A Phonological Study of the Metrical Structure of Some Iraqi Arabic Nursery Rhymes[*]

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Abstract

The present study attempts to analyze the metrical patterns of Iraqi Arabic nursery rhymes. The study specifically deals with assigning the word stress patterns according to Hayes's (1995) metrical theory. The core assumption of this theory is that "stress is a hierarchy of rhythmic patterns in which one syllable scores relative prominence with relation to an adjacent one" (Al.Abdely 2011, p.379). The results reveal that the disyllabic words and also the dimeter lines are frequent types of the analyzed three IA nursery rhymes.

Keywords: metrical theory, nursery rhymes, rhythm, meter, foot

1. Introduction

1.1 Preliminaries

Mesopotamian Arabic belongs to Arabic dialects and is a subgroup of Afro-Asiatic languages (Lestaric,2006, p.4). It also contains sub-dialects such as southern dialects, Baghdadi, and Maslawi dialect among others**.** In the present study, Iraqi Arabic (henceforth IA) is considered as a representative of the language variants spoken all over Iraq. People who belong to common Islamic states, naturally they exchange culture and language. This exchange has an impact on language at morphology, and lexicon. Nursery rhymes are an obvious example of this effect (Al.Shabi,1965, p.9, cited in Albuarabi,2018,p.1373). Nursery rhymes are defined as "short songs and verses often read and sung to, or by, young children" (Macmillan, 2007, p.1024, cited in Kroupova, 2014, p.12).

Mostly, rhythm and meter are the main characteristics of nurseries, though they are overlapping concepts. Rhythm refers to "the way the sound of a poem moves in a general sense either in part or through its whole length" (Wainwright,2004, p.58), while meter is a "set pattern which recurs line by line" (Wainwright,2004, p.193). Every meter is formed from a sequence of metrical feet. The present study tries to examine these concepts in terms of Hayes' (1995) metrical theory, and specifically the grid model.

1.1.2 The Problem of the Study:

The current study tackles the following problem:

No previous phonological study attempts to investigate the applicability of metrical theory to IA nursery rhymes. Thus, there is a phonological gap that needs to be filled properly by such a study.

1.1.3 The Objectives of the Study:

The present study is devoted to achieve the following objectives:

1. Studying the phonological aspects of the stress patterns of three IA nursery rhymes within the framework of metrical phonology.

2. Investigating the syllable patterns to see their complementary role in assigning stress.

3. Applying some metrical rules to show the metrical structure of three IA nursery rhymes.

4. Proving that metrical theory can succeed in analyzing the rhythmic patterns of three IA nursery rhymes as it succeeded in analyzing the metrical structure of a variety of Arabic dialects.

1.1.4 The Hypotheses of the Study:

The study hypothesizes that:

1. Metrical theory is applicable to studying the stress patterns of IA nursery rhymes.

2. Rhythm and meter are the main characteristics of nursery rhymes, so the rhythmic pattern of IA nursery rhymes is best shown in the metrical grid model.

3. The frequency of the rhymes words according to the number of their syllables increases as the syllables number decreases. So, there is an inverse relation between the two.

4. The most frequent type of feet that is characteristic of the three IA nursery rhymes is the trochaic foot.

1.1.5 The Limits of the Study:

This study is concerned with only applying Hayes' (1995) metrical theory to the metrical structure of three IA nursery rhymes.

1.1.6 The Procedure of the Study:

The procedure that is adopted in this study is as follows:

1. Three IA nursery rhymes are analyzed according to Hayes' (1995) metrical theory, specifically the bracketed grid model.

2. Discussing the obtained results.

3. Drawing conclusions in the light of the results of the study.

1.1.7 The Significance of the Study:

The study is expected to be of value on two perspectives, theoretically and pedagogically. From the theoretical perspective, there is no previous study that examined the rhythmic patterns of IA nursery rhymes in terms of Hayes' metrical approach. From the pedagogical level, the study is supposed to be of significance to researchers whether they are Arabs or foreigners who are generally interested in studying the metrical structure of the IA dialect and particularly the rhythmic patterns of IA nursery rhymes.

1.2 The Theoretical Background

1.2.1 Metrical Phonology

Metrical phonology is defined by Pearl (2008) as "the system that determines which syllables in a word are stressed and how much stress each syllable receives compared to all the other syllables in the word" (p.112). Metrical theory originated during the late of the 17th century as a sub-branch of nonlinear phonology (which is represented by autosegmental phonology and metrical phonology). Metrical theory goes through a number of versions. The

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beginning of metrical theory started with Liberman (1974), then developed by Liberman and Prince (1977), Prince (1980)**,** Selkirk (1984), and Hayes From (1980) up to (1995) (Garf, 2001, p.28).

Hayes from (1980) up to (1995) (as cited in Kager, 1995, p.370) gives an essential body of principles by developing the previous versions of metrical theory. He attempts to broaden the limits of metrical theory to cover a substantial number of typological properties across different systems while transporting the core of the theory to a specific number of parameters. Hayes (1995, henceforth H95) is a modified and expanded version of Hayes's (1987) which tries to present a description of universals and particulars of language in the framework which depends on typological investigations across 150 languages (Tanaka,1997,p.394).

