speaker, even in real time, thus quickening his/her melodic speech recognition skills
[6] Rhythmic contour

The user can learn about their own voice and about their playing style instantly. The user may find new ways to harmonise melody. This method is the shortest way to transcribe a voice without writing anything down. The transcriber will be able to build their ear training skills quickly and effectively.

The *real time self transcribing method* can be frustrating as it is a spontaneous exercise. A lot of mistakes in melody recognition and harmony implementation can be made. To counter this problem, listen back to the recording in as slow speed as possible. You may not like the sound of your own voice. This needs to be overcome both in your voice and in your playing. An improviser must be positive about what they are playing in the moment.

Part 5: Summary

The methods explored in this chapter are based on personal experiences and experiences of my interview subjects. These methods are useful in transcribing speech. Ideally each method would be used concurrently. The 'Things That Have Been Said (TTHBS)'[2] project primarily used the *segmented/listening* and the *writing method*. In retrospect, it would have been better to further my ear training skills by utilising other methods of transcription, particularly the *repetition ear method* and the *real time self-transcription method*. It was not a desire at the time to internalise or memorise the speeches as there were time constraints, although the simple act of playing the pieces over and over whilst reading the score enabled me to internalise the speeches in some capacity (*repetition ear method and reading method*).

An inspiration for the *repetition ear method* and *the real time self-transcription method* came from a quote from Mark Hannaford[3]

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[1] 'Australians have a real distinct way of talking like a lot of different people. So, there's maybe something about the way I speak and all the people around me speak that could give me some kind of Australian you know not Australian thing but relate to being Australian'. Hannaford, 2017

[2] 'Things That Have Been Said' TTHBS June 2017 Melbourne International Jazz Festival Premiere

[3] An interesting observation of Hannaford is he chooses not to slow the transcription down but to transcribe at 'real speed'. This would add stress to the transcriber. However, Hannaford observes that he has formerly used *the segmented listening/writing method* in his 'undergraduate' years and has

> I would read the most banal shit like washing instructions on a jumper or something, record it, and then try and play it over and I'm pretty sure for those recordings I was using my laptop and I was always trying to do it at real speed and never slowing things down.

During our interview, Moran was very clear about his method of transcribing

> Moran (M): 'Well I've been using *Logic* (Micro Logic[1]) for a very very long time now and *Logic* has always been my saviour. So, I would put on the sound file first, I would record the sound on to Minidisc which has always been my best friend
>
> Blanes (B): Do you still have it (the Minidisc)?
>
> M: 'I still do (laughs). Then I would transfer it onto the computer and then I would put it in *Logic*. In *Logic*, I would just go phrase by phrase and I'll put it on loop two seconds of a time then I would play it on the keyboard then I'll move to the next two seconds and I'll go through the whole piece and it might take three or four hours or something. And that was just the first layer.

And

> M: Secondly, *Logic* does a really bad job of transcribing what you play especially back then. So, it was just more kinda looking at it to find the notes again and then trying to play it in time with the voice and trying to get the inflections and that's when the technique started to get challenged.

Moran[2] uses the software, Logic to split the difference between my two

---

evolved to confidently relying on his ear (*repetition ear method*) to process information.

[1] Computer Software program that writes down the notes (not always accurate) as you play them on a MIDI keyboard

[2] "Since his emergence on the music scene in the late 1990s, Kennedy Center Artistic Director for Jazz **Jason Moran** has proven more than his brilliance as a performer. With a unique vision and innovative approach to the music, Mr Moran was appointed Artistic Advisor for Jazz for the John F. Kennedy Center for the Performing Arts in November 2011 and given the title of Artistic Director for Jazz in May 2014", taken from http://www.kennedy-center.org/artist/A4757

transcribing methods[1], *the segmented listening/writing method*, and t*he repetition ear method.* All methods are a great way to study 'your own voice on the instrument'[2]. Both Moran and Hannaford mention the importance of this in their own findings.

[1] Moran transcribes segmentally and compartmentally, and he plays the phrase physically into his Logic keyboard in order to transcribe/write the notes into the computer while playing. Moran, 2018
[2] Ibid

CHAPTER 4 – TRANSCRIPTIONS – AN ANALYSIS

Part 1: Introduction

Ten transcriptions were conducted over the course of two years to serve different purposes. Some speeches were transcribed to find new melodic materials derived from speech. Other speeches were transcribed to simply improve the transcribing skillset itself. The Eric Dolphy and Keith Jarrett transcriptions were used to compare instrumental music phrases and melody to the melodic phrases in speeches. I wanted to study the most effective instrumental and verbal communicators and find out *how* and *why* they're effective? Just as with Hannaford[1], transcription analysis has allowed me to further and advance my own practice as an improviser.

[1] Hannaford, 2012

Part 2: Transcribing Analysis: Methodology

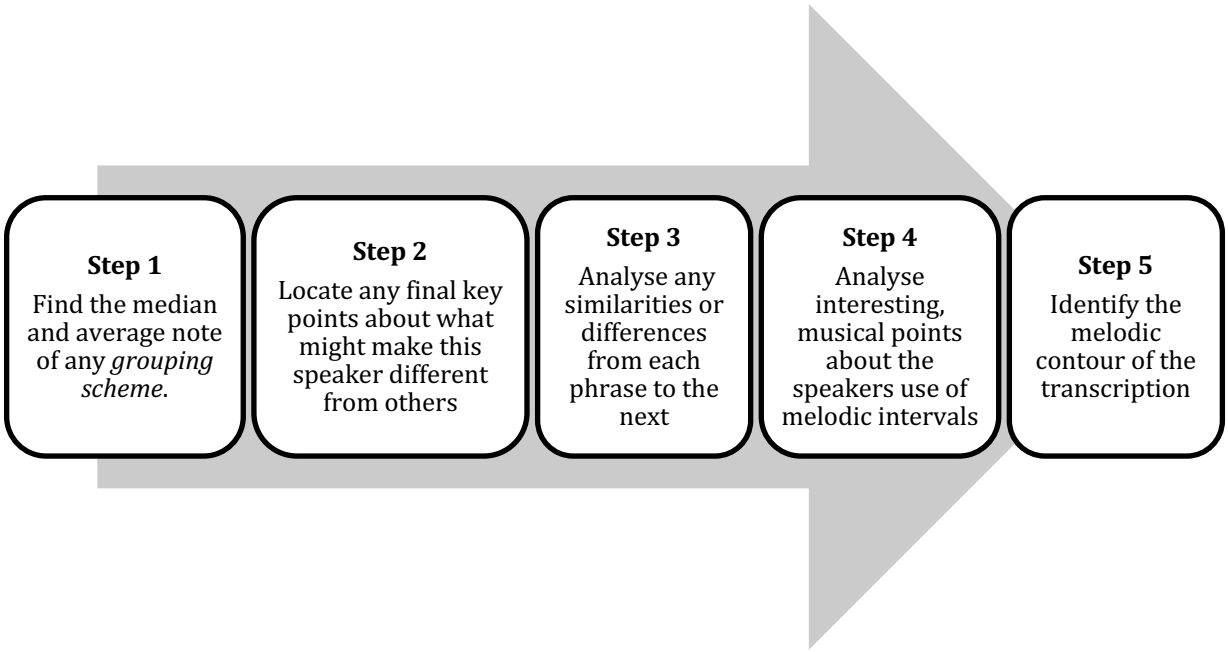


Figure 4-1 Speech transcription analysis workflow

In a somewhat arbitrary and unsystematic world of speech it is useful to find prominent notes and accents, which may encourage the listener to find more organised items (Figure 4-1, step 1).

In this chapter, major or natural scale degrees are provided in upper case, minor or flat scale degrees are in lower cases, this means that the sharp, flat or natural symbols do not need to be used (See Table 2).

In addition, the following definitions are used throughout this chapter:

Tonal centre: Diatonic term. Note where surrounding notes are harmonically the strongest i.e. C is the tonal centre of B, C, D, C

Rate of occurrence: How often a pitch is spoken in a phrase i.e. (C is spoken five times)

G2 G3: Precise pitch reference of the given note (Middle C = C4). Exact frequencies are only discussed when range is in question

Table 2 Scale degree and term abbreviations used in this paper

Terms	Used abbreviations
Scale degree	Λ
Tonic	I
Minor 2nd	ii
Major 2nd	II
Minor 3rd	iii
Major 3rd	III
Perfect 4th	IV
Diminished 5th	v
Perfect 5th	V
Minor 6th	vi
Major 6th	VI
Minor 7th	vii
Major 7th	VII
F Major	F
F Major 7	Fmaj7
F minor 7	F-7
F minor with a major 7	F-maj7
F diminished	FDim.
F augmented	F+
Arpeggio	Arp
Bar 54	B54
Ascending	Asc.
Descending	Desc.

Part 3: Eric Dolphy, 'Chasin' the Trane'[1]

The transcription of Eric Dolphy was completed to identify speech patterns[2] in his improvisations. Dolphy's style is said to employ inimitable harmonies, and speech and animal-like inflections[3]. Dolphy communicates in wide leaps (Figure 4-2). These intervals do not correspond to any of my completed spoken transcriptions[4].

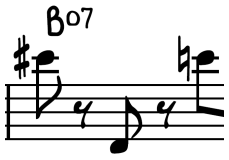


Figure 4-2. Dolphy's wild leaps

i) Dolphy does not sing

In this harmonic analysis of Dolphy's solo there will be no mention of the supposed '12 bar blues' chord changes unless a strong outline of the chord is played (e.g. I, III, V, vii degrees of the IV chord) (Figure 4-3). This is due to a loose reference to these chords by the bass player, Reggie Workman, and Eric Dolphy himself on alto saxophone.

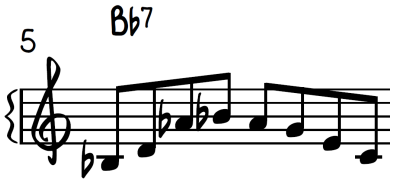


Figure 4-3 Chord reference

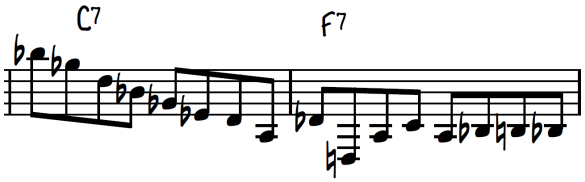


Figure 4-4 Arp. wide leaps

[1] Eric Dolphy Transcription – Chasin' The Trane' (a loose 12 bar blues structure in F) Nov 1 1961 Live at The Village Vanguard
[2] Patterns identifying with my spoken transcriptions
[3] Supposedly, Dolphy regularly rehearsed among flocks of birds
[4] Speech patterns use predominantly small intervals of 2nds and 3rds

Most passages used are in combination with arpeggios (Figure 4-4) and chromatic enclosures towards a perceived tonal centre B9-10 (Figure 4-5).

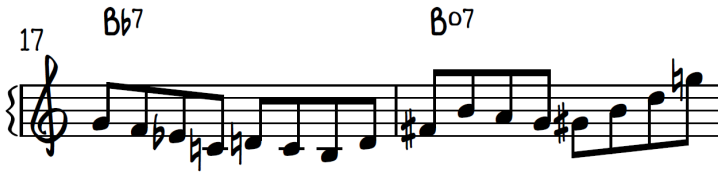


Figure 4-5 B tonal centre Dolphy

For example, two of the exact same enclosures are used to accentuate E^b in bar 14 where G, F, D, E^b is used and bar 19 where G, F, D, E^b is also used (Figure 4-6). In both instances there is a strong pull towards E^b being the tonal centre but only for a moment[1]. E^b (as the b7 note in the tonal centre F) is the longest note in the solo by far at 7 quarter-note lengths. The most common rhythmical value over the duration of the three choruses is the swung eighth note.

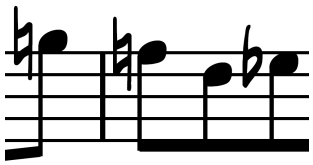


Figure 4-6 Same enclosure

The most speech like example that Dolphy plays is in the last 4 bars of the transcription. It features the most successive chromatic or broken chord notes before a wide leap (Figure 4-7).

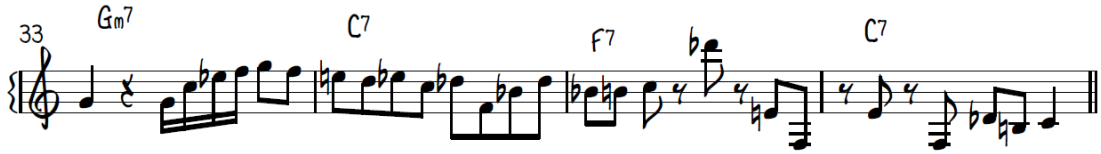


Figure 4-7 Last four bars of the transcription

Dolphy's phrases are considered speech like by some[2], however he does not frequently use common tones or neighbouring notes, there is no binding at the

[1] A *moment* is defined as one and a half minutes (90 seconds), nevertheless I am using the most common definition of a *moment*, a short while. https://www.quora.com/How-many-seconds-is-a-moment

[2] https://www.blackpast.org/african-american-history/dolphy-eric-1928-1964

beginnings and endings of phrases (*inter-phrasal relationship),* and he plays many long phrases that are not characteristically found in speech[1].

Part 4: Keith Jarrett, 'Autumn Leaves'

i) 7 steps[2] to Jarrett

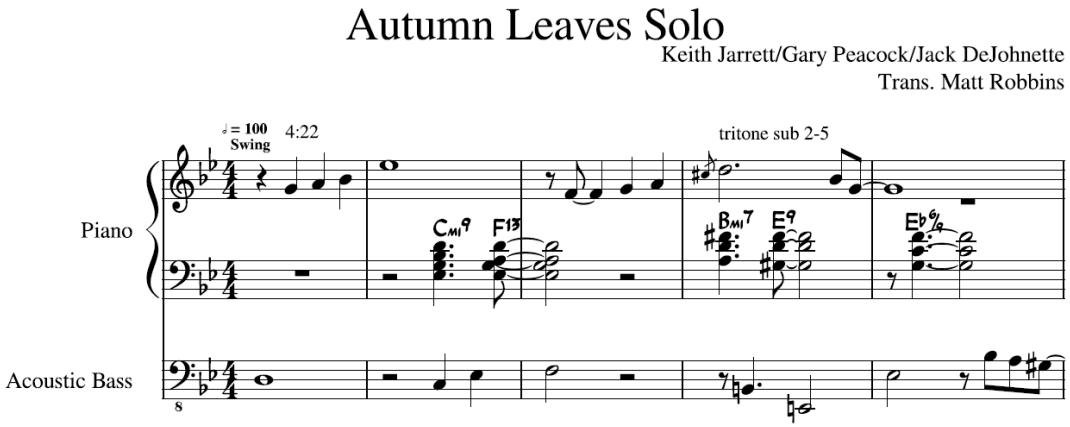


Figure 4-8 Example of a transcription of a simple melody

1) Sing transcription using different speeds (*singing method*).
2) Memorise the notes and rhythm (*repetition ear method*).
3) Find the full transcription by Matt Robbins[3] (*reading method*), see Figure 4-8.
4) Find grunts in his playing, see Figure 4-9.

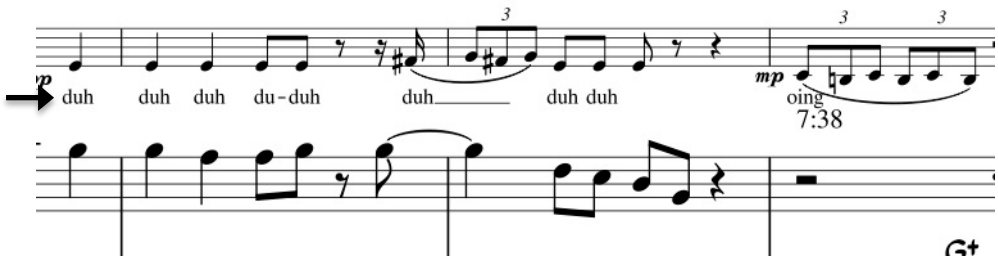


Figure 4-9 Grunts in Jarrett's solo

[1] 'Inducing techniques in the need for more expression and an adapting to speech-like sounds' https://acoustics.org/pressroom/httpdocs/135th/hettergo.html
[2] These steps were undertaken over a 2-month process, September 2018 to December 2018.
[3] https://www.mattrobbinsmusic.com/transcriptions/

5) Find Communication in the trio playing. E.g. One line moves chromatically downward as the bass follows eventually moving into the V I cadence simultaneously[1] (see Figure 4-10).

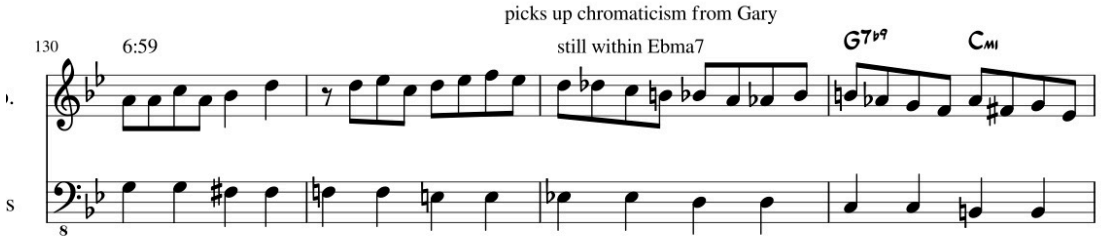


Figure 4-10 Chromaticism from Peacock (b) and Jarrett (p)

6) Sing transcription at different speeds, once again (*Singing method*).
7) Find Melodic Symmetry, interesting phrases (Figure 4-11) melodic symmetry

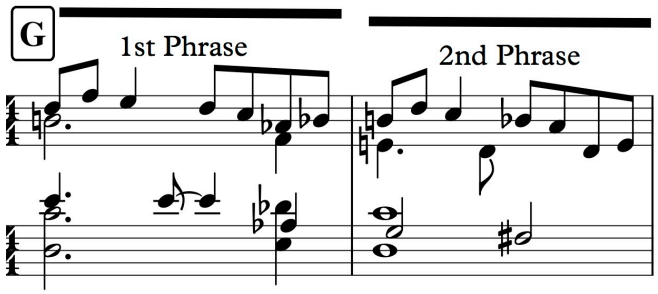


Figure 4-11 Melodic symmetry in Jarrett's Autumn Leaves. Both phrases have the same melodic contour

[1] 'Simultaneous conversation'

Part 5: Donald Trump, 'Inauguration speech'

i) Chief Justice Roberts

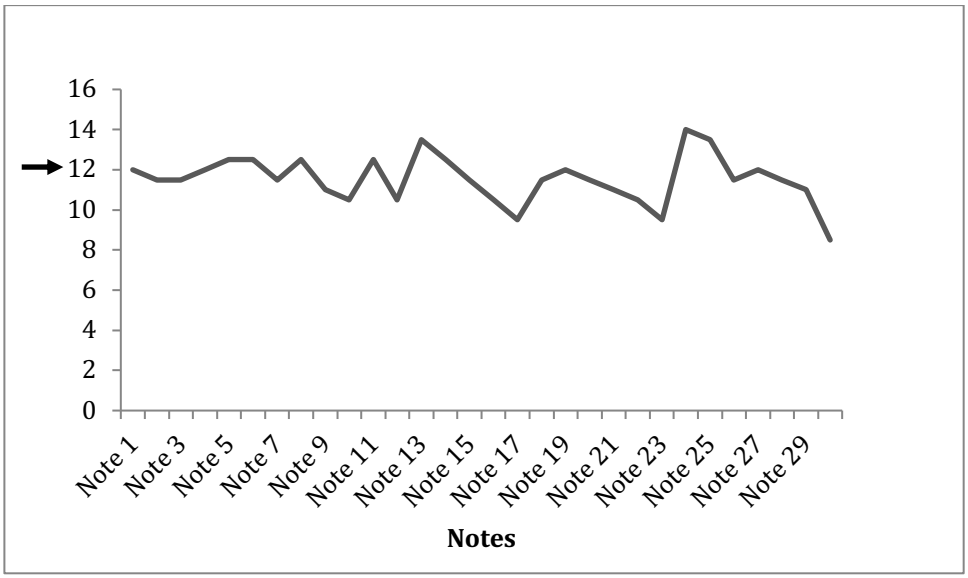


Figure 4-12 Melodic Contour of Trump's first sentence on his inaguration speech. Arrow represents starting note F3. 0.5 equals semi-tonal increments

As seen on Figure 4-12, Trump uses descending patterns at the start of his speech to communicate resolve. There is a usage of semitones to suggest more and more tension, and then a release. A perfect 4th decline resolves the opening sentence of Trump's inauguration (Figure 4-13).

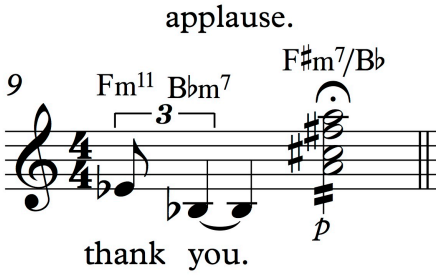


Figure 4-13 Resolved Trump's first sentence.

ii) All of our people

Trump speaks his first phrase of the second sentence as a largely descending one. He then follows with what can be described as four answering lines that are similar in contour.

'To rebuild our country' and 'and restore its promise', have almost the same phrase ending. Both end with perfect 4th cadences that are preceded by minor second supporting tones. The minor second before the perfect 4th in 'To rebuild our country' (F# to G) is coming from below and 'and restore its promise' (G# to G Bar17) is coming from above. (Figure 4-14).

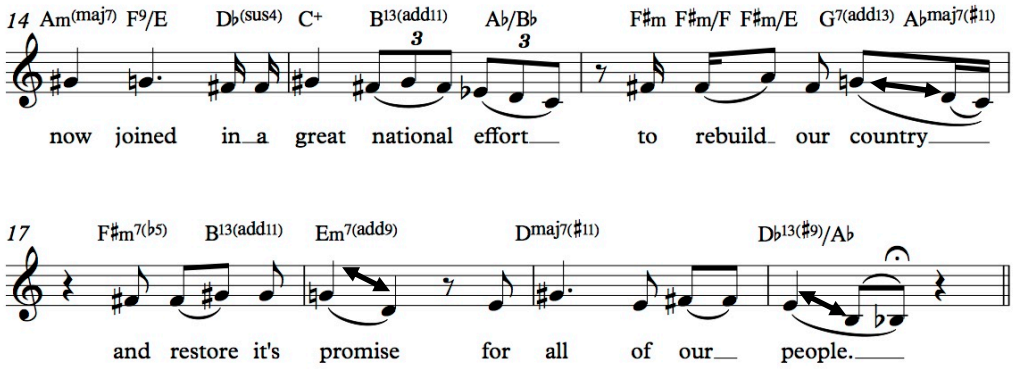


Figure 4-14 Excerpt of transcription of Trump 2nd sentence from his inauguration speech. Arrows point at the perfect 4th cadences seen at the end of each phrase.

iii) Many many years to come

The first phrase starts with a perfect 4th leap and then moves down in step (Figure 4-15).

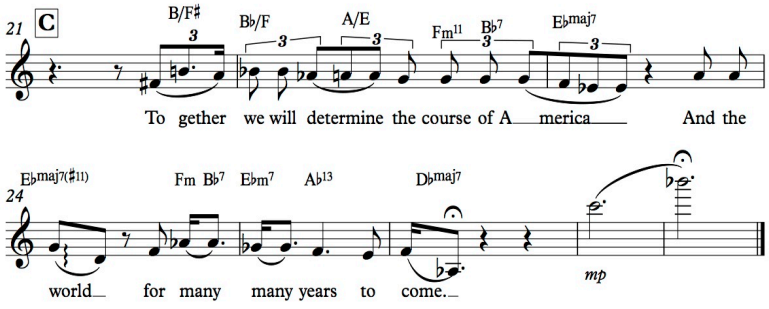


Figure 4-15 Transcription of Trump's third sentence from his inauguration speech

Generally, Trump begins a sentence with an upward leap and then descends followed by a further large descent to finish off. The second last phrase consists of a perfect 4th and the last phrase finishes with a major 6th descending leap 'come'.

Trump communicates in a simple, unsophisticated way. His supporters are drawn to his common, uncomplicated, and down to earth persona.

Part 6: Noel Pearson, Leigh Sales, and Paul Keating, 'Whitlam's funeral'

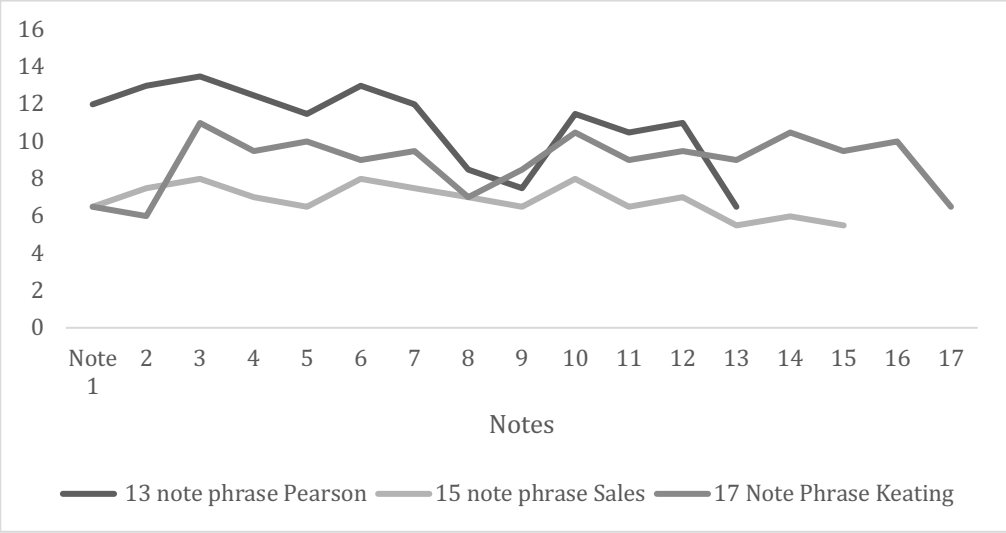


Figure 4-16 Contour map of Pearson, Sales, and Keating. D=12, F=6.5 Pearson and Keating sound an octave lower. 0.5 = semi-tonal increments

In B1-2 where melodically ambiguous sequences consisting of both minor and major seconds are spoken, Pearson resolves with a perfect 4th descending cadence. Perfect 4th descending cadences also come in Bar 4 Pearson, B15 Keating, B19, Keating, B21 Keating, B24, Pearson, B28 Pearson, B33, Pearson, B38 Pearson, B46 Pearson, and finally in bar 60, Pearson (See Appendix V – Original scores; Noel Pearson, Leigh Sales, and Paul Keating, 'Whitlam's funeral').

Noel Pearson's speech is a Eulogy at a funeral[1], he does not end any sentences ascending. Table 3 shows his sentence endings.

[1] Edward Gough Whitlam AC QC (11 July 1916 – 21 October 2014) was the 21st Prime Minister of Australia

Table 3 Pearson's sentence endings

Interval type	Bar numbers
Stepwise fashion	B26, 45
Maj 3rd	B29, 30, 35, 37, B42
Perfect 5th	B3, 25, 40
Consecutive 5th	B48, 55
Other descending cadences	Min 6th B44, B49 Maj 6th B52/53, Min 7th B8, B31, B50

Leigh Sales, an interviewer, talks fast and in short intervals leading upward, and Keating talks in a staunch, descending fashion but occasionally, he moves ascendant[1]. I wish to analyse, using further techniques, the last descending phrase of Pearson's, 'Apart from all of this, what did this Roman ever do for us?' (Figure 4-17).

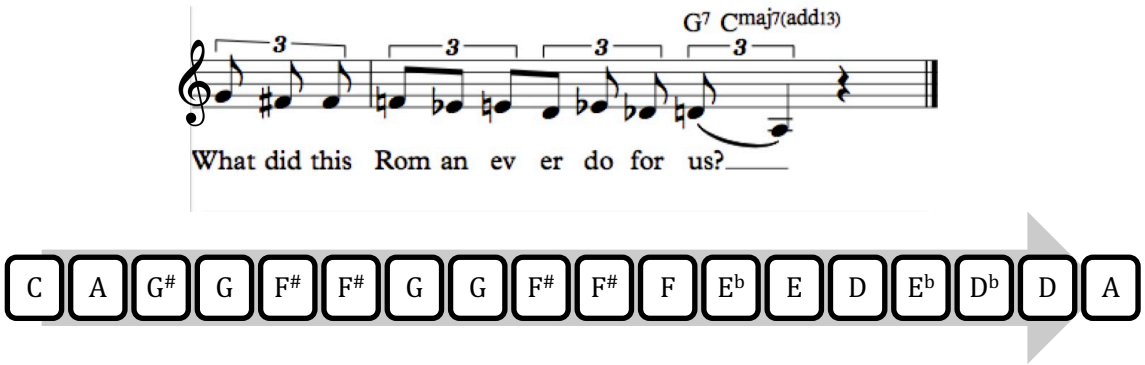


Figure 4-17 Noel Pearson's, "What did this Roman ever do for us' transcription (top) and entire, "Apart from all of this, what did this Roman ever do for us? all notes (bottom).

