Investigating Tones and Break Indices (ToBI) in Abdul- Razzaq Abdul- Wahid's Poem /fii riħaab ʔal-ħussaajn/ (In the Rehaab of Al-Hussein)

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Abstract :

The study investigates the intonational boundaries in Abdul- Razzaq Abdul-Wahid's Arabic poem "In the Rehaab of Al-Hussein." The study employs the ToBI (Tones and Break Indices) system, a prosodic transcription convention for Standard Arabic, which is modeled on the original English ToBI principles developed by Pierrehumbert (1980) and Beckman (1997). To explore the phonological aesthetics of reading poetry, the researchers use the ToBI system within the Praat software. This valuable model is used to analyse the intonational features; the tone inventory according to ToBi involves phrasal tones and pitch accents that have been analysed in the current study.

Keywords: *ToBi (Tones and Break Indices), prosodic features, phrasal tones , pitch accents*

1. Introduction

Prosodic phenomena are central topics of investigation across various disciplines, such as linguistics, speech technology, psychology, and computer science. The analysis of the prosodic features is primarily based on the application of the proposed model which is Tone and Break Indices (TOBI). Arabic, like many other languages, has its own system of intonation, where changes in pitch, duration, and loudness convey meaning and expressions.

Tone indices can be used to indicate the pitch contour of words and phrases, while break indices can indicate prosodic breaks, pauses, and phrasing. By applying tone and break indices, we can better understand the meaning and intention behind the spoken Arabic language, particularly poetic language.

Leon(1993:29) explains that the spoken form of any language is used before it is written down. As a result, even the most abstract writing still carries traces of the sounds, rhythm, and intonation found in speech. Regardless of the writer's intentions, any piece of writing reveals its roots in oral communication. Considering this viewpoint, the study plays a crucial role in the process of reading and can be applied in two ways. First, a text can be viewed as a possible phonetic representation, meaning it is written to be read aloud. Second, a text can be seen solely as a written text, with no intended vocalization. However, even in this case, the text still includes instances of spoken language or references to spoken language (such as indirect or free indirect speech) that readers tend to interpret differently compared to narrative sections.

The primary objective of this study is to examine the intonational patterns used by the poet in reciting his own poem, with the aim of demonstrating the diverse range of prosodic characteristics found within the spoken utterances.

2. What is ToBi System?

ToBI (Tones and Break Indices) is a system created by a team of speech scientists with expertise in electrical engineering, psychology, linguistics, and other fields. Its purpose is to transcribe the intonation patterns and other aspects of prosody in English speech. The goal was to establish a standardized method for transcribing a set of agreed-upon prosodic elements. This would enable researchers to share databases of prosodic transcriptions across different research sites, supporting a wide range of research objectives and technological advancements. The motivation and development of the ToBI system are detailed in

publications by Silverman et al. in 1992 and Pitrelli et al. in 1994 (Bechman and Elam,1993:2)

The ToBI system is a system that connects the speech signal, specifically the fundamental frequency contour, with textual information. The system consists of four text tiers.

Firstly, there is the orthographic tier, which represents the orthographic form of words. In English, this means a straightforward transcription of all words in the utterance.

Secondly, there is the break-index tier, which uses a five-step scale to describe how breaks are interpreted.

The tone tier is the third tier, indicating pitch events as tones. This pertains to boundaries in intonation (phrasal tones) and emphasis on syllables (pitch accents). Intonation or intermediate phrases are assigned relative L (low) and H (high) phrasal tones. Intonational boundaries are indicated by the symbol '%' for a boundary tone. For instance, a weak ending intonation tone is denoted as 'L%'. Hyphens indicate intermediate phrase boundaries connected with an intonational boundary, while pluses indicate those not connected. Tone target syllables are indicated with a star "*". Unstressed syllables remain unmarked. Finally, there is the miscellaneous tier, which can be used for any other additional textual information or comments (Bechman et al. 1993).

3. Arabic Prosodic and Intonational properties

3.1 prosodic features

Prosodic features refer to the characteristics of speech that go beyond individual sounds and words, highlighting the rhythm, melody, pitch, and stress patterns that affect intonation, timing, and expression. These features encompass elements like pitch contour, pause duration, pitch accents, and stress patterns. Prosody is essential for conveying meaning, emphasis, and emotion in speech, making it a key component of both understanding and producing spoken language.

3.2 intonational properties

3.2.1 stress

Arabic is a language that emphasizes the word stress. This indicates that a single syllable in a content word is seen as emphasized and given primary stress (Watson, 2002:79). Per Rossi (1939: 8, cited in Rabin 1951: 103–4) believes that stress placement in a sentence is influenced by factors like the importance of the utterance, the word's position in the sentence, and the emphasis on the word itself. According to Naim-Sanbar (1994), stress in connected speech changes consistently for emphasis, pauses, genitive phrases, and following the definite article.
Alani (1970:87) explains that stress indicates how power is divided among the syllables in every spoken word or phrase. Sentence stress changes depending on the importance given to specific words in a sentence (Khalil, 1999:30).

3.2.2 phrasing / pause

A pause is a prosodic feature that refers to a temporary break or interruption in speech. Pauses play an important role in communication as they help to organize and structure utterances, indicate phrasal boundaries, and allow for turn-taking in conversations. Pauses can vary in duration and are influenced by factors such as the speaker's intention, linguistic context, and speaking style. They are often marked by a complete cessation of sound or a short period of silence. Pauses, along with other prosodic features such as intonation and rhythm, contribute to the overall meaning and expression of spoken language.

The language's sound patterns have two types of pauses - a final pause, represented by / ↑/ when the pitch rises and by / ↓ / when it falls, and a non-final pause, represented by / → /. The final pause is easily identifiable because it signifies the completion of a statement and is characterized by specific intonation patterns. These patterns vary depending on the type of statement. For example, in a declarative statement, the final pause is depicted on

spectrograms by a descending glide. The length of this glide is shorter when individual words are spoken compared to when phrases and sentences are spoken. The non-final pause, which indicates hesitation or incompleteness in an utterance, is typically shorter in duration compared to the final pause. It is represented by a level line on spectrograms, although in some instances, there may be a slight upward or downward glide. However, this subtle glide does not hold any significant meaning. If an utterance does not have a non-final pause, it is considered a "simple utterance" as it consists of a one-breath group. On the other hand, if an utterance includes one or more non-final pauses, it is categorized as a "complex utterance" as it is made up of more than one-breath group (Al-Ani, 1970: 91).

