

A Phonological Metrical Investigation of Two of Ezra Pound and Bruce Ross's Haiku Poems with Reference to Hayes's (1995) Parametric Metrical Theory

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Abstract:

Since its emergence in 1970 up to the present time with its different versions, metrical theory has been used and applied to different texts in different languages. However, Bruce Hayes's parametric metrical theory has been proved to be universal through its application to the word and phrasal levels of many languages. By the metrical grids and a number of principles and parameters of this theory, the rhythmic pattern of stressed syllables, feet, words, and phrases can be demonstrated. The present study aims at answering the following two questions: is the parametric metrical theory applicable to show the rhythmic structure of haiku poems? Despite the cultural difference, how far does the English haiku resemble the Japanese haiku in the subject matter it describes? A haiku is a poem that descends from the Japanese poetry with three lines in 5-7-5- syllables respectively and mostly talks about a moment in nature. Many of the English poets started to write poems in a traditional haiku form. Some others, however, made some modifications with different numbers of lines and/or syllables. This study analyzes four haiku poems according to the parametric metrical theory, two of which are written by the American poet Ezra Pound in a modified haiku form, and the other two are written by the Canadian American poet Bruce Ross in the traditional form. The paper reached the following findings: the parametric metrical theory is applicable on the haiku through the former metrical grid with its stress alternation and subscription to metrical rules. To sum up, the theory proved its applicability in showing how the horizontal rhythm of the haiku lines can be demonstrated through the metrical grids via the stress alternation in each line and by the application of some metrical rules.

Key words: parameters, haiku, metrical theory, stress, rhythm, Japanese poetry

تحقيق صوتي متري لاثنتين من قصائد الهايكو لكل من الشعارين عزرا باوند وبروس روس بالإشارة إلى النظرية المترية البارامترية لهيز سنة ١٩٩٥

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المخلص:

منذ ظهورها في عام ١٩٧٠ وحتى الوقت الحاضر بإصداراتها المختلفة، تم استخدام النظرية المترية وطبقت على نصوص مختلفة بلغات مختلفة. وقد اثبتت النظرية البارامترية المترية لبروس هايز للعام ١٩٩٥ عالميتها من خلال تطبيقها على مستويات الكلمات والعبارات في العديد من اللغات وذلك من خلال الشبكات المترية وعدد من المبادئ والقوانين لهذه النظرية التي من خلالها يمكن توضيح النمط الإيقاعي للمقاطع والتفعيلات والكلمات والعبارات والجمل. تهدف الدراسة الحالية إلى التساؤل عن إمكانية تطبيق النظرية البارامترية المترية لإظهار التركيب الإيقاعي لقصائد الهايكو. الهايكو هي قصيدة تنحدر من الشعر الياباني بثلاثة أسطر في ٥-٧-٥ مقاطع على التوالي وتتحدث في الغالب عن لحظة في الطبيعة. بدأ العديد من الشعراء الإنجليز كتابة القصائد بأسلوب الهايكو التقليدي. ومع ذلك، قام بعضهم الآخر بإجراء بعض التعديلات بأعداد مختلفة من الأسطر أو المقاطع. تحلل هذه الدراسة أربع قصائد هايكو وفقاً للنظرية البارامترية المترية، اثنان منهما كتبهما الشاعر الأمريكي عزرا باوند في شكل هايكو ذو نمط غير تقليدي، والاثنان الآخران كتبهما الشاعر الكندي الأمريكي بروس روس بالنمط التقليدي لقصائد الهايكو. وعليه فقد توصل البحث إلى أن النظرية المترية يمكنها إظهار الإيقاع الأفقي لاسطر قصيدة الهايكو من خلال الشبكات المترية عبر تناوب النبر في كل سطر بعد تطبيق بعض القواعد المترية.

الكلمات المفتاحية: البارامترات، الهايكو، النظرية المترية، النبر، الإيقاع، الشعر الياباني

1- Introduction

This study is an attempt to analyze a number of haiku poems according to Hayes's (1995) parametric metrical theory to demonstrate the rhythmic patterns of stressed syllables, feet, words and phrases in each line of the selected haiku poems. The parametric metrical theory is proved to be universal by its application to literary as well as non-literary texts, as such, the present study aims at examining its applicability to the English haiku poems. The haiku is originally a Japanese form of poetry that consists of three lines with a 5-7-5 syllable pattern. However, some English poets wrote their haiku poems in the same Japanese pattern while others deviated to new patterns which differ in the number of lines or the syllables in each line.

2- What is Haiku?