There are 18 Notes in total in this sentence. The F$^{\#}$ appears 4 times and the G 3 three times (Figure 4-17, bottom panel), so it can be assumed that the mean note of this phrase will be around the F$^{\#}$, G area.

[1] B19 'You Know' Maj 3rd Interval asc.

Note	A	A#	B	C	C#	D	D#	E	F	F#	G	G#	A	A#	B
Value	-1.5	-1	-0.5	1	2	3	4	5	6	7	8	9	10	11	12

Figure 4-18 Note value process. Notes are arranged from lowest value to highest. No additional notes i.e. grace notes are put to the table

As seen in Figure 4-18, the process uses the precise notes that are spoken, 0's are not used. Often the middle number in the sequence is not spoken and can be the median, simply because it is in the middle of the sequence (Figure 4-19). In this case,

C	A	G#	G	F#	F#	G	G	F#	F#	F	Eb	E	D	Eb	Db	D	A

1	10	9	8	7	7	8	8	7	7	6	4	5	3	4	2	3	-1.5

Figure 4-19 Value of notes; top panel shows the phrase; bottom panel shows the corresponding value notes. Average = 5.4. Mean note is closer to an E

Experiment 1
Play the bass/mean note E over this phrase (Figure 4-20) and see how it sounds.

-1	1	2	3	3	4	4	5	6	7	7	7	7	8	8	8	9	10

Figure 4-20 How to work out the median note

Taking the information found in Figures 4-17 to 4-20 we can work out the middle note as follows:

Median = 9th
Number (F) = 6
A: Mean 5.4
B: Median 6

$$(Mean + Median) \div 2 = (5.4 + 6) \div 2 = 5.7 \therefore Main\ note\ closer\ to\ an\ F$$

Experiment 2: Fibonacci experiment - Finding nature in dissonance
Original Values
A: 5.4 Mean
B: 6 Median
$b \div a = b\ (1.11) + (a \div b)(.9) = 1.11 + .9 = 2.01$ (Supertonic) see Figure 4-21

= Strong outline of the supertonic

If there is a strong pull by the speaker to speak the scale degrees 1, 2, 3, 5, and 8, the communicator will connect the laws of nature with the *laws of consonance,* Fibonacci Sequence[1] (Figure 4-21).

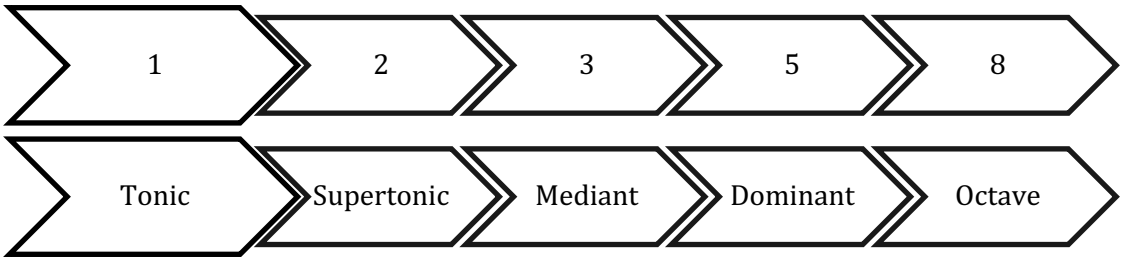


Figure 4-21 Fibonacci sequence in Music

Part 7: Pauline Hanson and Justin Smith, Radio interview 2GB

Generally Pauline Hanson uses frequent wide intervals that make her sound less convincing as a speaker (Figure 4-22) (See Appendix V – Original Compositions; Pauline Hanson').

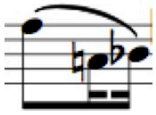


Figure 4-22 Leaps found in Pauline Hanson speech

B8 sees Hanson sound like Dolphy where she speaks an ascending minor 7th then a quickly descending Perfect 4th and then a major 3rd.

This is unusual for most speakers because a wide leap is frequently followed by a major or minor 2nd. B19 (F) leaps down to an A followed by a Bb. In the rules of the balance between consonance and dissonance this makes the phrase seem more secure and balanced.

In bar 1, 2 a D is repeated after a short pause. Examples of where Hanson almost succeeds to follow on the same note from the last sentence occur in B2 (A) and

[1] The series can also be used when composing music to make patterns of notes that are pleasing to the ear. It is claimed that classical composers like Mozart and Bartok used the Fibonacci series in some of their pieces. (http://passyworldofmathematics.com/fibonacci-sequence-in-music/)

starts again on Bb. B6 (E) but then starts on a D. B12, (C) but resumes the sentence on a Bb, B16 (A becomes B). This suggests that Hanson's usage of *inter-phrasal relationships* is consistently, narrowly amiss. (Figure 4-23)

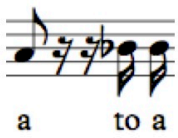


Figure 4-23 Inter-phrasal relationships seen in Hanson's speech

Hanson manages to sound unsure when she resolves to secure, perfect intervals. Perfect 4th descending, B3-4, Bar 12, Perfect 4th, Minor 6th B14, B16 Perfect 5th (Figure 4-24).

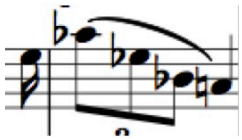


Figure 4-24 Perfect intervals found in Hanson's speech

Sometimes there are clear diatonic outlines spoken by Hanson. In B7 a descending augmented chord is outlined. Consecutive 4th two note gestures are spoken in bars 3 and 4. In B8, Justin Smith reacts to Hanson's previous statement with a descending minor 7th E natural to F#. Hanson reacts with a minor 7th interval of her own this time ascending, Bb, to Ab (Figure 4-25).

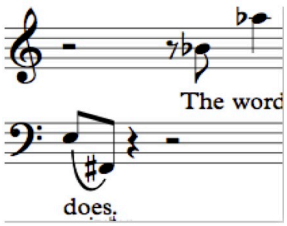


Figure 4-25 Justin Smith then Pauline Hanson Min 7th answers

Most speakers rarely say more than 3 or 4 notes in stepwise motion (*tetra-chord*) in one direction. For Hanson this occurs in bar 17 where Hanson speaks an A, Bb, C, D (VII, I, II, III) in Bb Major (Figure 4-26)

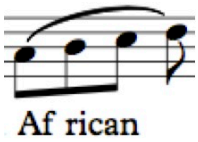


Figure 4-26 Scale Pattern in Hanson's speech

Another unusual spoken melody occurs in bar 20 where Hanson speaks a pitch perfect, symmetrical melodic phrase (Figure 4-27).

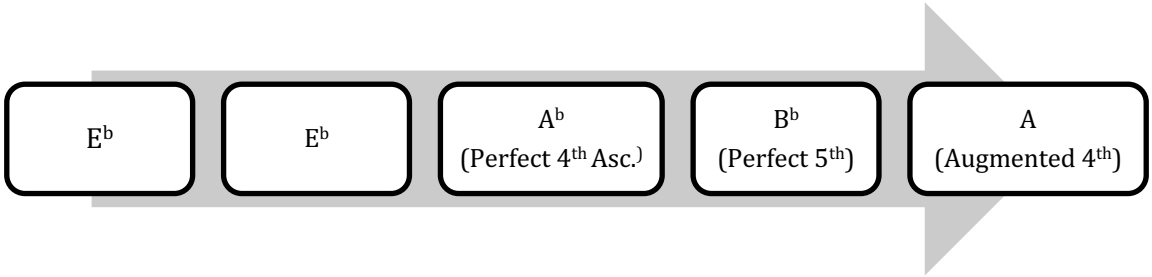


Figure 4-27 Spoken melody seen in Hanson's speech

Part 8: Adolf Hitler

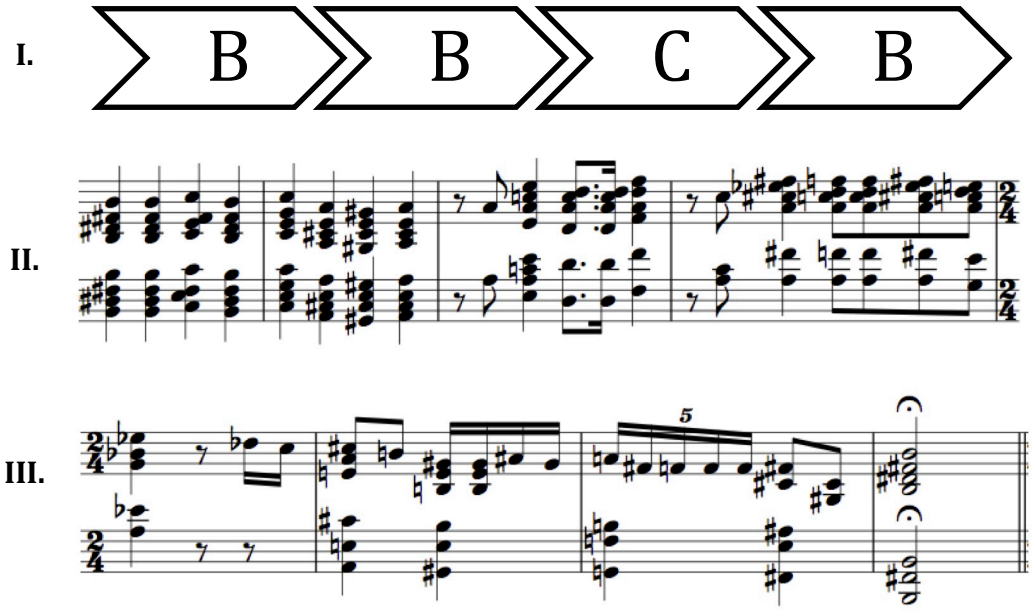


Figure 4-28 Theme in Adolf Hitler Speech

Bar 1 is a powerful advertisement for the key of B. The melody then goes, A, $G^{\#}$, A, a strong (A) enclosure. Then in Bar 3 the D minor triad A, D, F, is spoken. In bar 4 (C, $F^{\#}$, F, F, $F^{\#}$, E, E^{b}) strong chromaticism is used. Bar 2 is an inversion of Bar 1 (B, C, B) (A, $G^{\#}$, A). In bar 4 there is also an $F^{\#}$, F, $F^{\#}$ series. These patters feature thematically in the ensuing composition[1].

From the end of bar 5 to bar 8 Hitler speaks a descending phrase that contains the primary notes of $C^{\#}$, A, $F^{\#}$ ($F^{\#-}$ triad) that are all supported by their own enclosures. In Bar 8 the sentence ends with a perfect descending cadence ($F^{\#}$ to B) that is temporarily interrupted by an unaccented $C^{\#}$.

[1] Not discussed in this research

Part 9: Walter Cronkite-Announcing the Death of John F Kennedy

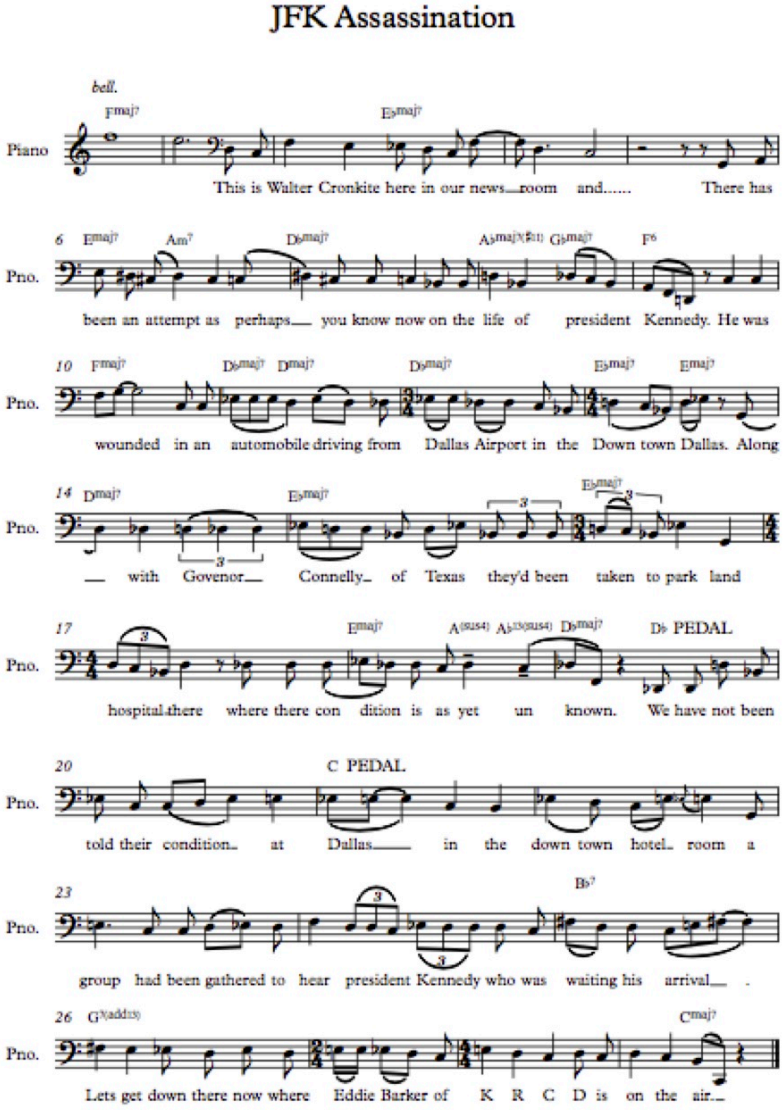


Figure 4-29 Walter Cronkite speech transcription

The television noise at the start of the news bulletin sounds as an F, E. This is a reference for the pitches that follow, spoken by Cronkite. The lowest note spoken is a D but this is superseded at the very end of the announcement by a low C (Maj 7th Descending interval) (B29). Cronkite speaks a lot around the E^{b}, E register and occasionally goes higher to F3 (B24) an then F$^{\#}$ (B25).

B19: Cronkite leaps a ^{b}13th in succession D^{b} to a D (^{b}9th interval). A diatonic phrase occurs at bar 10 where Cronkite speaks a D minor descending triad, A, F, D. He speaks a perfect 4th asc. cadence (C, C, F, B10-11). At the end of bars 13 and 16 there

are other ascending 5^{ths}. Tension is a key outcome of large ascending intervals. Over the course of 4 bars (B22-25), Cronkite's highest note at the time becomes higher at E^{b}, E, F, then peaking at F$^{\#}$ with an accent on the word 'Let's'[1].

Part 10: A Dutch Podcast 'Nicknames'

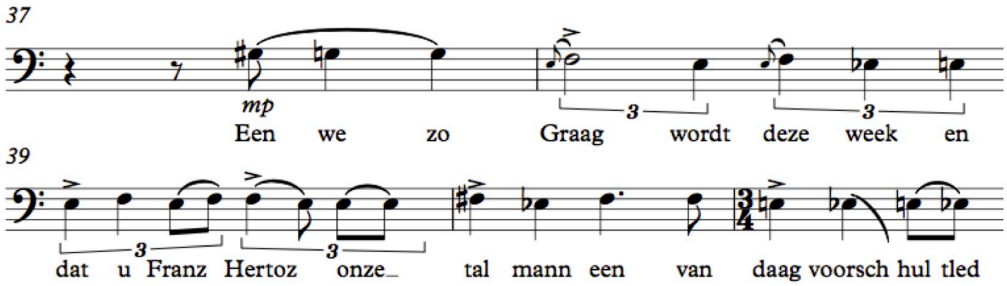


Figure 4-30 Dutch podcast 'Nicknames' transcription

As seen in Figure 4-30, the podcaster is virtually a mono-tonal speaker with a small range from E^{b} to A^{b} (Perfect 4th)[2]. A prediction for the main note is between an F$^{\#}$ and an F natural (Figure 4-31).

Figure 4-31 Median note found in Dutch Podcast

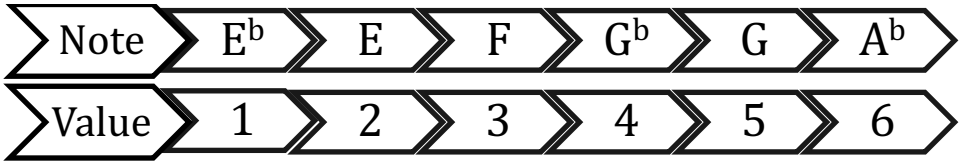


Figure 4-32 Notes and their corresponding value. Median of the phrase equals to 2

The 12th note (Figure 4-31) is the Median E (2) (Figure 4-32) of the 24 Note phrase (Figure 4-31). To work out the mean score equation is as follows:

[1] Enduringly raising the highest note of a phrase presents the audience with a rising sense of continuing urgency

[2] Amsterdamer accent. Mixing a lot of Dutch words with Yiddish influences. Johannes Musch, Archaeologist

$$Note \times Rate\ of\ occurrence$$

$$Eb\ 1 \times 4 = 4$$

$$E\ 2 \times 9 = 18$$

$$F\ 3 \times 6 = 18$$

$$Gb\ 4 \times 3 = 12$$

$$G\ 5 \times 1 = 5$$

$$Ab\ 6 \times 1 = 6$$

$$\therefore \frac{\Sigma\ (note\ \times\ rate\ of\ its\ occurrence)}{Total\ of\ notes\ in\ the\ phrase}$$

$$\left(\frac{4 + 18 + 18 + 12 + 5 + 6}{24}\right) = \left({}^{63}/_{24\ notes}\right) = 2.625\ (mean)$$

Previously, we determined that the median was 2 (Figure 4-31) therefore we average the median and the mean to find out the main note.

$${}^{(2.625 + 2)}/_{2} = 2.3125$$

The main note is between an E and an F but closer to an E. As E is the essentially the main note, it is wise to see how the E is supported by other notes. In Bar 2, the E is supported by two Fs above and then an E^{b} below. This gives the E tremendous weight in the phrase. In bar 3, the E and F have almost equal weight as the F is sounded three times and the E, four times. In bar 4, the speaker speaks $F^{\#}$ and E^{b} before heading once again to the E in bar 5, this gives the note E further weight.

A confusing aspect about the tonal centre of this transcription is that the E and E^{b}'s have equal say in bar 5 before resolving on D with a podcast sound in Bar 6 (E^{b}, E^{b}, D). This is not included in the analysis of the speech as it is the sound of the guitar and not the speaker. My analysis does not include grace notes as they are not an important function of the analysis of the speech melody and do not effect the gravitational pull of the spoken pitches.

Part 11: A Spanish Podcast, 'Gobierno de Australiano'

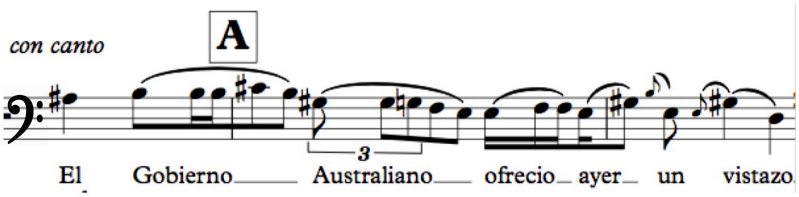


Figure 4-33 Example of the transcribed phrase (melodic tool for ensuing composition- not discussed in this research)

I analysed the phrase 'Él gobierno Australiano ofrecio ayer un vistazo' from a podcast (Figure 4-33) by applying the method developed in the previous sections.

Note	D	D#	E	F	F#	G	G#	A	A#	B	C	C#
Value	1	2	3	4	5	6	7	8	9	10	11	12

Figure 4-34 Notes and their corresponding value row.

D	E	E	E	E	F	F	F	G	G#	G#	G#	A	A	B	B	B	B	B	C#

Figure 4-35 Finding phrase median

Range D-C# (Maj 7th)

Note	D	E	F	G	G#	A#	B	C#
Rate	1	4	3	1	3	2	5	6

Figure 4-36 Rate of occurrence

Mean Score:

$$\frac{132}{20} = 6.6\ between\ G\ and\ G\#$$

This is what would have been a good estimate for the main note as G and G# is found in the middle of the outlying notes (range), D, and C# (Figure 4-34). 7 (G#) is also the median note value (10th note) in the sequence (Figure 4-35).

$$\frac{Mean + Median}{2}$$

$$(7 + 6.6)/_2 = 6.8\ (Closer\ to\ a\ G\#)$$

Even though $G^{\#}$ is played a mere three times it has the most gravity[1] as it is positioned in the centre of the phrase D to $C^{\#}$.

Experiment 3: Recurring bass note

A. Play the Mean note ($F^{\#}$) as a recurring bass pedal over the sentence and see what it sounds like.
B. Play G and $G^{\#}$ as bass pedal notes and see how they sound.
C. Then play the $C^{\#}$ (Highest note) as a recurring descant[2] and D (Lowest Note)[3]
D. The mode that could best sum up the 'landscape' of the notes is the $C^{\#}$ diminished scale (half-step, whole step).

Figure 4-37 Spoken mode (Spanish)

The major triads that are included in this mode are, G, B^{b}, D^{b}, and E major. G, B^{b}, D^{b}, and E make up a diminished chord amongst themselves. An augmented possibility would occur had the speaker spoken a C in the mode. This would have made, $G^{\#}$+, C+, and E+, giving the improviser a lot of information to solo over the spoken framework. Dominant possibilities include $C^{\#}$7, E7, and $G^{\#}$7 (add C). These are relatively closely related keys to each other. As this is a podcast in Spanish it is interesting to note that the typical Spanish guitar chord progression of E Major, F Major, and G Major is outlined by the newsreader. The chord that best sums up the mode is an E7 $^{\#}$9, b9, $^{\#}$11 chord. In bar 1, the speaker uses a diatonic enclosure of B[4] adding to the strong sense of melody in her voice.

[1] The gravitational pull where some notes are featured heavier than others even in absentia.
[2] Second song or note
[3] Lowest note as a ground bass
[4] Temporary tonal centre $A^{\#}$, B, $C^{\#}$, B

Part 12: Jason Moran talks to Hue Blanes

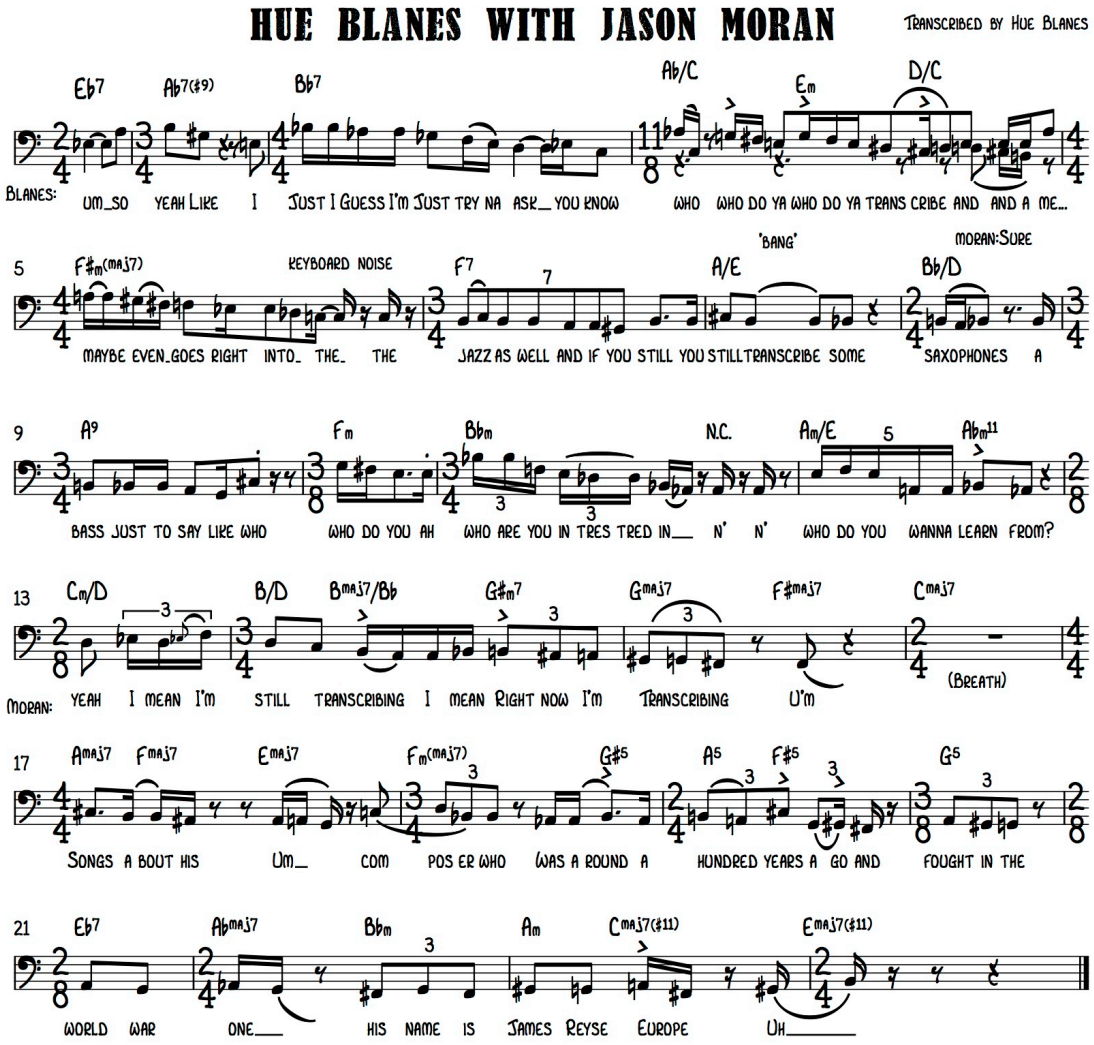


Figure 4-38 Transcription of interview between Blanes and Moran

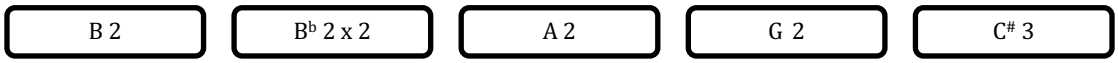


Figure 4-39 Hue Blanes' B9 'Bass just to say like who?' analysis

As seen in the Figure 4-38, Blanes has a range of G 2 to B 3, whilst Jason Moran has a range of F 2 to F 3. Moran and Blanes have similar speaking ranges but Moran is consistently lower. Blanes only occasionally speaks in a low register[1] (Figure 4-39). In B 20 – 22 Moran speaks several low notes in a row (Figure 4-40).

[1] Last fragment of Bar 12 and all of Bar 6 and 9

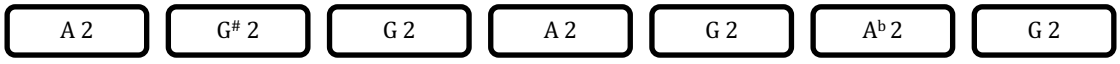


Figure 4-40 Moran's low notes 'Fought in the world war one' (B 20 – 22)

This is different to Blanes' lowest phrase occurring in bar 9 (Figure 4-39).

Blanes' range of G2 to B3 (twelfth) has an $E^{b}3$ main note estimate. Moran with a range of F2 to F3 would expect B3 to be the main note. Using short phrases from both speakers I will try and find a main note value using my formula.

Moran 'One Hundred Years Ago And' (B 19, see Figure 4-38) (B, A, $C^{\#}$, G, $G^{\#}$, $F^{\#}$). We tabulate notes from lowest to highest

Note	$F^{\#}$	G	$G^{\#}$	A	$A^{\#}$	B	C	$C^{\#}$
Value	1	2	3	4	5	6	7	8

Figure 4-41 Moran's 'One Hundred Years Ago and' notes and their corresponding value

The median is the quarter tone in between $G^{\#}$ and A (Figure 4-41). Therefore, 24 ÷ 6 Notes = 4. A is the main note in this phrase B 19. Blanes' phrase at bar 9 has the same exact equation but possesses a higher note value. 'Bass just to say like who', so (*sum of all values*) ÷ (*notes*) = 24÷6 = 4 (Figure 4-42). By comparing two low sentences of both speakers Moran is the lower speaker on average. Moran's value table includes lower notes.

Note & Rate	G	A	B^{b}	B^{b}	B	$C^{\#}$
Value	1	3	4	4	5	7

Figure 4-42 Blanes' 'Bass just like who' notes with their corresponding rate and values

The certitude of Moran's voice is represented by the consistency of tone and range used as he rarely jumps more than a major 3rd (B 19), and falling no steeper than a major 3rd also (B 18). Blanes in divergence jumps a tri-tone from the first bar, in the

3rd bar he leaps down a minor 6th (A^b to C). Another tri-tone in B 9 is sounded and a fifth desc. (mid phrase at B 12) (Figure 4-38).

Part 13: Summary

There are many factors that make certain speakers more effective than others. One factor is the more *musical* or *diatonic* a speaker, the more effective. This is because humans carry from birth a predisposition towards consonant intervals.

Other factors go into account as to why the speaker delivers certain phrases, such as the context of the speech, location, podcast, big political rally, announcing the commencement of war on the BBC radio[1].

Using the main note equation for analysing different speeches, it was discovered that all speakers display a gravitational pull scenario where the main note is found between the lowest point and the highest point of a phrase.

This enabled the ear to become more adept at finding clues as to what the melodic expectation can be when transcribing a speech in the future.