3.2.3 Tone, Pitch and Rhythm

The tone of voice refers precisely to the way we utter utterances. The contributed elements of tone voice are pitch range, tempo, and loudness, which are locally related to the rhythm and intonation of speech. The tune exhibits numerous small alterations in pitch, tempo, and volume. Similarly in speech, we observe variations in the intonation pattern along with other paralinguistic features such as pitch, tempo, and loudness. These variations may be influenced by societal norms, which can change over time and differ among different social groups, this can be compared to returning a musical scale from a slower to a faster tempo (Knowles, 1987:207-208)

Rogers(2000,96) states that pitch is the sound we perceive when playing two piano notes. In speech, we can change the pitch of our voice by altering the rate at which our vocal folds vibrate. The faster they vibrate, the higher the pitch. There are a number of factors that affect the pitch of a person's voice, but the primary one is the tension of their vocal folds. When the vocal folds are tightened, the pitch of the resulting sound is higher. In fact, adjusting the tension of the vocal folds is the typical method for producing changes in pitch during speech. Additionally, when more air is pushed out of the lungs, the pitch tends to

increase, meaning that emphasized sounds often have a higher pitch. Pitch variations are also influenced by changes in the position of the vocal folds that occur with different types of phonation. For example, creaky voice typically has a low pitch and a distinct vocal quality. Pitch variations in speech can convey a wide range of information. Some of this information pertains to the personal characteristics of the speaker, just like other aspects of speech sounds. For instance, pitch usually signals whether the speaker is male or female and can also suggest their age to some degree. Additionally, pitch conveys significant nonverbal cues about the speaker's emotions, indicating if they are calm, angry, or happy (Ladefoged and Johnson, 2011: 245).

Rhythm refers to the occurrence of noticeable events at consistent time intervals. It can be observed in various phenomena such as the rhythmic pattern of a heartbeat, the flashing of a light, or the structure of a musical composition. People have frequently asserted that English speech possesses a rhythmic quality, which can be perceived through the regular occurrence of stressed syllables (Roach,2009:107). Carr (2013,113) indicates that humans speak rhythmically, incorporating regular beats into their speech. These beats can be heard in an English sentence like "The man went to the bar.". In phonology, meter refers to the rhythmic structure of language, specifically the arrangement of stressed and unstressed syllables. It is the pattern of beats or stresses in a line of verse or speech.

It is important to indicate that, Arabic speech is rhythmical due to it having a rich musicality and rhythmic structure that is inherent in its pronunciation and grammar. Arabic relies heavily on patterns of stress, length, and intonation, which contribute to its rhythmic quality. These patterns are important for proper pronunciation and comprehension of Arabic words and sentences. Arabic poetry, in particular, is known for its complex and intricate rhythmic patterns. Classical Arabic poetry follows strict rules of meter, where each line consists of a specific number of syllables arranged in a specific pattern. In addition to poetry, everyday spoken Arabic also exhibits rhythm and musicality. The language contains

a variety of vowel sounds, consonant clusters, and patterns of stress and intonation that contribute to its rhythmic nature. Native speakers of Arabic often emphasize the melodic and rhythmic aspects of the language when speaking naturally.

4. Literature Review

A doctoral thesis is conducted in (1980) by Janet Pierrehumert, improves a framework for representing English intonation, detailing possible tunes aligned with diverse texts. It describes guidelines for transforming basic forms into spoken sounds, representing melodies as organized sequences of L and H tones produced by a grammar with a finite number of states. These strings include pitch accents aligned with stressed syllables, and two additional tones marking the phrase end's intonation. Local context-sensitive rules convert tone strings into quantitative values for the fundamental frequency contour. A proposed transform for the frequency domain, based on experimental data, aims to linearize these rules. The study argues that seemingly nonlocal intonational features derive from local rules, offering evidence and reviewing other experimental results within the proposed framework.

Another research conducted by Pirker et al., (1997) examines creating a system for phonetically describing intonation patterns in German, focusing on the difficulty of converting theoretical phonological concepts into practical phonetic models. The study explores the ToBI notation system and the autosegmental model of intonation contours, providing valuable insights into the modeling of intonation in speech synthesis systems. The paper also discusses design options and evaluation methods for translating abstract phonological representations of intonation into concrete phonetic models. The study concludes that further investigations are needed to develop a model that takes into account the voicing characteristics of syllables to specify peak positions and the possible interaction of pitch with duration and intensity.

The ToBI system helps specify intonation patterns in German by offering a standardized way to phonologically describe intonation structure. In the autosegmental model of intonation contours, ToBI describes a series of high (H) and low (L) target tones, enabling the depiction of different intonation patterns in German. This program consists of different tones like regular peak accent (H*), sharp rise within the stressed syllable (L+H*), peak shifted after the stressed syllable (L*+H), low valley accent (L*), descending accent (H+L*), low boundary tone (L%), and high boundary tone (H%). Through the use of ToBI, scholars, and professionals can accurately depict and examine the phonetic features of intonation in German, offering a consistent structure for exploring and understanding speech intonation patterns.

In (2007), Frota et al. conducted a study that offers a thorough examination of the phonetics and phonology of intonational phrasing in five Romance languages/varieties: European Portuguese, Standard EP, Northern EP, Italian, and Northeastern Peninsular Spanish. The investigators analyze how syntactic and prosodic elements affect where intonational boundaries are placed in wide-focus declarative sentences with a subject, verb, and an object. Eight boundary cues are recognized, revealing that the phonological characteristics of intonational boundaries in Romance languages include a prevalent use of the H boundary tone as a pitch accent choice and distinct groupings based on combinations of nuclear accent and continuation rise/sustained pitch configurations. The phonetics of intonational boundaries shows a comparable scenario: the selection of nuclear pitch accents significantly influences HBT scaling in all languages, with HBT being raised after an accentual H, while the other factors examined divide these languages into the exact same two categories. In general, there is a difference seen between the Catalan-Spanish group and the European Portuguese-Italian group.

5. The Hypotheses of the study

The present study is based on the following hypotheses :

1. Speakers concentrate on altering the tones they use to attract the listener's attention.

2. Manipulating the pitch in speech helps to draw emphasis to specific words.

3. Speakers employ intonation and other prosodic aspects, such as stress, tone, pitch, rhythm, and pauses, to enhance the aesthetic nature of their utterances.

6. objectives of the study

The present study aims at :

1. Investigating the importance of the prosodic elements to focus on the vital parts of the utterances.
2. Analysing the variation in pitch range to determine the level at which it can indicate the speaker's emotional state.
3. Investigating how prosodic features which are pitch, tones, and pauses, can effectively communicate specific emotions or situations.

7. Methodology

7.1 Introduction

The pitch of the voice or utterance used in speech production is referred to as the intonation of a voiced sound. In connected speech, the speaker's pitch constantly changes, either rising or falling. These variations in intonation can be described as "tunes," "patterns," or "contours." People have a wide range of intonation, as their speech often involves both higher and lower pitches.