The term *haiku* refers to “a Japanese verse form consisting of seventeen syllables in three lines of five, seven and five syllables respectively” (Cuddon and Habib, 1984, p.300)¹. Ross (1993) adds that

¹ This study follows the (2019) APA style format for in-text and reference documentation.

the haiku poetry had emerged in the 15th and 16th centuries and it gained its perfection during the next two hundred years at the hands of four major haiku poets: Bashô, Buson, Issa, and Ihara Saikaku (cited in Yousif, 2009, p.58). Moreover, Shiki- one of the greatest Japanese poets simply explains the nature of haiku as follows:

If the question is raised as to what haiku is, the answer is that it is a kind of literature; in addition, the unique characteristic which sets it off from other forms lies in the rhythm of 5-7-5. [That is, three divisions, consisting of five, seven and five syllables respectively.] The rhythm of 5-7-5 is surely one of the greatest elements in haiku. However, even though 5-7-5 is its most common rhythm, haiku are not necessarily limited to this rhythm. For example, if we look into the older haiku, we will find examples of sixteen, eighteen, and up to twenty-five syllables; even in a haiku of seventeen syllables there can be other rhythms beside 5-7-5. . . .We want to give the name of haiku to all kinds of rhythm. Moreover, verses widening the scope from fourteen to fifteen to even thirty syllables, may be called haiku. To differentiate these from haiku of the 5-7-5 rhythm, we may call them haiku of fifteen or twenty or twenty-five syllables or the like. (as cited in Yasuda, 1957, P.45)

According to Yasuda (1957), when Japanese poets have composed haiku for more than five hundred years, they found that it serves as a perfect instrument to embody their experiences by utterances (p.10). He continues that ever since its beginning, it was recognized as having seventeen syllables; however, there are constantly attempts to modify this form with a longer length and a different line pattern. For example, three lines with eight syllables in each line, and the like (p.44). To sum up, any poem written in the original or the modified form of haiku in any language is called a haiku. In English, the Haiku is mostly written by the

imagists poets in the early 20th century and after the World War II such as Ezra Pound, T.E. Hulme, Amy Lowell, William Carlos Williams (Encyclopedia Britannica, 2022).

Yousif (2009) argues that the English haiku -the American haiku- differs from the Japanese haiku in some points regarding the form and the substance because “the basic principles of prosody vary from language to language. Hence, it is rather impossible to attempt to reproduce in English the strict form of Japanese haiku of seventeen syllables in three lines of five, seven, and five syllables respectively” (p.71). Thus, the American poets freed themselves from the 5-7-5 system and maintained the number of the lines only. An example is Chuck Brickley’s haiku with 2-4-4 syllables in three lines:

a car
at the cliff’s edge—
the Milky Way (Yousif, 2009, p.71)

From a cultural standpoint, poets choose their subject matters in relation to their own life, circumstances, and cultural norms. In this respect, Yousif (2009) specifies the subject matter as one of the differences between the Japanese and the English (American) haiku poetry (pp.64). He comments that when the Japanese haiku is mostly interested in reflecting nature and it is based on aesthetic experience in nature, the American haiku deals with human subjects, in addition to social, erotic, psychological; and political subjects (p.74) which are part of their own culture.

3- A haiku Moment

A haiku poem represents a vehicle for offering an aesthetic image that fits the experience with its insight and meaning in which there is no sense for time as it is anti-temporal with an eternal quality. The haiku moment is 'a kind of aesthetic moment'. In this moment, the experience and the words in the poem are united as one. This sense of immediacy is created by the total implication of the words in the realization of experience. Ezra Pound described it as “the image that presents an intellectual and emotional complex in an instant of time”, and “It is better to present one image in a lifetime than to produce voluminous work” (Keene, as cited in Yasuda, 1957, p.32). Moreover, Yasuda (1957) states that the identity

between the haiku moment and the words that realize it constitutes the characteristic of this moment and it is the length of seventeen syllables that contributes to this identity (p.40). Each line of a haiku which consists of a number of syllables, as stated by Yasuda (1957), is read in one breath. During this, the soul of the reader is elevated with a rhythmic continuity then he gets a sense of a beautiful completion after pausing at the end of the verse. As such, because the number of syllables which can be uttered in one breath is between sixteen to eighteen syllables, the haiku is written in seventeen syllables that coincide with the length of the experience (pp.43-44).

4- The Three Elements in Haiku

In haiku, poets try to describe their experience about an object in a particular place and at a specific time and this is in only one breath-length's time. As this object is located in time and space, these three elements, that is to say; object (what), time (when), and space (where) are essential to give the haiku its aesthetic value. It is the relationship between these three elements which together contribute to make the experience, and which appear as one in each of the three lines of the haiku, that is basic to the haiku experience (Yasuda, 1957, pp.52-53). The words in bold represent the three elements in the following Bashô's haiku poem:

On the withered **bough**..... WHERE

A crow alone is perching; WHAT

Autumn evening now..... WHEN

For the poet, the bough, the crow, and the autumn evening are essential elements which are bound in a harmonious relationship. This relationship among the elements creates the word rhythm and flow that the poet feels (Yasuda, 1957, p.70). He further classifies two types of rhythm in a haiku poem, the horizontal rhythm and the vertical one. The vertical rhythm is represented by the tone quality of the sound of the words in haiku in addition to the patterns of stressed and unstressed syllables. The horizontal rhythm; however, is the rhythm that is measured by the number of syllables according to the flow of thought in each line (Yasuda, 1957, P.105)

5- Metrical Theory: Basic Rules and Parameters

Metrical theory started as a part of a theory of intonation suggested by Liberman's doctoral dissertation in the mid of 1970, then it was developed by Liberman and Prince in 1977 followed by Halle and Vergnaud 1978, Silckirk 1980, Hayes 1980, Halle and Vergnaud 1987 up to Hayes 1995 version which is adopted in this study. In all of its versions, the metrical theory is a theory of stress. The way of showing the hierarchical nature of stress is represented by the tree as well as the grid models. Some linguists utilized one model, some others used both. Liberman (1975) and Liberman and Prince (1977) used both models to show the hierarchical nature of stress. Hayes (1980), McCarthy (1982) and Halle and Vergnaud (1978) adopted the tree model in their metrical analysis of stress. The preference of using one model over the other is because of a feature that is absent in one model and present in another. Hayes (1995) adopted the pure grid model of Prince (1983), the bracketed grid of Halle and Vergnaud (1987) and the arboreal grid of Hammond (1984) and combined the features of the three grids with some modifications to have a grid that shares the features of the tree [the groupings] and the rhythmic structure of the grid (Jameel, 2017, p. 17, 23).