The bracketed grid model is the most popular framework in metrical phonology. Bracketed grid is defined as " pairs consisting of a set of complex objects (the lines) and one total ordering relation defined on those objects (the above relation). These, on the other hand, are a set of simple objects (the nodes) with two relations defined on them (dominance and precedence) " (Oostendrop,1993,p.325).

A number of symbols used frequently in the present study are shown below:

Table (1): The Symbols Used in the Present Study

Symbol	Meaning
'	Primary Stress
.	Unstressed Syllable
˘	Light syllable
–	Heavy Syllable
=	Superheavy Syllable
– ˘	Trochaic pattern

˘ –	Iambic Pattern
– –	Spondaic Pattern
– ˘ ˘	Dactylic Pattern
˘ ˘ –	Anapestic Pattern

2. Material and Method

2.1 Data Analysis

The present study presents a phonological analysis of the meter and rhythm of three IA nursery rhymes. The analysis deals with identifying the stress patterns at the word level taking into consideration syllable quantity[1], foot inventory[2] (foot construction), extrametricality[3], directionality[4], Priority Clause Principle[5], and end rules[6] in the light of the bracketed grid model of H95.

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[1] Quantity-sensitivity: refers to the distribution of feet into light and heavy syllables. Languages vary according to syllable weight. Languages are either quantity-sensitive or quantity-insensitive depending on stress assignment (Pendy, 1989, p.5).

[2] Hayes (1995) classifies feet into the following universal types: iambic foot and trochaic foot. The latter, on the other hand, is sub-branched into moraic trochee and syllabic trochee (Tanaka,1997,p.396).

[3] Extramricality**:** is a metrical rule for designating the final element (consonant, syllable, or foot) as invisible for the assignment of stress (Ali and Abd. Ghani, 2014, p.44).

[4] Directionality: the order of the stressed syllables can be linked together into feet. Metrical feet can be raised from the left direction of the word or the right direction (Kager,1995,p.373).

[5] Priority Clause Principle**:** is one of the metrical rules developed by Hayes (1995) to skip over the initial weak position to avoid the degenerated foot construction (Tanaka,1997,p.398).

[6] End Rule (ER): is the metrical rules for forming the constituent of the word (Prince,1983,p.412).

The coming pages display an analysis of the following three nursery rhymes:

1. Analysis of the first nursery rhyme: "Bali, ya Balbool" / bɑ li yɑ bɑl buul/

بلي يا بلبول

1./ bɑ li yɑ bɑl buul /[7]

Bali, ya Balbool!

بلي

/bɑ li/

Yes!

ما شفت عصفور

2./mɑɑ Ši ƒi t ɛaṣ ƒuur/

Did not you see a bird?

بلي

3./bɑ li /

Yes!

ينگر بالطاسه

4./ yin gur biṭ ṭɑɑ sɑ/

Striking in a bowl?

بلي

5./bɑ li /

Yes!

حليب و ياسه

6./ ħɑ lii bu yɑɑ sɑ /

Milk and myrtle

بلي

7./ bɑ li /

Yes!

8./ɛa la qa bur tii ti /

On the grave of Titi

ياي ياي

9./yaɑy yaɑy/

Yay yay

10./maɑ Ši ƒit ħa bii bi/

Did not you see my sweetheart?

ياي ياي

11./yaɑy yaɑy/

Yay yay

/bɑ li/, is a disyllable word with a light-light syllable pattern. IA rules[8] of assigning stress require stressing the first syllable because there is no long vowel or a short vowel followed by double consonants. As a result, the present word gets the following stress pattern:(ˈ˘ ˘). In the light of metrical foot construction rules only one foot is formed over the initial light syllable and the following light one, as shown below:

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[7] The words are transcribed into a form of syllable group.

[8] According to Erwin (2004, p.40) stress in IA is of two types: automatic, and non-automatic stress. Stress in the great majority of words is restricted by consonant-vowel structure (automatic stress). These rules are as follows:
1. Stress occurs on the syllable with the long vowel or a short vowel followed by two consonants nearest to the end of the word.
2. Otherwise, stress occurs on the antepenult syllable.
 However, the stress of the non-automatic type depends on the grammatical structure of words. In this type, stress occurs in a certain number of classes; it is determined by several grammatical features that characterize each class (Erwin, 2004, p.72).

(X   ) ER/right

(X   .)

bɑ li

The figure below shows the stress pattern of the word / bɑ li /, line 0 indicates the foot layer, line 1 exhibits the word layer construction (End Rules Right), and line 2 represents the primary stress of the word:

Line 2 X

Line 1 (X   )

Line 0 (X   .)