Note choices by the improviser are important as to how a message is perceived by an audience. The melody contains more 'codal' information than what is found in the words of the sentences and can convey the attitude of the given dialogical situation.

[1] The King's Speech, 1939

Chapter 5: Harmonisation

Part 1: The need to harmonise speech

Melodic pitch is determined by the words spoken and the intention behind what the speaker is saying. To add chords and or harmony to a speech, a scriber must first look for the most relevant pitch accompaniment according to the western tuning system[1].

Harmonic conclusion can be formed when the points of commencement and departure in each sentence are recognised. An experimental process then occurs and these sentences will have harmony assigned to them, thus adding to the perceived musicality and instrumentalism of speech. The speech brings on a more musical character when a bass line[2], then middle voices (chords or otherwise) are added. This gives the listener a sense that the speaker is singing[3].

In the following video with Jacob Collier interviewing Herbie Hancock, Collier refers to the possibility of the harmoniser to use any number of ways to harmonise a solitary note[4].

---

[1] Edward M Burns *1999, Fyk 1982a, 1982b*

[2] In second species counterpoint, two notes are created for every one note in the *cantus firmus.* This allows the composer a greater degree of melodic freedom. Third species involves the use of three to one counterpoint, following much the same principles.
http://legacy.earlham.edu/~tobeyfo/musictheory/Book1/FFH1_CH2/2I_Second_Species_Countertpoint.htm

[3] This gives the speaker a singing quality, particularly if listened to multiple times. 'After a number of repetitions, the phrase sounded as though sung rather than spoken', Deutsch, 1993

[4] https://www.youtube.com/watch?v=eRkgK4jfi6M- Jacob Collier harmonising the same melody with different chords.

Part 2: Methodology

We will use the knowledge gained in chapter 4 for this Chapter. Five key factors determine what harmonic choices can be placed under or above a transcribed speech. First, Looking at the mood of the text, harmony is made at the harmonisers discretion. Or, i) generate the harmonic material from the 'single line' notes of the speech itself. ii) Identify the main note, median note, mean note, and any patterns of interest found in the melody. iii) Identify the groups of notes that are played/spoken for the duration of the given chord. v) Identify the scale degree of every note in relation to the given chord.

i) General Terms

Note that pitches transcribed may not be the exact pitches spoken by the speaker. Some notes fall exactly in between two semitones and it is difficult to determine what note in tempered pitch to write in the score. To combat this problem, pitches have been determined by their overall phrase character in the line rather than focusing on each pitch individually.

Table 4 Notation used in this Chapter

Signs	Signals
✓	Principal tone
°	Supporting tone
Unmarked	Benign note
N.C	No chord
∧	Accented note

When there are five B flats and three As played in a phrase or theme the principal tone would be a B flat and the A would be the supporting note. The principal tone must have supporting tones to support it otherwise it is simply an accented or unmarked note. Both accented notes and principal tones can be used for harmonising stimulus. Supporting notes are not used for harmonic additions.

The ideal principal tone-supporting tone relationship would include a principal tone that is supported by two supporting tones either side of it. I.e. If an A is played in isolation it is not a strong note, if it is well supported by a G and a B^b the A sounds stronger. Therefore to be a strong communicator[1]/harmoniser it is helpful to be clear about what notes should be emphasised.

If all notes are emphasised the message is too strong, aggressive, antagonistic, insistent, assertive and not 'forward moving'[2]. Likewise if the melody contains too many supporting or un-emphasised notes, the 'message' melody will not have much weight to it[3]. Long sentences should be looked at in a longer context. The segments of analysis should be chosen based on the intended length of the speaker.

A *progressive melodic assertion* (scale) does not contain a principal tone therefore no supporting tones can be found. I.e. C, D, E, F, G. Clear C major scale.

Other general harmonising guidelines are i) consistency, is the main goal of harmonising speech, '*normalising the irregular'*. ii) Inner voices should keep movement to a minimum to create a balanced effect. iii) Bass lines should move in 2^{nds} wherever possible unless moving up or down a 4^{th} or up and down a 5^{th} thus producing a cadence. iv) To give the speech a singable quality more consistent harmony must be used. Parallel chords offer consistency for the listener i.e. Minor 7^{th} chord to a minor 7^{th} chord, diminished chord to a diminished chord. v) Chordal harmonies at the end of sentences should try and find imperfect, perfect or plagal cadences to help the speaker sound conclusive wherever needed.

[1] Exchanger of ideas.
[2] Forward motion-In 'Concentric Circles' *Dissonant Counterpoint*, O'Connor talks about lack of forward motion being an emphasis' it depends what your communication goals are. O'Connor, 2013
[3] 'The reception one receives from the communication of an idea is based not only on musical theory but on extraneous, other-worldly effects'. Hannaford

Part 3: Harmonisation in Transcriptions

i) Samantha Ratnam Harmonisation

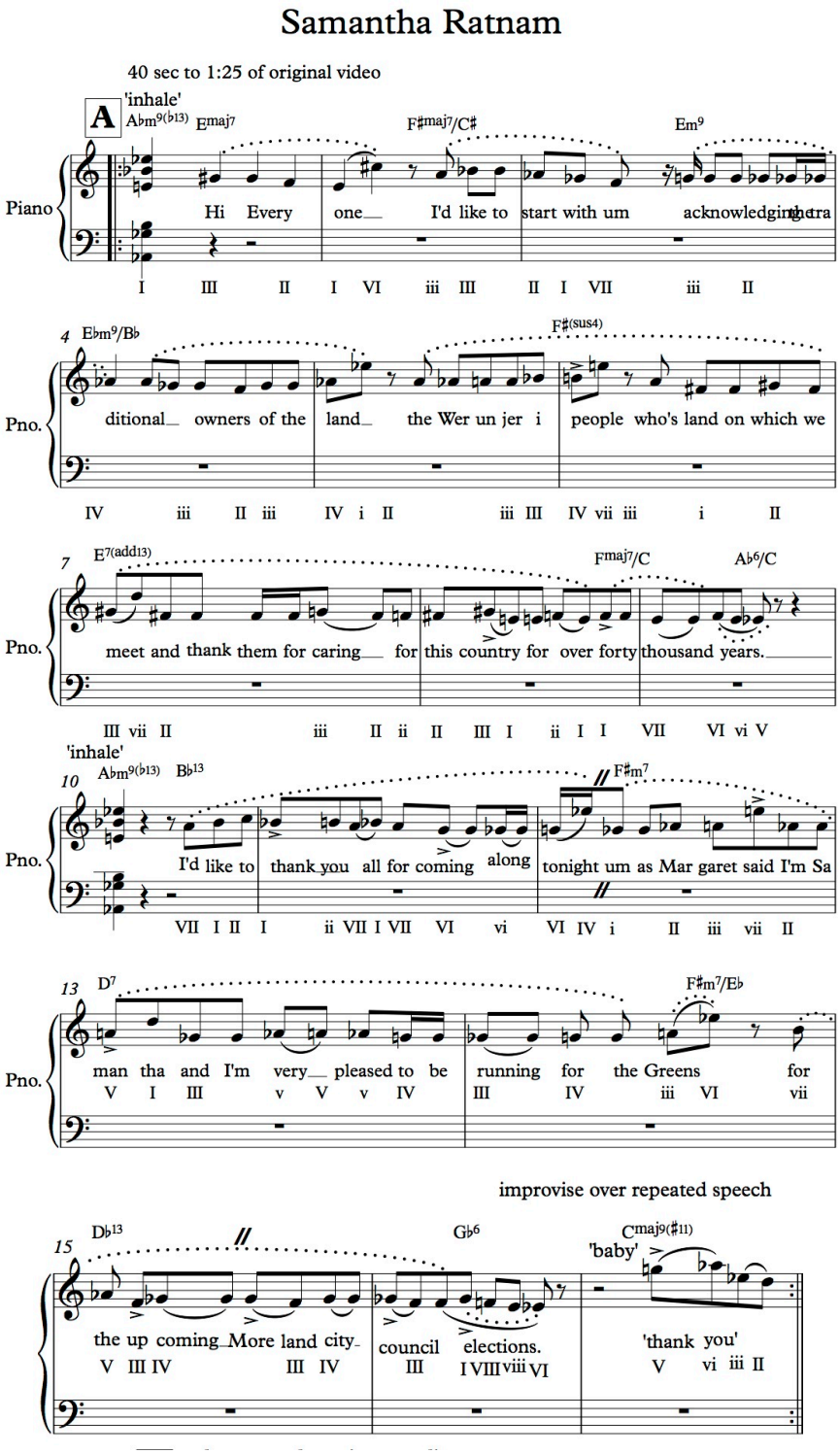


Figure 5-1 Samantha Ratnam transcription

The melody provides quite frequent chord options as there are many different common or repeated tones used in Ratnam's delivery. The scale degree of each chord is outlined in Table 5.

Table 5 Scale Degree in harmonised chords

Chord used	*Scale degree of melody*
E^{maj7}	Major 3rd
$F^{\#maj7}/C^{\#}$	Major 3rd
Em^{9}	Minor 3rd
E^{bm9}/B^{b}	Perfect 4th
$F^{\#(sus4)}$	Perfect 4th
$E^{7(add13)}$	Major 2th
F^{maj7}/C	Tonic
A^{b6}/C	Major 6th
B^{b13}	Major 7th
$F^{\#-7}$	Minor 2nd
D^{7}	Perfect 5th
$F^{\#-7}/E^{b}$	Minor 3rd
D^{b13}	Perfect 5th
G^{b6}	Minor 2nd
C^{maj7}	Perfect 5th

The 'inhalation' chord (B 1 and B 10, see Figure 5-1) uses three parts each hand no doubling (A^{b}minor7 $^{9\ b13}$). In harmonisation the 3rds provide the strongest argument for any chord choice to be used. In B 6 the downbeat note spoken by Ratnam is around the B natural. A suspended 4th chord was chosen because a 4th interval was played after the B giving a strong sense of the $F^{\#sus4}$ chord (Figure 5-1).

ii) Trump Harmonisation

The melody must be harmonised in the best way possible, that is to elevate it to a much more emotional and intellectual height than if the melody were played *sans* accompaniment. Trump, slowed down to 75% of his original tempo, sounds like a jazz singer, hitting flat 9^{ths} and 7^{ths} and resolving to thirds frequently (Figure 5-2).

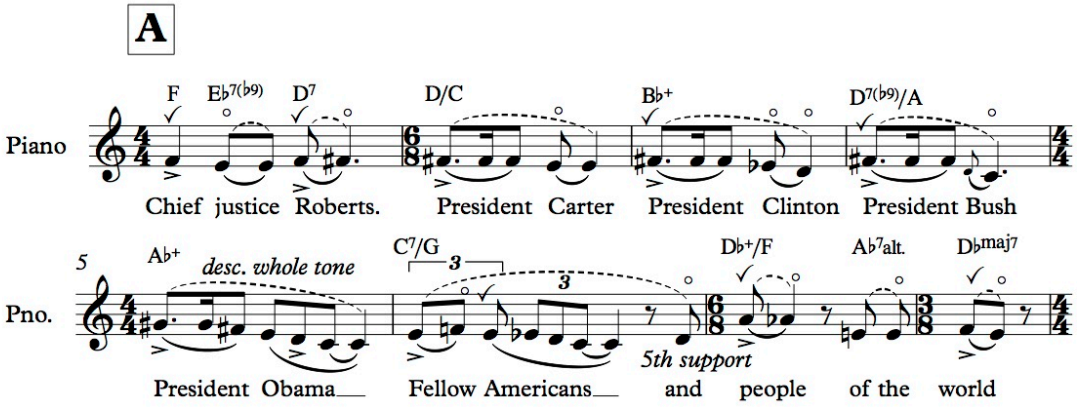


Figure 5-2 Trump's sentence 1

In this sentence, a typical Jazz I-vii-VI chord progression opens[1]. The bass line then continues downwards to match the unrelenting downward contour of Trump. Only when Trump gets to 'People of the world" does the harmony move to V-I alternating between III and iii and concludes with iv7-i7[2]. The chord used for the applause[3] is F$^{\#-7}$/B^{b-}. Other combinations of semitones that determine the chosen bass note can be the perfect 4th and the major 3rd. This example can be seen in Bars (B 6, 7). Contrastingly, in B3 an augmented chord is outlined as F$^{\#}$, D, B^{b}.

iii) King George VI 'The King's Speech'

A speaker's pauses and hesitations[4] communicate something about their state of mind, confidence and willingness to share information. These inflections and 'double

[1] Start of 'But Not For Me' George Gershwin and Ira Gershwin 1930 and 'The Way you Look Tonight' Dorothy Fields and Jerome Kern 1936

[2] A minor plagal cadence

[3] The applause chord in bar 9 contains a combination of two minor chords played simultaneously, overlapping. The F#- contains a flattened 7th. The rather scary/ominous uncertain, tentative sounding chord harps on the potentially false claims that the audience size in attendance was more than that of President Obamas.

[4] Umms and ahs and double takes

takes' are quite often the most revealing aspect of an individual speaker. Take 'The Kings Speech' for example. This speech is 109 bars long[1].

In bar 8-9, a D and E^{b} is spoken supported by a G. This gives a strong pull towards the $G\text{-}^{6}(^{b})$ chord (Figure 5-3).

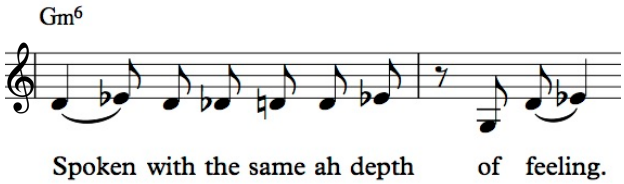


Figure 5-3 King's speech, bars 8 to 9: Perpetual Interchange

When[2] there are several exchanges of identical semitones in *perpetual interchange*[3] the harmoniser has to decide what function these notes are going to gratify, particularly if the harmoniser only wants to sound one chord in the phrase, ie. D#(Eb) or E could be a 9th and a minor 3rd. They could also be a #11, to the 5th in G (B63, 92) (Figure 5-4).

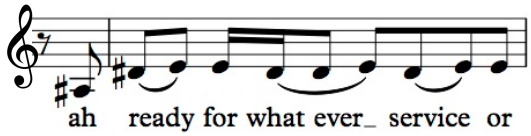


Figure 5-4 Example of perpetual interchange in the King's speech, bar 102

This perpetual exchange also occurs when the VI to the vii (C#, D) in bar 55 and III to iii in Bbdim (B 35) is spoken. Bar 15 and 18 are similar as they both contain heavy use of chromaticism as they both start on $D(^{\#4})$ and they both include C# and D as their neighbouring notes. In both cases, B is the strongest bass note choice (Figure 5-5).

[1] In no real standard tempo
[2] As is the case in Bars 3, 4,6,8,9,10,11,15,16,18,21,25-26, 29, 30, 35, 38, 39, 40, 42, 45, 47, 48, 49, 55, 57, 58, 63, 74, 76, 79, 80, 82, 84, 88, 92, 96, 98, 102, 106, 108.
[3] B 102 has several $D^{\#}$ and E exchanges
[4] III in B major

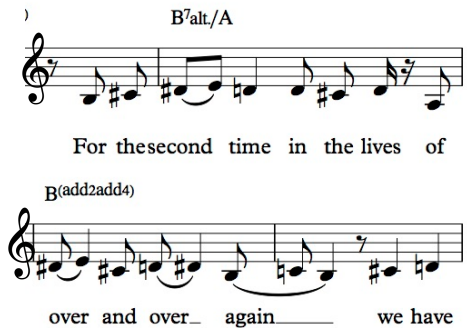


Figure 5-5 Example of chromaticism found in the King's speech

Another harmonic trait of King George VI is he resolves with a large descending 6th interval, after many complex and meandering semi tonal discourses[1]. This proves that there is a spoken system unknown to the King himself, in the way that he delivers his speeches. Emphasis is stressed in descending leaps and tension and uncertainty is expressed in ambling semitones and tones (Figure 5-5).

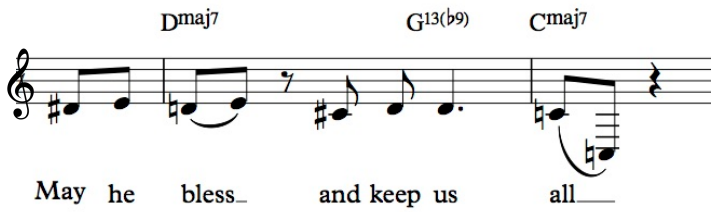


Figure 5-6 Wide leap after extensive perpetual interchange

Part 5: Summary

It is the goal and context in a dialogical, musical situation that provides the most important denominator in harmonisation. A clear end goal or lack thereof will almost always be due to 'the *context* of a conversation.' The role of a harmoniser therefore is to reflect as best he/she can harmonically the climate of the melody.

[1] This occurs in Bar 7 A-9, C to E Minor 6th Desc, B29 semitone down coincidently C to Eb desc. Major 6th, B44 semitone down from the last descending 6th B to D# desc, Minor 6th , B53, two descending 6ths in a row E to G# and C to E (againB7), B61 B to D# desc. B62 Db to F Desc. B64 Maj 7th descending B70, B to D# descending, B73 Maj 7th descending C# to D, B81 Octave descending C# to C#, B91 B to E desc. Per. 5th, B92 B to D Maj 6th desc , B95 'Battlefield' B, E, D descending Maj 6th via the 5th, B107 'prevail' B , C# desc. Min 7th, B 109 octave C, to C, desc. octave.

CHAPTER 6 – A TRANSCRIPTION BECOMES A COMPOSITION

Part 1: The Improvisational Framework | Composition

Through the study of speeches it is important to find new improvisational structures[1]. Ultimately, these compositions sourced from speech will be used to create structures that can be used in improvisations, a little bit like 'jazz standards'[2]. The composition should be a way of normalising the speech melody in similar fashion to Oliver Nelson's 'The Kennedy Dream'[3].

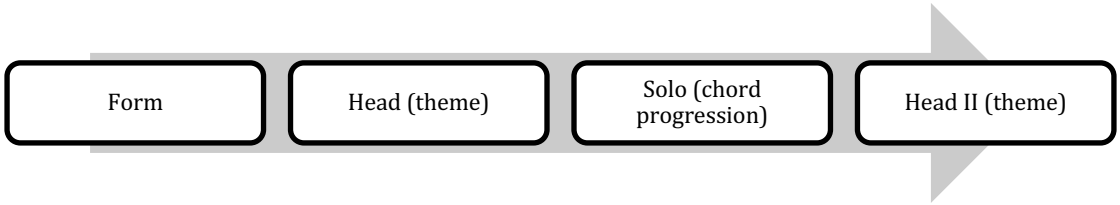


Figure 6-1 Typical jazz framework

In the composition process it is important to find a balance between freedom and control[4].

i) Donald Trump medley

Figure 6-2 Trump's first sentence composition mode begins on the last note of the transcribed speech, the B♭

[1] 'The idea behind writing these compositions was to challenge my ability to improvise through unfamiliar structural frameworks', Hannaford 2013

[2] American songbook The Great American Songbook, also known as "American Standards", is the canon of the most important and influential American popular songs and jazz standards from the early 20th century, taken from https://en.wikipedia.org/wiki/Great_American_Songbook

[3] 'The Kennedy Dream' is an album by American composer/arranger Oliver Nelson recorded in tribute to John F. Kennedy in 1967 for the Impulse! Label. It is an album that inspired me to compose music based on speeches and focus on the innate power that each historical speech holds.

[4] Carter 'hoping to give the impression of that combination of freedom and control that I greatly admire in many works of art', Bernard 1997

In his opening sentence, Trump sounds like he is alternating both the $^{\#}$V (F$^{\#}$) and the $^{\flat}$v in B$^{\flat}$ (E natural) and the V (F). This is an integral factor in composing the bass line for the improvisational framework (Figure 6-3).

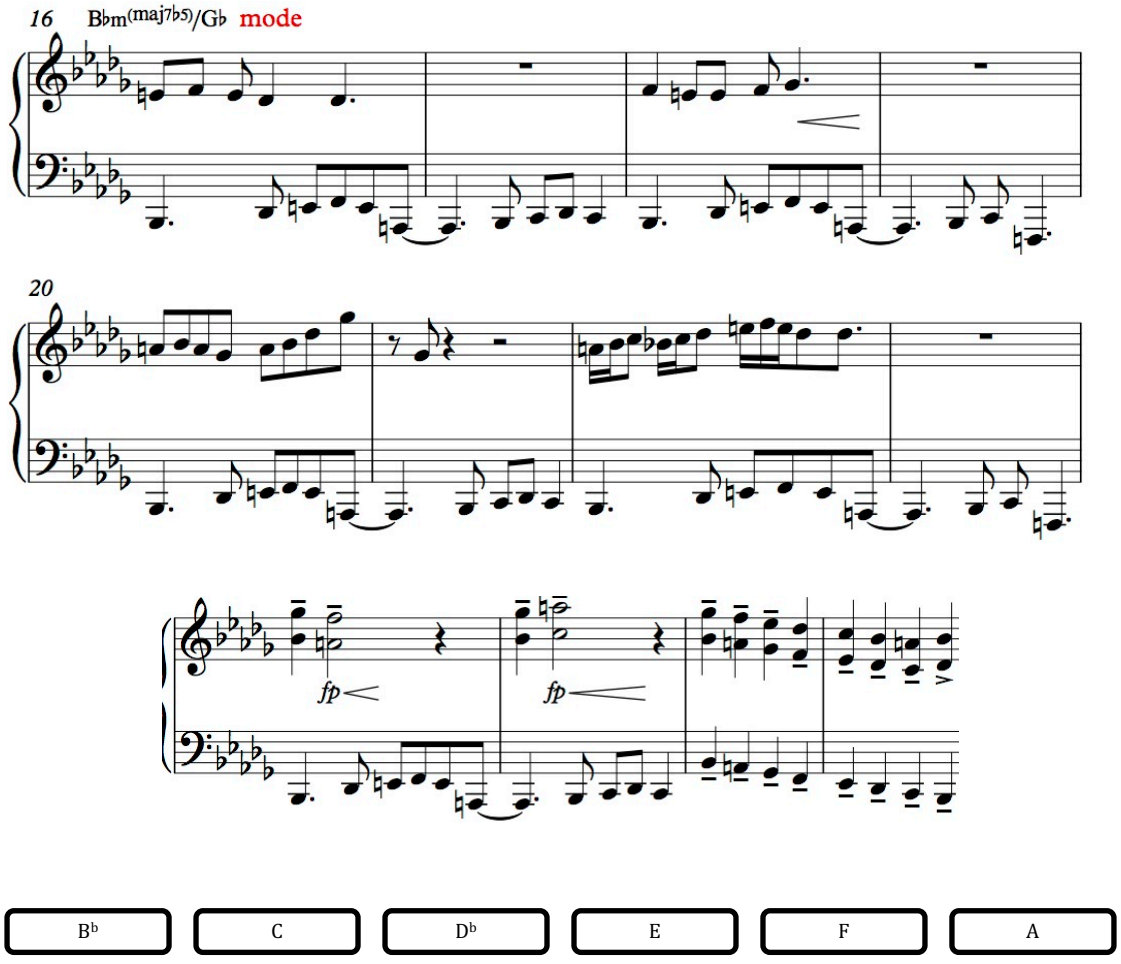


Figure 6-3 Improvisational framework based on Trump's first sentence

In the bridge (B Section) the enharmonic equivalent G$^{\flat}$ is used instead of F$^{\#}$ because of the **A** theme home key (B$^{\flat}$ minor). This G$^{\flat}$ gives the piece an Ethiopian 'Mulatu Astatke' sound[1].

[1] 'Yekermo Sew' Mulatu Astatké – Éthiopiques 4: Ethio Jazz & Musique Instrumentale 1969-1974 Full Album

The melody of this piece uses a combination of the composed mode and the spoken transcription of Trump. The pivotal notes (interchange) are F and G^{b} ($F^{\#}$) just like the pivotal notes in the speech (Figure 6-3).

Using the figure from the second sentence in bars 9-10 'All of our people' an improvisational framework with an AABA form was composed in 3/4 time (Figure 6-4).

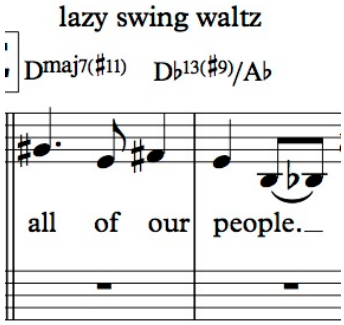


Figure 6-4 Phrase 'All of our people' taken from second sentence in Trump's speech

The chords in the A section were based on the chords that were composed during the harmonisation of the transcribed speech (Figure 6-5).

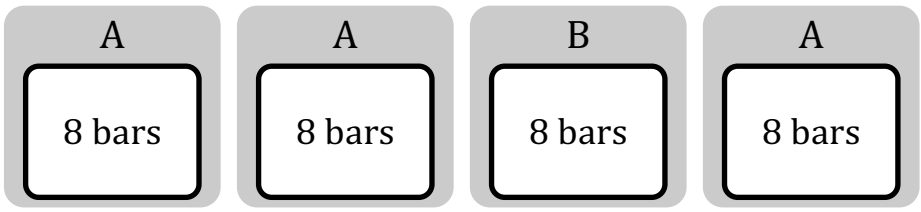


Figure 6-5 Trump Form 'All of Our people' improvisation framework.

The B section melody was written in response to the A section melody but instead of playing $G^{\#}$, E, $F^{\#}$, E, B, A# the melody goes, E, $G^{\#}$, B, E, $F^{\#}$, which is a different ordering of the same notes (*sans* $A^{\#}$). The chords were used to provide a fluctuating accompaniment to a repeated melody, especially in contrast to the various melodies found in the transcribed speech (Figure 6-6).

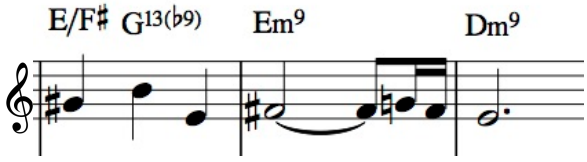


Figure 6-6 Trump's second sentence B-section melody

In the original melody of Trumps 3rd sentence, he starts by accenting the top descending moving chromatic notes. These 'slash chords' used in the harmonisation (B/F♯, B♭/F, A/E) form the basis for the harmonic devises used in the improvisational framework (Figure 6-7)

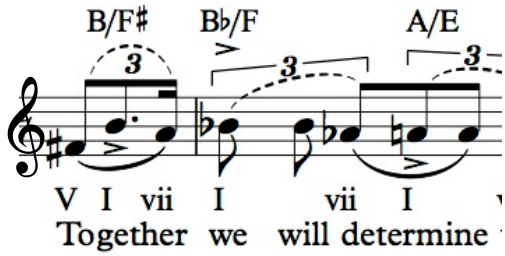


Figure 6-7 Slash chords

The solo form is in 7/4 time and is

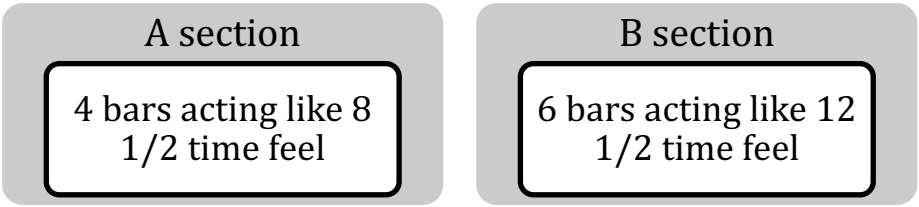


Figure 6-8 Trump's 3rd composition improvisation framework

The parallel minor 7th chords used in the solo section offer an ominous, underground, perspective (Figure 6-7).

ii) Martin Luther King Jr, 'I have a dream'

This is a simple sounding composition. The melody moves in thirds and the bass line moves upward in step, giving the illusion of a sunrise. The chord progression is following the D major scale with exceptions in bar 8-9 using $G^{\#}$ and $A^{\#}$ accidentals (E7/B, then $F^{\#7}$) before moving into a B minor chord over a D bass (Figure 6-9)

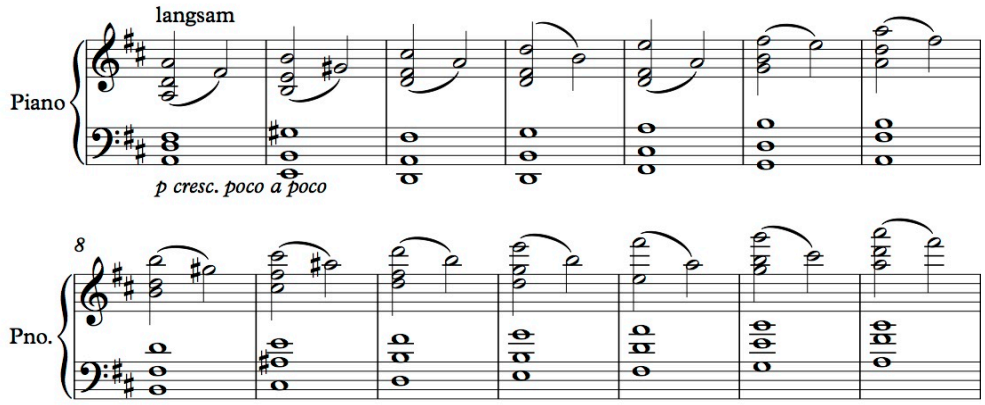


Figure 6-9 Martin Luther King Jr composition

The B section references the gospel chord progression used in Eulogy (see iii). A D^{6} chord moving to an $F^{\#7}/A^{\#}$ then B-7/D moving to an E7/$G^{\#}$ with added notes 9, $^{b}9$ 13, $^{\#}11$ trill, then in B26 to the gospel progression I/V, I7/V, IV, #iv dim, and finally to a powerful I/V chord. This stoic chord progression and melody is used to demonstrate the gravity of the content and historical context of the speech[1].

iii) Eulogy

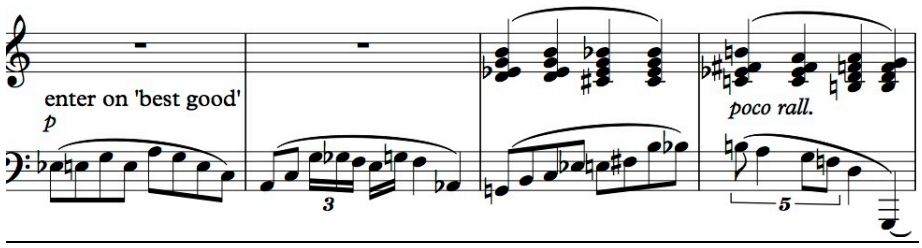


Figure 6-10 Eulogy composition

[1] Martin Luther King Jr sounds like he sings when he talks. He holds the pitch longer than most other speakers. He descends only at the very end of paragraphs.