In his 1995 version of metrical theory, Hayes assumes that stress is the linguistic manifestation of rhythmic structure and the phonological properties of stress are based on four main features; culminativity i.e., each word or phrase has a syllable that bears a single main stress, for example, "in English , stress is culminative at the word level (every content word has a single strongest stress), at the level of the intonational phrase, and possibly at other levels as well" (Nespor and Vogel, as cited in Hayes, 1995, p.24). The second property is rhythmic distribution which means that there should be an alternating stress pattern between syllables bearing the same level of stress. The third is stress hierarchies indicating that there are multiple degrees of stress: primary, secondary, tertiary, etc. the final feature is lack of assimilation which means that the stressed syllable does not affect the immediately preceding or following syllable to be stressed. Moreover, Hayes's theory considers stress as a

hierarchy of organized rhythmic structure. It is based on the metrical grid which is a hierarchical representation of stress and rhythm. The grid consists of columns of grid marks (X), the height of which represents the prominence level while the horizontal distance between the stressed elements shows the rhythmic structure (Hayes, cited in Graf, 1999, p. 24). In a metrical grid, the stressed syllable is represented by a grid mark (X) while the unstressed syllable is represented by a dot (.) as shown in the example given below:

(		x)		(x)
(x		)	(x))
(x	.)	(x	.)	(x)
Mississippi mud				

Figure (1): Hayes's Bracketed Grid of "Mississippi mud" Adopted from Hayes (1995, p. 39)

Hayes's metrical theory assumes that hierarchically organized segments are grouped into syllables, and syllables are grouped into metrical feet, feet into words and so on. As such, Hayes has set a number of parameters related to metrical feet, which are summarized as follows:

- 1- Size (boundedness): metrical feet are either binary (bounded) or nonbinary. English has a bounded stress system (Hayes, 1995, p.32)
- 2- Quantity Sensitivity: according to this parameter, languages are either quantity sensitive or insensitive. In the feet of a quantity sensitive language, heavy syllables carry the primary stress and may not occur in weak positions. In contrast, the feet of a quantity insensitive language treat all syllables as light or equally heavy (Kager, 1995, pp.371-372).
- 3- Dominance: according to Hayes (1995), feet have either initial or final prominence (p.45).

- 4- Direction of Parsing: according to this parameter, feet are parsed from left to right or vice versa. English, for example, parses syllables from left to right (Hayes, as cited in Al-Abdely, 2011, p.386) .
- 5- Iterativity: foot construction is either iterative or non- iterative (constructed only once) (Hayes, 1995, p. 54).

Foot construction rules in this theory are three in number. The first one is extrametricality which is defined as a rule which “designates a particular prosodic constituent as invisible for purposes of rule application: the rules analyze the form as if the extrametrical entity were not there” (Hayes, 1995, p.57). According to Hayes, extrametricality can be applied to consonants, syllables, feet or even words (p.58). The second rule is the Priority Clause Principle. It is explained by Hayes (1995) as follows: “If at any stage in foot parsing the portion of the string being scanned would yield a degenerate foot, the parse scans further along the string to construct a proper foot where possible” (p.95). The third rule is the End Rule (ER). Hayes explains the steps of applying the ER as quoted below:

- *Create a new metrical constituent of maximal size at the top of the existing structure.*
- *Place the grid mark forming the head of this constituent in the (left/right) available position.* (Hayes, 1995, p.61)

On the phrasal level, each grid should be well formed and eurythmic. The well formedness of a grid is achieved by following two principles; the Faithfulness Condition and the Continuous Column Constraint (CoCoCo). The Faithfulness Condition means that “grid marks must be in one-to –one correspondence with the domains that contain them” (Hayes, 1995, p.41). On the other hand, Hayes (1995) refers to the Continuous Column Constraint (CoCoCo) as when “A grid containing a column with a mark on layer $n+1$ and no mark on layer n is ill- formed. Phonological rules are blocked when they would create such a configuration” (Hayes, 1995, p.34). When the CoCoCo is violated, the

result is going to be an ill-formed grid. To have a eurhythmic and a well-formed grid, some metrical rules can be used to achieve this goal:

- 1- End rule: the ER is applied to the word level as well as to the phrasal level. Hayes (1995) explains that the ER is responsible for keeping the relative prominence among the constituents of a phrase. He confirms that English follows the nuclear stress rule in which "the rightmost member of a phrase is strongest" (p.368).
- 2- Move X: this rule also helps to maintain the eurhythmy of the metrical grid. "Move one grid mark at a time along its row. Where Move X resolves a stress clash, movement must take place along the row where the clash occurs" (Hayes, 1995, p.370).
- 3- Beat Addition (BA Rule): Hayes (1995) defines it as "a rule that has the effect of increasing the degree of rhythmic alternation in a phrase by increasing the level of stress on particular syllables" (p.371). This rule is applied in a case that is called "making the taller taller" to achieve the eurhythmy of the text by creating an alternating stress pattern between the main stresses in each layer. The opposite case is called "making the shorter taller", this case can be solved by a rule called Domain Generation that Hayes (1995) describes as: "when two metrical constituents are concatenated, and their tallest grid columns are unequal, the grid marks are assigned to the shorter column if necessary to avoid violating the Continuous Column Constraint" (p.378). This rule is applied to achieve the well- formedness of the metrical grid.