Figure (1): The Bracketed Grid of the Word / bɑ l i /

The second functional word /yɑ/ is a vocative particle. Al-Hawary (2011,p.317) states that يَ /yɑ/ is an optional particle in that it can be omitted when it is followed by a proper noun. As a functional word, it is not stressed. In the present study, the notation symbol (.) indicates that the word is unstressed. /bɑl buul /, this word is composed of a sequence of heavy-superheavy syllables. Stress is located on the final superheavy syllable. In this disyllabic word, stress can locate on the final superheavy syllable. The (_ _') is the stress pattern of the word. According to the metrical rules of foot construction the rightmost consonant is analyzed as invisible or extrametrical, as such two metrical feet are formed: one over the remaining heavy syllable, and the second over the initial heavy syllable, as displayed below:

(X) ER/right

(X) (X)

bɑl buu<l >

Line 2   X

Line 1 (X)

Line 0 (X) (X)

Figure (2): The Bracketed Grid of the Word / bɑl bluu<l >/

The following line starts with /mɑɑ/ which is an interrogative particle with one heavy syllable pattern. it is unstressed, producing the (.) unstressed pattern. /mɑɑ/ is followed by /Ši ʃit/, which is a disyllabic word that starts with a light syllable and ends with a heavy syllable. The first syllable is the stressed syllable because this word has no long vowel or two consonants preceded by a short vowel, as a result, the stress pattern of this word can be written in the following way: (�‿' _). In applying the rules of constructing the metrical foot of this word, the final consonant of the word /Ši ʃit/ is designated as extrametrical. Only one foot is built over the initial light syllable and the remaining light syllable.

(X   ) ER/right

(X   .)

Ši ʃi<t>

Line 2   X

Line 1 (X   )

Line 0 (X   .)

Figure (3): The Bracketed Grid of the Word /Ši ʃi<t>/

/عɑṣ ʃuur/[9], this word is syllabified into two syllables; heavy and superheavy syllables. In assigning stress, the final superheavy syllable is stressed, resulting in the following stress pattern:(_ _'). The

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[9] The bracketed grid representation of this word is identical to the word */bɑl buul /*

final syllable is rendered extrametrical after applying the metrical rules, in such a way, two metrical feet are constructed: the first one is over the final heavy syllable, the second is over the initial heavy syllable.

(X) ER/right

(X)   (X)

ʕaṣ *f*uu<r>

Figure (4): The Bracketed Grid of the Word /ʕaṣ *f*uu<r>/

The process of syllabifying the word /yin gur/, results in two heavy syllables. IA word stress features designate the initial heavy syllable to be stressed. The stress pattern is as follows: (_' _). Building a metrical foot for this word makes the final consonant extrametrical, hence one foot can form on the first syllable and the following syllable by applying the rules of foot construction.

(X   ) ER/right

(X .)

yin gu<r>

Line 2 X

Line 1 (X   )

Line 0 (X .)

Figure (5): The Bracketed Grid of the Word / yin gu<r>/

/biṭ ṭaa sa/, this word is composed of the following syllable pattern: heavy-heavy-light syllables. Stress is received by the second heavy syllable. The word's stress pattern is written as follows:(_ _'ᵕ). Depending on metrical foot construction rules, two metrical feet are structured: one foot occurs on the pre-final syllable and the

following syllable, whereas the second occurs on the initial heavy syllable:

(X) ER/right

 (X) (X .)

biṭ ṭaa sa

Line 2   X

Line 1 (X   )

Line 0 (X)(X .)

Figure (6): The Bracketed Grid of the Word /biṭ ṭaa sa /

/ħa lii bu/ is a trisyllabic word with a light-heavy-light syllable pattern. The pre-final syllable is the stressed syllable relying on IA word stress features. This word has the following stress pattern: (ᵕ _' ᵕ). Metrical rules construct a single foot over the pre-final heavy syllable and the following light syllable. According to the Priority Clause Principle, the first syllable is left unfooted because the degenerated foot is disallowed in all Arabic variants.

(X) ER/right

   (X .)
ħa lii bu
Line 2   X
Line 1   (X)
Line 0   (X .)
Figure (7): The Bracketed Grid of the Word / ħa lii bu/

The process of syllabifying the word /ɣaa sa/ produces two syllables with a heavy-light syllable pattern. Stress is received by the initial heavy syllable. This word has the following stress pattern: (_'ᵕ). Relying on metrical foot construction rules, one metrical foot can build on the initial syllable and the following one:

(X   ) ER/right

(X .)

yαα sα

Line 2   X

Line 1   (X   )

Line   (X .)

Figure (8): The Bracketed Grid of the Word / yαα sα /

The next line starts with /ʕ α lα / which is a functional word with two light syllables. It is an unstressed word resulting in the following (. .) stress pattern, followed by / qα bur/. This word / qα bur/ has a light-heavy syllable pattern. Stress goes to the first light syllable since this word does not have a long vowel or two consonants with a short vowel preceding the consonants, then the stress pattern is as follows: (�‿ ' _). Metrical rules form one foot over the present word after making the final consonant of the second syllable extrametrical, moreover, the present word has the same bracketed grid representation of the word /Ši ʃit /.

(X   ) ER/Right

(X   .)

qα bu<r>

Figure (9): The Bracketed Grid of the Word /qα bu<r>/

/tii ti /is a word with two syllables, having a heavy-light syllable pattern. Stress is put on the initial heavy syllable, resulting in the following stress pattern: (_' �‿). Metrical rules of foot constructions build one foot over the initial heavy syllable and the second light syllable, as shown below:

(X   ) ER/Right

(X   .)

tii ti

Line 2   X

Line 1   (X   )

Line   (X .)