There is a wide variety of intonation , in view that , when people speak, their intonation often touches both higher and lower levels. Precisely, the present study concentrates on two-fold main goals . First it aims at analyzing the variation of falling/rising pitch ranges , rhythm , tones and pauses in uttering or reading an Arabic poem . Second, it intends to explore the impact of prosodic features in reflecting the personal emotion of the poet and the power of utterances while reading/reciting the poem to show the aesthetic nature of poetic language.

7.2 Abdul- Razzak Abdul- Wahid's Biography

Abdul- Razzak Abdul- Wahid is an Iraqi poet. He was born in Baghdad to Sabian's parents in 1930 and died in France in 2015. He lived in Maysan where he spent his childhood and early youth there moving between rivers and the beautiful nature that he loved. In 1945, he wrote his initial poem and in 1950, he released his first collection of poetry. Across his writing career, he created over 42 combinations of poems and two poetic dramas. Among those, he had a preference for 10 combinations that were targeted towards children. Additionally, he continued to write during the Iraqi-Iranian war. He completed his education at the School of Education in 1952 and worked as a teacher for some time. After that, he held the position of Associate Director at the Academy of Art in Baghdad.

He received numerous honors and awards throughout his career. For instance, he was honored with the prestigious Medal of Pushkin during the World Poetry Festival. In 1979, he was awarded the Shield of Cambridge University. Additionally, in 1986, he received the Medal of Golden Poem at the World Poetry Festival in Yugoslavia. He also won the first prize at the World Poetry Festival in Yugoslavia in 1999. In 2008, he was presented with the Shield of Damascus by the Minister of Culture. Furthermore, he received several other honors from the Iraqi government during the previous government regime https://peoplepill.com/amp/people/abdul-razzak-abdul-wahed .

7.3 The procedures

In order to conduct a phono-stylistic study, the researchers adhere to the following steps:

1. Recording the data for the study which is represented by an Arabic poem titled "In the Rehaab of Al-Hussein" by the Iraqi poet Abdul- Razzak Abdul- Wahid. This recording is done using the YouTube app.
2. Analysing the data by breaking the poem down into individual utterances. To do this, the researchers utilize a software computer program called Sound Forge Pro Suite, specifically version 14.0 from the year 2020.
3. Transcribe the utterances by following Arabic phonemic Symbols IPA .

4. The next step involves a phonetic analysis of the utterances using a software computer program called Pratt(doing phonetics by computer) using version 6.1.16 from the year 2022.
5. To explore the stylistic aesthetics of reading poetry, the researchers employ the internal TOBI (Tone and Break Indices) tool within the Pratt software. This valuable tool is used to analyse the intonational features; the tone inventory according to ToBI involves phrasal tones and pitch accents as follows :

Table (1) ToBI Tone Label

Basic Tones	***Symbols***	***Interpretation***
Phrasal Tones	**H%** **L%**	High or low boundary tones refer to intonation phrase boundaries
	L-L%	Combining phrase accents and boundaries which mark a very low point in the speaker's pitch range
	L-H%	Signaling a low tone and then immediately followed by a high boundary tone
	H-H%	Boundary tone which indicates an extremely high point in the speaker's pitch range
	H-L%	Marks (upstepping) of a low boundary tone to the high level which causes (plateau contour)
	%H	Indicates a High initial boundary tone
Pitch Accents	**H***	(peak accent) , indicates the speaker's extra high pitch range
	L*	(Low accent) marks the lowest point of the speaker's pitch range
	L* + H	(scooped accent) refers to a low tone that immediately follows a rising tone to the upper point of the speaker's pitch range
	L + H*	(rising peak accent) showing a prominent peak that is immediately preceded by a rise from a valley in the lower point of the speaker's pitch range
	H + !H*	Marking a clear step-down. The ! diacritic marks the following high tone is [1]down-stepped

[1] In the ToBI system, downstep refers to a phonologically induced reduction in pitch range, causing a lowering of F0 targets for H tones that follow a downstep trigger(Beckman and Ayers,1994,p. 24)

6. The break index tier in prosody annotation assigns a numerical value (0-4) to the boundary at the end of each word, indicating the perceived degree of separation between words, as shown in (Breen,2007:11):

- "0": This indicates a very tight connection between words, typically seen in fast speech or cliticization processes (e.g., "didja" for "did you").
- "1": Represents a small degree of separation, commonly found at phrase-medial word boundaries.
- "2": This index has a special function and indicates a mismatch between tonal movement and perceived disjuncture. It can either signify:
    - A large degree of separation without a tonal mark, comparable to a "4".
    - A small degree of separation where a tonal boundary is expected but not present, comparable to a "1".
- "3": Indicates a moderate degree of separation, corresponding to a minor phrase boundary. This index is obligatorily used when a phrase accent is present on the tonal tier.
- "4": Denotes the highest degree of separation, corresponding to a major phrase boundary. This index must be used when a boundary tone is labeled on the tonal tier.

Whenever a phrase accent or boundary tone is present, break indices "3" and "4" must be used, respectively, regardless of the perceived degree of separation. Break Index "2", this index specifically highlights a discrepancy between the tonal and disjuncture information, marking either a strong separation with no tonal mark or a weaker separation than expected at a tonal boundary.

7.4 Data Analysis and Discussion

The study focuses on illuminating prosodic features while reading a text. Researchers divide the text into intonational phrases to identify natural breaks in speech where the speaker takes a breath or changes the direction of the tones. Declination refers to gradually decreasing and narrowing the pitch range within an intonation phrase. This often occurs in longer and more intense phrases. Specific tonal instructions do not cause it but rather influence how those instructions are translated into actual pitch values. Understanding

declination is important for a main reason. It is necessary for accurately modeling F0 contours and explaining how listeners perceive tonal values and prominence relations based on the F0 they hear. It is known that listeners take declination into account when judging the relative height of high tones (Pierrehumber, 1980:116). as it is clear in the following analysis, in table (2):

Table (2) Tone tires of the 1st stanza

No. of Intonational phrases	Description of Tones Tiers			F0 Hz	Intensity dB
1	H-L% 1			139	53.41
2	L-L% 4			92.77	59.54
3	L* 4	H* 4	H+!H* 1	143.2	67.74
4	%H 1	H% 1	L% 3	134	
5	L+H* 1	L% 1			62.12
6	H-L% 4			230	66.56
7	H-L% 4			169.6	67.67
8	L* 3 89Hz	H+!H* 4 187Hz		133	60
9	L% 3 160Hz	H-H% 4 190 Hz	L-L% 4 114Hz	171.7	71.4
10	%H 1 153Hz	H* 1 196Hz	L* 3 118Hz	152.4	65.91
11	L* 3	L* +H 0		84.33	62

12	L% 3	L+H* 3	129	62.14

The first verse's analyzed data start with a high tone H and concludes with a low boundary L%. The examination of the increasing pitch explains how a high boundary can indicate "openness" or "incompleteness" while a low boundary indicates conclusiveness. The breaks indices labeled as 1 in the first utterance indicate a minor degree of separation typically found at word boundaries within the middle of a phrase, as shown in Fig.(1).

