# 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 *Principle 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 *Principle 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
[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 5$^{th}$ 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 10 / total numbers 9 = 1.11. 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].

*Principle 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 $4^{th}$ (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 melodies*: 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