Figure (10): The Bracketed Grid of the Word /tii ti /

The next line /yααy yααy/ which is composed of an unstressed interjection /yααy /, notated as (. .). Fradin (2003, p. 3), cited in Abdullah and Talib (2009, p. 90) defines interjections as " 'vocal gestures' expressing the speaker's mental state or action or attitude or reaction to a situation". The word /yααy/ is used to express that someone is very pleased about something.

The pre-final line begins with /mαα/ which is an unstressed functional word as mentioned previously. Followed by / Ši ʃit/ which is analyzed previously in the poetic line /mαα Ši ʃi t ʕαṣ ʃuur/. Then, the word / ħα bii bi/ is composed of three syllables with a light-heavy-light syllable pattern. The (˿ _' ˿) is the word stress pattern. According to the Priority Clause Principle, the first foot is left unfooted. The metrical rules of foot construction build a single foot on the second syllable and the following light syllable:

(X) ER/right

(X .)

ħα bii bi[10]

Figure (11): The Bracketed Grid of the Word / ħα bii bi/

A poetic rhythm is established on the alteration of stressed and unstressed syllables (Al-Hindawi and Muzhir, 2016, p.15). Accordingly, this alternation produces different foot types, the names of each metric line are based on the number of feet in each line. The present nursery is composed of the following rhythmic patterns: lines 1,3,11 are dimeter trochaic-iambic, the second, fourth, sixth, eighth

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[10] This word has the same bracketed grid representation of the word / ħα lii bu/

lines are monometer trochaic, line 5 is a dimeter dactylic-trochaic, line 7 is a dimeter with two iambic feet, and line 9 is a dimeter with two trochaic rhythmic meter. Lines 10,12 are composed of a functional word that does not influence the rhythmic patterns. Iambic foot is notated as ˘ ¯, trochaic foot is notated as ¯ ˘, and dactylic foot is notated as ¯ ˘ ˘. Besides, lines 7,11 have deviated[11].

2. Analysis of the second nursery rhyme: "Hela ya Romana" / hee lɑɑ yɑɑ rum mɑɑ nɑ /

هيلا يا رمانه

1./ hee lɑɑ yɑɑ rum mɑɑ nɑ /
Hela ya Romana,
هيلا يمه

2./ hee lɑɑ yum mɑ /

Hela Mommy!
من هي الزعلانه

3./ min hiy yɑl zɑʕ lɑɑ nɑ /

Who is she who is upset?
هيلا يمه

4./ hee lɑɑ yum mɑ /

Hela Mommy!
زنوبه الزعلانه

5./ zɑn nuu bɑl zɑʕ lɑɑ nɑ /

(Zannoba) is the one that is upset.

هيلا يمه

6./ hee lɑɑ yum mɑ /

Hela Mommy!
7./min hul li rɑɑ ðii hɑ/

Who is going to comfort her?

هيلا يمه

8./ hee lɑɑ yum mɑ /

Hela Mommy!
ابوهه يراضيهه

9./ ʔɑ buu hɑy rɑɑ ðii hɑ /

Her father is going to comfort her.

هيلا يمه

10. / hee lɑɑ yum mɑ /
Hela Mommy!
صايغ تراجيهه

11. / ṣɑɑ yiġ tɑ rɑɑ Čii hɑ /

He will make earrings for her,

هيلا يمه

12./ hee lɑɑ yum mɑ /
Hela Mommy!
محبس و گرداله

13./ m iħ bɑ su gir dɑɑ lɑ /

A ring and a necklace.

هيلا يمه

14. / hee lɑɑ yum mɑ /

Hela Mommy!
The present nursery begins with the word /hee lɑɑ/, which is a disyllabic word with two heavy syllables. The final syllable is attached stress according to IA word stress rules which mention that stress puts on the syllable nearest to the end of the word and which has a long vowel. This word has a (_ _') stress pattern. Drawing on metrical foot construction rules, two feet are formed: one foot occurs over the final heavy syllable, and the second is over the initial heavy one:
(X)   ER/right

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[11] The deviation, if there is any is due to one of three reasons: an individual stressed syllable at the end of the line, or an individual unstressed syllable at the end of the line, or a sequence of unstressed syllables within the line.

(X)(X)

hee lɑɑ

Line 2   X

Line 1   (X)

Line 0   (X)   (X)

Figure (12): The Bracketed Grid of the Word / hee lɑɑ /

/hee lɑɑ/ is followed by the vocative particle /yɑɑ/ which is a monosyllabic word with a heavy syllable, as a functional word /yɑɑ/ is unstressed, notated as (.). /rum mɑɑ nɑ/, is a word with three syllables; heavy-heavy-light syllable pattern. The pre-final syllable /mɑɑ/ is attached stress. This word contains the following stress pattern: (_ _'⌣) Two feet are formed depending on metrical rules of foot construction: the first foot occurs over the second syllable and the last light syllable, the second foot occurs over the initial heavy syllable.

(X)   ER/right

(X) (X .)

rum mɑɑ nɑ

Line 2   X

Line 1 (X)

Line 0   (X)   (X .)