6- Literature Review

A number of studies have used the parametric metrical theory to analyze the rhythmic structure of different data. One of these studies is Graf (1999) which is concerned with analyzing the metrical structure of the nominal system of Modern Hebrew. She concluded that an iambic analysis could not be supported in the frame of Hayes's (1995) metrical theory; however, a trochaic analysis of the data was well integrated within this theory (Graf, 1999, p.77). Another study is Al-Abdely's

(2011) study on the stress patterns of an Iraqi Arabic variant, specifically Hity Arabic. It is an accent spoken in Hit in the south west of Baghdad. The study deals with assigning primary stress at the word level within the metrical approach of Hayes (1995). He finds out that Hayes's metrical approach succeeded in predicting the primary as well as the secondary stress in the Hity variant in "a straightforward fashion" (Al-Abdely, 2011, p.379). In 2014, Ali and Abd-Ghani have studied the word stress patterns in Modern Standard Arabic within the framework of Hayes's metrical theory. They noticed that this theory can account for primary and secondary stress assignment of monosyllabic, disyllabic and trisyllabic words in Modern Standard Arabic by using some metrical rules like extrametricality, end rule right and priority clause principle (Ali and Abd-Ghani, 2014, p.51). Jameel (2017) is another study which used the bracketed grid model of Hayes (1995) to analyze the word as well as the phrasal stress patterns of the Qur'anic language which is part of the Classical Arabic. The study proved that assigning stress to the Qur'anic words and phrases [verses] is perfectly done within the metrical theory and "the rhythmicity of the Qur'anic language can be shown by the use of the bracketed grid model" (Jameel, 2017, p.294). One more study that uses the metrical theory as a model of analysis is Gatta and Hassan (2021). In this study, the metrical patterns of Iraqi Arabic Nursery Rhymes are analyzed according to Hayes's (1995) metrical theory. It comes up with the results that "disyllabic and dimeter lines are the frequent types of the analyzed three Iraqi Arabic nursery rhymes" (Gatta and Hassan, 2021, p.82).

7- The Data

The data being analyzed according to the parametric metrical theory includes four haiku poems. The first two poems are written in the modified form. That is to say, there is no restriction on the number of syllables in each line or on the number of lines in the poem. The American Poet Ezra Pound wrote many haiku poems in the modified

form. This study analyses two of them. The first one is "in a station of the metro". Within two lines and a 12-7 syllable pattern. Napierkowski and Ruby (1998) comment that 'In a Station of the Metro' (1916) is the reflection of Pound's interest in other cultures and this poem can be considered as Pound's embodiment of his theory of imagism. Pound has described how he wrote this poem as:

I got out of a metro train...and saw suddenly a beautiful face, and then another beautiful face and another...and I tried all that day to find words for what this had meant to me, and I could not find any words that seemed to me worthy, or as lovely as that sudden emotion (as quoted in Napierkowski and Ruby, 1998, p.115).

The second modified poem is called "Fan piece for her imperial Lord". It is composed of three lines with a 5-7-7 syllable pattern. Pound wants this haiku to directly show how the sublime can be embedded in beauty and how pain can be experienced through pleasure and goodness ("Analysis of Ezra Pound's Poem Fan Piece", n.d., para.1).

The last two haikus are written in the traditional form of a Japanese haiku that is, a 5-7-5 syllable pattern by the Canadian American poet Bruce Ross. Both of them capture a moment in nature focusing on the three elements in writing a haiku; object, place, and time. The first haiku describes a milk- white spider (the object) that explores the teapot (place) in the light autumn (time). The second haiku is an image of the migrating monarchs (the object) who cluster along the shoreline (place) in no specific time.

8- The Steps of Analysis:

Following Hayes's (1995) parametric grid model, the steps of analyzing the selected haiku poems are summarized as follows:

- 1- Identifying, transcribing, and assigning the main stress to each lexical word. Then, a metrical foot is built on the strong syllable by putting a grid mark (X) on this syllable taking into consideration the metrical rules

needed like the ER/right and Extrametricality, among others (Hayes, 1995, pp.57, 61) .

- 2- Dividing the line of a haiku into lexical phrases: (MiP- Minor phrase), (MaP- Major phrase), (IP- Intonational phrase), and (U- Utterance) (Silkirk, as cited in Hayes, 1995, p.218-219) .
- 3- Assigning relative prominence to string of words (the lexical phrases) according to their morphological and syntactic structure taking into account the even space between main stresses in each layer and the avoidance of stress clash. (Silkirk, as cited in Hayes, 1995, p.367).
- 4- When necessary, metrical rules are applied to maintain the well-formedness and the eurhythm in each metrical grid.