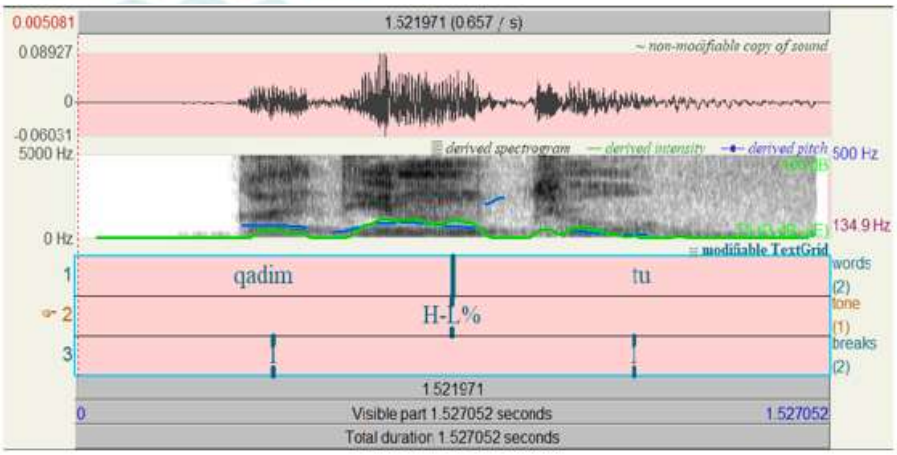

Fig.1 Pitch patterns & break indices of the 1st utterance

Nevertheless,the second statement includes a combination of phrase accents and low boundaries to emphasize and highlight the speaker's intention for the listeners to interpret and understand the message through a lower pitch range. The third utterance incorporated two phrases with pitch accents, one featuring a scooped accent representing a low tone following a rising tone, while the other pitch accent signifies a distinct decrease in the speaker's pitch range.The break indices of the third utterance, marked as (4) indicate a greater degree of noticeable separation between words, and another break indices label as (1) for the complex tone H+!H* indicate a minor disjuncture between words, as shown in Fig.(2).

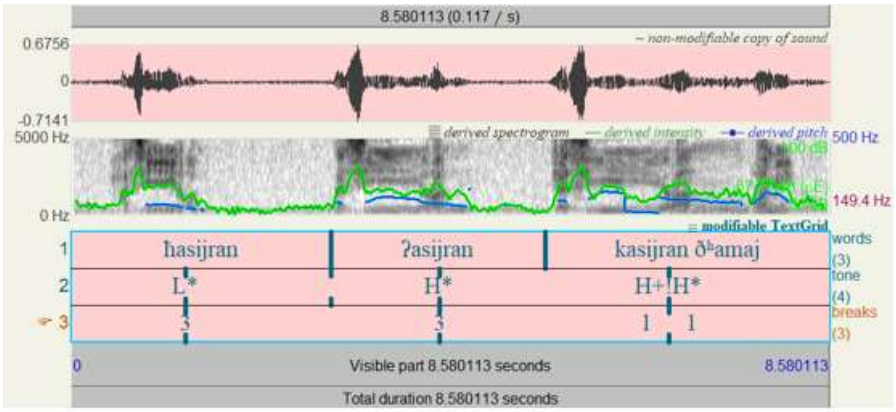

Fig. 2 Pitch patterns & break indices of the 3rd utterance

It should be noted that the 5th, 8th, 9th, and 11th utterances begin with complex pitch

patterns like L +H* and L*+H, along with a low-pitch accent. The transition from a low pitch to a higher pitch is quite evident. The significance of such tones that the speaker utlises when reading aloud is to convey a particular meaning or make listeners attentive to the contexts of utterances. The sequence of the intonational patterns of the following utterances (4^{th}, 6^{th}, 7^{th}, and 10^{th}) begin with H tone and are immediately followed by either another H tone or a prominent higher tone H*.

Both the sixth and seventh utterances signal an upstepping pitch range of a low boundary tone to the high level. The utterance NO. 10 starts with a high initial phrase tone and rises upwards (peak accent) to indicate the extra high of the speaker's pitch range, and then ends with a low accent that shows the lowest point of the speaker's pitch range. The analysis of the above utterances clarifies the use of a complex tone, a tone jumps from a low / falling tone to a rising one, paving the way for the speaker to be in the same level of uttering to begin the sixth utterance with a higher tone. The analysis decloses that a complex tone with the tonic group of the eighth utterance as L* H+!H* marks a curve from the lowest point up to a higher one to denote an interpretation of finality, a feeling of depression to move up to a feeling of seriousness and enthusiasm.

The variation of the pitch movements with reciting the verses of the first stanza, generally refers to the speaker's intention to attract the listener's attention to interpret specific positions and get the specified meaning that is based on the context. Most of the utterances that start with a

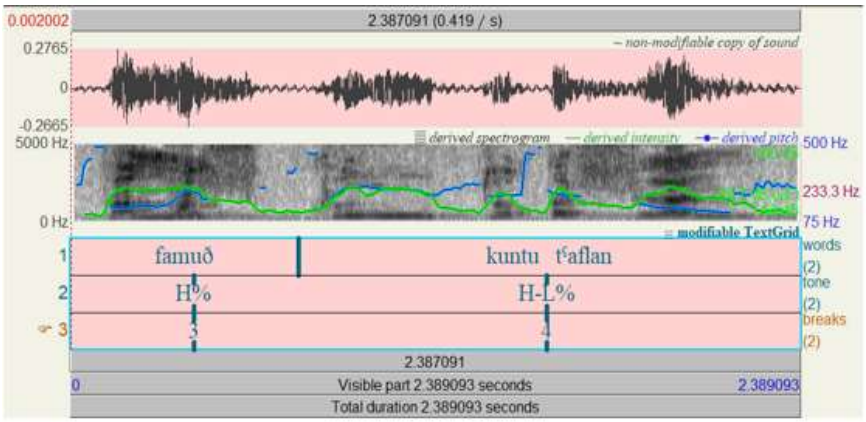

Fig.3 Tones & break indices of the 6th utterance

higher tone to indicate openness or as a pinpoint for a specific topic till it ends with a low tone which denotes finality have break indices as (3 & 4) to illustrate a moderate or a higher degree of separation between words.