Figure (13): The Bracketed Grid of the Word / rum mɑɑ nɑ /

/yum mɑ/ is composed of a heavy-light syllable pattern. The first syllable is stressed. The stress pattern of this word is (_' ⌣). One metrical foot can build on the word by applying metrical rules of foot construction.

(X   )   ER/right

(X .)

yum mɑ

Line 2 X

Line 1 (X   )

Line 0 (X .)

Figure (14): The Bracketed Grid of the Word / yum mɑ /

This line starts with /min hiy yɑl /. The interrogative particle /min / which is composed of one heavy unstressed syllable, notated as (.), followed by /hiy yɑl/ is a third person singular pronoun. This disyllabic functional word is unstressed, notated as (. .). /zɑʕ lɑɑ nɑ/ is a trisyllabic word with a heavy-heavy-light syllable pattern. The pre-final heavy syllable receives stress. The stress pattern is (_ _'⌣). The metrical rules construct two feet: one is over the pre-final heavy syllable and the following light syllable, and the second is over the initial heavy syllable.

(X) ER/right

(X)(X .)

zɑʕ lɑɑ nɑ

Figure (15): The Bracketed Grid of the Word /zɑʕ lɑɑ nɑ/

/zɑn nuu bɑl/ is composed of three syllables: heavy-heavy-heavy syllables. The stress put on the syllable /nuu/. The stress pattern is (_ _' _). Depending on the metrical rules of foot construction, two feet can be built over this word: one foot occurs on the pre-final syllable and the following syllable, and the second foot occurs on the initial syllable after making the last consonant of the last syllable extrametrical, as shown below:

(X   )   ER/right

(X)(X .)

zɑn nuu bɑ<l>

Line 2   X

Line 1 (X   )

Line 0 (X) (X   .)

Figure (16): The Bracketed Grid of the Word / zɑn nuu bɑ<l >/

/min hul li/ is composed of the interrogative particle /min /and the third person-singular pronoun /hul li/. /min/ is a monosyllabic unstressed word notated as (.). /hul li/ is a disyllabic word with heavy-light syllables, it is also unstressed, having the following stress pattern: (. .). /rɑɑ ðii hɑ/ is composed of heavy-heavy-light syllables. Stress is received by the heavy syllable preceding the suffix (–ha) according to the non-automatic rules of word stress. The stress pattern is (_ _' ˘). Two metrical feet are built: one occurs over the pre-final heavy syllable and the following light syllable and the other occurs over the initial heavy syllable depending on the metrical rules of foot construction.

(X)   ER/right

 (X) (X .)

 rɑɑ ðii hɑ

Line 2   X

Line 1 (X   )

Line 0 (X) (X .)

Figure (17): The Bracketed Grid of the Word / rɑɑ ðii hɑ /

/ʔɑ buu hɑy/ is composed of three syllables; a light syllable at the first syllable with a sequence of two heavy syllables. The second heavy syllable /buu/ is stressed because it contains the long vowel, then we have the following stress pattern: (˘_' _). The metrical rules of foot

construction can be formed a single foot on the pre-final syllable and the last syllable after designating the final consonant as extrametrical, while the syllable at the beginning of the word leaves unfooted to avoid constructing the degenerated foot.

(X   ) ER/right

  (X .)

ʔɑ buu hɑ<y>

Line 2   X

Line 1 (X   )

Line 0   (X .)

Figure (18): The Bracketed Grid of the Word / ʔɑ buu hɑ<y> /

/ṣɑɑ yiġ / has a heavy-heavy syllable pattern. The initial syllable /ṣɑɑ/ is stressed, therefore the stress pattern of this word is (_'_). Metrical rules render the final consonant extrametrical, then one foot can be formed on the first syllable and the last syllable.

(X) ER/right
(X .)

ṣɑɑ yi<ġ>

Line 2 X

Line 1 (X   )

Line 0 (X   .)

Figure (19): The Bracketed Grid of the Word / ṣɑɑ yi<ġ>/

/tɑ rɑɑ Čii hɑ / is a tetrasyllabic word with a light-heavy-heavy-light syllable pattern. Stress is attached to the pre-final heavy syllable relying on IA non-automatic stress rules. The stress pattern of this word can be written in the following way (˘ _ _' ˘). By applying metrical rules of foot

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construction, two feet are made; one is made over the pre-final heavy syllable and the following light syllables, the other is built over the second heavy syllable. According to the Priority Clause Principle, the first foot is unfooted because of the degenerated foot is forbidden in IA.

(X) ER/right

(X . . .)

tɑ rɑɑ Čii hɑ

Line 2   X

Line 1 (X   )

Line 0   (X . . .)

Figure (20): The Bracketed Grid of the Word **/** tɑ rɑɑ Čii hɑ /

This word /m iح bɑ su/ with a heavy-light-light syllable pattern is a disyllabic word. According to IA stress rules, the first syllable is stressed. The (_'˘˘) is the stress pattern of the present word. The rules for forming metrical foot construct one foot over the initial heavy syllable and the following light syllables.

 (X   ) ER/right

(X . .)

m iح bɑ su

Line 2   X

Line 1 (X   )

Line 0   (X . .)