The piece starts with a male tenor line played by the left hand in bars 1-4 (Figure 6-10). Bars 9-16 form the last 8 bars of a New Orleans rag progression[1,2].

The piece moves through several key centres other than the home key of C major. Via D minor in Bar 30 the harmony moves to B^{b} Major in bar 32 before B^{b} minor in bar 40. From here we get through to the relative major of D^{b} and then at Bar 48, C$^{\#}$ minor. The progression gets back to the dominant of C (G7) supported also by the secondary dominant (D7) Bars 53-56.

Between bars 57-62 there are extensive modulations (6 in total)[3] before the piece moves into a ii7- V7- I progression back to the home key of C until the end of the piece. (Figure 6-11)

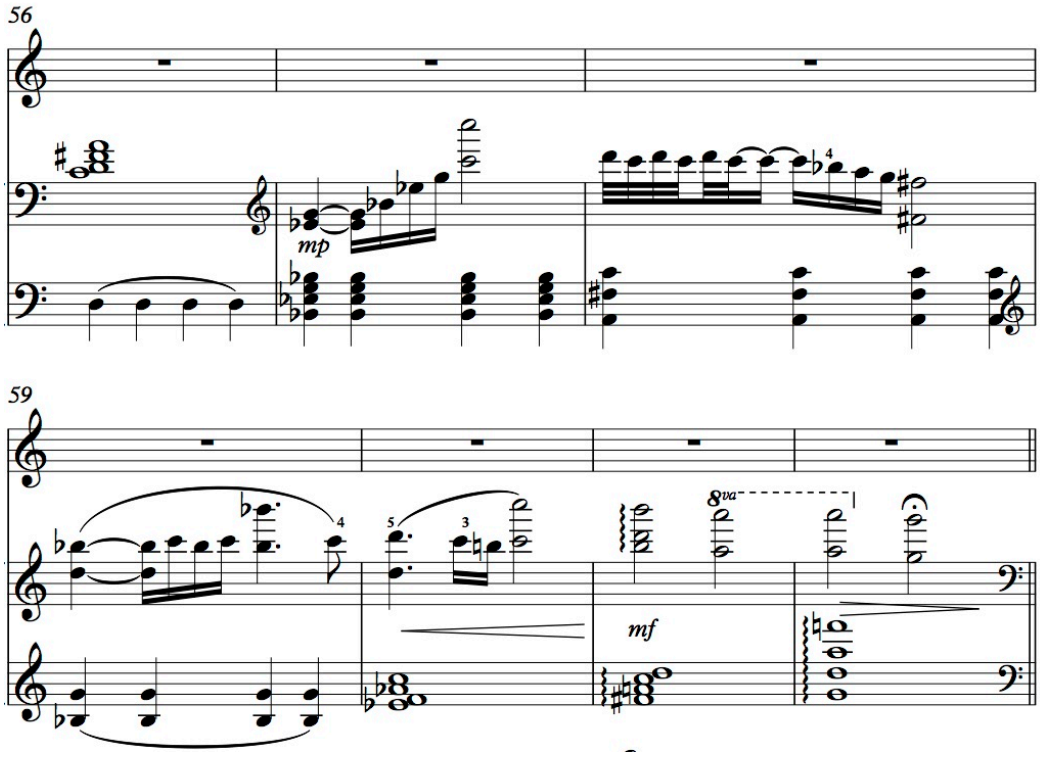


Figure 6-11 Eulogy's extensive modulations before the tonic

[1] The Chord progression https://www.youtube.com/watch?v=sAnU4DsoRl4- Typical New Orleans Rag Marvelous- Walter Hawkins https://www.youtube.com/watch?v=RZYlRp7XD1o
[2] https://www.youtube.com/watch?v=ajHottEhREs- Eulogy Hue Blanes
[3] Modulations: E^{b} major, G minor, A^{b} major

Part 3: Summary

The morphing between the monophonic, homogenous, nature of a raw speech into a fully worked piece/composition (Harmony, Form, Structure, Emotion) can be a painless and organic process when it is envisioned from the transcribing stages.

If the final result of the composition is not as planned one should look at **all** the stages of the previous chapters to find where the process could have deviated.

CHAPTER 7 – DEVELOPING THE IMPROVISATIONAL EAR

Part 1: Creating improvisational melody lines based on speech patterns

One main objective of playing speech patterns in other 'typical' musical contexts, like 'jazz standards' is to make the newly acquired phrases fit into chord progressions seamlessly, where the listener can identify the phrase as a musical one, but is in fact derived from a speech source.

Discussed in the previous chapters, spoken musical phrases often resolve to the primary notes of any given chord. These include the 3rd, 5th, 7th, 9th and sometimes the 11th and 13th [1]

In this chapter I aim to demonstrate and present 6 phrases that can weave into harmonic situations.

i) Developing ear training

> "The ear has always been the way of documenting my culture so I always use it that way[2]."

It is important to constantly "better" your ear. This will enable an improviser to be able to hear any note on offer in any performance situation.

There are many advantages to acquiring keen pitch perception on your instrument including, that it practically eliminates all errors involving pitch translation[3]. This is also true when applied to improving speech pitch perception.

---

[1] Depending on the most important notes found within a *melodic and harmonic relationship*.
[2] Moran, 2018
[3] Coker, 1964

> Whenever we speak we are in the hands of fate: we "must" improvise. '
>
> Of course, there is in improvisation also a number of *conscious* choices, things we want to achieve or avoid'[1].

Aaron Goldberg[2] is an established improviser. He says that all those solos that we can sing along with are just literally one moment in time[3].

Another great example of 'being in the moment'[4]comes from Pianist/Educator Kenny Werner. He spoke to Koninklijk Conservatorium[5] about getting into the 'space' or the 'being'[6]. 'The Space' is a feeling of not thinking, an automated emotion coming from your heart and not your head.

ii) The jazz player's improvisational performance

Coker[7] mentions five factors (intuition, intellect, emotion, sense of pitch, habit) that are responsible for the outcome of the jazz player's improvisational performance. An ability to improvise depends, primarily on an understanding, developed from complete familiarity of the musical context. The path to music development comes through increasing confidence and the inevitable increase in musical awareness[8]. For instance, Hannaford is able to focus on the 'Macro', 'Musical' elements of the performance[9].

[1] Johannes Bergmark http://www.bergmark.org/why.html
[2] Aaron Goldberg is a NY, NY based American jazz pianist
[3] Seabright, 2017
[4] 'Being in the moment, content with what is' Kenny Werner- The Space
[5] September 10, 2018 KC, The Hague, Netherlands
[6] Jon Kobat Zin: meditation guide, psychologist talks about the 'being' instead of the 'doing'
[7] Ibid
[8] Bailey, 1993
[9] Hannaford, 2017

Part 2: The New Spoken "Jazz Licks"

i) Resolving to the 3rd

This phrase comes from a CBS John F Kennedy assassination news brief read by Walter Cronkite[1] B18-19 'Where their condition is as yet unknown' (Figure 7-1).

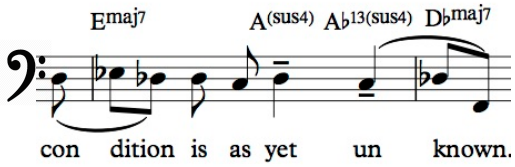


Figure 7-1 Resolving to the third

This phrase harmonically consists of a ^{b}IIImaj7, ^{b}VImaj7, V7, I chord progression, Emaj7, Amaj7, Ab7^{13,11}, Dbmaj7 (Tonic at B18-19). It ends quite conventionally on the 3rd of Ab^{13} to the I and IIIrd of Db Major. This leap to the IIIrd scale degree from the 1st degree gives the listener a strong feeling of resolution. This phrase could be used on 'God Bless the Child' Billie Holiday and Arthur Herzog or 'In a Mellow Tone' Duke Ellington (Fig 7-2).

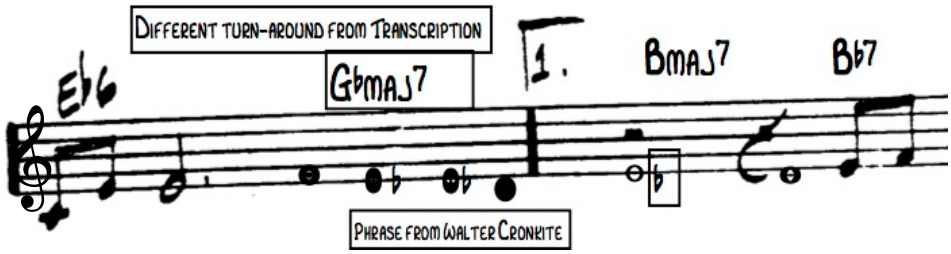


Figure 7-2 Finding the third in a new framework

ii) Resolving to the 5th

This phrase was taken from the 'Keating, Sales and Whitlam' transcription (see Chapter 4, Part 6). It is a V7, I progression, 'Apart from Medibank'. The notes of the V7 chord are the III and the $^{\#}$V and back to the III. It then resolves to the i minor chord speaking the root then the 5th (Figure 7-3)

[1] "As The World Turns" was airing on CBS the afternoon of November 22, 1963, when Walter Cronkite broke in to tell the nation that President Kennedy had been shot. Coverage then went back to the soap opera, but not for long. CBS Sunday Morning Published on Nov 17, 2013

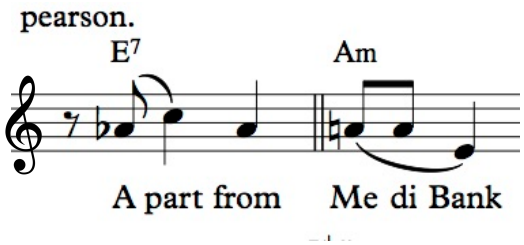


Figure 7-3 Resolving to the 5th

Uses of this phrase could include the V, I in Joe Henderson's 'Blue Bossa', Figure 7-4, (the phrase is inverted) or you can use the turnaround chord[1] at bar 32-1 of 'All the Things you Are' Jerome Kern or 'I love you', Cole Porter.

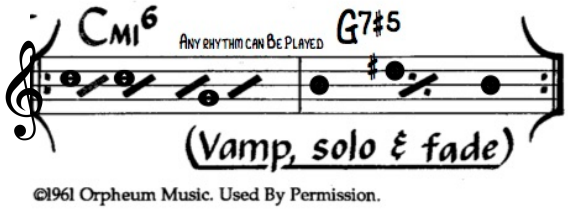


Figure 7-4 Resolving to the 5th in 'Blue Bossa'

iii) Resolving to the 7th

In the 2-3rd bar of the Samantha Ratnam transcription (See chapter 5, Part 3 section i)) a phrase that leads to the VII is shown. This could be transferred to the vii by changing the F to an E natural (F flat in the key signature). The scale degrees are as follows iii, III, III, II, I, VII (Figure 7-5)

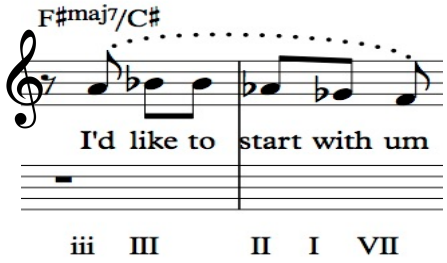


Figure 7-5 Resolving to the 7th

[1] *Turn around:* From the end of the form to the start of the form via V7, I, or variations of V, I

This could be used in any ‘jazz standard’ with a Maj7th in the melody. I.e. The bridge of ‘The Girl from Ipanema, Antonio Carlos Jobim’ or ‘Skylark’, Hoagy Carmichael. (Figure 7-6)

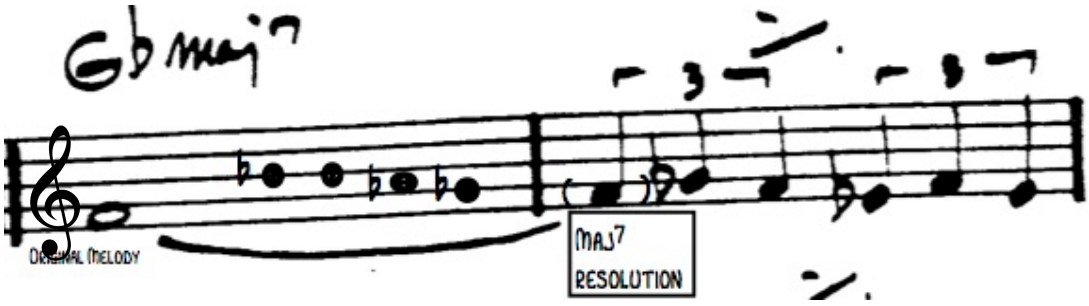


Figure 7-6 Resolving to the 7th in 'The girl from Ipanema'

iv) Resolving to the 9th

In Donald Trump’s inauguration speech sentence 2 (B 9-10) Trump says, ‘All of Our People’ (Figure 7-7). The progression can best be described as a ^{b}IImajor 7th chord $^{\#11}$ resolving to a dominant 7th V chord $^{add\ \#9,13}$. This phrase could be used on ‘Caravan’- Ellington, Tizol, or even ‘Nardis’ – Bill Evans (Figure 7-8).

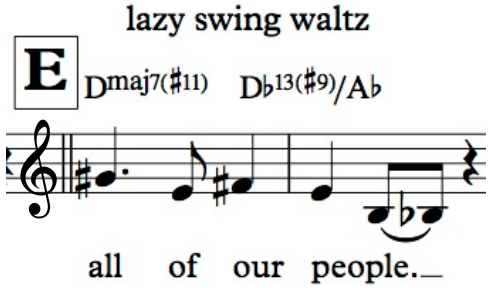


Figure 7-7 Resolving to the 9th

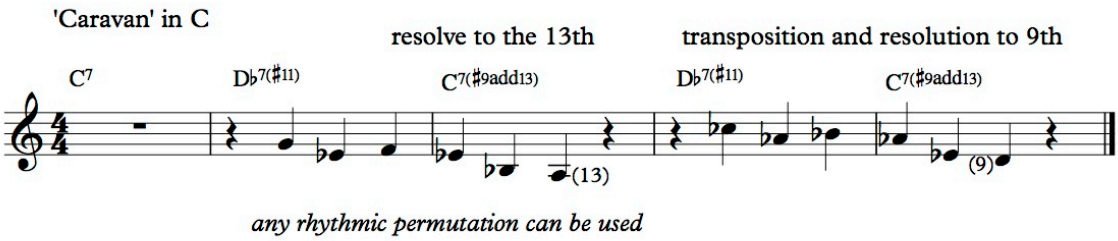


Figure 7-8 Resolving to the 9th in 'Caravan'

v) Resolving to the #11

In 'The Kings Speech' (See chapter 5, Part 3, section iii) in bar 11-12 King George VI speaks 'As if I were able to cross' with the chord A/G (II/I) and the notes G, C#, D, C#, D, D, D, C# (I, #VI, V, #IV, V, V, V, #IV) (Figure 7-9).

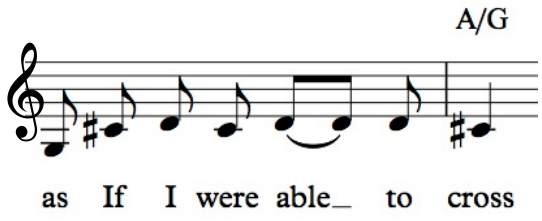


Figure 7-9 Resolving to the #11

This melodic phrase could relate to any tunes with $^{b}7$, $^{\#}11$ chords featuring in the chord progression. For example 'There Will Never Be Another You' Harry Warren bar 13[1] (Figure 7-10).

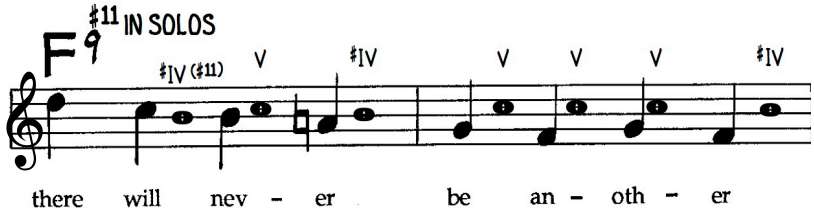


Figure 7-10 Resolving to the #11 in 'There will never be another you'

vi) Resolving to the 13th

In Bar 15-16 of Pauline Hanson's radio interview (See chapter 4, Part 7) she speaks the following IV (C7), I ($G7^{13}$) phrase 'To me it defines the race of a person'. She lands on the IIIrd degree of the IV chord (C7 (E)) and speaks a phrase that alternates III^{rds} and vii-^{ths} in C and then lands on the E natural over the $G7^{13}$ Chord (Figure 7-11).

[1] Blue in Green and or Bernie's Tune can also be used

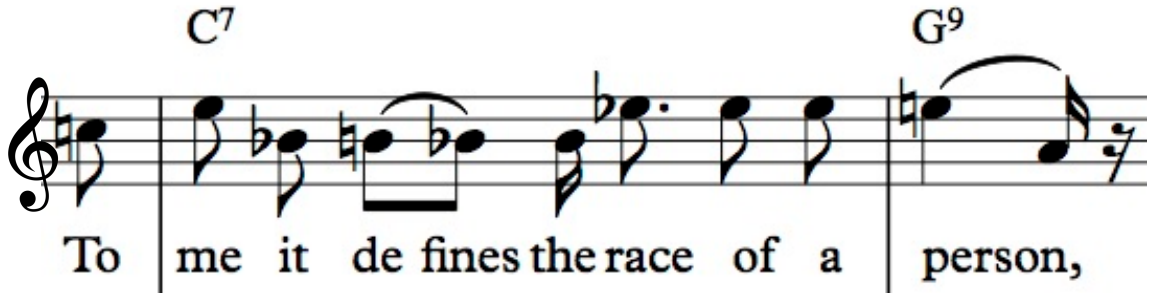


Figure 7-11 Resolving to the 13th

This phrase could be used in any tune with IV, I progressions. I.e. The Parker Blues B2-3 'Down By The Riverside-Study War No More', Spiritual at the IV, I bridge (Figure 7-12).

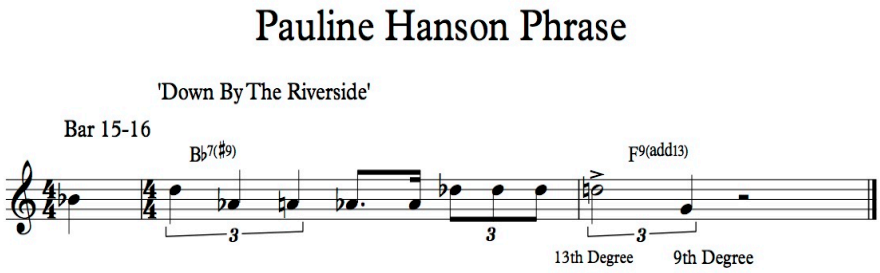


Figure 7-12 Resolving to the 13th in 'Down by the riverside'

Part 3: Summary

Any of the phrases explored in this Chapter can be adjusted to suit the given chords in a given piece. For example, the resolution to the maj7th can be changed to a minor 7th resolution, from iii, III, III, II, I, VII to II, iii, iii, II, I, vii particularly over a dominant7#9 chord resolving to i minor.

In improvisation, the ability to hear every note before it is played is a skill that needs to be acquired. It can be achieved through the same kind of patience and 'in the moment thinking' that Werner is talking about in 'Effortless Mastery' [1], and through the continuing practice of speech phrases in contextual situations.

[1] Kenny Werner, Effortless Mastery, 1996

By using that same effortlessness when playing as one does when talking, the improviser will master an ability to resolve his/her melodic phrases in a speech-like manner.

This may be another reason why Moran, Hannaford, Pascoal and many great improvisers look to the voice for guidance.

CHAPTER 8 - EXPERIMENTS TO DEVELOP THE IMPROVISATIONAL EAR

Part 1: The Philosophy behind these experiments

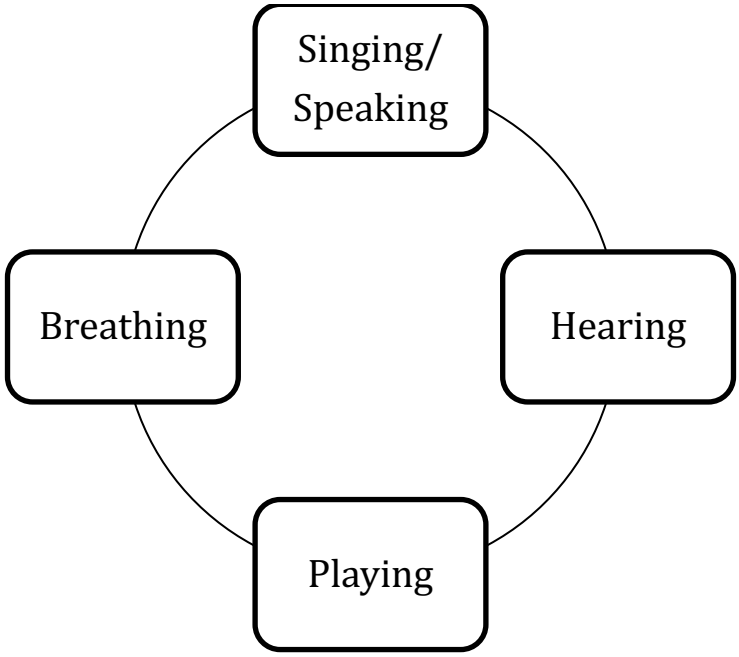


Figure 8-1 The 'all-round' communicative improviser

Moran discusses the compelling role that the 'ear' plays in Improvisation. As an improviser he says, to 'change a path the music is heading you have to be able to listen and adjust to what the other musicians are doing on the bandstand'[1]. Coker[2] mentions the historical demands on performers from different generations, (1925,

[1] Moran, 2018
[2] Coker, 1964

1943, 1963) and states 'no self respecting jazz musician was reading music'. This states that musicians had to rely solely on their ears.

The following experiments are to train the voice (identity) of the improviser. They are important as they explore the harmonic possibilities of every possible interval within the octave. These exercises enable the instrumentalist to connect more with their own voice[1] whilst building intervallic vocabulary.

Mindful breathing practices must take place when communicating effectively with an audience. One downfall or advantage to playing the piano is that you can make sounds without having to pause to take an inhalation. It could be seen as a dis-advantage because as most saxophone players pause for breath in their phrases, piano players can play continuously potentially losing connection with themselves and the audience[2]. Vocal music is more popular than instrumental music[3] and this may be partly due to the emotions that breathing limitations provide in a vocal performance**.**

A musical instrument has to be acquired and the art of playing it, learnt'[4]. The following experiments are designed to expand on the findings obtained in the previous chapters.

Part 2: The Experiments

Table 6 Key

	Key
Right Hand	RH
Left Hand	LH

[1] The voice (gatra vina) is a free gift to us from 'God' and it is up to everyone to make the full use of it. The voice is intended not only for speaking but also for singing. Singing as well as speaking, is an art that is within the easy reach of everyone. http://ezcarnatic.tripod.com/p8.htm "Vocal VS Instrument"
[2] Playing with their fingers, not their heart
[3] 'Hearing someone's voice is good'(#3 Posted by martinX3X (4488 posts) https://www.gamespot.com/forums/offtopic-discussion-314159273/why-do-more-people-prefer-music-with-lyrics-over-i-28927463/
[4] Note: It is to be remembered that most vocal music contains instruments as accompaniment

i) Harmonic Experiment

The aim of this experiment is to build awareness of all intervallic 2-note combinations whilst being aware of the 'space' and of the breath.

A. Play any minor 2nd dyads[1] in both hands simultaneously in any register, dynamic level, and permutation every four beats while breathing in for four counts and out for four counts.
B. At the same tempo repeat this step but play major 2nds and keep expanding the intervals until the player reaches the major 7th.
C. Repeat in various tempos each day and notice the difference in harmonic development.
D. Practice the etude, eyes open or closed, and in any tempo. Make sure that the metronome is at a constant tempo. No intervallic dyad should be preferred for another. Doubling is allowed when the eyes are closed to allow for the 'space' but when the eyes are open try to avoid doubling for harmonic symmetry and balance.

ii) The Spoken Melodic Experiment

This experiment will be an inverse activity from transcribing speech to music. The aim is to find a 'voice' on the instrument and 'hear' what you play. Use any of the combinations in the columns from Figure 8-2.

'Seven'	'3 and 2 and'	'What is that man on' last chord 'stage'	'4 plus 5 to stay alive'	'I am almost Thirty-Six'	'3 is my favourite number'	'Yamahas are not the best pianos'
2 syllables using	4 syllables	5 syllables	7 Syllables	7 Syllables	8 Syllables	10 Syllables
7ths Major and Minor	*Maj and Min 3rds and 2nds*	*Tri-tones and 5ths*	*Perfect 4ths and 5ths*	*Major and Minor 3rds and 6ths*	*Major and minor 3rds*	*Major and Minor 2nds*

Figure 8-2 The spoken melodic experiment

A. In the same fashion as the previous etude slowly play in tempo hands separately and then together the following intervallic melodic permutations.

[1] Two notes played simultaneously

Min 2nd, Maj 2nd, and alternate between the two intervals. Most speech-like phrases use shorter melodic intervals than larger ones.

B. 'Speak' all pitches played using any combinations of words, make sure the words are repetitive and concise. For example, you could use the phrase "*I would like to eat dinner at 6 o' clock"* and keep repeating until you can clearly hear the intervallic relationship of a 2nd. Here are some spoken phrases that you can use below[1] that can be interchanged to use all possible intervallic combinations.

C. For a further exercise try to harmonise every 1st and 3rd note of the bar with the left hand first, a chord featuring that note. Any chord will work. Take C# for instance. The chord could be Bb Flat7#9 and the 2nd and 4th notes may be taken into account for the harmonic choice. Then try playing a LH melody and harmonise it with a chord using the RH.

D. Repeat this cerebral exercise for all combinations of 3rds, 4ths, 5ths, 6ths, and 7ths.

E. Try to speak <u>*every*</u> pitch and don't play a note that is not visualised before it is played. This will enhance the 'ear' and accelerate any further navigation of future musical situations including transcribing and playing in an ensemble situation[2].

iii) Nicolas Slonimsky[3] Variation Experiment

The aim of this experiment is to gain familiarity with a principal tone and its neighbours. Using principal tones of a Tri-tone interval[4] and instead of playing the supporting tone after the principal tone, this exercise gives more weight to the *principal tone* by playing the neighbour[5] before it. Follow the steps below (also, see Figure 8-3 and 8-4, and sound file 'Equal divisions of an octave').

[1] See video 'The Spoken Melodic Experiment'
[2] And listening to your mother clearly.
[3] This experiment is modelled on the book *Variation on Thesaurus of scales and melodic patterns, Nicolas Slonimsky* 1947
[4] Can be any interval that divides the octave
[5] A note nearby

A. For example, if the principal tones (underlined) are C $F^{\#}$ and C play a minor 2nd below variation of B, C, F, $F^{\#}$, B, C, then descending F, $F^{\#}$, B, C. The inverted pattern is made by approaching the principal tone from a semitone above instead of from a semi-tone below. For Example, $C^{\#}$, C, G, $F^{\#}$, $C^{\#}$, C, G, $F^{\#}$, $C^{\#}$, C.
B. All available intervals from above or below should be played in the one exercise (see video, Nicolas Slonimsky Variation Experiment')
C. This exercise is more effective when the player sings the interval during performance and the metronome is on a slow tempo. 40-60 beats per minute per quarter note is the recommended tempo.
D. This may take 20-40 minutes depending on how many *octave registers* you use and how many *equal octave divisions* you explore.

