Chapter 5: Harmonisation

Part 1: The need to harmonize 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].

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

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[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 harmonizing the same melody with different chords.

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. iv) 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 note
°	Supporting note
Unmarked	Benign note
N.C	No chord
∧	Accented note

When there are five B flats and three A's played in a phrase or theme the principle 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 principle 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

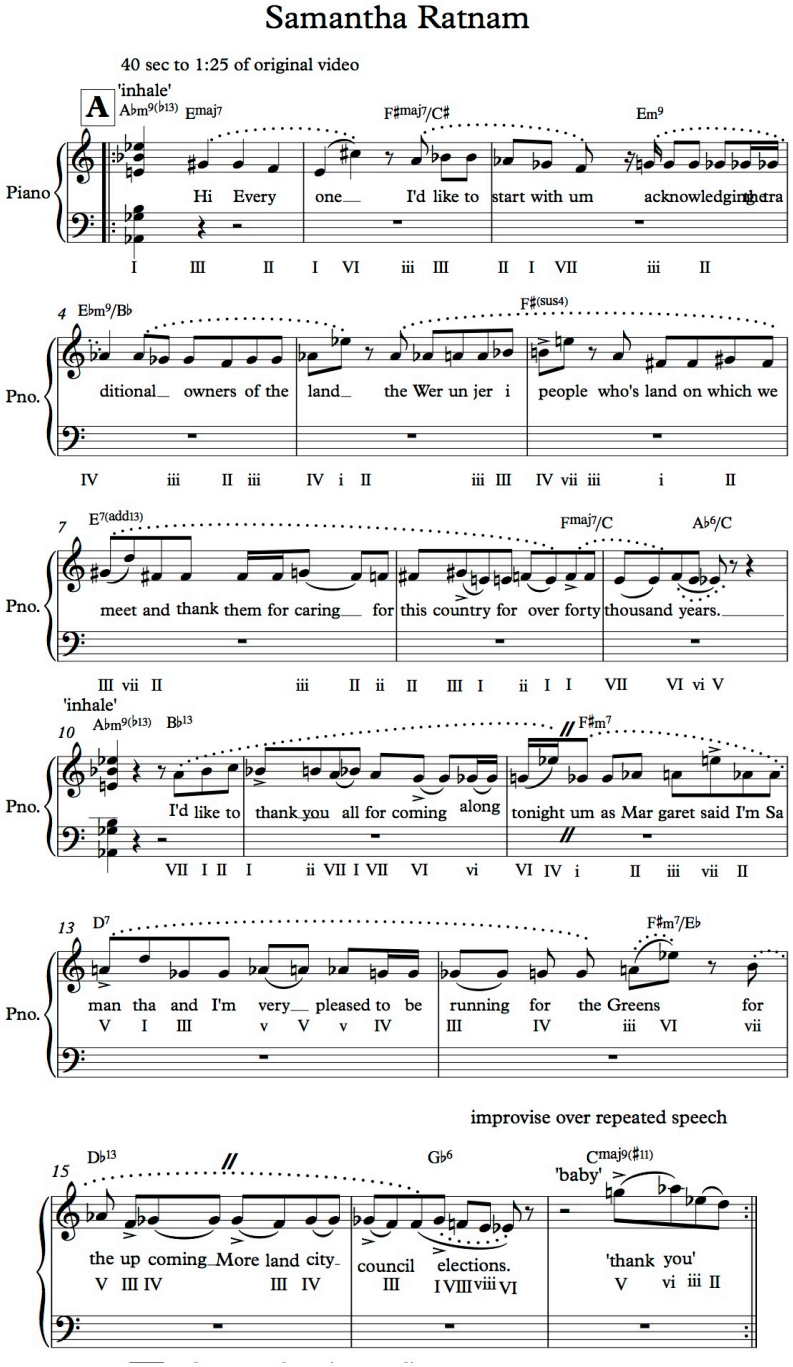

Figure 5-1 Samantha Ratnam transcription

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 Harmonization

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).

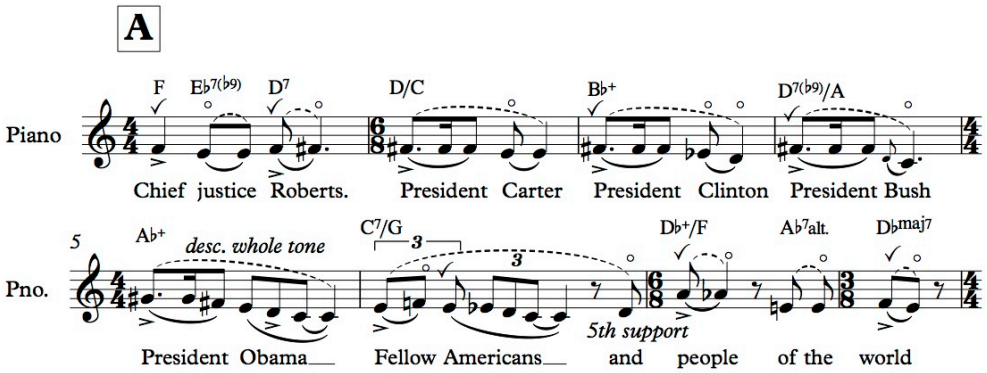

Figure 5-2 Trump's paragraph 1

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).

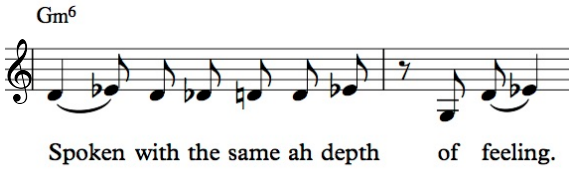

Figure 5-3 King's speech, bars 8 to 9

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 9^{th} and a minor 3^{rd}. They could also be a $^{\#}11$, to the 5^{th} in G (B63, 92) (Figure 5-4).

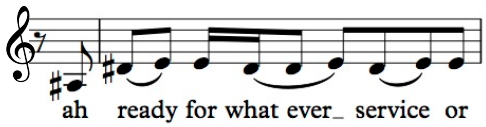

Figure 5-4 Example of perpetual interchange in the King's speech, bar 102

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

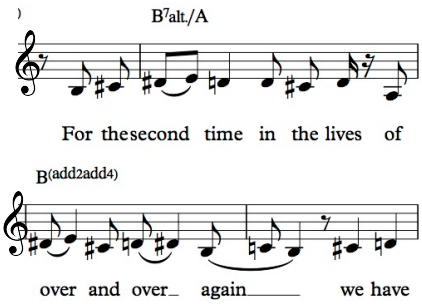

Figure 5-5 Example of chromaticism found in the King's speech

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).

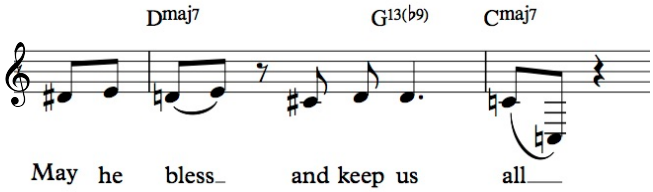

Figure 5-6 Wide leap after extensive perpetual exchange

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.