Figure (21): The Bracketed Grid of the Word /m iح bɑ su /

/gir dɑɑ lɑ/, in the process of dividing this word into syllables, three syllables can be produced: heavy-heavy-light syllables. The syllable /dɑɑ/ is the stressed syllable according to the IA word stress rules,

resulting in the following stress pattern: (_ _'˘). Metrical foot construction rules build two feet: one is over the pre-final heavy syllable and the following light syllables, the other is over the initial heavy syllable.

(X   ) ER/right

(X)(X .)

gir dɑɑ lɑ

Figure (22): The Bracketed Grid of the Word / gir dɑɑ lɑ /

 The words / zɑع lɑɑ nɑ/, /rum   mɑɑ nɑ /, / gir dɑɑ lɑ/ have an identical bracketed grid. The present nursery has the following rhythmic patterns: all lines are dimeter except the third and seventh lines which are monometer lines; lines 1,5,9 are composed of an iambic foot, notated as ˘ ¯, and trochaic foot, notated as ¯ ˘, line 13 is composed of dactylic foot, notated as ¯ ˘ ˘, and an iambic one while the reset lines have a trochaic rhythmic pattern, besides, 3,5,7,9,11,13 are deviated lines.

3. Analysis of the third nursery rhyme: "Hey bird, sing, sing! " /yɑɑ ṭeer ġan ni ġan ni/

يا طير غني غني

 1./yɑɑ ṭeer ġan ni ġan ni/

Hey bird, sing, sing!

على جناحك طيرني

2./عɑ laj nɑɑ حak ṭay yir ni/

Make me fly on your wing!

وديني للبساتين

3./wɑd dii ni lil bɑ sɑɑ tiin/

Take me to the orchards

اشرب ماي   اكل تين

4./ʔaŠ rab ṃaay ʔaa kul tiin /

To drink water and eat fig!

اشرب ماي   اكل تين

5./ʔaŠ rab ṃaay ʔaa kul tiin/

To drink water and eat fig!

فرحني فرحة العيد

6./ʃar riħ ni ʃarħatil ɛiid /

Make me happy as if living a festival joy!

لبسني ثوبي الجديد

7./lab bis ni θoo bil ja diid /

Dress me a new dress!

كل ميريد   بابا يريد

8./ kul ṃay riid baɑ bɑy riid /

Whenever he wants! Daddy wants

كل ميريد   بابا يريد

9./ kul ṃay riid baɑ bɑy riid /

Whenever he wants! Daddy wants

The present nursery starts with the vocative particle /yaɑ/. As a functional word, it is not stressed, notated as (.). /ṭeer /*12 is a monosyllabic word with a superheavy syllable. It receives stress naturally so it has the following stress pattern: (_'). Drawing on metrical rules of foot construction, the final consonant is designated as extrametrical, then a single foot is built over the remaining heavy syllable, as follows:

(X)   ER/right

(X)

12* indicates that these words have identical representations on the bracketed grid.

ṭee<r>

Line 2   X

Line 1 (X)

Line 0 (X)

Figure (23): The Bracketed Grid of the Word / ṭee<r> /

/ġan ni/ is a disyllabic word with heavy-light syllables. The first syllable is stressed according to the rules of IA word stress, hence the stress pattern of this word is (_'◡). Metrical rules build an individual foot over the current word, as follows:

 (X   )   ER/right
(X .)
ġan ni
Line 2   X

Line 1 (X   )

Line 0 (X .)

Figure (24): The Bracketed Grid of the Word /ġan ni/

The second line starts with the preposition /ɛa la/ which is pronounced as /ɛa laj/ according to the effect of syllable blending, the (..) is the unstressed pattern for this word. /naɑ ħak/, this word is composed of two syllables with a heavy-heavy syllable pattern. According to IA word stress rules, the first syllable /naɑ/ is the stressed syllable, resulting in the following stress pattern:(_' _). In the light of metrical rules of foot construction, the final consonant is made extrametrical, then these rules form one foot on the word, as shown below:

(X   )   ER/right

 (X   .)
naɑ ħa<k>
Line 2   X

Line 1 (X   )

Line 0 (X .)

Figure (25): The Bracketed Grid of the Word / nɑɑ hɑ<k>/

/ṭɑy yir ni/ is a trisyllabic word with heavy-heavy-light syllables. Stress is received by the initial heavy syllable. The stress pattern is (_' _ ᵕ). Two metrical feet are made over this word by applying the rules of metrical foot construction: one foot occurs over the initial heavy syllable, and the second occurs over the pre-final heavy syllable and the following light syllable.

(X   ) ER/right
(X)(X .)
ṭɑy yir ni
Line 2 X

Line 1 (X   )

Line 0 (X) (X .)

Figure (26): The Bracketed Grid of the Word /ṭɑy yir ni /

/wɑd dii ni / is composed of three syllables with a heavy-heavy-light syllable pattern. IA rules of stress assignment require stressing the pre-final heavy syllable. As a result, the present word gets the following stress pattern:(_ _' ᵕ). In the light of metrical foot construction rules, two feet are formed over the present word: one foot occurs over the pre-final heavy syllable and the following light syllable, the other occurs on the initial heavy syllable, as shown below:

(X) ER/right

(X)(X .)

wɑd dii ni

Line 2   X

Line 1 (X   )

Line 0   (X)(X .)