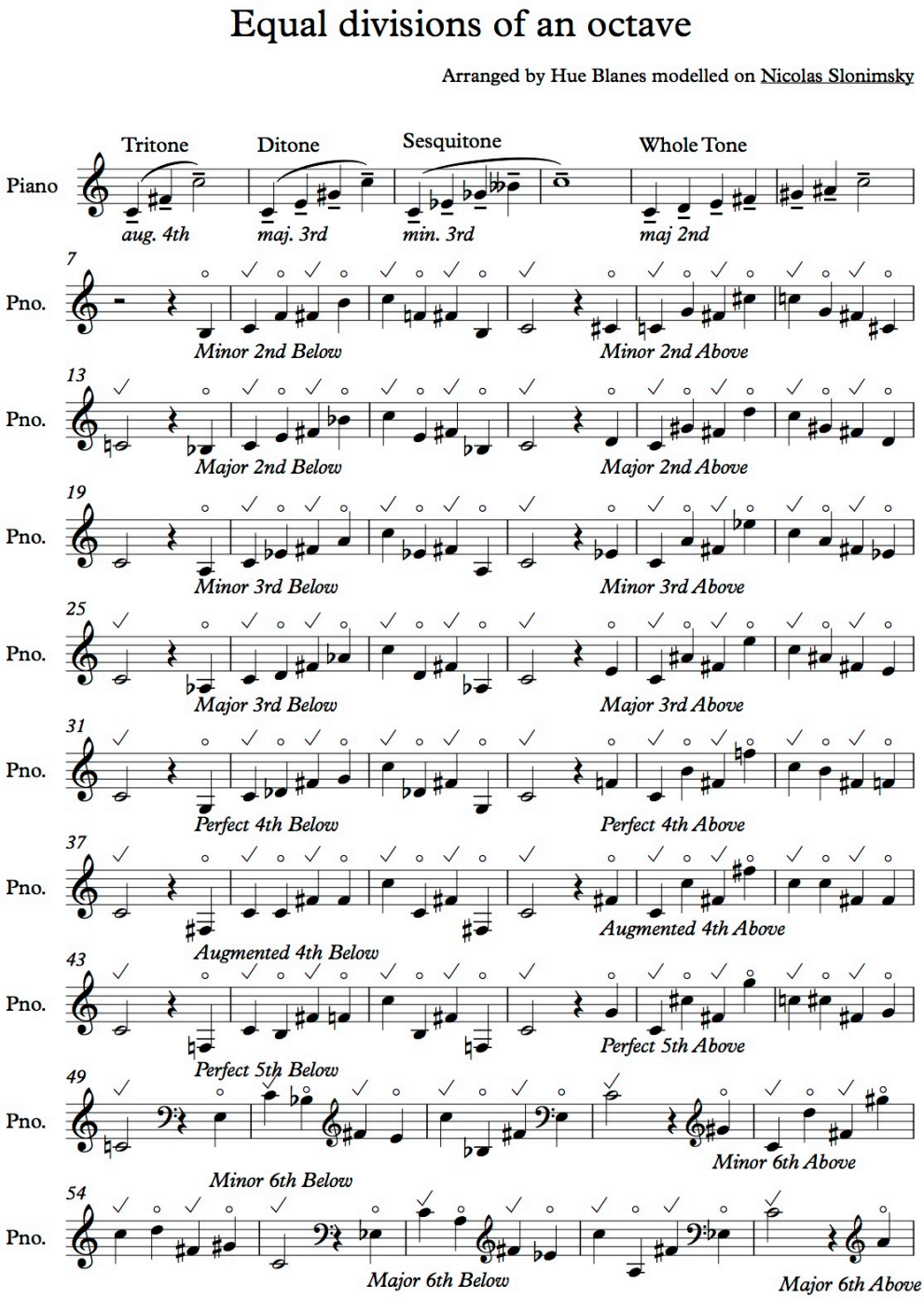
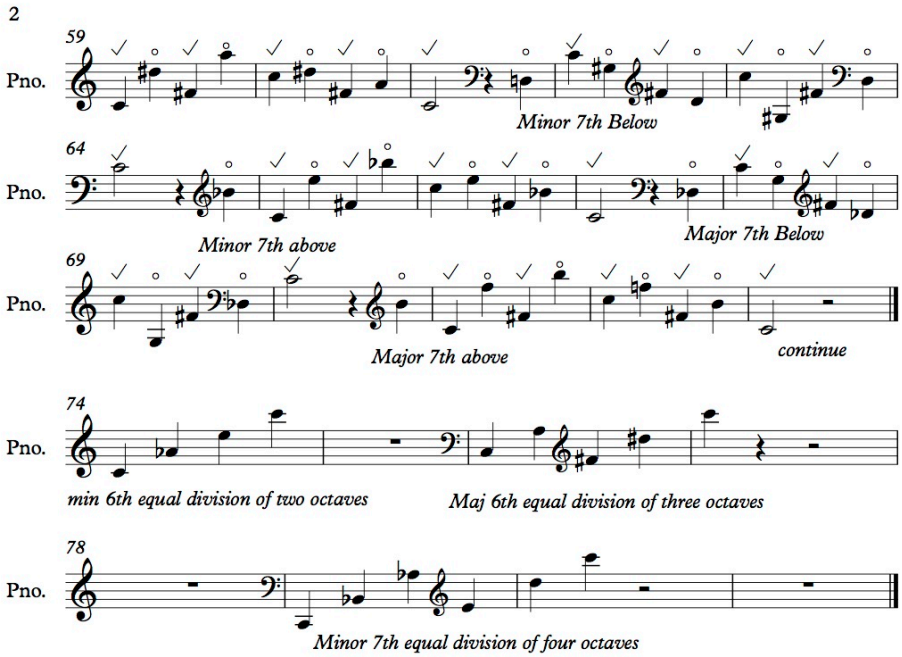


Figure 8-3 Equal divisions of an octave



apply supporting tones to each division of the octave
1. Ditone
2. Sesquitone
3.Whole Tone
Then.....
Apply to Min 6th division of two octaves
Apply to Maj 6th division of three octaves
Apply to Min 7th division of four octaves

Figure 8-4 Equal divisions of an octave continued.

iv) The Self-Transcription Experiment

This experiment uses a sentence of a self transcribed speech harmonised and restructured to mimic the voice, done in real time. The aim is to speed up the process of 'transcribing speech' and to 'find your own voice'. Follow the steps below.

A. Record a **short** sentence of talking
B. Loop a recording of your voice. Don't slow the tape down.
C. Once the phrase begins to sound like it is more melodic add chords and or counterpoint to the melody. (Show video example)
D. This may only take 30 to 60 minutes to complete (See video '*The Self-Transcription Experiment)*

v) The Simple Tune/Complex Harmony Experiment

The aim of this experiment is to hear a harmonic intervallic possibility against a known pitch

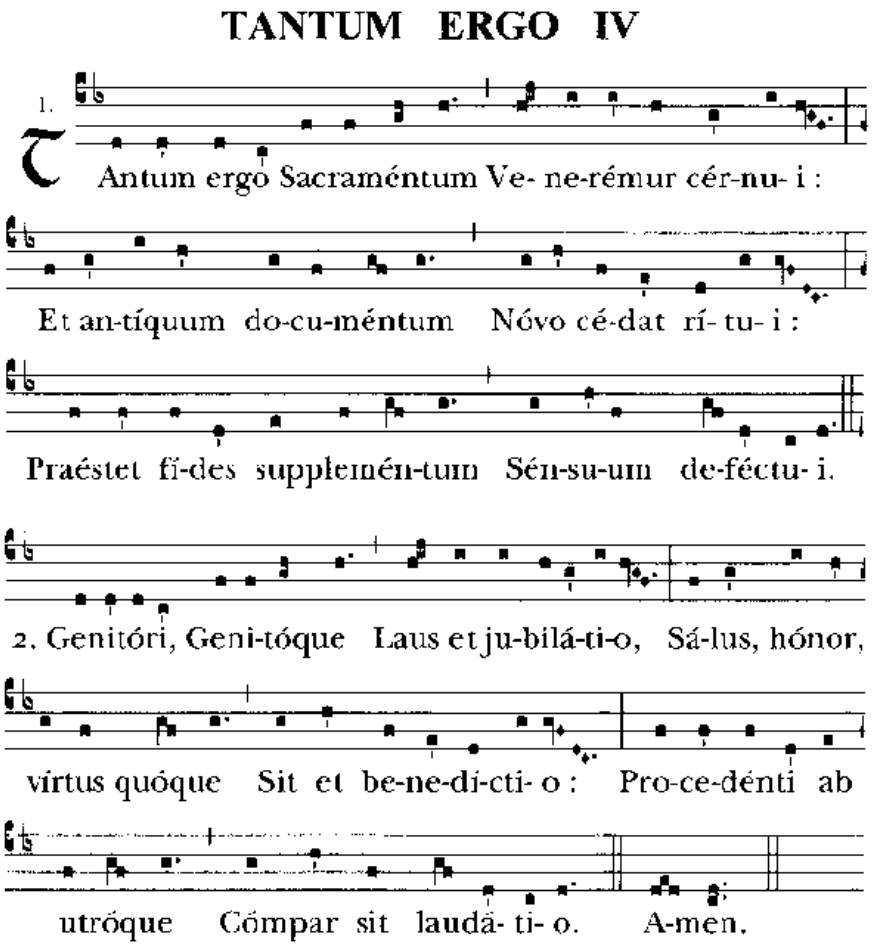


Figure 8-5 Tantum Ergo IV

A. Play the melody to Tantum Ergo[1] with the RH. This melody is chosen for its step-like qualities (Figure 8-5[2]). Other simple[3] melodies could include Danny Boy, Autumn Leaves, Oh When The Saints and Mary Had a Little Lamb.
B. With the LH, play the interval simultaneously with the RH melody note. Start with a minor 2nd interval and work towards a Major 7th [4]

[1] "Tantum Ergo" is the incipit of the last two verses of Pange Lingua, a Medieval Latin hymn written by St Thomas Aquinas c. 1264
[2] http://romaaeterna.jp/andrew/dm1807b.gif
[3] Any piece that largely stays in a single tonality/mode with no accidentals
[4] Recommended reading: 'Hannaford has written about Intervallic Rhythmic Devices in his Thesis, Elliot Carter's Rhythmic Language, A Framework for Improvisation, 2012

C. Add another interval then try again with 1 RH, 2 LH intervals and then 2 RH 2 LH intervals.
D. Sing all left hand intervals then all right hand intervals.
E. Try to implement this knowledge in your playing in other contexts.

Improvisers who have similar parallel harmonic intervallic methods evident in their improvisations and arrangements include Bill Evans[1] (USA), John Taylor (UK)[2], Tony Gould[3] (AUS).

vi) The Composed Experiment

The aim of this experiment is to compose a written etude based on the findings of this research. Key focus points: Virtuosity, Harmony, Fluidity, and Linking of ideas. My etude will include themes that include every pitch and every possible dual note sequential intervallic combination whilst still sounding spontaneous and improvised (it will be composed). The piece should sound melodic, as if only one pitch has the main attention at any given time. It will be conversational and the balance will only be lopsided when a melody is 'rudely interrupted' by another melody (i.e. talking over the top (See '*Never Sing, Speak*' Video). The piece features the voice and the piano concomitantly.

vii) The Composed Grace Note Intervallic Experiment

The aim of experiment-9 is to compose an etude where grace notes or brush notes[4] are featured. This *etude* will focus on the grace notes used in the transcriptions from 'Things That Have Been Said' and draws further information from the interview with Hannaford.[5] The voice will be used alongside the piano. (See *grace note intervallic experiment* video)

[1] Bill Evans Trio-Very Early https://www.youtube.com/watch?v=KOjEEaUNyC4 1:10 to 1:16
[2] Ambleside-John Taylor https://www.youtube.com/watch?v=PK8xQDDjaU8 4:46 to 4:48
[3] Tony Gould:Rob Burke Quartet-Wide Eyed https://www.youtube.com/watch?v=iQRHWb7wmk0 0:06 to 0:16
[4] 'How can I get this thing the piano to sound a coordinate flat? For me you know there's a lot of this in Monk, Cecil Taylor where those two guys sound like they're getting in between notes by using certain harmonies or certain intervals, inflections, grace notes or brush notes, these sort of things' – Hannaford, 2017
[5] 'This phenomenon of moving around pitch in a more flowing and elastic way using grace notes,

viii) Recordings of improvisations Experiment

This experiment pays attention to how one can improvise freely, and how one can communicate.

A. Simply record an improvised conversation between the LH and the RH
B. Listen back to the improvisation
C. Repeat (See '*Improvisation- Conversation between hands'* video[1])

Part 3: Summary

With the usage of videos to demonstrate a clear experimental intention, and by imparting a step-by-step interchanging of ideas and methods, one can explore deeply the intervallic permutations nestled within the voice.

With further exploration of these experiments further speech stimuli can be discovered.

One can envisage clearly the benefits of future study with these experiments. By continuing the piano etude tradition of Chopin, Slonimsky, Hannaford and others, it is evident that the natural evolution is for the voice to be added to this tradition, voice and instrument, together as one opinion.

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brush notes, to play a quarter tone, is something that could very much build an improvisers vocabulary' – Hannaford, 2017 See, grace notes etude video and score

[1] https://www.youtube.com/watch?v=FTIgD1ltObI

CHAPTER 9 – DISCUSSION AND CONCLUDING REMARKS

The main goal of this study is to investigate how musicians can build improvisational musical language through the study of speech. Literature review in the field of speech music, and interviews performed with leading academics in the field revealed three main areas which were found to be crucial in developing and improving musical language: transcription, harmonisation, and composition.

In Chapter 3, I explored five transcription methods: i) The segmented listening/writing method, ii) The repetition ear method, iii) The reading method, iv) The singing method, and v) The real time self-transcription method. I carried out eight spoken and two musical/instrumental transcriptions to determine which of the five methods was the most effective. Results revealed that no particular method was stronger than the other, however superior transcription results were obtained when multiple methods were used concurrently. One important aspect of this area is that each method can strengthen a weak aspect of a musician's ability. Therefore, it is beneficial to choose a transcription process that can build upon an area that one considers weak. For example, the repetition ear method is a great method to practice for the improvement of ear training.

On a personal level, I found that studying in this manner improved the accuracy of my transcriptions. The final chronological transcription[1] was notated the most accurately out of all the transcriptions. This was due to the brevity (24 Bars) of the excerpt and with the experience gained from completing the other previous transcriptions.

Furthermore, during the transcription process I developed a mathematical formula (Chapter 4) that identifies a single note (main note) in which an entire phrase

[1] Chronologically 12/01/2019 *Jason Moran meets Hue Blanes*

gravitates towards. In this case, finding the main note allowed me to identify pivotal centres that do not directly link to any key centres or are directly affected by other individual notes. Discovering where the melody gravitates towards in a spoken phrase with a sound method that uses common mathematics means that no emotional bias is present when making harmonic choices that accompany these melodies. Intervals that were unique to a speaker were found in order to assess the speakers musicality. These two main points are the focus of the transcription analysis. My awareness of melodic and intervallic perception grew during this process.

An extended lexis of harmonising language (Chapter 5) was established through the study of speech patterns. Whilst harmonising speech melody and their irregular patterns proved challenging, this research discovered that principal tones and supporting tones form the basis to solving these harmonic problems.

'Never Sing, Speak', 2019 was written in a very short time and it is proof that an individual voice can be attained swiftly on the piano, with clear speech impetus. The composition (chapter 6) style was expanded over the 2 years of research and more communicative styles of expression were managed.

By developing the ear (Chapter 7), through speech study and the creation of The New Spoken "Jazz Licks", improvisations can be formed in any context. Fluency and virtuosity is gained along with a sense of a wholesome approach to dealing with improvisatory weaknesses.

The experiments (Chapter 8) that were conceived to develop the improvisational ear will benefit the harmonically curious musician. The musician is free to choose his/her pitch as the experiments are guidelines and notes are not written in a score. The experiments promote the ear by exploring harmonic and melodic intervals that may otherwise be overlooked. Using simple rules that govern each experiment the musician can enter their own sea of ideas and explore for themselves their own voice.

In conclusion, this research shows there are numerous virtuosic, communicative, compositional, and improvisational benefits to studying speech patterns. During the course of the research period[1], I have gained an insight into the musicality of speech and how to cultivate the necessary skills to develop effective methods to improve my musical practice as an improviser. Through the study of transcription[2], harmonisation and composition, I was able to build upon and further develop my improvisational language. My understanding of music as a conversational endeavour has been expanded and a more reactive, communicative improviser has arisen.

In essence, music is speech without words, a symphony of wordless sound[3]. Although unlocking the mystery of speech has been attempted in this paper this does not mean that the understanding of the concept has been fully[4] grasped. This will require further research.

Further Research

During the literature review, it became clear that a more in depth analysis and method of speech notation is needed, perhaps something similar to the computer game Guitar Hero™, to address the problem of rhythm in live performance other than the existing western notation system.

Furthermore, in future research, I would like to explore the uses of spoken language in music and speech in other improvisational contexts including Indian Folk and contemporary classical music. One particular interest is to write lyric pieces featuring piano players who may or may not have singing ability to perform using their voices while they play. It shall be a kind of Singer-songwriter meets the typing-poet. The

[1] September 4 2017 to March 4 2019
[2] See Chapter 1 part 3 Methodology Fig 1-2
[3] The Music of Speech
[4] Hannaford, 'The understanding of an objects details does not necessarily translate to an understanding of the object itself' Carter, *Collected Essays and Lectures, 1937-1995, 214*

pieces will have resemblance to the piece ‘Never Sing, Speak’ (2019) found in the link at the beginning of the paper.

As future research in this field is conducted, the ‘cacophony’ of meaningless speech patterns produced every day will turn into one, clearer, musical picture.

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APPENDIX II – LIST OF EXPERIMENTS

APPENDIX III – LIST OF VIDEO EXAMPLES (Research Catologue)

1. All Permutations Improv Dyads.mov
2. Combining all dyad intervals.mov
3. Major and Minor 7ths.mov
4. 2nds-3rds-4ths Chordal Improv.mov
5. Major and Minor 6ths.mov
6. Talking while playing.mov
8. Chordal and melodic intervallic improvisation.MOV
9. Hand Warmup 10 mins.MOV
10. Segmented trnscribing writing method.MOV
11. Self Transcription exercise.MOV
12. ear transcribing method.MOV
13. caldos the more I see you, You've changed.MOV
14. Groove Warmup.MOV
15.Hand warmup.MOV
20. Speech whilst improvising.MOV
21. Intervallic chords.MOV
22. Nicolas Sliminsky Exercise and Chordal Breathing exercise.mov
23. Improvisaton 1.mov
24. Improvisation 2.mov
25. 2 nd 3, . 4 and 5 to stay alive, other combination .MOV
26. 3 + 2 +.mov
27. 3 is my favourite number.mov
28. 4 and 5 to stay alive.mov
29. 7ths, Why is that man on stage, Tritones and 5ths.mov
30. Autumn leaves then Dolphy.MOV
31. Creative chordal harmonising basic melodies mary autumn.MOV
32. Dolphy sing, yamahas, 3 is my favourite.MOV
33. End of Autumn leaves, Slominky.MOV
34. I am almost thirty six.mov
35. Kenny Werner Breathing chordal, eyes open chordal.MOV
36. Slonimsky Exercise.mov
37. Slonimsky variations.MOV
38. Very start of chordal breathing, then improv.MOV
39. Why is that man on stage.MOV
40. Yamahas Are not the best pianos (2nds).mov

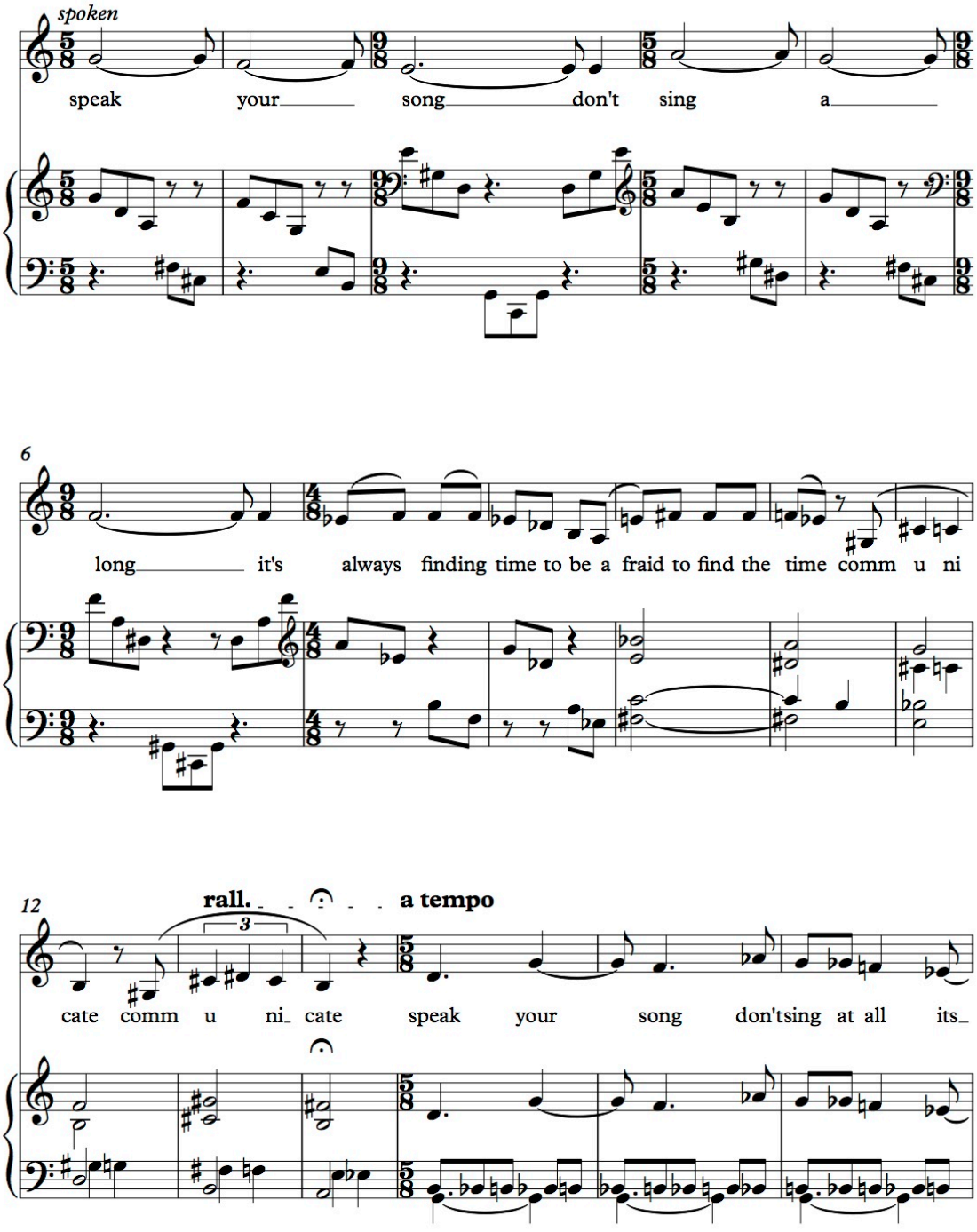
YouTube Videos

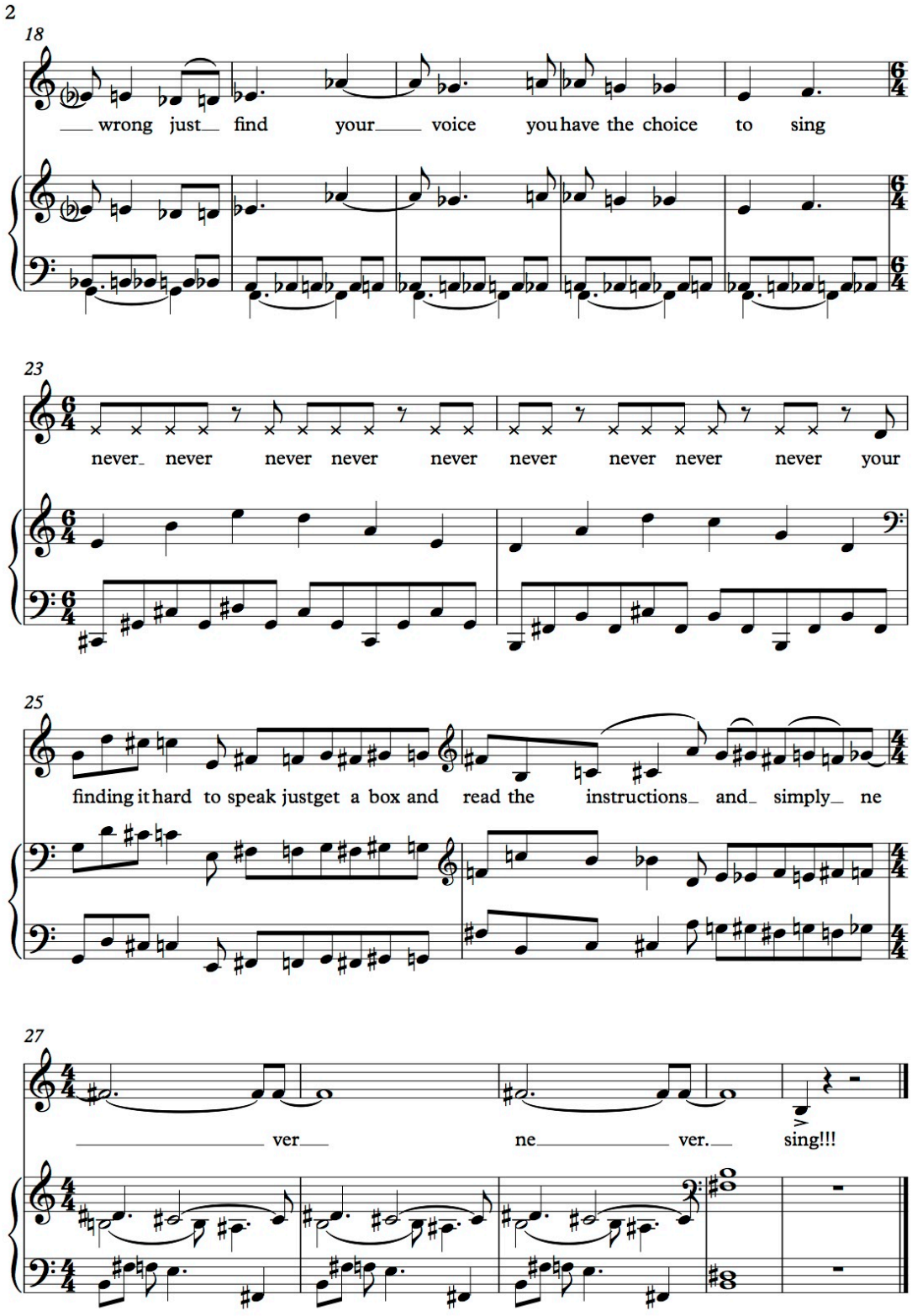
https://www.youtube.com/watch?v=nXtqUNfocZY – Martin Luther King with Underscore by Hue Blanes
https://www.youtube.com/watch?v=e9ufLZBdRcM – Chordal Breathing Exercise
https://www.youtube.com/watch?v=FTIgD1ltObI – Improvisation Conversation between hands
https://www.youtube.com/watch?v=x_-fSxH7UNc – 'Things That Have Been Said' Movement VII (WWII)
https://www.youtube.com/watch?v=2-1NkzCsW3k – Walter Cronkite Kennedy Assassination
https://www.youtube.com/watch?v=o1bsDEa6N4w – Samantha Ratnam
https://www.youtube.com/watch?v=T2JvGwPeJRg – Pearson, Sales, Keating
https://www.youtube.com/watch?v=9_m7x-qZif0 – Trump Inauguration

APPENDIX IV – LIST OF AUDIO EXAMPLES (RC)

1. Equal Divisions of the octave
2. Hitler Isolation
3. Kings Speech Only
4. Pearson Keating Edit Audio
5. Trump Inauguration Excerpt
6. Samantha Ratnam Solo, Moreland City Council Speech
7. Eric Dolphy ‘Chasin the Trane’
8. Keith Jarrett Trio Autumn Leaves Piano Solo Transcription
9. Hannaford Interview
10. King Speech Rough Band Ideas (Composing)
11. Trump Medley (rehearsal)
12. Pauline Hanson with Justin Smith, 2GB excerpt
13. Speeches for Eulogy: Coltrane, Simone, Holliday, Browne, Evans, Mingus, Gould
14. Spanish Podcast, ‘Gobierno de Australiano’
15. Dutch Podcast, ‘Nicknames’
16. 01 Donald Trump's Inauguration Speech part 1 - Full Speech - 01-20-2017
17. 01 Donald Trump's Inauguration Speech part 2 - Full Speech - 01-20-2017
18. 01 Donald Trump's Inauguration Speech part 3 - Full Speech - 01-20-2017

APPENDIX V – ORIGINAL COMPOSITIONS (not all)