9- Data Analysis

The First Haiku

The apparition of these faces in

Petals on a wet, black bough². (In a Station of the Metro (**Ezra Pound**))

This is a modified form of a haiku poem that consists of two lines only with twelve syllables in the first line and seven syllables in the second. The metrical analysis of the poem starts by building metrical feet over each lexical word in each line then it continues hierarchically to the word level then the phrase levels (Mip, Map, IP) up to the utterance level (U).

The first line contains three lexical words. The first word is (apparition) transcribed as /æpəriʃən/. This word is a four- syllable word. The primary stress is put on the penultimate syllable /-rɪ-/, which results in the following stress pattern /æpə¹ rɪʃən/. A metrical foot is constructed over the stressed syllable. The second lexical word is (faces) /feɪ sɪz/. This is a disyllabic word with two strong syllables. The primary stress is put on the first syllable leaving the second syllable unstressed /¹ feɪ sɪz/. Metrical foot construction rules build a foot over the first syllable and render the final consonant of the second syllable extrametrical. The final word is (crowd)

² Ezra Pound's haiku poems under analysis are taken from

<https://terebess.hu/english/haiku/pound.html>

which is a monosyllabic word transcribed as /kraʊd/. Naturally, this syllable is stressed /¹ kraʊd/ and only one metrical foot can be constructed over this syllable as shown below:

(x)	(x) ER/Right	(x)
ER/right	(x .)	ER/Right
(. . x .)	feɪ sɪ<z>	(x)
æ pə rɪ fən		kraʊd

To start the phrasal stress analysis of the first line, the syntactic constituents of this line should be determined to map its prosodic constituents. MiP is represented by the noun phrase (the apparition of these faces) then comes the MaP phrase which is (the apparition of these faces in the crowd). As for the first MiP (the apparition of these faces), the second word (feɪ sɪ<z>) is stressed because the primary stress in syntactic phrases in English goes to the second word (Hayes, 1995, p.368), thus an X is added on the first syllable of this word. For the MaP (the apparition of these faces in the crowd) stress goes rightmost to the word /kraʊd/ with an X put on this sole syllable, as shown below in figure (2):

MaP	(	x)
MiP	(x)	
PWd	(. . x .)	(x .) (x)
Ft	ðɪ æpərɪfən əv ði:z feɪ sɪ<z> ɪn ðə kraʊd	

Figure (2): The Bracketed Grid of /ðɪ æpərɪfən əv ði:z feɪ sɪ<z> ɪn ðə kraʊd/

The grid above is not well formed because it violates the CoCoCo for having a gap in the last column which contains the DTE (Designated Terminal Element)/ kraʊd/. As this case is called making the shorter taller, the DG rule is applied. Accordingly, a grid mark is added above the grid mark in the last column to obey the CoCoCo, as shown below:

constructed over it. The final word is (bough) which also consists of one stressed syllable /¹baʊ/ thus a metrical foot is built on this syllable as displayed below:

(x)	(x)	(x)	(x)
ER/Right	ER/Right	ER/Right	ER/Right
(x)	(x)	(x)	(x)
petl<z>	wet	blæk	baʊ

The phrasal stress analysis of this line starts by specifying the syntactic constituents to map its prosodic constituents. The first MiP is represented by the noun phrase that consists of an adjective and a noun (black bough). The second MiP is represented by the noun phrase with two adjectives before the noun (wet, black bough). The final syntactic constituent is (Petals on a wet, black bough) which stands for an MaP constituent. As for the first MiP (black bough), the second word (/baʊ/) is stressed because the primary stress in English syntactic phrases goes to the second word, thus an X is added on the only syllable of this word. The second MiP (wet, black bough), is stressed primarily on the last word (/baʊ/) as it is the rightmost word in this phrase with an X added on this syllable. For the MaP, the last word is also stressed and an X is put on the monosyllabic word (/baʊ/).

MaP	(			x)
MiP		(		x)
MiP			(	x)
PWd	(x)	(x)	(x)	(x)
Ft	(x)	(x)	(x)	(x)
	petl<z>	ən ə	wet	blæk baʊ

Figure (5): The Bracketed Grid of / petl<z> ən ə wet blæk baʊ /

The grid above is well formed as it obeys the two phrasal stress rules necessary for the well-formedness of metrical grids, that is, the

ER/Right	ER/Right	ER/Right
(x)	(x)	(x)
fæn	wait	silk

Regarding the phrasal stress analysis, the first line can be mapped into two MiP's. The first one is (white silk), and the second is (fan of white silk). As for the first MiP (white silk), the second word /silk/ is stressed, thus an X is added on the only syllable of this word. For the second phrase (fan of white silk), an X is added on the word /silk/ as it is also the rightmost element in this syntactic phrase.