Figure (27): The Bracketed Grid of the Word / wɑd dii ni /

/lil bɑ sɑɑ tiin/ is a tetrasyllabic word with a heavy-light-heavy-superheavy syllable pattern. IA word stress rules assign stress to the final superheavy syllable, producing the (_ ᵕ _ =') stress pattern. The last consonant is rendered extrametrical by metrical rules. Accordingly, three feet are formed: one occurs over the final remaining heavy syllable, the second occurs over the pre-final heavy syllable and the last foot occurs over the first syllable and the following light one.

(X) ER/right
(X .) (X) (X)
lil bɑ sɑɑ tii<n>
Line 2   X

Line 1 (X)

Line 0 (X .) (X)(X)

Figure (28): The Bracketed Grid of the Word /lil bɑ sɑɑ tii<n>/

/ʔɑŠ rɑb/ has two heavy syllables. The initial heavy syllable is the stressed syllable. The stress pattern of this word is (_' _). Metrical rules make the final consonant extrametrical, as a result, one metrical foot can be made on the current word, as illustrated below:

(X   ) ER/right
(X   .)
ʔɑŠ rɑ<b>

Figure (29): The Bracketed Grid of the Word / ʔɑŠ rɑ<b> /

/mɑɑy/*, this word is composed of one superheavy syllable which receives stress naturally, this results in the following stress pattern: (_'). Metrical rules of foot construction make the final consonant extrametrical, as such one foot is formed over the remaining heavy syllable.

(X) ER/right

(X)

ṃɑɑ<y>

Figure (30): The Bracketed Grid of the Word / ṃɑɑ<y>/

/ʔɑɑ kul / is a disyllabic word with a heavy-heavy syllable pattern. In the light of IA rules of stress, the initial syllable is stressed, producing the (_' _) word stress pattern. One metrical foot can be constructed on the first syllable and the last syllable which becomes light after making the final consonant extrametrical by applying metrical foot construction rules.

(X   )   ER/right

(X   .)

ʔɑɑ ku<l>

Figure (31): The Bracketed Grid of the Word / ʔɑɑ ku<l>/

/tiin/* this word consists of a single syllable with a superheavy syllable pattern. Naturally, stress is received by this monosyllabic word, giving the following stress pattern: (_'). Metrical rules render the final syllable extrametrical, hence producing one metrical foot over this word.

(X) ER/right

(X)

tii<n>

Figure (32): The Bracketed Grid of the Word / tii<n>/

/ ʃɑr riħ ni / is a trisyllabic word with a heavy-heavy-light syllable pattern. Stress is received by the initial heavy syllable. The pattern of the word stress is (_' _ ˘). Two metrical feet are constructed for this word; one foot occurs over the initial heavy syllable, and the second occurs over the pre-final heavy syllable and the following light syllable.

(X   )   ER/right

(X) (X .)

ʃɑr riħ ni

Figure (33): The Bracketed Grid of the Word /ʃɑr riħ ni/

/ʃɑr ħɑ til / is a trisyllabic word with three syllables; heavy, light, and heavy. IA rules of word stress are assigned stress to the first syllable. The stress pattern of this word is (_'˘_). The rules of metrical foot construction designate the final consonant of the final syllable as extrametrical, then one foot can be formed on the present word.

(X   )   ER/right

(X . .)

ʃɑr ħɑ ti<l>

Line 2   X

Line 1 (X   )

Line 0   (X . .)

Figure (34): The Bracketed Grid of the Word /ʃɑr ħɑ ti<l>/

/ ʕiid/*, this word has one syllable with a superheavy syllable pattern. Stress is attached to this syllable, producing (_') word's stress pattern. The final consonant is made extrametrical, then one metrical foot is built over the current word according to metrical rules of foot construction.

(X)   ER/right

(X)

ʕii<d>

Figure (35): The Bracketed Grid of the Word /ʕii<d>/

/lɑb bis ni/ consists of three syllables with a heavy-heavy-light syllable pattern. Stress is put on the first syllable, producing the (_' _ ˘) word stress pattern. Two feet are formed on this word; one foot occurs over the initial heavy syllable; the second occurs over the pre-final heavy syllable and the following light syllable.

(X   )   ER/right

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(X) (X   .)
lɑb bis ni

Figure (36): The Bracketed Grid of the Word   / lɑb bis ni /

The words /ṭay yir ni /, /ʃɑr riح ni/, and /lɑb bis ni / have similar representations on the bracketed grid.

/θoo bil/ is a disyllabic word with a heavy-heavy syllable pattern. Stress is received by the initial heavy syllable containing the long vowel. The pattern of stress for this word is (_ '_). One metrical foot occurs   over the initial syllable and what follows it after designating the final consonant as extrametrical.

(X   )   ER/right

(X .)

θoo bi<l>

Figure (37): The Bracketed Grid of the Word /θoo bi<l>/

/jɑ diid / is composed of a light-superheavy syllable pattern. The final syllable is stressed, resulting in the (�‿=') word stress pattern. One metrical foot occurs on the heavy syllable after making the last consonant extrametrical, the initial light syllable is left unfooted because this type of syllable (CV) is unable to build a metrical foot in all Arabic variants.