The results of the analysis of the second stanza show the manipulation of intonational patterns and break indices, as follows in Table (3):

Table (3) Tone tires and break indices of the 2nd stanza

No. Intonational phrases	Description of Tones Tiers & Breaks Indices		F0 Hz	Intensity dB
13	L+H% 4 115 Hz	H-H% 3 173Hz	153.1	79
14	H+!H* 3	L+H* 3	199.8	83.79
15	%H 1	H+!H* 0	200.8	85.4
16	H-L% 0	L% 0	201.3	75.84
17	H% 3	L-L% 3	103.7	64.24
18	%H 3	H-L% 3	262	67.61
19	L-H% 4	L-H% 4	221.2	72.97
20	%H 1	H-L% 1 3	179.7	74.15

The analysis uncovers that most of the tones sequences of the utterances that are read aloud by the poet start with a high tone followed by a high prominence tone.

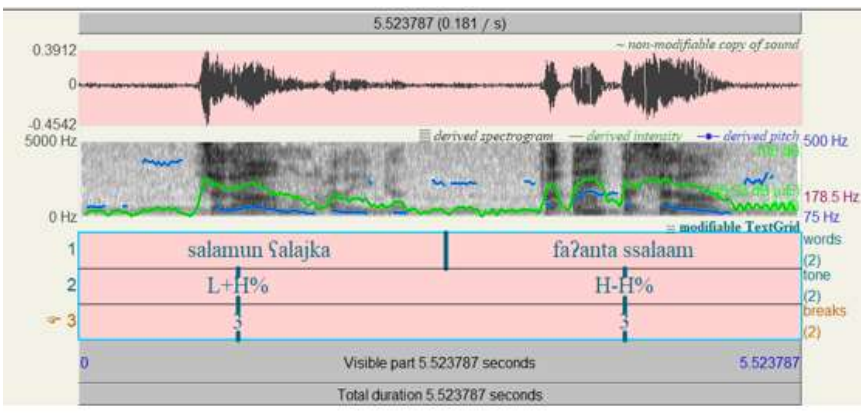

Fig.4 Tone tires & break indices of the 13th utterance

The utterances 13th&19th begin with L+H% boundary tone to indicate the importance of the

situation that is described in the poem about the Great Man (Imam Hussein) who is the topic of the description in the poem, to step up to the most prominent higher pitch, within break indices labelled as (4) denoting a grater disjuncture between words. The following figure is a selected sample for some analysed utterances:

It illustrates that the first part of the utterance has a pitch accent of H+!H* indicating a stepping-down tone within disjuncture labels (1 & 3) denotinga a minor to a moderate degree of separation between words; the second part of the utterance has a pitch accent as L+H* and disjuncture marks as 3 as well.

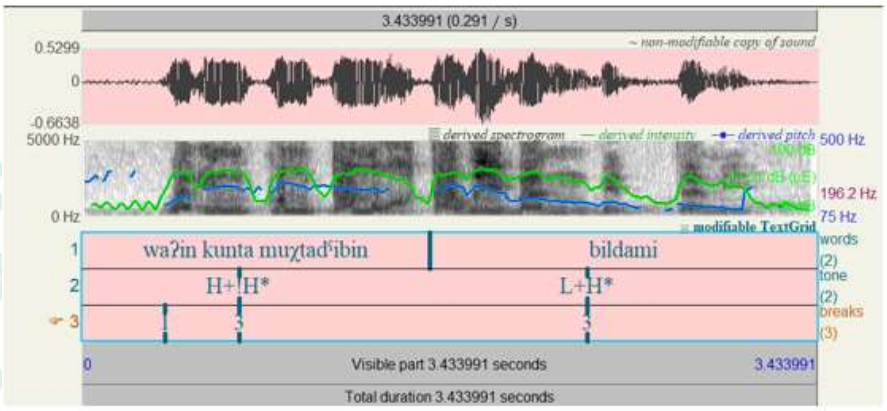

Fig.5 Tone tires & break indices of the 14th utterance

The results of the analysis of the third stanza display the variation of the pitch range and the break indices as well, as shown in table (4):

Table (4) Tone tires and break indices of the 3rd stanza

No. Intonational phrases	Description of Tones Tiers		F0 Hz	Intensity dB
21	L% 1 105Hz	H-L% 3 154.18 Hz	120.8	73.02
22	H% 4 140 Hz	L% 3 68Hz	101.1	68.08
23	H-L% 4		200.8	74
24	L*+H 3	L*+H 0	202.6	73.77
25	L% 3 189Hz	L+H* 4 220 Hz	207.8	71
26	H-H% 3 233Hz	H-H% 3 244Hz	241	72

27	H-L 4	L% 3	137.1	69
28	L% 3	L-L% 4	92.38	58.51

The results show that the first utterance begins with a low boundary tones as In the utterances

No. 21, 25&28 , whereas the utterance no. 24 combines two pitch accents which begin with a scooped accent referring to a low tone of the speaker's pitch range and then immediately follows a rise to the upper level of the speaker's pitch. Such a type of tone is used to denote seriousness, emphasis or a request for attention. The speaker uses a low pitch at the beginning of the poem's third stanza to transfer a significant topic or information about the person who is the focus of the poem (Imam Hussein bin Ali bin Abi Talib "peace be upon them").

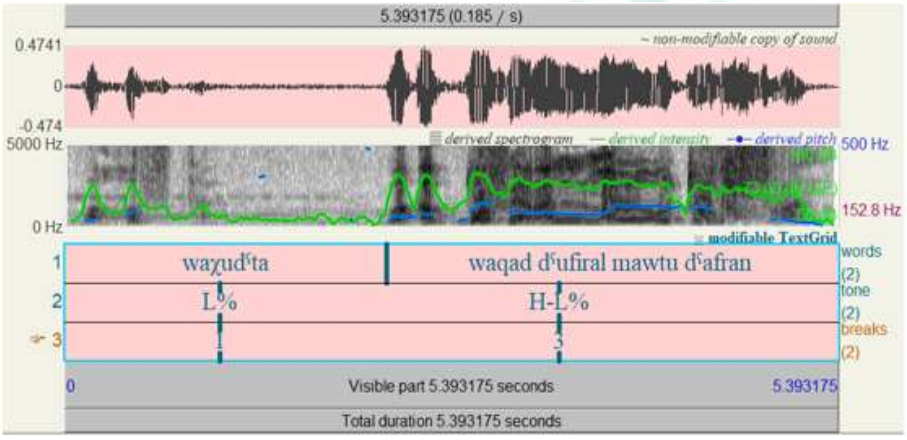

Fig.6 Pitch range & break indices of the utterance No.21

And then immediately followed by a a prominent high tone and then a complex tone which consists of a high tone and a low one, as displayed in the following sequence:

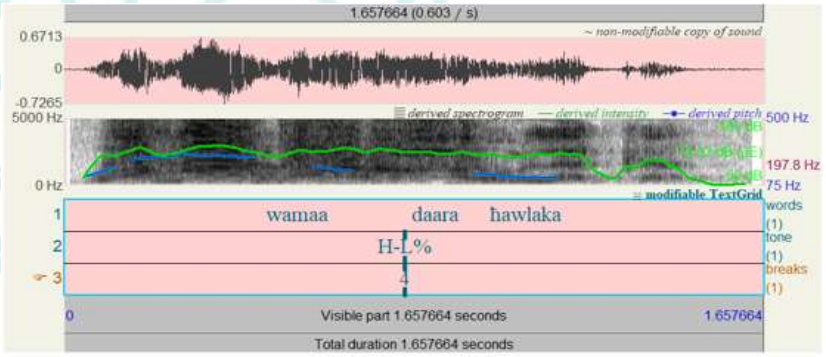

Fig.7 Pitch ranges & break indices of the 23rd utterance

L% H+L%. The subsequent tones pattrens begin with high tones;as in H% L%, H-H% ,H-L L% to indicate enthusiasm with a low tone as

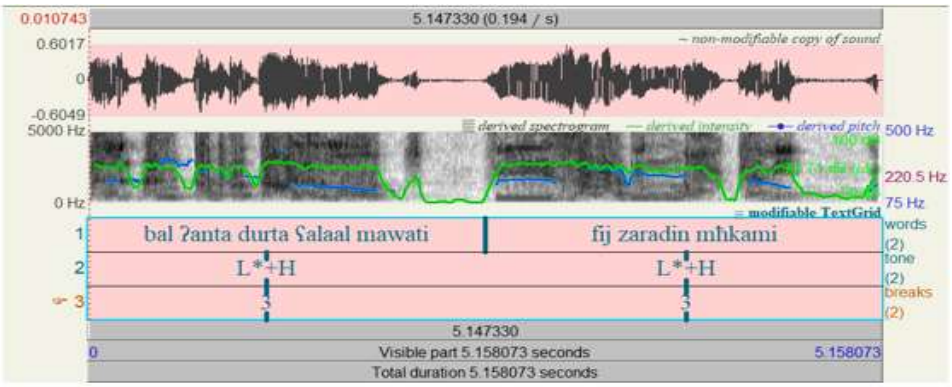

Fig.8 Pitch ranges & break indices of the 24th utterance

a closure for each utterance to denote finality. However, the speaker begins the later utterance with high tones respectively as a way of seeking confirmation of the topic he is highlighting.

The results mark using a low tone to denote the speaker's feelings of disappointend or frustration or warning and that is based on the context. The following figure that is given below clarifies the results of the analysis of some utterances in the third stanza.

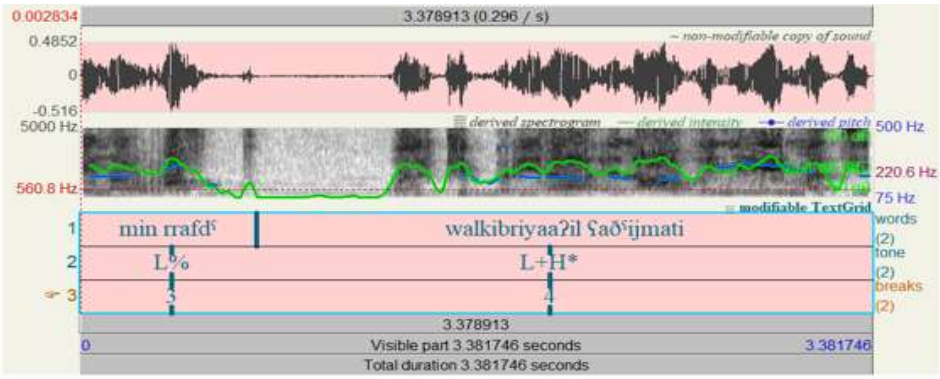

Fig.9 Pitch ranges & break indices of the 25th utterance

The results of the analysis of the tone levels of the fourth stanza are in the same line as in the former one, as shown in table (5) below:

Table (5) Tone tires & break indices of the 4th stanza

No. Intonational phrases	Description of Tones Tiers		F0/ Hz	Intensity / dB
29	H-!H% 3 131Hz	L-L% 3 116Hz	121.6	65.9
30	H% 3	H-L% 4	218.5	69.7
31	H-!H% 0		238.5	72.3
32	L-L% 0		165.9	64

The following figures represent the variation of the pitch ranges of the analysed utterances:

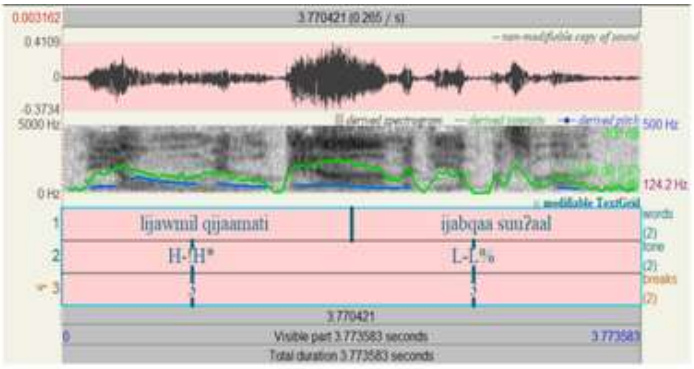

Fig.10 Pitch ranges & break indices of the 29th utterance

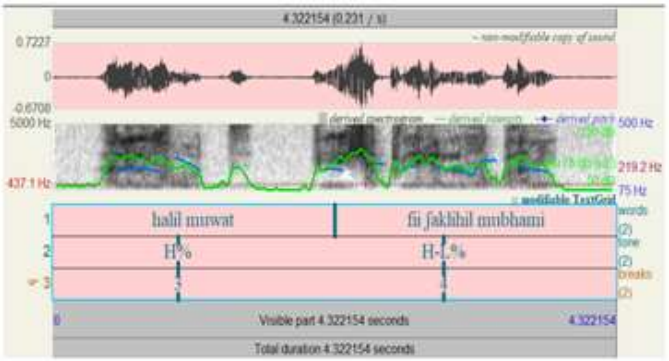

Fig.11 Pitch ranges & break indices of the 30th utterance

The analysis findings demonstrate that the pitch changes in the utterances of the fifth stanza are outlined in table (6) below:

Table (6) Tone tires and break indices of the 5th stanza

No. Intonational phrases	Description of Tones Tiers & Break Indices			F0/Hz	In tensity dB
33	L-L% 4			165.9	64
34	L-H% 3 66Hz	L% 0 56 Hz		102	64.55
35	%H 1 73Hz		L% 0 68Hz	146.8	71.8
36	H-H% 3			178.8	72.6
37	L-H% 3 237 Hz	L+H* 1 248Hz		123	71
38	L-L% 3			105	80.36
39	L* + H 3			129.92	68
40	L +H* 0			240.2	70.5
41	H – L%			112.9	69

	4		
42	L-L% 3	94.77	62.6

The analysis shows that the first utterance begins with a complex phrasal tone involving L-L% to convey a request for attention and then followed by another low tone within a disjuncture signal as (4), and then immediately followed by a complex boundary tone as in the utterances (34) L-H% L% within breaks indices labelled as (3 & 0) indicating a shift from moderate speed to fast speech rate as in tight connection between words. The pitch tiers of the utterance (35) are %H L% to indicate enthusiasm and as usual end with a low tone, within a disjuncture (1 &0) indicating a small separation to express a fast speech rate. The rest of the utterances of this stanza are accentuated by high, elevated pitches. These noticeable high tones are set apart from the previous ones.