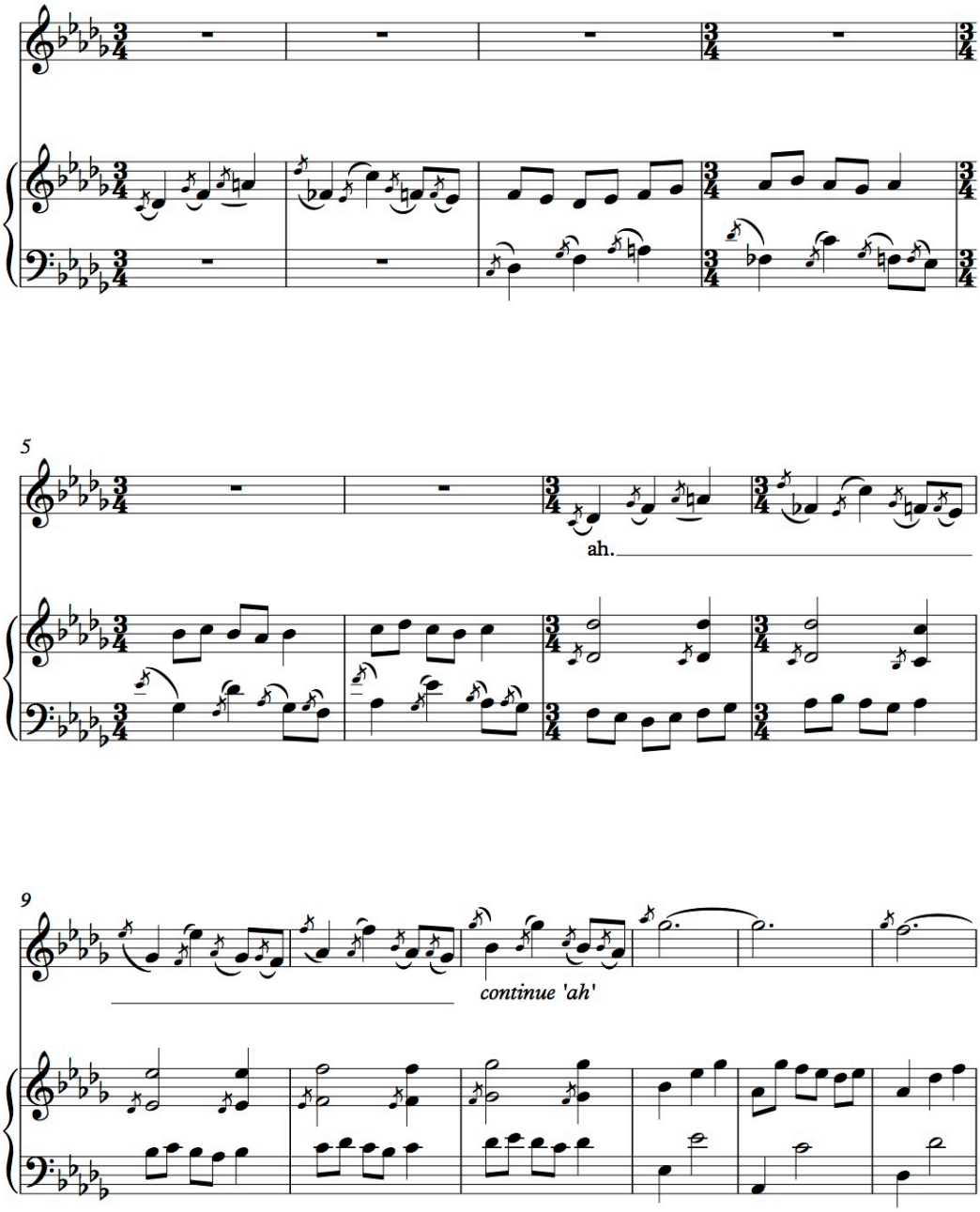


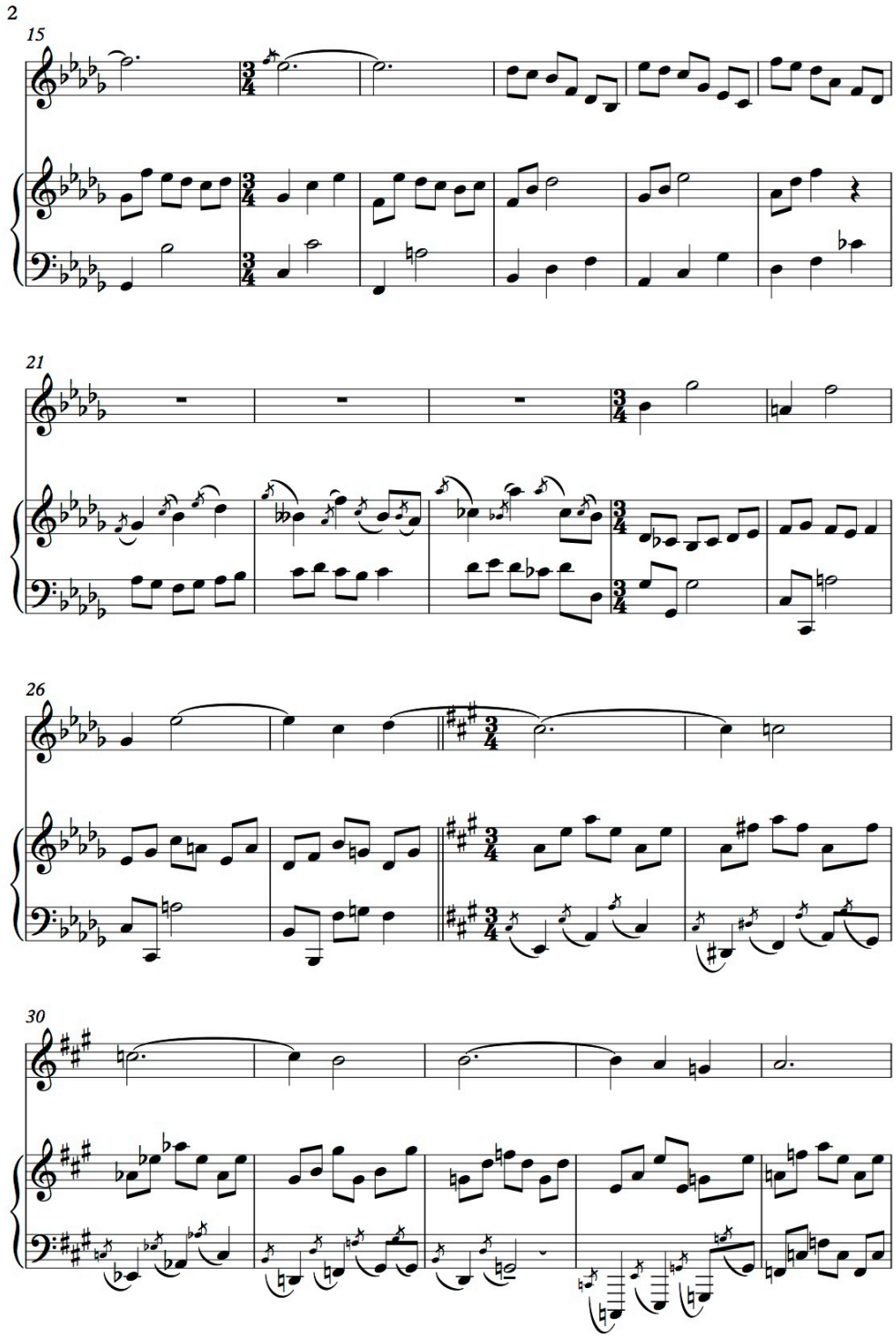

2
18
wrong just find your voice you have the choice to sing
23
never never never never never never never never never your
25
finding it hard to speak just get a box and read the instructions and simply ne
27
ver ne ver. sing!!!

Grace Note-Etude

For spoken voice and piano (pianist sings)

Music By Hue Blanes

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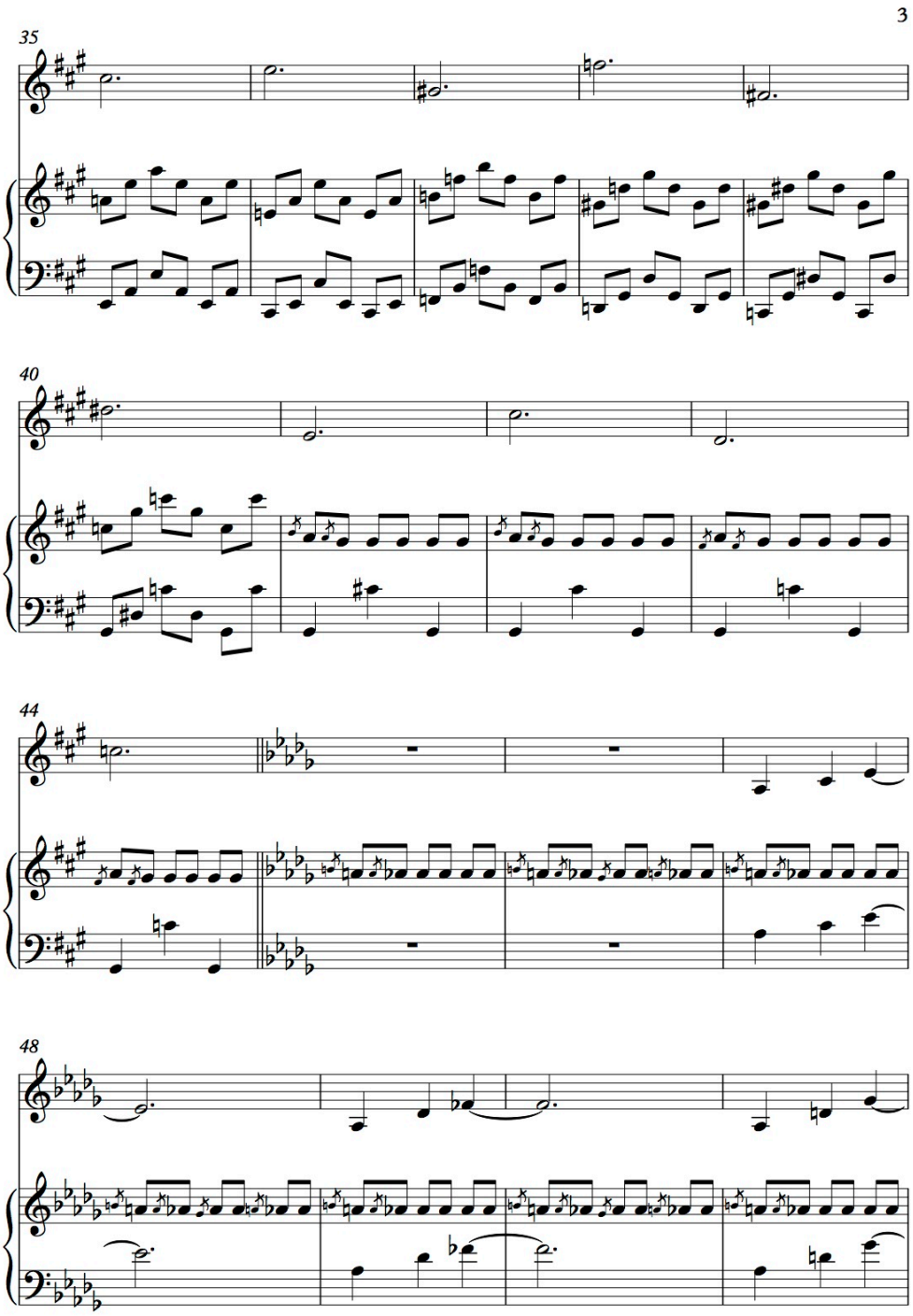
30


3
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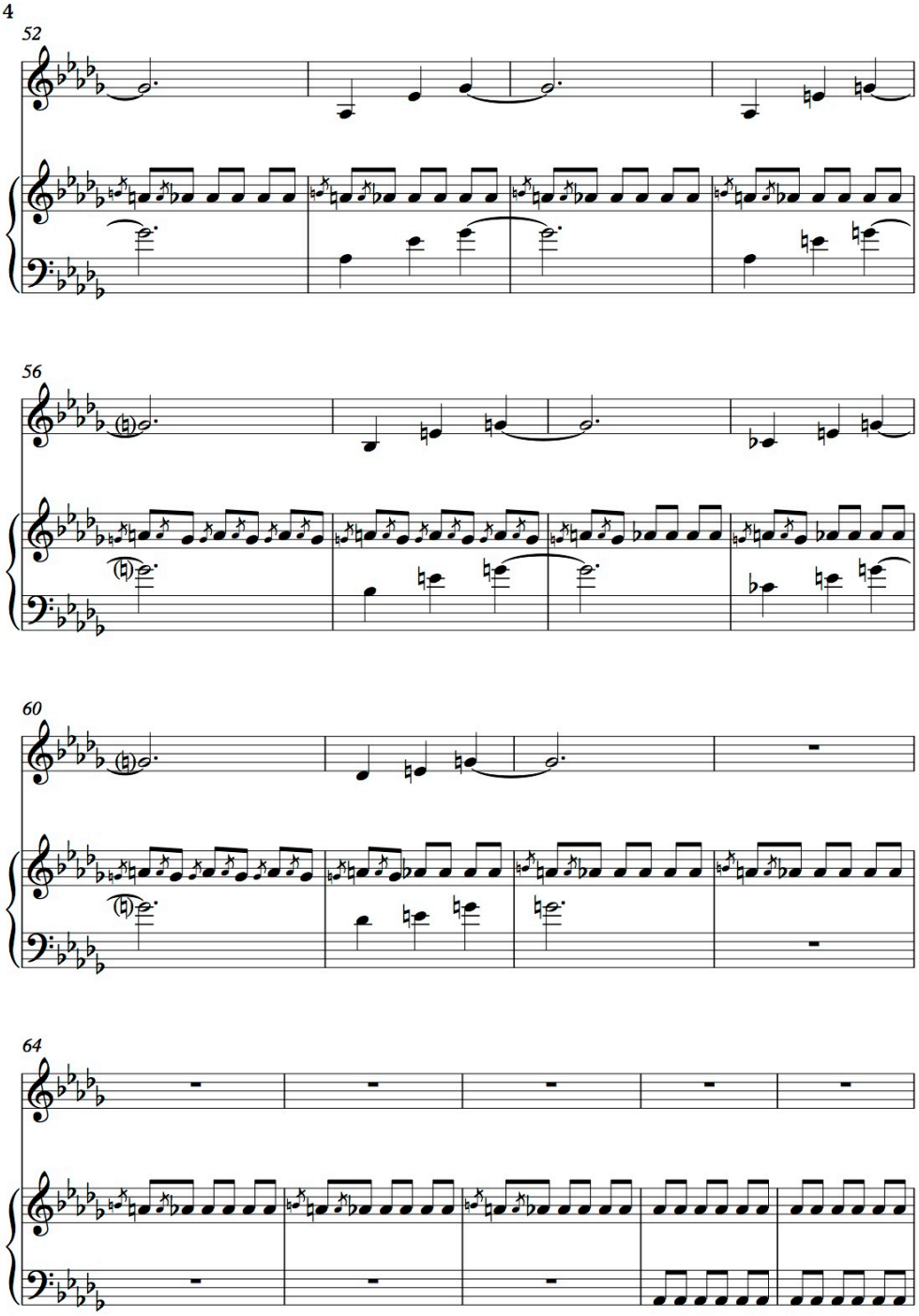
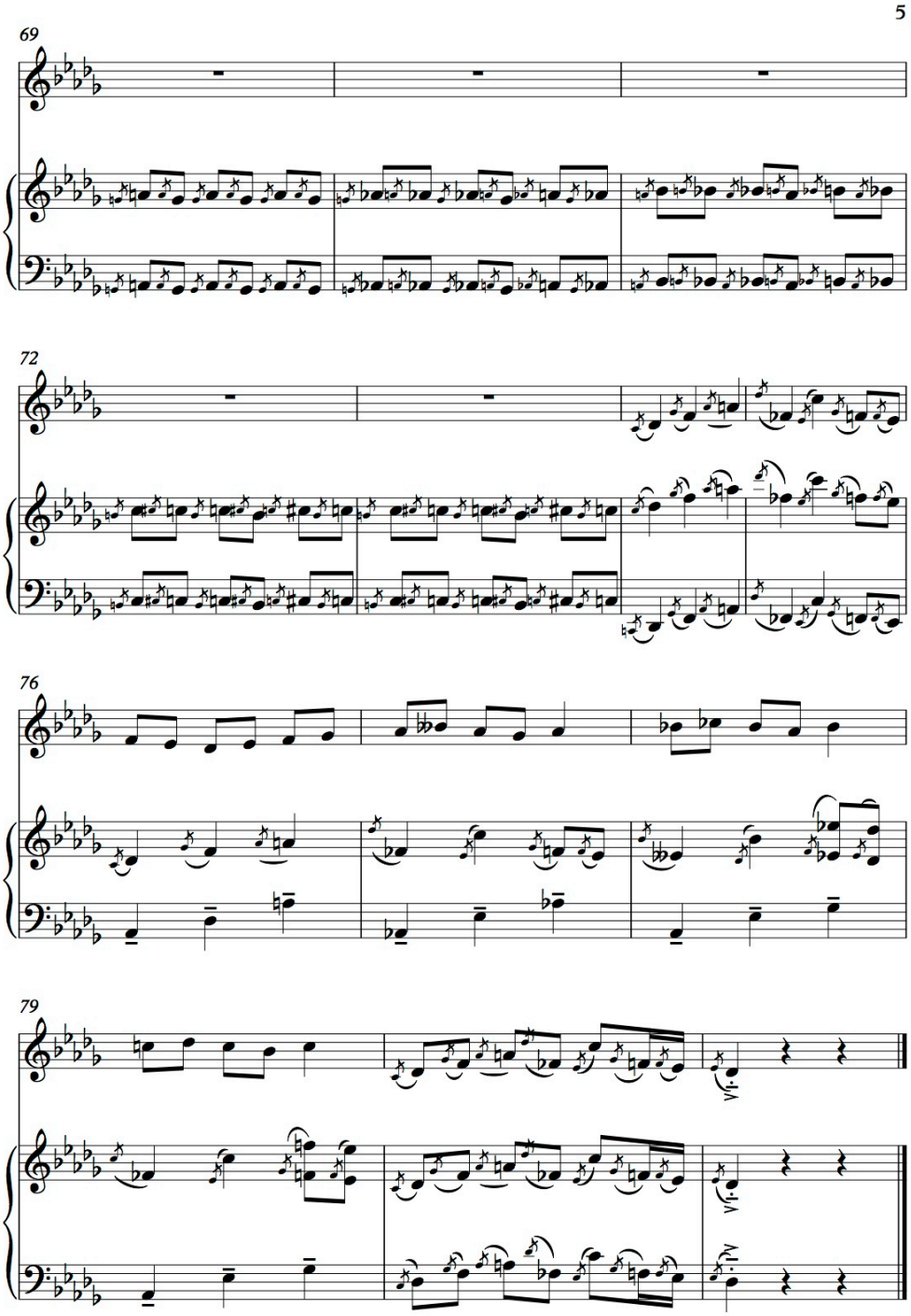
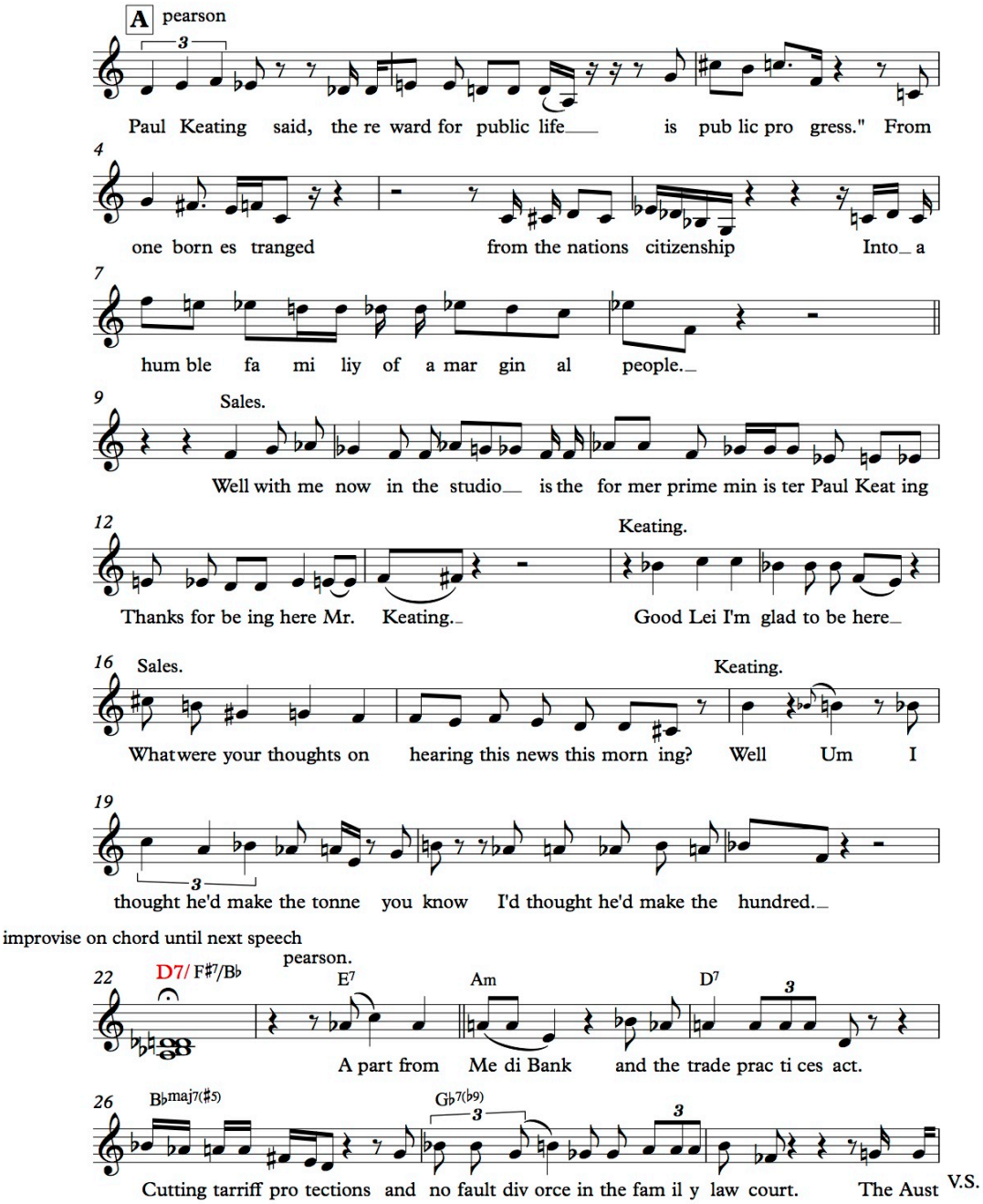
48