MiP	(			x)
MiP			(	x)
PWd	(x)		(x)	(x)
Ft	(x)		(x)	(x)
	əʊ fæn	əv	wait	silk

Figure (7): The Bracketed Grid of / əʊ fæn əv wait silk/

The grid above is well formed as it obeys the CoCoCo and the Faithfulness Condition; however, it is not eurythmic. As this grid is an instance of making the taller taller, the BA rule can be applied by adding one grid mark over /fæn/. In this way the grid gains eurhythmmy by having an alternating stress pattern and showing a prominence relation between its columns as exhibited below:

MiP	(			x)
MiP	(x)		(	x)
PWd	(x)		(x)	(x)
Ft	(x)		(x)	(x)
	əʊ fæn	əv	wait	silk

Figure (8): The Bracketed Grid of / əʊ fæn əv waɪt slɪk/ after the
Application of the BA Rule

The second line of this poem consists of seven syllables and four lexical words. The first word is (clear) transcribed as /¹klɪə/ with the primary stress on the only syllable of this word. A metrical foot is constructed over this stressed syllable. The second word is (frost) which also consists of one syllable carrying the primary stress /¹frɒst/. A metrical foot is built over this stressed syllable. The third word is (grass) transcribed as /grɑ:s/ which consists of one stressed syllable /¹grɑ:s/. Accordingly, one metrical foot can be constructed over this syllable. The last word is “blade” which is also a monosyllabic word that has the primary stress on this only syllable /bleɪd/. A metrical foot is built over this stressed syllable as follows:

(x)	(x)	(x)	(x) ER/Right
ER/Right	ER/Right	ER/Right	(x)
(x)	(x)	(x)	bleɪd
klɪə	frɒst	grɑ:s	

The phrasal stress analysis of the second line begins with determining the syntactic constituents to map their prosodic constituents. There are three syntactic phrases in this line. The first one is an MiP “the grass blade”, the second is an MaP “frost on the grass blade”, and the last “clear as frost on the grass blade” which is also an MaP. In the MiP “the grass blade”, the rightmost element /bleɪd/ carries the primary stress, thus an X is added over this monosyllabic word. The MaP “frost on the grass blade” has the primary stress over the rightmost element /bleɪd/, so metrical rules put an X over this syllable. Similarly, the rightmost monosyllabic word /bleɪd/ carries the primary stress in the biggest MaP “clear as frost on the grass blade” with an X over the word /bleɪd/.

MaP

MaP (x)

MiP (x)

PWd (x)

Ft (x) (x) (x) (x)

klɪə əz frɒst ɒn ðə gra:s bleɪd

Figure (9): The Bracketed Grid of /klɪə əz frɒst ɒn ðə gra:s bleɪd/

The grid above is well formed as it obeys the CoCoCo and the Faithfulness Condition; however, it is not eurythmic. As this grid is an instance of making the taller taller, the BA rule can be applied by adding two grid marks over /klɪə/. This makes the grid eurythmic by showing a prominence relationship between its columns.

MaP (x)

MaP (x) (x)

MiP (x) (x)

PWd (x) (x) (x) (x)

Ft klɪə əz frɒst ɒn ðə gra:s bleɪd

Figure (10): The Bracketed Grid of /klɪə əz frɒst ɒn ðə gra:s bleɪd/ after the Application of the BA Rule

The third line consists of seven syllables and three lexical words. The first word is (also) transcribed as /¹ɔ:ləsʊ/ with the main stress on the first syllable. The metrical foot construction rules build a foot over the first syllable and render the second syllable extrametrical. The second lexical word is (laid) which consists of one syllable that carries the primary stress /¹leɪd/. A metrical foot is constructed over this syllable. The last lexical word is (aside) transcribed as /ə¹sɑɪd/. The primary stress is carried by the second strong syllable, thus a metrical foot is built over this syllable.

(x) ER/right	(x) ER/right	(x)
(x)	(x)	ER/right
ɔ:l<səʊ >	leɪd	(. x)
		ə saɪd

The phrasal stress analysis of this line starts by identifying its syntactic constituents. The first layer is represented by the sentence (you are laid aside) which is an MiP, an MaP and an IP. In this layer the rightmost element /ə¹saɪd/ takes the primary stress with an X added on the second stressed syllable of this word. The second layer which is a bigger IP (you also are laid aside), the primary stress goes to the word /ə¹saɪd/ with an X added on its second syllable as shown in the grid below:

IP	(	x)
MiP, MaP, IP	(	x)
PWd	(x)	(x) (. x)
Ft	yu ɔ:l<səʊ >	ə leɪd ə saɪd

Figure (11): The Bracketed Grid of / yu ɔ:l<səʊ > ə leɪd ə saɪd/

The grid above is well formed as it obeys the CoCoCo and the Faithfulness Condition; however, it is not eurythmic. As this grid is an instance of making the taller taller, the BA rule can be applied by adding one grid mark over /ɔ:l<səʊ >/. This makes the grid eurythmic by showing a prominence relationship between its columns.

IP	(	x)
MiP, MaP, IP	(x)	(x)
PWd	(x)	(x) (. x)
Ft	yu ɔ:l<səʊ >	ə leɪd ə saɪd

Figure (12): The Bracketed Grid of / yu ɔ:l<səʊ > ə leɪd ə saɪd/ after the Application of the BA Rule

The Third Haiku:

A milk- white spider
explores the morning teapot
light autumn breezes³ (Bruce Ross)

This poem follows the traditional haiku form 5-7-5 pattern in three lines. The first line consists of three lexical words. The first word is (milk) which has one stressed syllable /¹mɪlk/. A metrical foot is built over this syllable. The second word is (white) which is a monosyllabic word transcribed as /¹waɪt/ with the main stress placed on this only syllable, thus a metrical foot is constructed over it. The last lexical word is (spider) which consists of two syllables. The first syllable is attracts the primary stress /¹spɑɪdə/. Then, a metrical foot is built over this first syllable.