(X)   ER/right
      (X)
jɑ dii<d>
Line 2   X

Line 1 (X)

Line 0   (X)

Figure (38): The Bracketed Grid of the Word / jɑ dii<d>/

Syntactically, /kul mɑy/ is an adverb of time. It is composed of two heavy

syllables. Stress is received by the initial heavy syllable, giving in the following stress pattern: (_'_). The final consonant of the second syllable is rendered extrametrical depending on metrical rules of foot construction. One foot can be built on the first syllable and the last syllable.

(X   )   ER/right

(X .)

kul mɑ<y>

Figure (39): The Bracketed Grid of the Word / kul mɑ<y>/

/riid /* is a monosyllabic word with a superheavy syllable pattern. Stress is placed on this superheavy syllable, resulting in the following word's stress pattern: (_'). Metrical foot construction rules build one foot on the remaining heavy syllable after making the last consonant extrametrical, as follows:

(X)   ER/Right

(X)

rii<d>

Figure (40): The Bracketed Grid of the Word / rii<d>/

/bɑɑ bɑy/ is a disyllabic word with a heavy-heavy syllable pattern. Since the first syllable contains a long vowel so it is the stressed syllable. The stress pattern for this word is as follows: (_'_). A single foot can be built on this word, after marking the final consonant of the final syllable as extrametrical:

(X   )   ER/right

(X .)

bɑɑ bɑ<y>

Figure (41): The Bracketed Grid of the Word / bɑɑ ba<y>/

The following words have an identical bracketed grid: /nɑɑ ħak /, /ˀaŠ rab/ /ˀɑɑ kul/, / θoo bil/, /kul mɑy/, and / bɑɑ bɑy /. Lines 4,5,8,9 have tetrameter trochaic-spondaic-iambic feet, line 1 is trimeter with spondaic, notated as ¯ ¯, and iambic pattern, notated as ˘ ¯, line 2 is dimeter with trochaic, notated as ¯ ˘, and dactylic pattern notated as ¯ ˘ ˘ line 3 is a dimeter line with two iambic feet, line 6 is a trimeter with two dactylic rhythmic meter, finally, line 7 is a trimeter with dactylic-trochaic-iambic feet. Additionally, lines 1,2,3,6 have deviated.

3. Results and Discussion

After analyzing three IA nursery rhymes by applying H95's bracketed grid model, the results which are achieved in each IA nursery rhyme are discussed depending on the following points: the total of words which are analyzed metrically in each nursery rhyme and the length of the poetic lines (meter). The number and percentage of words and the number and percentage of feet are illustrated below respectively:

Table (2): The Number and Percentage of the Word Categories

Word Classification	No.	Percentage
Monosyllabic	5	12.195
Disyllabic	19	46.341
Trisyllabic	15	36.585
Tetrasyllabic	2	4.878
Total	41	100

Table (3): The Number and Percentage of the Length of the Poetic Lines

Poetic Line Length	No.	Percentage

Monometer	6	18.181
Dimeter	20	60.606
Trimeter	3	9.090
Tetrameter	4	12.121
Total	33	100

4. Conclusions

The current study revealed that IA is a quantity-sensitive language since it depends on the syllable structure (word construction) in locating stress. Feet are parsed from the left to the right in which the syllable weight is represented from the final syllable to the first syllable. The degenerated foot is not allowed in IA. The first hypothesis and the second one which say that the stress pattern and the rhythmic pattern of IA nursery rhymes are best accounted for by applying H95 metrical stress theory, the bracketed grid model are verified.

The study analyzed the metrical structure of forty-one IA rhymes words, These words are divided into monosyllabic, disyllabic, trisyllabic, and tetrasyllabic words. The results showed that disyllabic words are more frequent with 46.34% of the total number of words. Thus, it seems that there is an inverse relation between the rhymes words number of syllables and

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their frequency. Accordingly, the third hypothesis is accepted. In addition, the study investigated the rhythmic patterns of IA nursery rhymes. The results showed that the most frequent type is the trochaic foot with 45.45% of 33 poetic lines, also the dimeter lines are the most frequent with 60.60% of 33 poetic lines. Hence, the fourth hypothesis is verified and accepted.

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الخلاصة

تحاول هذه الدراسة تحليل التركيب المتري لأناشيد الاطفال باللهجة العربية العراقية. تتعامل هذه الدراسة على وجه التحديد مع تعيين انماط نبر الكلمة حسب نظرية هيز (١٩٩٥). الافتراض الاساسي لهذه النظرية هو ان "النبر هو بناء هرمي للأنماط الايقاعية التي يكون فيها احد المقاطع بارز نسبيا عن ما سبقه و تبعه من المقاطع". و قد اظهرت النتائج ان الكلمات ثنائية المقطع و كذلك السطور الشعرية ثنائية التفعيلة هي الاكثر شيوعا من ضمن الكلمات و السطور الشعرية لثلاثة اناشيد للأطفال باللهجة العربية العراقية.