4
52
56
60
64

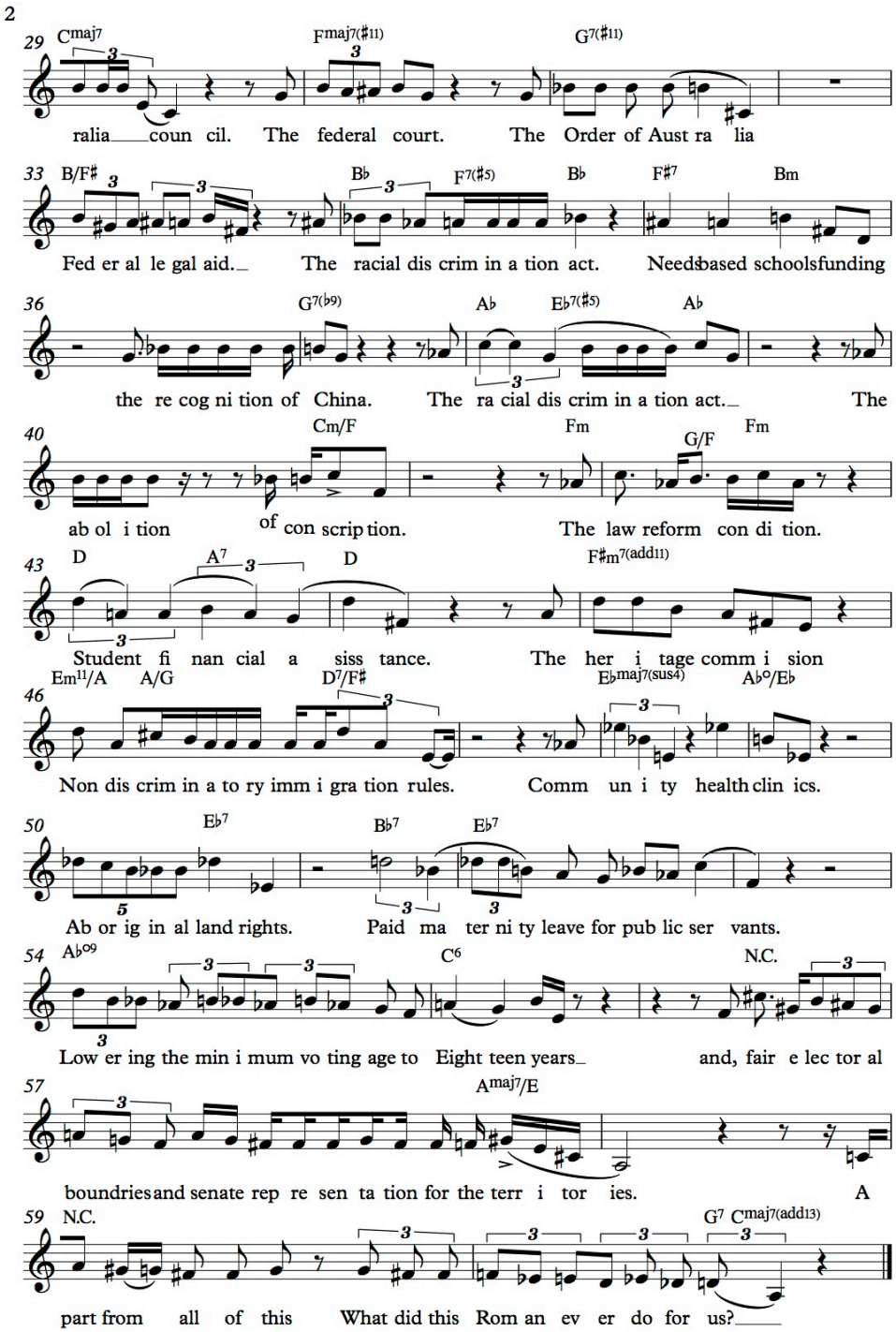

5
69
72
76
79

Keating, Sales, and Whitlam

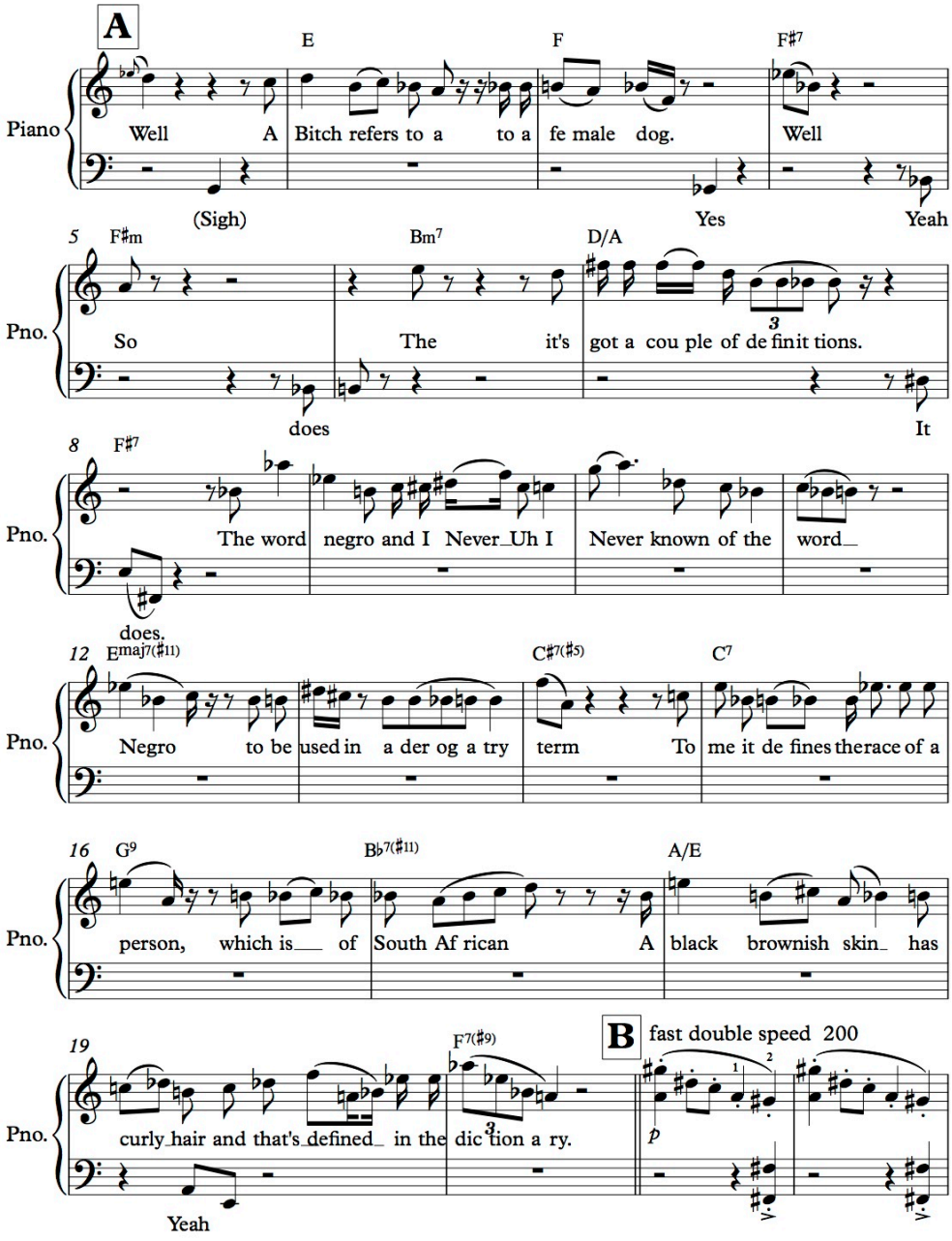
leadsheet

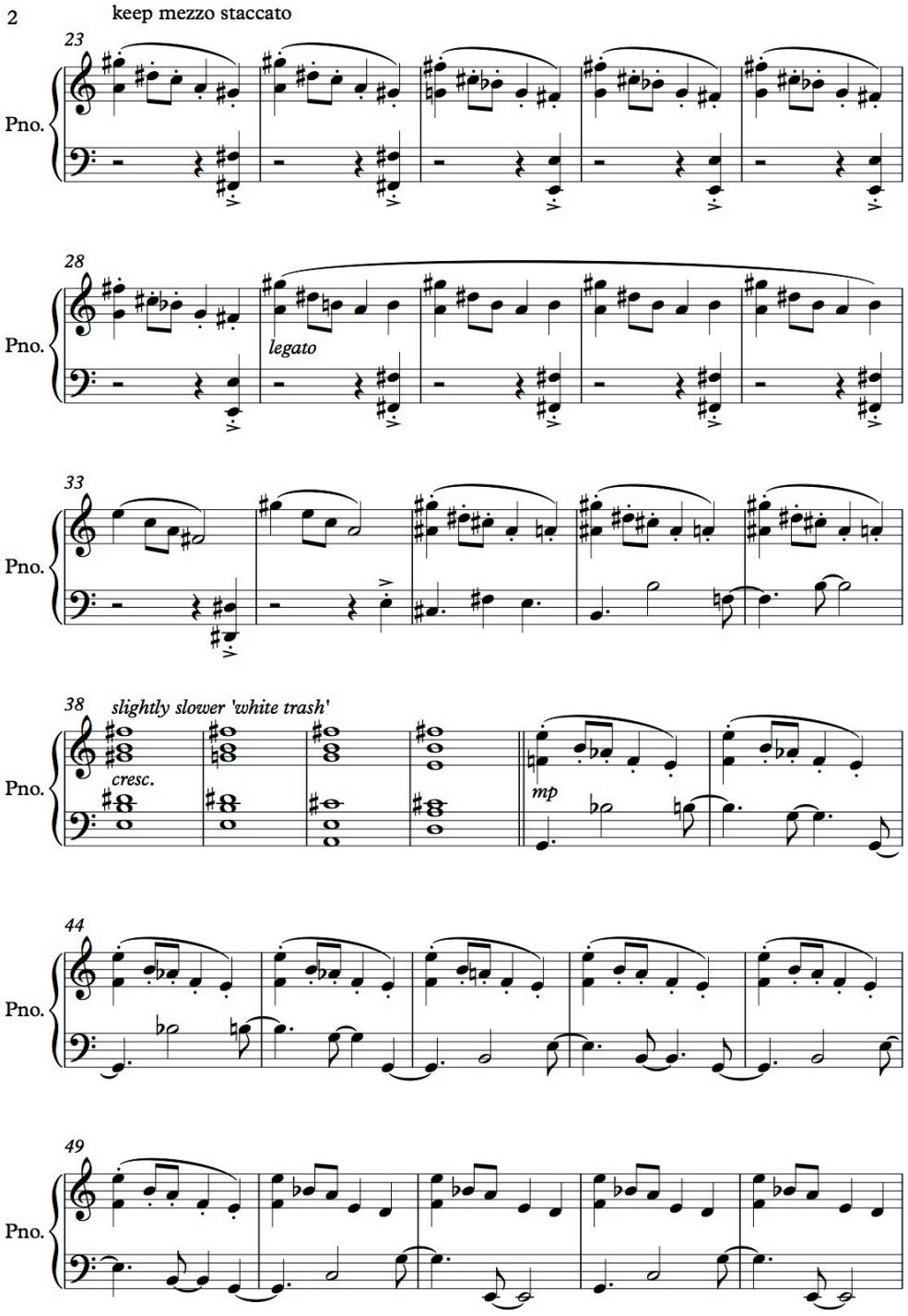


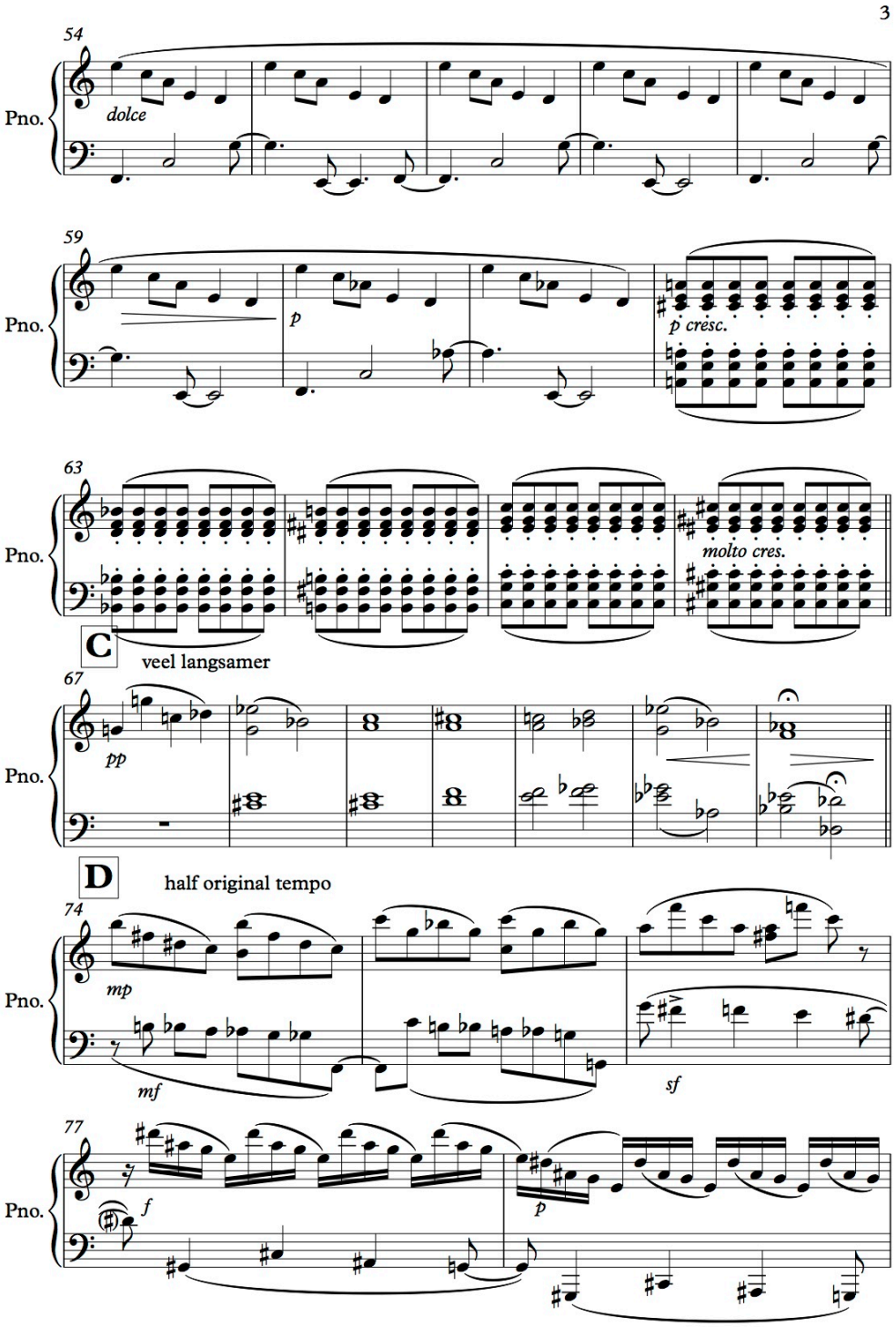
V.S.

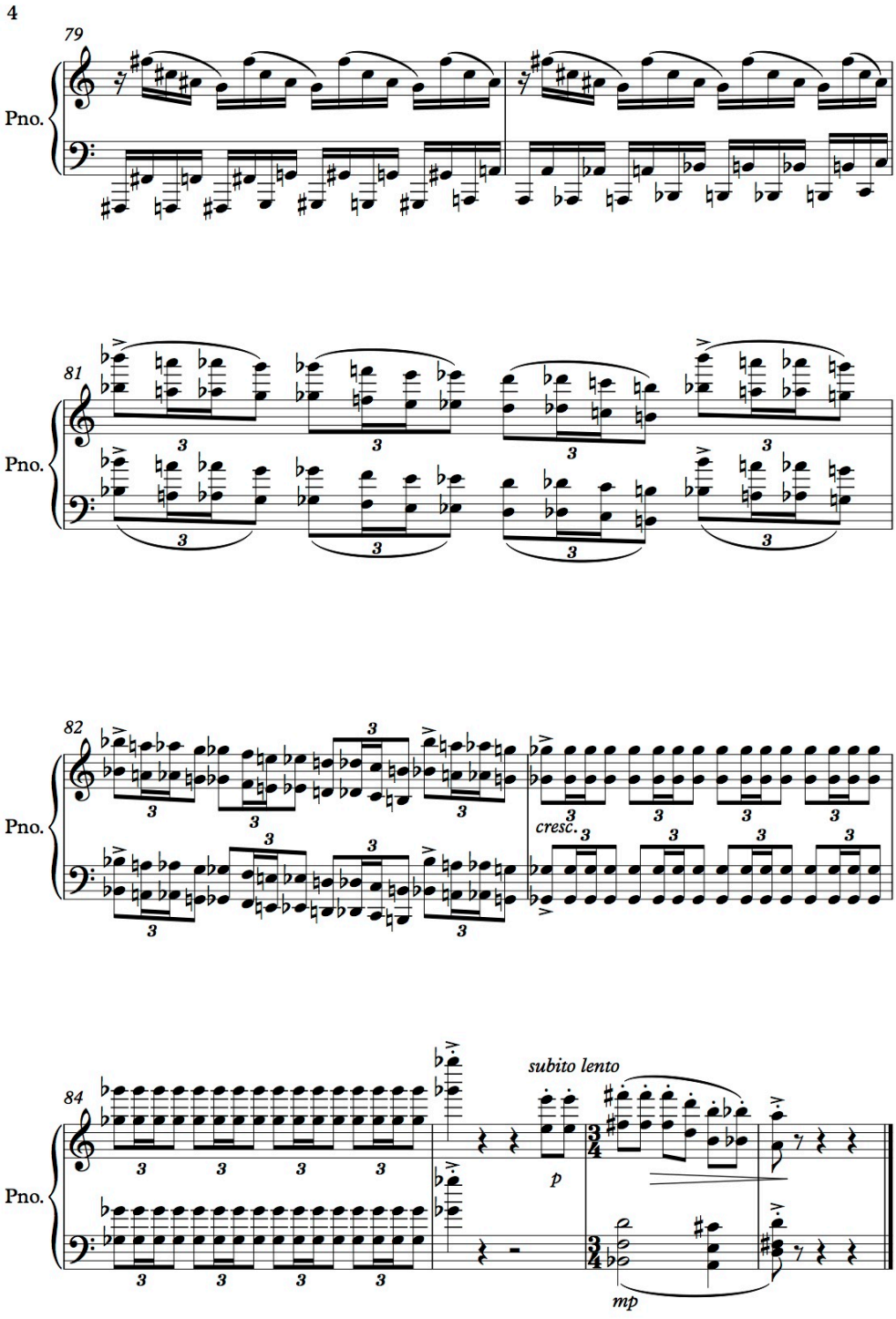

2
29 Cmaj7 Fmaj7(♯11) G7(♯11)
ralia coun cil. The federal court. The Order of Aust ra lia
33 B/F♯ B♭ F7(♯5) B♭ F♯7 Bm
Fed er al le gal aid. The racial dis crim in a tion act. Needsbased schoolsfunding
36 G7(♭9) A♭ E♭7(♯5) A♭
the re cog ni tion of China. The ra cial dis crim in a tion act. The
40 Cm/F Fm G/F Fm
ab ol i tion of con scrip tion. The law reform con di tion.
43 D A7 D F♯m7(add11)
Student fi nan cial a siss tance. The her i tage comm i sion
46 Em11/A A/G D7/F♯ E♭maj7(sus4) A♭o/E♭
Non dis crim in a to ry imm i gra tion rules. Comm un i ty health clin ics.
50 E♭7 B♭7 E♭7
Ab or ig in al land rights. Paid ma ter ni ty leave for pub lic ser vants.
54 A♭o9 C6 N.C.
Low er ing the min i mum vo ting age to Eight teen years and, fair e lec tor al
57 Amaj7/E
boundries and senate rep re sen ta tion for the terr i tor ies. A
59 N.C. G7 Cmaj7(add13)
part from all of this What did this Rom an ev er do for us?

Pauline Hanson




2
keep mezzo staccato
23
Pno.
28
legato
33
38
slightly slower 'white trash'
cresc.
mp
44
49


3
54
Pno.
dolce
59
Pno.
p
p cresc.
63
Pno.
molto cres.
C
veel langsamer
67
Pno.
pp
D
half original tempo
74
Pno.
mp
mf
sf
77
Pno.
f
p


4
79
Pno.
81
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82
Pno.
cresc.
84
Pno.
subito lento
p
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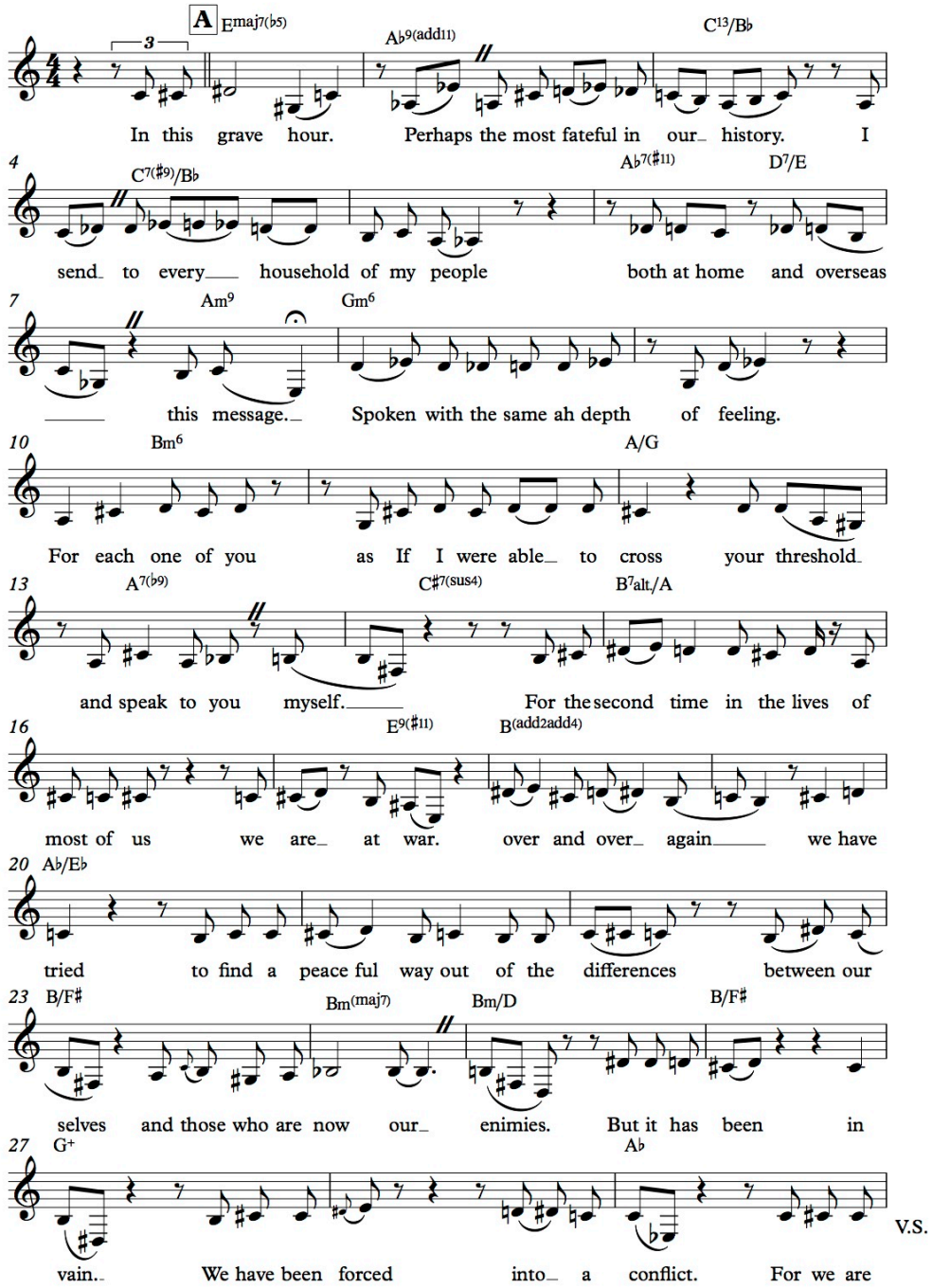
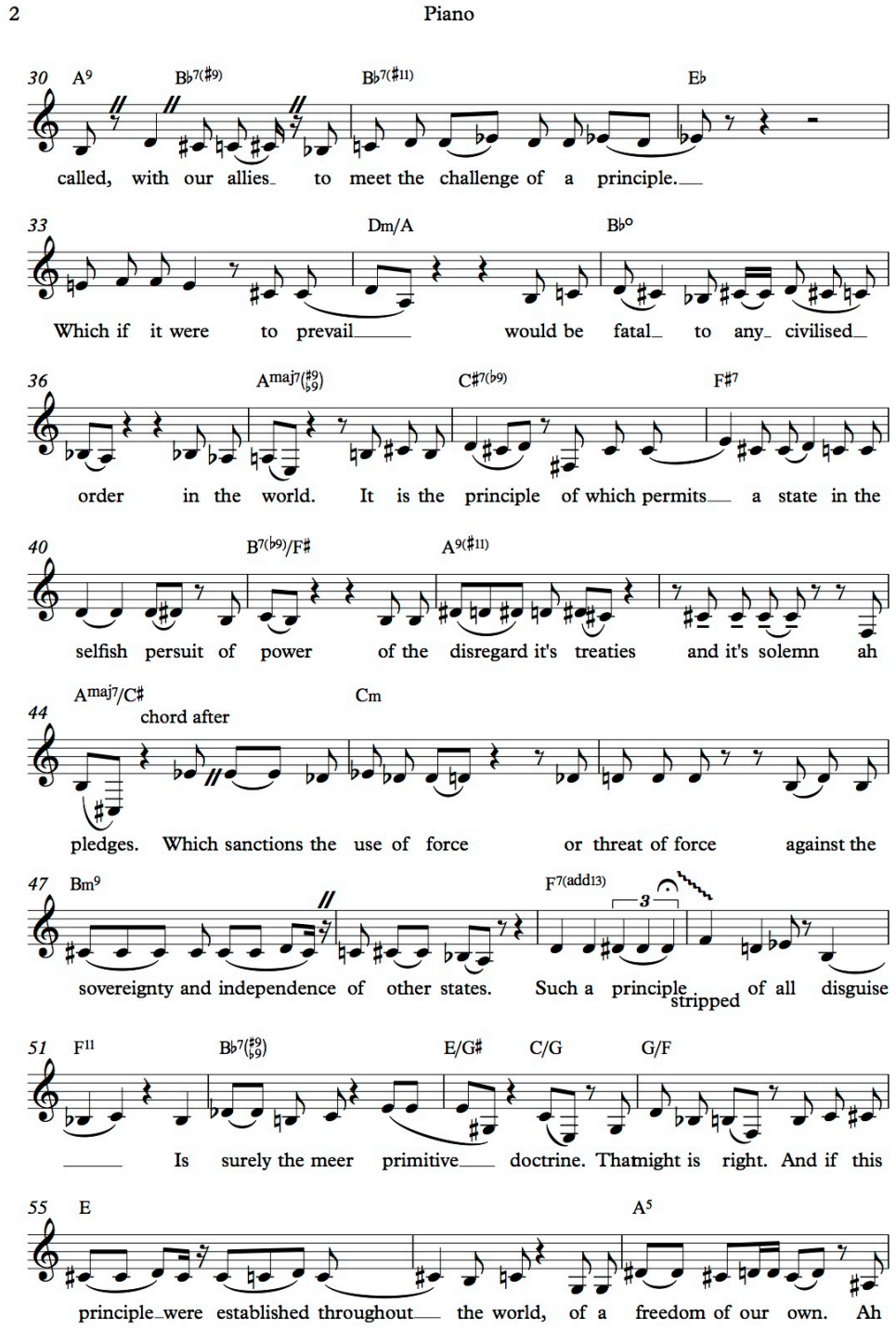
The Kings Speech

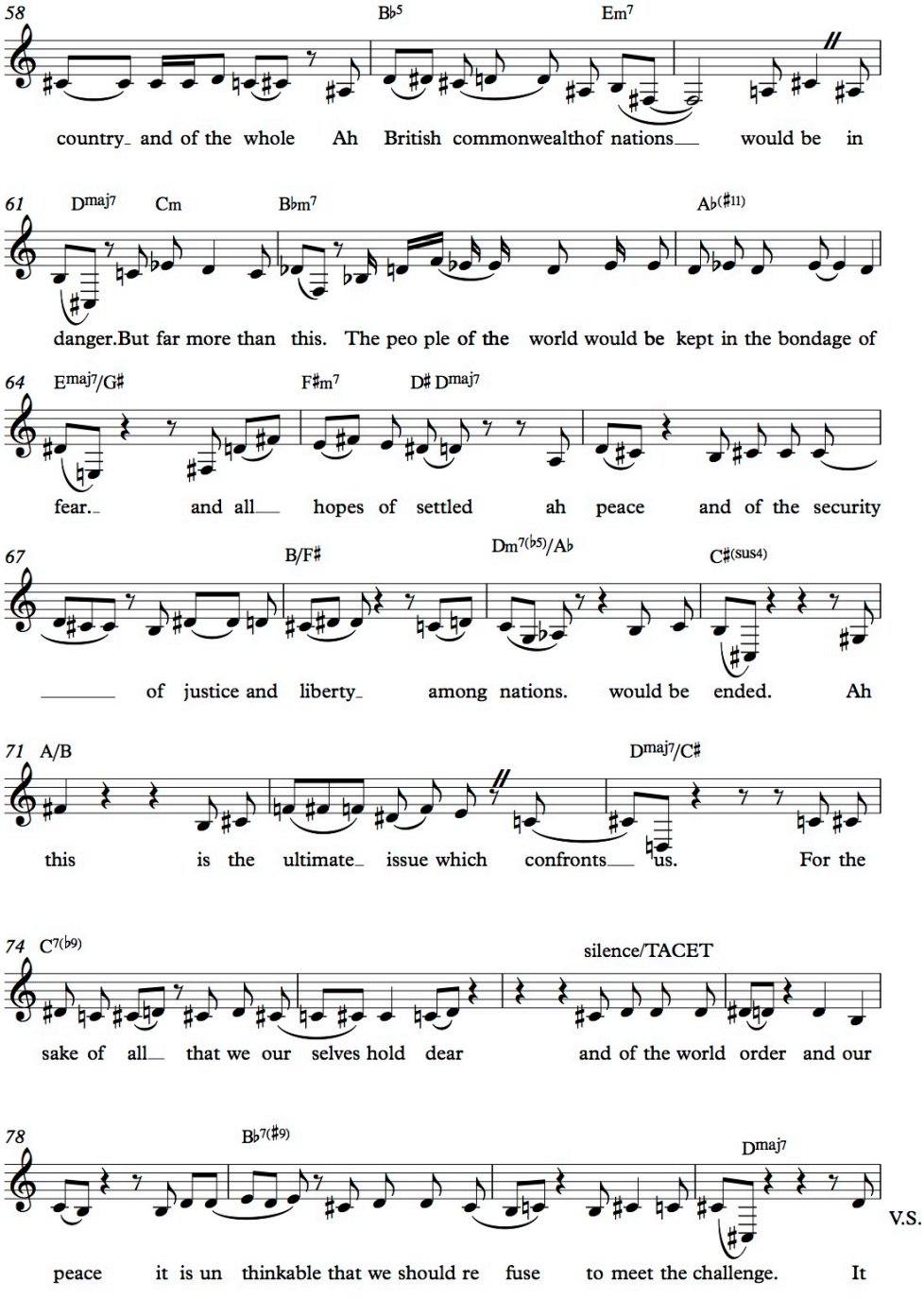
Piano

// = stutter breaks



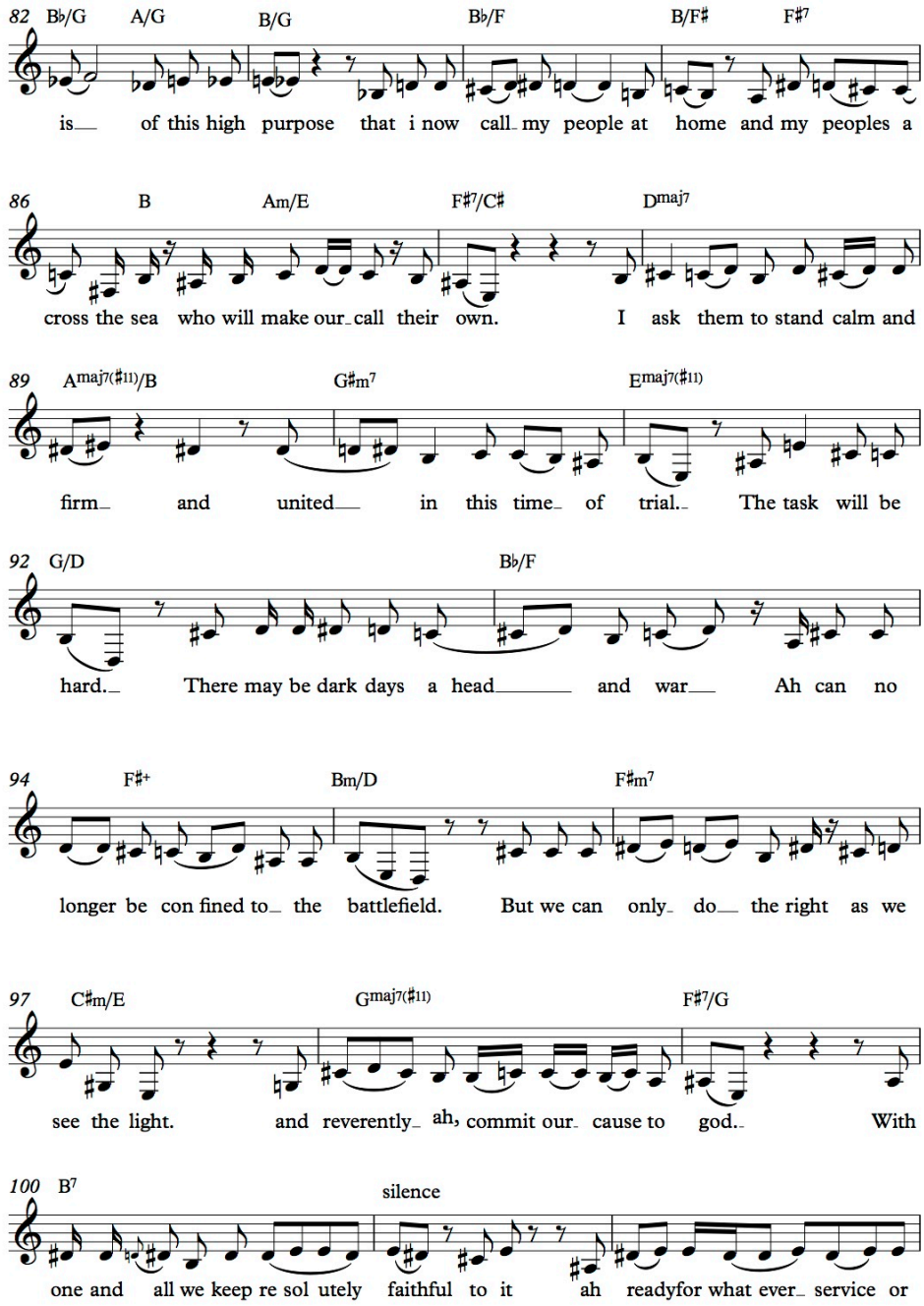
V.S.