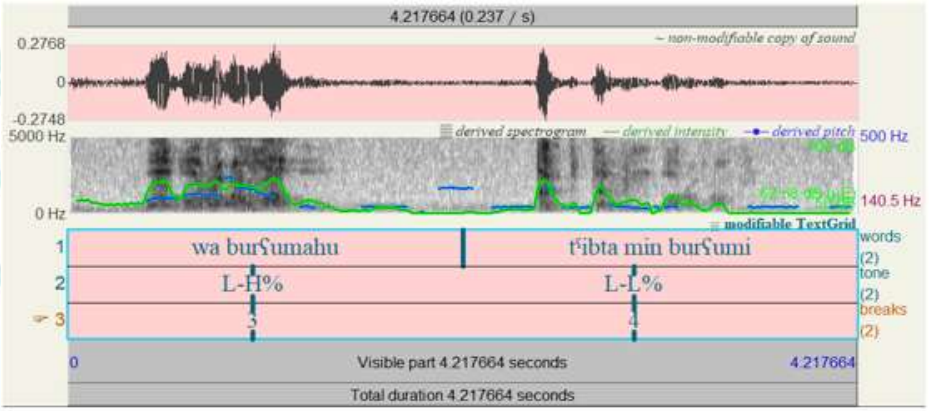

Fig.12 Pitch ranges & break indices of the utterance No.35

The presence of prominent high tones indicates that the speaker aims to highlight the most crucial aspects of the message. The following figure portrays the pitch patterns and break indices of the analysed utterance.

The analysis results, as previously displayed in both the table and figures, reveal pauses occurring in the middle of the spoken utterances. These pauses are considered non-final and serve to signify that the information is not yet complete, drawing attention to the importance of the forthcoming details.

The results of the analysis show the tone tires and breaks indices of the sixth stanza, as follows:

Table (7) Tone tires of the 6th stanza

No.	Description of Tones Tiers & Breaks	F0/Hz	Intensity

Intonational phrases	Indices			dB
43	L* + H 3		138.6	70
44	H-L% 4		188.43	71.3
45	L*+H 3	L+H* 0	217	71
46	L+H* 0	L% 0	187.9	71
47	L +H* 0		178	62.47
48	L*+H 3 187Hz	L+H* 0 235Hz	216	74
49	L+H* 0 189.6 Hz	L* 1 122Hz	171	68.54
50	L+H* 0 145Hz	L* 1 107Hz	128.48	65

The results show that the first and last utterances begin with a low ton L, within break indices marked as (1) to indicate emphasis and spontaneously denote a signal of respect because the main theme of the poem is praise and lament of a great man who is (Imam Hussein bin Ali bin Abi Talib)(peace be upon them)

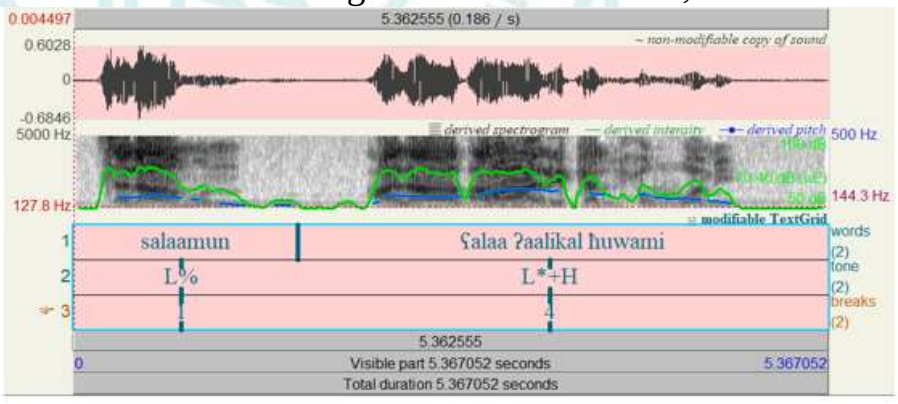

Fig.13 Pitch ranges & break indices of the utterance No. 43

Due to that, all the utterances cover the widest pitch range. It is observable that each utterance has a tonic group, a

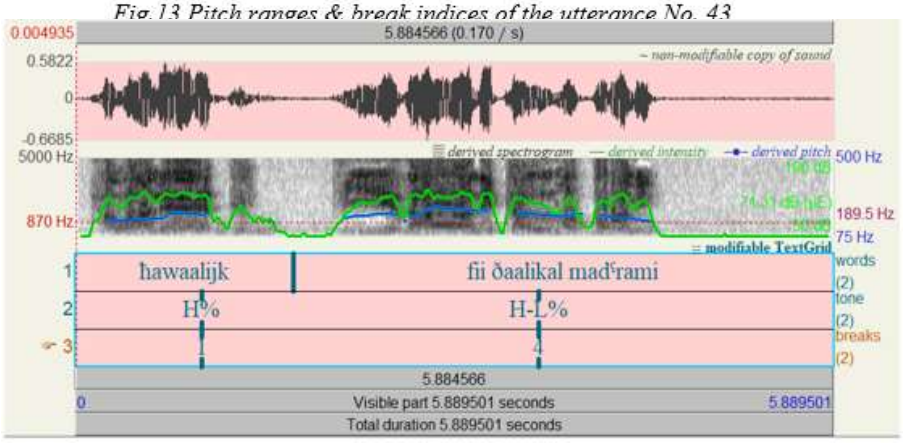

Fig.14 Pitch ranges & break indices of the utterance No.44

sequence of tones either starts with L boundary tones or H boundary tones, within disjuncture labels (1) indicating a small degree of separation, that is based on the context of the events description.

The figures13&14 that have been mentioned represent the transition of pitch range and break indices in the production of the utterances of the sixth stanza.

The following results in table(8) represent the variation of the tone tires and break indices of the last two verses, as shown below:

Table (8) Tone tires and break indices of the last two verses of the poem

No. Intonational phrases	Description of Tones Tiers & Breaks Indices	F0/Hz	Intensity dB
51	H-H% H-L% 3 3	249.22	73
52	H% L% L* 1 1 3	107.9	64.75

The researchers specifically examine the final two verses of the last stanza of the poem, highlighting the pitch changes, and disjunctures between words. The findings reveal that both utterances start with complex boundary tones. The utterance No. 51which is H-H% and H-L% with break indices signals as (3) respectively, is employed to signify a peak in the speaker's pitch at an exceptionally high level.