(x) ER/right	(x) ER/right	(x) ER/right
(x)	(x)	(x .)
mɪlk	waɪt	spɑɪdə

The phrasal stress analysis of this line starts by identifying the two syntactic phrases in this line. The first is an MiP (white spider) while the bigger phrase, that is, the MaP is represented by the phrase (milk white spider). In the MiP /¹waɪt ¹spɑɪdə/, the main stress goes to the rightmost word / spɑɪdə/, thus an X is added on the first syllable of this word. Concerning the MaP /¹mɪlk ¹waɪt ¹spɑɪdə/, the stress goes rightmost to the word /¹spɑɪdə/ and accordingly one grid mark is added on the first syllable of this word as shown in the grid below:

MaP	(		x)
MiP		(	x)
PWd	(x)	(x)	(x .)	
Ft	ə	mɪlk	waɪt	spɑɪdə

Figure (13): The Bracketed Grid of /ə mɪlk waɪt spɑɪdə/

³ Bruce Ross's poems under analysis are taken from

<https://terebeess.hu/english/haiku/ross.html>

The grid above is well formed as it obeys the CoCoCo in the last column that contains the DTE. However, in order to make the grid more eurythmic, an X should be added on /mɪlk/ to have an alternating stress pattern between the main stresses in the MiP level.

MaP	(		x)
MiP	(x)	(	x)
PWd	(x)	(x)	(x	.)
Ft	ə	mɪlk	wɑɪt	spɑɪdə

Figure (14): The Bracketed Grid of / ə mɪlk wɑɪt spɑɪdə/ after the Application of the BA Rule

The second line (explores the morning teapot) includes three lexical words. The first of which is (explores) which consists of two syllables with the main stress put on the second syllable /ɪk¹splɔːz/. Accordingly, metrical rules build a foot on the second syllable. The second lexical word is (morning) which also consists of two syllables /¹mɔːnɪŋ/. The primary stress is put on the first syllable, thus a metrical foot is built over this syllable, while the last consonant of the second syllable is rendered extrametrical. The last word is (teapot) that is transcribed as /¹tiːpɒt/ and stressed primarily on the first syllable. A metrical foot is constructed over this stressed syllable and the last consonant is dealt with as an extrametrical sound.

(	x)	(x)	(x)
ER/right	ER/right	ER/right	
(.	x)	(x	.)
ik splɔː z	mɔːnɪ<ŋ>	tiːpɒ<t>	

Regarding the phrasal stress analysis, the second line has two syntactic layers; an MiP (morning teapot) and a bigger layer that represents an MaP, an IP, and a U (explores the morning teapot). For the first layer (MiP), stress goes primarily to the rightmost element /¹tiː/ in /¹tiːpɒt/, thus an X is added over this syllable. For the second layer, stress

also goes to the rightmost element /^lti:pɒt/ with an X added on the DTE /ti:/ as shown below:

MaP, IP, U	(		x)
MiP		(	x)
PWd	(.	x)	(x .)	(x .)
Ft	ɪk	splɔ:z	ðə	mɔ:nɪ<ŋ> ti:pɒ<t>

Figure (15): The Bracketed Grid of /ɪk splɔ:z ðə mɔ:nɪ<ŋ> ti:pɒ<t>/

The grid above is well formed as it obeys the CoCoCo in the last column, still it is not eurythmic as there is no alternating stress pattern between the main stressed elements in the MiP layer. This grid is an instance of making the taller taller; therefore the BA rule can be applied by adding one grid mark over /ɪk splɔ:z/. This makes the grid eurythmic by showing a prominence relationship between its columns.

MaP, IP, U	(		x)		
MiP	(	x)	(	x)	
PWd	(.	x)	(x	.)	(x	.)
Ft	ɪk	splɔ:z	ðə	mɔ:nɪ<ŋ>	ti:pɒ<t>	

Figure (16): The Bracketed Grid of /ɪk splɔ:z ðə mɔ:nɪ<ŋ> ti:pɒ<t>/ after the Application of the BA Rule

The third line consists of three lexical words. The first one is (light) which consists of one stressed syllable /^llaɪt/. Then, a metrical foot is constructed over this syllable. The second word is (Autumn) that consists of two syllables with the first syllable stressed primarily /^lɔ:təm/, thus a metrical foot is built over the first syllable. The last lexical word in this line is (breezes) transcribed as /^lbri:zɪz/. As the first syllable gets the main stress, a metrical foot is built over this syllable with the last consonant rendered extrametrical.

(x) ER/right	(x) ER/right	(x) ER/ right
(x)	(x .)	(x .)
laɪt	ɔ:təm	bri:zɪ<z>

For the phrasal stress analysis of this line, there are two prosodic constituents mapped from syntactic constituents. The first one is an MiP (Autumn breezes). The second one is the MaP (light Autumn breezes). In the MiP, the main stress goes rightward to the word /bri:zɪ/ on its first strong syllable. Thus, an X is added on this syllable in the metrical grid. For the second layer, the MaP has the main stress on the rightmost element /bri:zɪ/, according to which an X is added on the first syllable of this word.

