CHAPTER 4 – TRANSCRIPTIONS – AN ANALYSIS

Part 1: Introduction

Ten transcriptions were conducted over the course of 2 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 Hannaford¹, transcription analysis has allowed me to further and advance my own practice as an improviser.

Part 2: Transcribing Analysis: Methodology

Step 1 Find the median and average note of any *grouping scheme*.

Step 2

Locate any final key points about what might make this speaker different from others Step 3 Analyse any similarities or differences from each phrase to the next

Analyse interesting, musical points about the speakers use of melodic intervals

Step 4

Step 5

Identify the melodic contour of the transcription

Figure 4-1 Speech transcription analysis workflow

¹ Hannaford, 2012

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

Terms	Used abbreviations
Scale degree	٨
Tonic	I
Minor 2 nd	ii
Major 2 nd	Ш
Minor 3 rd	iii
Major 3 rd	Ш
Perfect 4 th	IV
Diminished 5 th	v
Perfect 5 th	V
Minor 6 th	vi
Major 6 th	VI
Minor 7 th	vii
Major 7 th	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.

Table 2 Scale degree and term abbreviations used in this paper

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

The transcription of Eric Dolphy was completed to identify speech patterns² in his improvisations. Dolphy's style is said to employ inimitable harmonies, and speech and animal-like inflections³. Dolphy communicates in wide leaps (Figure 4-2). These intervals do not correspond to any of my completed spoken transcriptions⁴.



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 moment¹. 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 some², 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 speech¹.

Part 4: Keith Jarrett, 'Autumn Leaves'

Acoustic Bass

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 Robbins³ (*reading method*), see Figure 4-8.
- 4) Find grunts in his playing, see Figure 4-9.

7 steps² to Jarrett

i)



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 simultaneously¹ (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'

Chief Justice Roberts

i)

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 2nd 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.

Noel Pearson's speech is a Eulogy at a funeral¹, 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 3 rd	B29, 30, 35, 37, B42
Perfect 5 th	B3, 25, 40
Consecutive 5 th	B48, 55
Other descending cadences	Min 6 th B44, B49 Maj 6 th B52/53, Min 7 th 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 ascendant¹. 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.



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,





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.



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 or play these degrees on an instrument, the communicator will connect the laws of nature with the *laws of consonance*, Fibonacci Sequence¹ (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)



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 starts again on Bb. B6 (E) but then starts on a D. B12, (C) but resumes the sentence

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/)

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 4^{th} 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, B^b, to A^b (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 composition¹.

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 ^b13th in succession D^{b} to a D (^b9th 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 4^{th})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:

 $^{^{1}\ {\}rm Enduringly}$ 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 × *Rate of occurrence*

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

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

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

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

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

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

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

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

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 F's 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 3 times and the E, 4 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.





composition)

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.



Figure 4-34 Notes and their corresponding value row.



Figure 4-35 Finding phrase median



Figure 4-36 Rate of occurrence

Mean Score:

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

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 3 times it has the most <u>gravity</u>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 descant² 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 B⁴ 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 $\frac{4}{4}$

⁴ Temporary tonal centre A[#], <u>B</u>, C[#], <u>B</u>



Part 12: Jason Moran talks to Hue Blanes

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 register¹ (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^b3 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



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, $24 \div 6$ 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*) \div (*notes*) = $24 \div 6 = 4$ (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.



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 3^{rd} (B 19), and falling no steeper than a major 3^{rd} also (B 18). Blanes in divergence jumps a tri-tone from the first bar, in the 3^{rd} bar he leaps down a minor 6^{th} (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 radio¹.

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