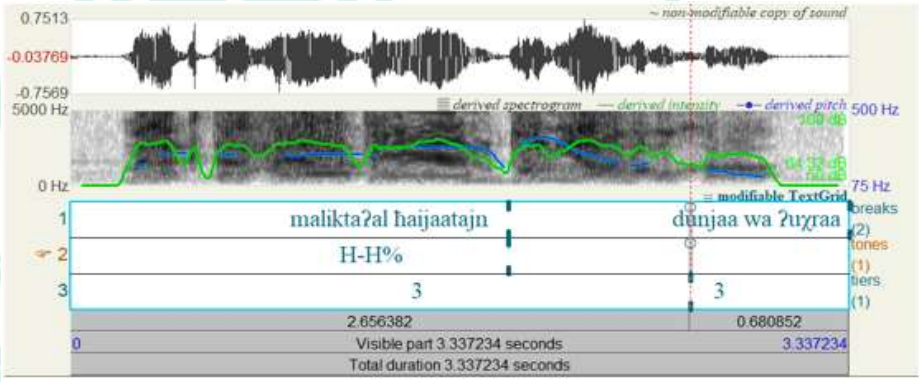

Fig.15 Pitch variation & break indices of utterance No. 51

On the other hand, the utterance No. (52) which is the last line of verse in the poem ends with a

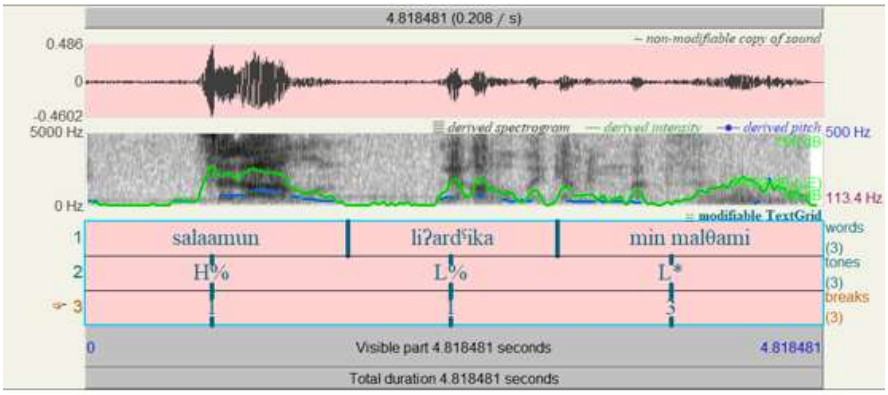

Fig.16 Pitch variation & break indices of the utterance No.52

combined phrasal tone which is L -L%, within disjuncture labels as (1 and 3) to denote an extremely low pitch in the speaker's range, and with a minor and moderate

separation between words that the poet uses to reveal finality. Throughout the poem, the speaker consistently begins most of his utterances with a high pitch and moderated disjuncture to convey enthusiasm and admiration for the great man being praised and concludes with a low pitch to signify finality, dignity, and deep respect for the lamented individual in the poem.

9. Conclusion

In summary, the examination of the intonation and prosody in Abdul- Razzak Abdul-Wahid's poem /fii riħaab ʔal-ħussaajn/ (In the Rehaab of Al-Hussein) offers valuable insights into the complexities of Arabic poetry. Through the application of the ToBI system and the exploration of elements like pitch, tones, and breaks/ disjuncture. The analysis reveals how these features effectively communicate specific emotions and scenarios within poetic expression. The consistent use of high and low pitches to convey feelings such as enthusiasm, admiration, finality, and respect throughout the poem demonstrates the poet's adept manipulation of intonational patterns to evoke diverse sentiments in the reader/listener, and the numerical values from (0-4) reflect the break indices indicating the perceived degree of separation between words. This study does not only enrich our comprehension of the aesthetic aspects of poetic language but also emphasizes the significance of intonation in conveying the poet's intended message and emotional depth.

Exploring the intonational boundaries in Abdul- Razzak Abdul- Wahid's poem /fii riħaab ʔal-ħussaajn/ through the ToBi system reveals the poet's purposeful integration of prosodic elements to shape a vivid and emotionally evocative poetic experience. Through the analysis of pitch contours, phrasal tones, pitch accents, and breaks indices within the poem, The researchers can identify the subtle fluctuations in intonation that enhance its aesthetic structure. Through the investigation of pitch, tones, and pauses, the study uncovers how these prosodic elements interact to effectively convey specific emotions and scenarios. The poet's deliberate incorporation of ascending and descending pitch ranges, along with strategically placed pauses and tonal modulations, elevates the poetic expression and communicates the intended mood and sentiment of the piece.

References:

Al-Ani,S. H. (1970). Arabic Phonology. DE GRUYTER

Beckman, M. & Elam, G. (1997). Guidelines for ToBI Labelling. https://docplayer.net/8594926-Guidelines-for-tobi-labelling-version-3-0-march-1997-by-mary-e-beckman-and-gayle-ayers-elam.html

Beckman,M. & Hirschberg,J. (2005) . The original ToBI System and the Evolution of the ToBI Framwork. The Ohio state University.

Breen,M.E. (2007). The Identification and Function of English Prosodic Features. [published Doctor Dissertation] .Hampshire College

Carr, P. (2013). English Phonetics and Phonology: An Introduction.WILEY-BLACKWELL

Frota, S., D'Imperio, M. , Elordieta, G. , Prieto, P. & Vigario, M. (2007). The Phonetics and Phonology of Phrasing in Romance . John Benjamins

Khalil, A. M. (1999). A Contrastive Grammar of English and Arabic . Bethlehem University

Knowles,G. (1987). Patterns of Spoken English: An Introduction to English Phonetics. LongMan

Ladefoged,P. &Johnson, K. (2011). A course in Phonetics. Heinle

Pierrehumbert,J.B.(1980). The Phonology and Phonetics of English Intonation. [published Doctor Dissertation] . Harvard University

Pirker,H. , Alterk,K. , Rank, E. , Matiasek, J. , Trost,H. & Kubin, G. (1997). A System of Stylized Intonation. Contours in German . https://www.researchgate.net/publication/2625614_A_System_of_Stylized_Intonation_Contours_in_German

Rabin, C. (1951). Ancient West-Arabian . Taylor's Foreign Press

Roach,P. (2009). English Phonetics and Phonology. Cambridge University Press

Rogers, H. (2000). The Sounds of Language: An Introduction to Phonetics. Routledge

Stockwell, P. & Whitely,S. (2014). The Cambridge Handbook of Stylistics. Cambridge University Press

Watson, J. (2002). The Phonology and Morphology of Arabic . Oxford University Press