MaP	(		x)
MiP		(	x)
PWd	(x)	(x .)	(x .)	
Ft	laɪt	ɔ:təm	bri:zɪ<z>	

Figure (17): The Bracketed Grid of /laɪt ɔ:təm bri:zɪ<z>/

The grid above is well formed because it obeys the CoCoCo on its DTE column; however, it lacks eurhythmy as there is no prominence relationship between its main stresses in the MiP layer. As such, because it is an example of making the taller taller, the BA rule adds another X on /laɪt/ to gain an alternating stress pattern in this layer as shown below:

MaP	(		x)
MiP	(x)	(	x)
PWd	(x)	(x .)	(x .)	
Ft	laɪt	ɔ:təm	bri:zɪ<z>	

Figure (18): The Bracketed Grid of /laɪt ɔ:təm bri:zɪ<z>/ after the Application of the BA Rule

(x) ER/right

(x .)

klɒstə

(x) ER/right

(x .)

ʃɔ:< laɪn >

The second line consists of one syntactic phrase that represents an MiP, MaP, and an IP which is (klɒstə əlɒŋ ðə ʃɔ:laɪn). The main stress goes rightward to the first stressed syllable of the word /¹ʃɔ:laɪn/, thus, an X is added over this syllable, as shown below:

Figure (20): The Bracketed Grid of / klɒstə əlɒŋ ðə ʃɔ:< laɪn >/

MiP, MaP, IP

(x)

PWd

(x .)

(x .)

Ft

klɒstə əlɒŋ ðə ʃɔ:< laɪn >

The grid above is well formed as it obeys the CoCoCo in the last column. Moreover, it is also eurythmic for having an alternating stress pattern between its main stresses.

The third line of the poem includes three lexical words (thousands, wet, stones). The first word is /¹θaʊzəndz/. It consists of two syllables, the first of which carries the primary stress. Hence, a metrical foot is built over the first stressed syllable. The second word is the monosyllabic word /¹wet/ on which a metrical foot is constructed. The third word is /stəʊnz/. It has only one stressed syllable, therefore; a metrical foot is built over this syllable.

(x)ER/right

(x)ER/right

(x)ER/right

(x .)

(x)

(x)

θaʊzəndz

wet

stəʊnz

The phrasal stress analysis of this line starts by mapping prosodic constituents from the syntactic structure of this line. Accordingly, there are two prosodic constituents. The first one is the MiP / wet stəʊnz/. In this phrase, the main stress goes rightmost to the word /stəʊnz/ with an X added over this syllable. Then, the MaP / θaʊzəndz əv wet stəʊnz/ takes the main stress on the rightmost word /stəʊnz/ which is the DTE in this grid.

MaP	(		x)
MiP		(	x)
PWd	(x	.)	(x) (x)
Ft	θaʊzəndz	əv wet	stəʊnz

Figure (21): The Bracketed Grid of / θaʊzəndz əv wet stəʊnz/

The grid above is well formed as it obeys the CoCoCo in its last column; however, it is not eurythmic. To achieve eurhythmy, a grid mark is added over the first syllable of /θaʊzəndz/ by the BA rule as it is an instance of making the taller-taller. In this way a prominence relationship is created between the main stresses in the grid, as illustrated below:

MaP	(		x)
MiP	(x)	(	x)
PWd	(x	.)	(x) (x)
Ft	θaʊzəndz	əv wet	stəʊnz

Figure (22): The Bracketed Grid of / θaʊzəndz əv wet stəʊnz/ after the Application of the BA Rule

10- Conclusions

Based on the above metrical analysis of the four selected haiku poems, the following conclusions are reached out:

- 1- Metrical stress theory shows the rhythmic patterns (the horizontal rhythm of each line) of the haiku poems despite the short length of lines and syllables which answers the first question of this study.
- 2- To answer the second question of this study, regarding the subject matter that the English haiku describes, the first two poems which are in the modified form describe human beings and human life. In contrast, each of the other two poems - written in the traditional haiku form- describes a moment in nature. To conclude, in the English haiku poems, one can find poems that describe nature as well as life and humans as affected by the English culture and traditions.
- 3- Concerning the number of syllables, Monosyllabic words (17 words) with a percentage of 51.51% and disyllabic words (14 words) with a

percentage of 42.42% constitute the majority of the analyzed lexical words in the four haiku poems.

- 4- Syllable as well as consonant extrametricality are applied to a number of the analyzed words for the purpose of metrical rule application i.e., ER/right.
- 5- Since achieving eurhythmy in the output of metrical structures created at the phrasal level is the core point of metrical theory (Hayes, 1995, cited in Jameel, 2016, p.43), all of the eleven grids in this study are eurythmic either by themselves (2 grids) or they gain eurhythmy by applying phrasal stress rules. The DG rule that maintains the well- formedness of the grid is applied to one grid only. The Move X rule is also applied to the same grid to achieve the eurhythmy of the grid (see figure (4)). All of the 8 other grids are well formed but not eurhythmic which are then made eurhythmic by applying the BA rule to have an alternating stress pattern.

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