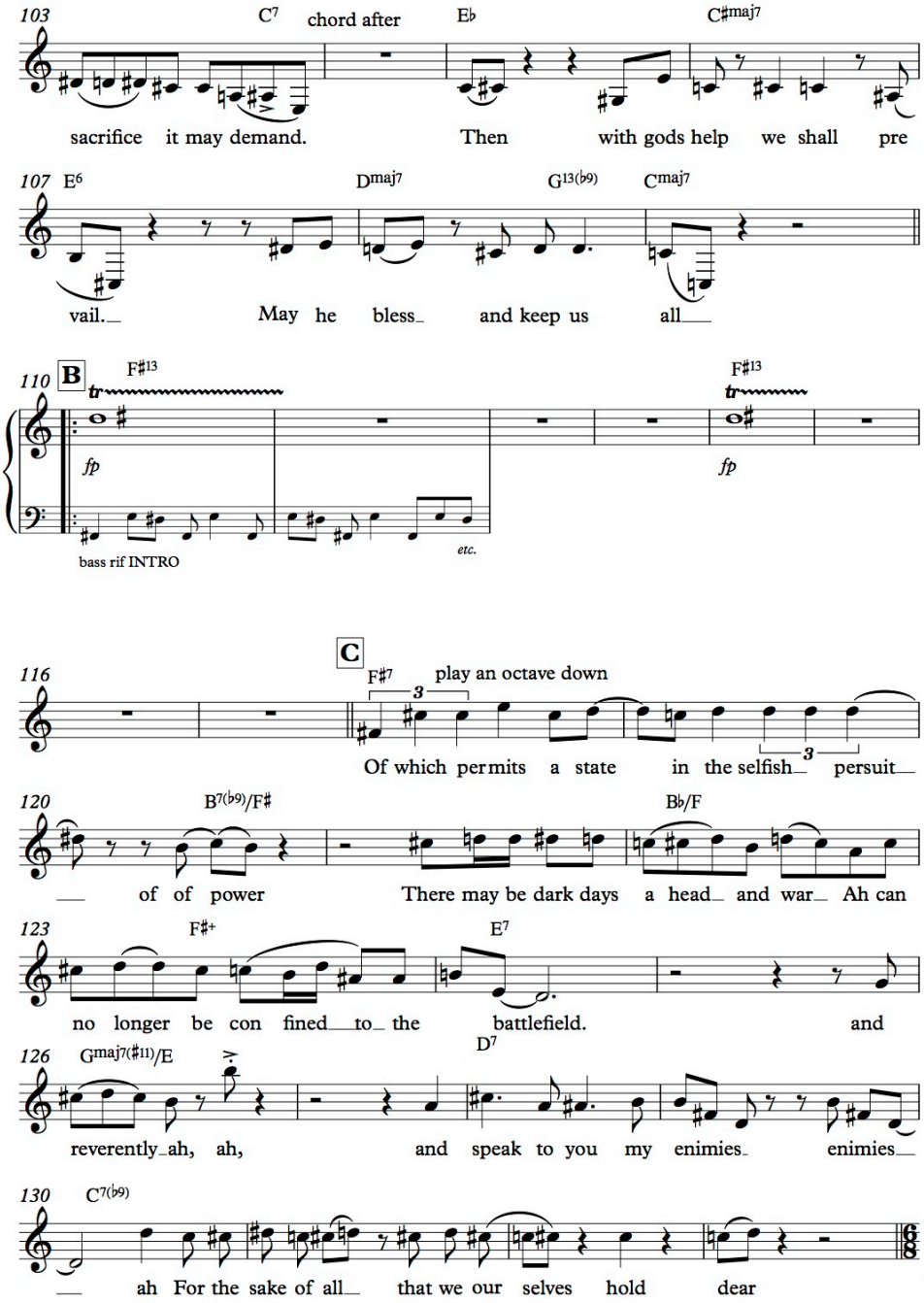

2
Piano
30 A9 B♭7(♯9) B♭7(♯11) E♭
called, with our allies to meet the challenge of a principle.
33 Dm/A B♭°
Which if it were to prevail would be fatal to any civilised
36 Amaj7(♯9/♭9) C♯7(♭9) F♯7
order in the world. It is the principle of which permits a state in the
40 B7(♭9)/F♯ A9(♯11)
selfish persuit of power of the disregard it's treaties and it's solemn ah
44 Amaj7/C♯ Cm
chord after
pledges. Which sanctions the use of force or threat of force against the
47 Bm9 F7(add13)
3
sovereignty and independence of other states. Such a principle stripped of all disguise
51 F11 B♭7(♯9/♭9) E/G♯ C/G G/F
Is surely the meer primitive doctrine. That might is right. And if this
55 E A5
principle were established throughout the world, of a freedom of our own. Ah

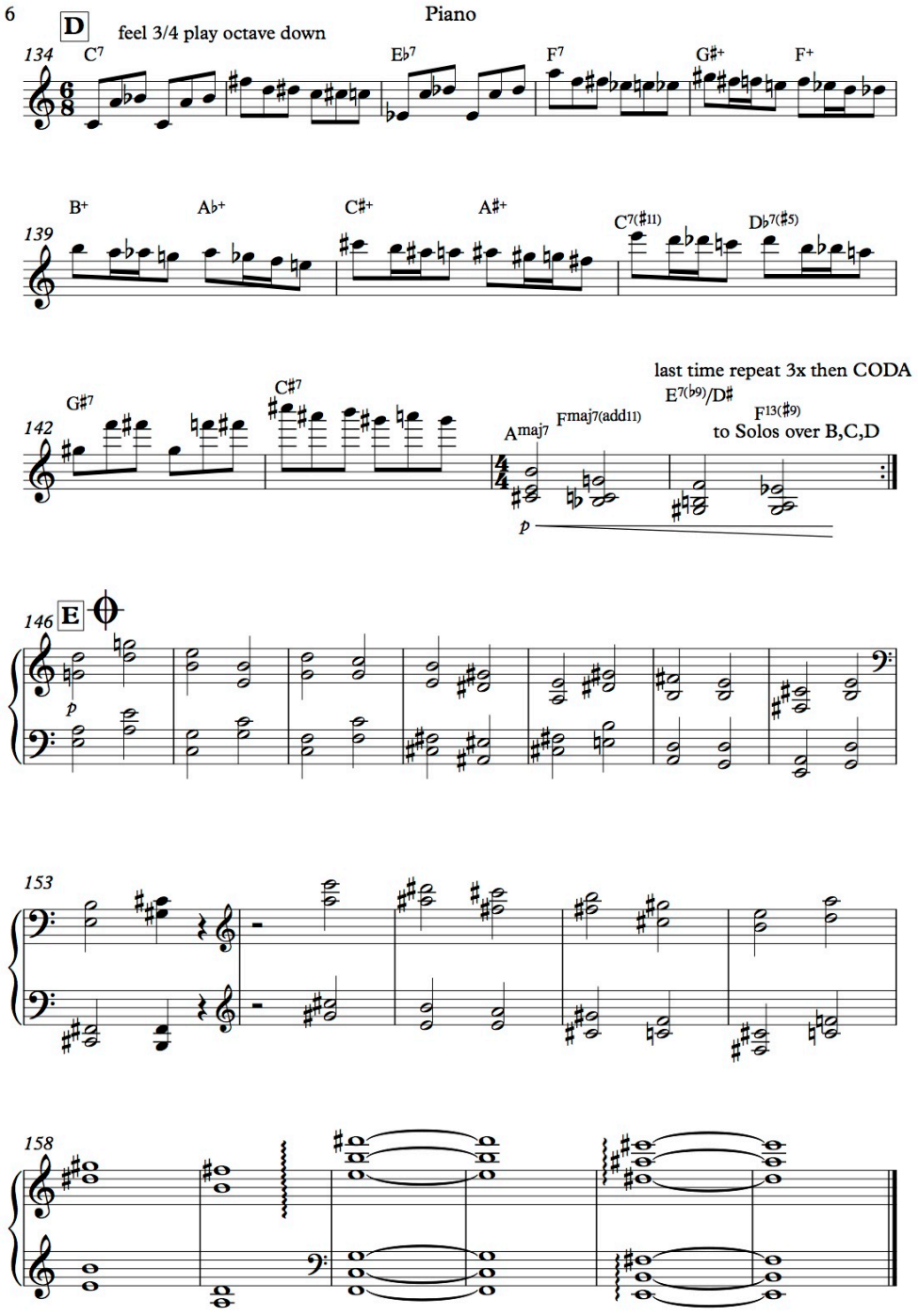

58
B♭5
Em7
country_ and of the whole Ah British commonwealthof nations__ would be in
61
Dmaj7
Cm
B♭m7
A♭(♯11)
danger.But far more than this. The peo ple of the world would be kept in the bondage of
64
Emaj7/G♯
F♯m7
D♯ Dmaj7
fear._ and all__ hopes of settled ah peace and of the security
67
B/F♯
Dm7(♭5)/A♭
C♯(sus4)
_____ of justice and liberty_ among nations. would be ended. Ah
71
A/B
Dmaj7/C♯
this is the ultimate_ issue which confronts__ us. For the
74
C7(♭9)
silence/TACET
sake of all__ that we our selves hold dear and of the world order and our
78
B♭7(♯9)
Dmaj7
peace it is un thinkable that we should re fuse to meet the challenge. It

V.S.

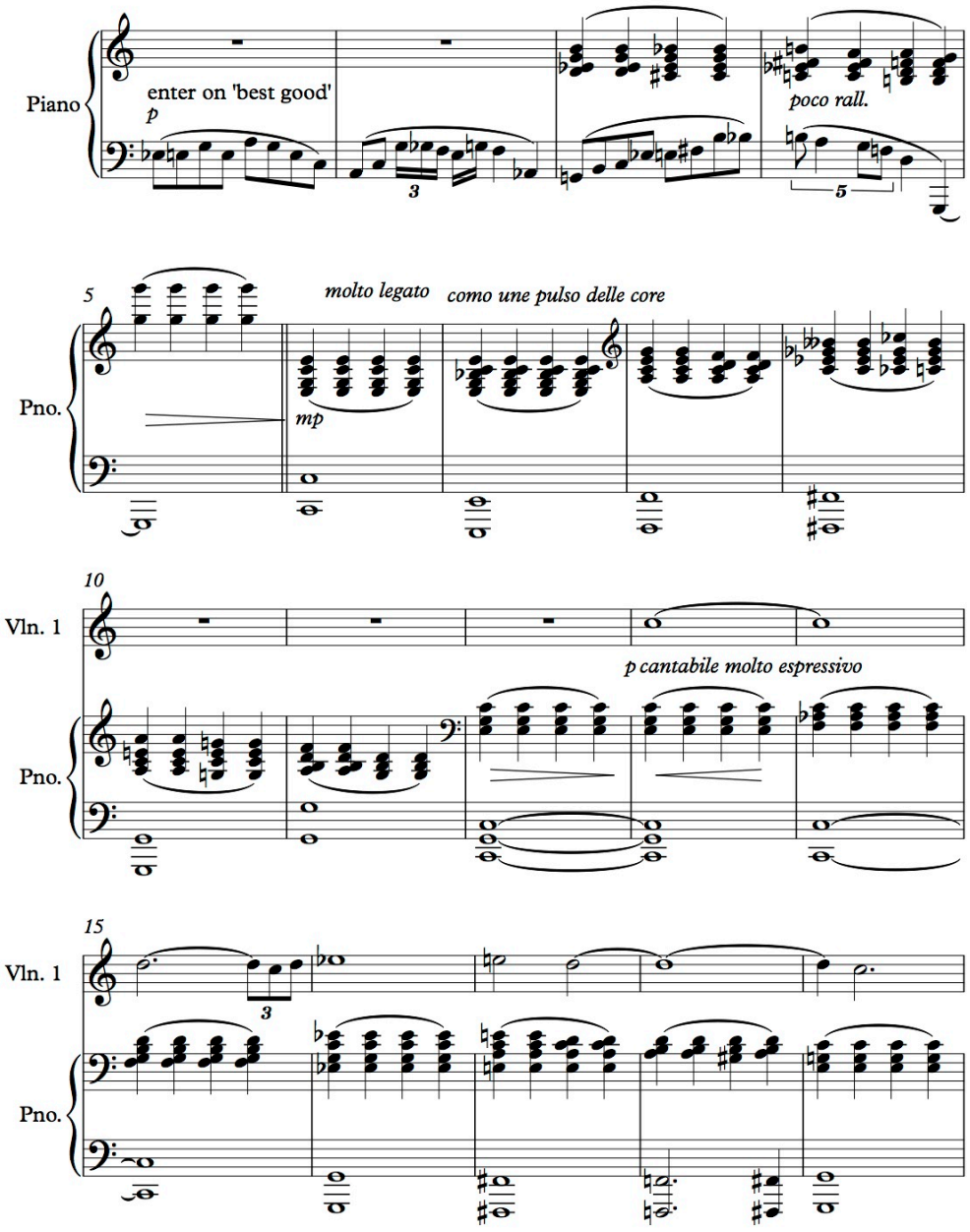
4 Piano

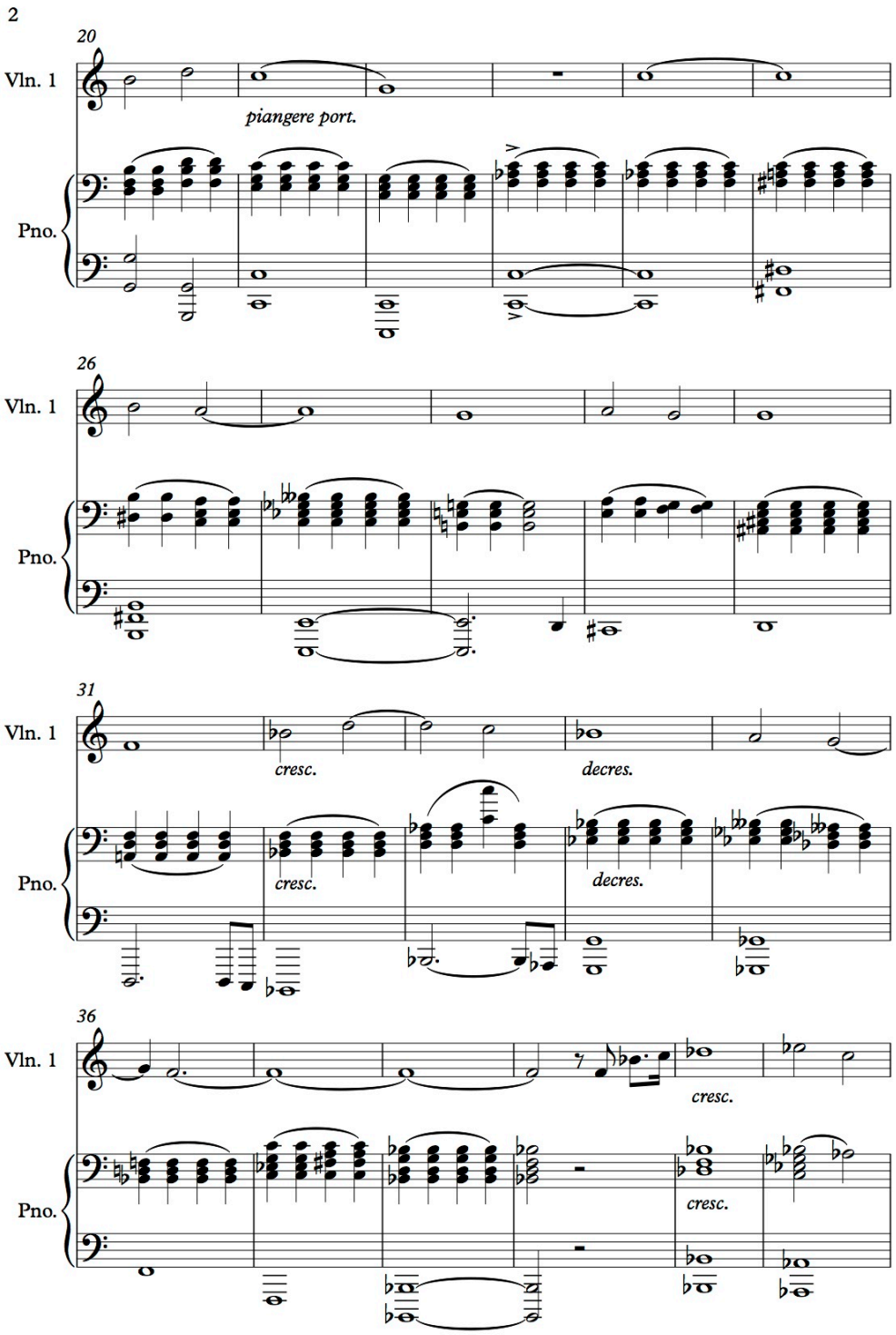

82 B♭/G A/G B/G B♭/F B/F♯ F♯7
is of this high purpose that i now call my people at home and my peoples a
86 B Am/E F♯7/C♯ Dmaj7
cross the sea who will make our call their own. I ask them to stand calm and
89 Amaj7(♯11)/B G♯m7 Emaj7(♯11)
firm and united in this time of trial. The task will be
92 G/D B♭/F
hard. There may be dark days a head and war Ah can no
94 F♯+ Bm/D F♯m7
longer be con fined to the battlefield. But we can only do the right as we
97 C♯m/E Gmaj7(♯11) F♯7/G
see the light. and reverently ah, commit our cause to god. With
100 B7 silence
one and all we keep re sol utely faithful to it ah readyfor what ever service or

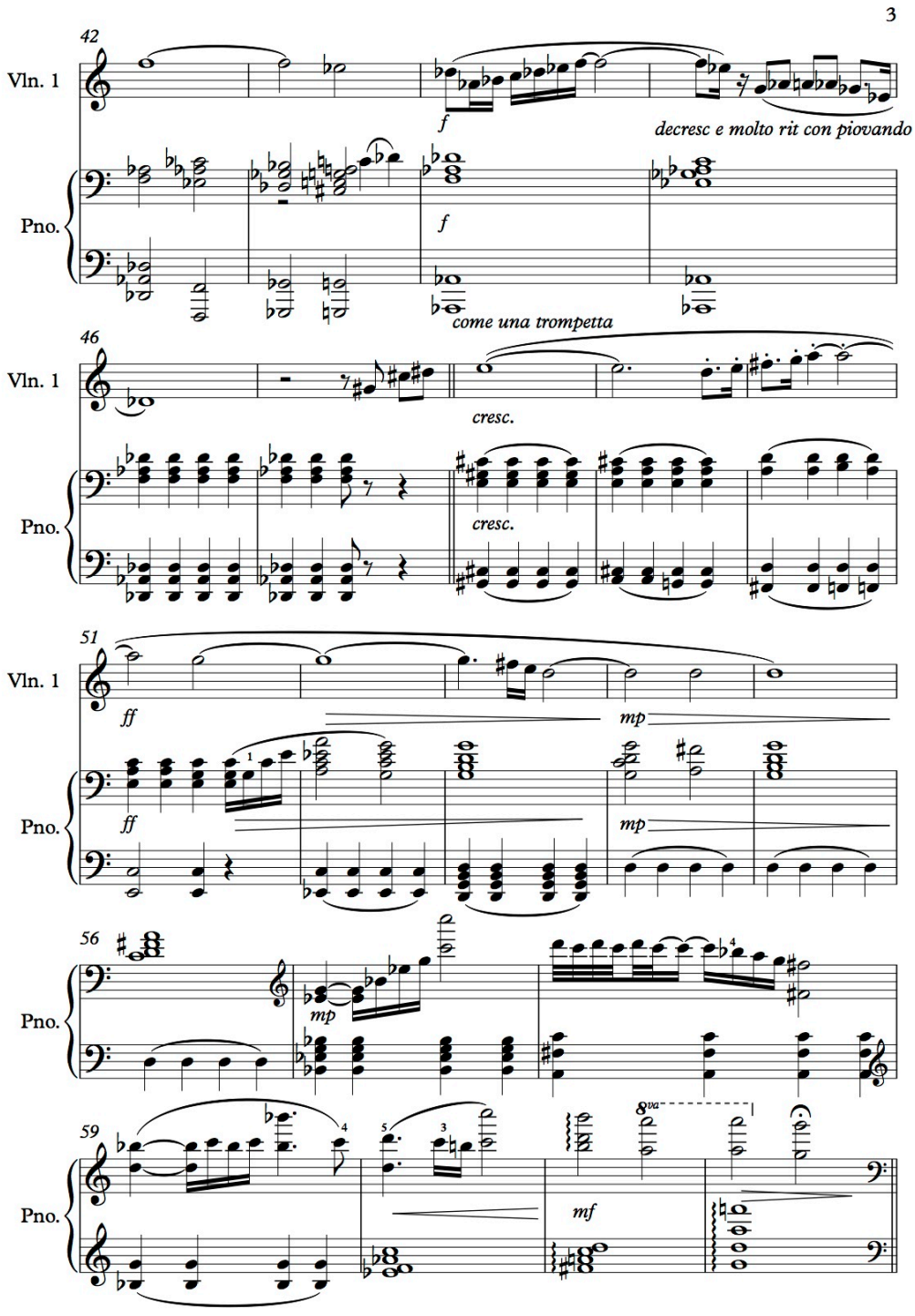

103
C7
chord after
E♭
C♯maj7
sacrifice it may demand.
Then with gods help we shall pre
107
E6
Dmaj7
G13(♭9)
Cmaj7
vail.
May he bless and keep us all
110
B
F♯13
fp
F♯13
fp
bass rif INTRO
etc.
C
116
F♯7
play an octave down
Of which permits a state in the selfish persuit
120
B7(♭9)/F♯
B♭/F
of of power
There may be dark days a head and war Ah can
123
F♯+
E7
no longer be con fined to the battlefield.
and
126
Gmaj7(♯11)/E
D7
reverently ah, ah,
and speak to you my enimies enimies
130
C7(♭9)
ah For the sake of all that we our selves hold dear
V.S.

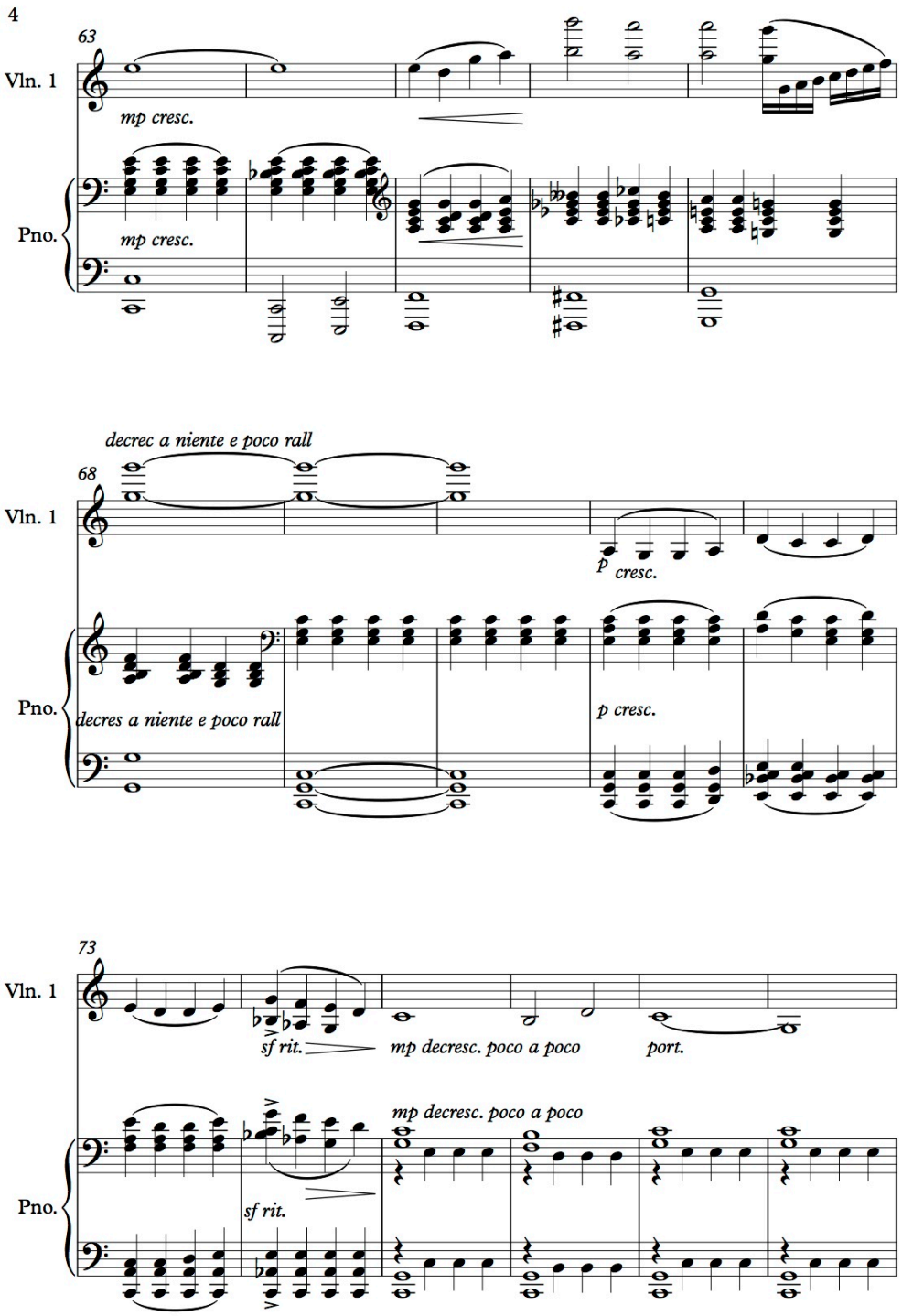

6
Piano
D
feel 3/4 play octave down
134
C7
Eb7
F7
G#+
F+
139
B+
Ab+
C#+
A#+
C7(#11)
Db7(#5)
142
G#7
C#7
Amaj7
Fmaj7(add11)
E7(b9)/D#
F13(#9)
last time repeat 3x then CODA
to Solos over B,C,D
p
146
E
p
153
158

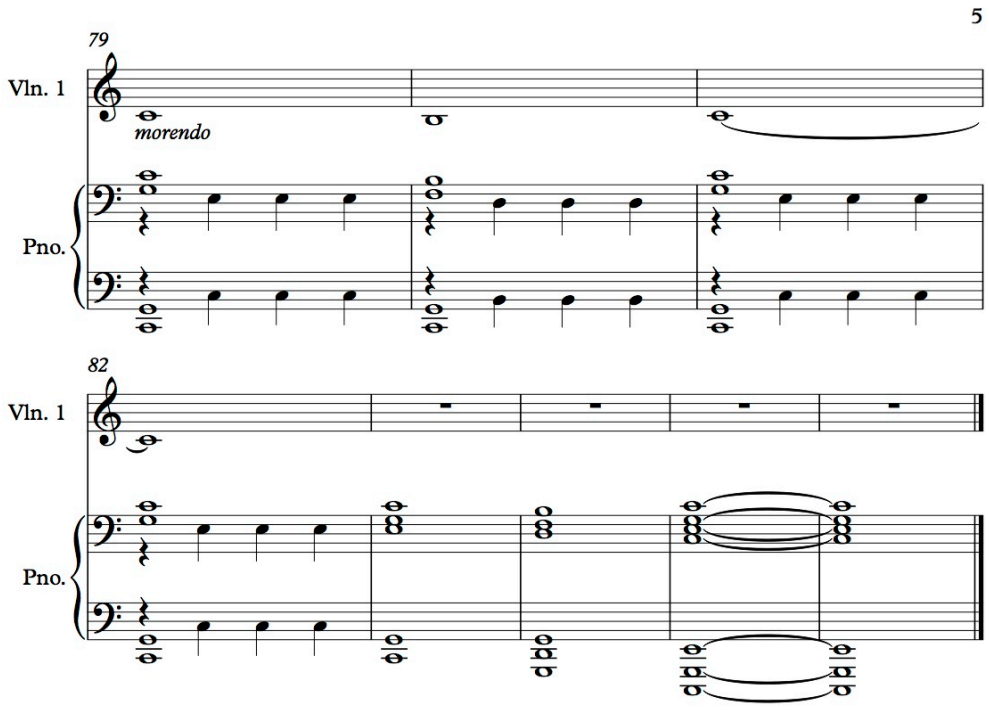
Eulogy


Piano
enter on 'best good'
p
poco rall.
5
molto legato
como une pulso delle core
Pno.
mp
10
Vln. 1
p cantabile molto espressivo
15


2
20
Vln. 1
piangere port.
Pno.
26
Vln. 1
Pno.
31
Vln. 1
cresc.
decres.
Pno.
cresc.
decres.
36
Vln. 1
cresc.
Pno.
cresc.


3
42
Vln. 1
Pno.
f
decresc e molto rit con piovando
come una trompetta
46
cresc.
51
ff
mp
56
59
8va
mf


4
63
Vln. 1
mp cresc.
Pno.
mp cresc.
decrec a niente e poco rall
68
Vln. 1
p cresc.
Pno.
decres a niente e poco rall
p cresc.
73
Vln. 1
sf rit.
mp decresc. poco a poco
port.
mp decresc. poco a poco
Pno.
sf rit.


5
79
Vln. 1
morendo
Pno.
82
Vln. 1
Pno.