

*Final word syllables In English And Arabic**A Contrastive Study*

مقاطع نهايات الكلمات في العربية والانكليزية

دراسة مقارنة

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English and Arabic languages treat the syllable as the phonological building block of words and as a basic unit of organization for a sequence of a language, it's prosody and it's stress patterns . There are two dimensions to this topic :1) Phonetically , syllables are described in English as consisting of a center which has little or no obstruction to air-flow preceded and followed by some kind of obstruction; whereas in Arabic, syllables are phonetically described as chest pulses , and 2) Phonologically , the syllable is perceived in English as a complex unit made up of nuclear and marginal elements and in Arabic it is perceived as a unit per language , i.e. each language has its own sequences of consonants and vowels besides other features like length , stress and intonation .

The syllable in both languages is perceived as a phonological unit consisting of a vowel which forms the nucleus or the peak and the consonant(s) which in English forms optional initial and final margins. The latter item is treated as a group of sounds forming two bases before

and after the peak. Hierarchically, the structure of the syllable consists of an onset (mostly consonants) and a rhyme which in turn consists of the nucleus (mostly vowels or one of the following consonants /r/ , /l/ , /m/ , /n/ , and the velar nasal /ŋ/) and the coda which is an optional element. On the contrary, Arabic treats the syllable as an ordered symmetry of analytic units depending on the sequence of sawamit (consonants) and sawa it (vowels) with the postulate – similar to that of English- that consonants (sometimes except /l/ , /m/ , /n/ ) occupy the bases of the syllable whereas vowels occupy the peak position.

In English ,the syllable is either open ,i.e. one which ends with a vowel or closed which ends with a consonant. The same applies to Arabic where the open syllable (maftuh) ends with a semi- vowel (waw and ya) or a short sound, and closed syllables (muqfal) which ends with a consonant. What differs is that final word syllables in English are mainly consonant clusters of up to four consonants at the end of a word referring either to plurality, adding the past morpheme or using ordinal numbers ; whereas in Arabic, final word syllables depend on the combination of sawamit (consonants) and sawami t (vowels) which is by itself a basic part of the original word.

## **2-Introduction:**

English and Arabic languages have their distinct ways of dealing with the syllable in accordance to the unique system each language has. Notwithstanding ,both languages treat the syllable as:1)the phonological building block of words, 2) a basic unit of organization for a sequence of speech sounds by segmenting them in a rhyme of strong and weak beats, and3) a factor that influence the rhythm of a language, its prosody and its stress patterns.

In English, the syllable is typically made up of a syllable nucleus (most often a vowel) with optional initial and final margins (typically consonants) as in the word sit /sit/ which consists of the nucleus /i/ and the initial and final margins /s/ and /t/. The same applies in Arabic where the syllable is defined as "a group of sounds forming two bases having a peak in between" (Ayub,1968:139).

Phonetically syllables "are usually described as consisting of a centre which has little or no obstruction to airflow and which sounds comparatively loud; before and after that centre there will be greater obstruction to airflow and/or less loud sound" (Roach, 2000:70). In the monosyllabic (one syllable word) cat /ka t/, the vowel /a / is the centre at which little obstruction takes place, whereas the surrounding /k/ and /t/ have complete obstruction to the airflow. English has also disyllabic words (words consisting of two syllables) like puppy /p pi/, trisyllabic words (words consisting of three syllables like wolverine /wulv ri:n/, and polysyllabic words (words containing more than three syllables) such as rhinoceros /raɪn s r s/.

In his Manahij-l-bahth fil-lugha (1990:170) Hassan expounds that syllables are either: 1) an ordered symmetry of analytic units, 2) chest pulses throughout speech, 3) structural units, or 4) certain figures and quantities. In accordance to these definitions, there are four ways of describing the syllable: 1) to specify symbols like S and h (most grammarians) for consonants and vowels respectively and arrange them in different forms in relation to the assumed syllables, 2) to use symbols like the dot and arrow to show the various forms and quantities of the syllable, 3) grammarians use structural units assuming that the Arabic language has six units identifying the syllable, and 4) to specify letters like "f" which stands for maftuh (open syllable ending with a vowel item) and "l" which stands for muqfal (closed syllable ending with a consonant). This research uses S and h to show the arrangement of consonants and vowels in Arabic.

Umar (1976:286-4) contends that there are phonological trends in defining the syllable in assuming that phonologically the syllable is perceived as a unit per language, i.e. each language has its own sequences of consonants and vowels besides other features like length, stress and intonation. In English, the syllable is Phonologically a complex unit made up of nuclear and marginal syllables. Nuclear elements are the vowels or syllabic segments, whereas marginal elements are the consonants or non-syllabic segments. In the syllable

paint/peint/, the diphthong /eɪ/ is the nuclear element, whereas the initial consonant /p/ and the final cluster/nt/ are marginal elements.

### **3-Theories Of The Syllable:**

In Arabic, no theories are built in the strict sense of the word theory, albeit, some traces are made by Hassan(1990:170) assuming that syllables are chest pulses throughout speech, and Al-Hamad (1990:209)who gives a comprehensive (though abridged) approach to the syllable from three points of view:1) articulatory, the syllable is a group of sounds produced in one chest pulse, 2) acoustically ,the syllable is a sonority peak between two bases, and 3)functionally, it is a sequence of consonants (sawamit) and vowels (sawa` it).

In English, Ladefoged (2006:237) assumes that there are two types of theories defining syllables:1)there are theories defining syllables in terms of properties of sounds, such as sonority(acoustic energy) or prominence (some combination of sonority, length, stress and pitch), and 2) there are theories based on the notion that a syllable is a unit in the organization of the sounds of an utterance.

#### **3-1 Prominence Theory:**

Brosnahan and Malmberg(1970:141) clarify that the prominence theory(also known as sonority theory) goes back to Jespersen who established a ranking of speech sounds according to sonority; starting with the open vowels as the most sonorous, continues in order, through the close vowels , the liquids and nasals, the voiced fricatives, the voiced plosives, the voiceless fricatives and ends with the voiceless plosives as the least sonorous. Thus the English word plant /pl :nt/ starts with the minimally sonorous /p/ through /l/ with a medium degree of sonority to the maximally sonorous / :/; it continues with a decreasing sonority through /n/ to a second minimum with /t/.Yet, Jespersen`s rank-ordering is based on the degree of opening of the vocal tract in their articulations.

Gimson (1980:56) clarifies that the prominence theory is based mainly on auditory judgments and that the number of syllables in a word is

determined by the number of peaks of prominence. In a word like entertaining /ent teɪnɪŋ / the peaks of prominence are represented by the vowels /e, ,eɪ, ɪ/. However, misunderstanding occurs in such cases where listeners hear a word like a name / neɪm/ as an aim / n eɪm/ which is considered by Brosnahan and Malmberg(1970:143) as "a matter of transition and connection between contours and vocoids" ,i.e. consonants and vowels.

Although the above example shows clearly that prominence theory does not help much in the discussion of syllable division, yet one cannot deny the fact that the syllable can be viewed as "a prosodic constituent made up of segments abstractly connected in sonority clusters"(Roca and Johnson,1999:702).

### **3-2-The chest pulse Theory:-**

The chest pulse theory discusses the syllable in the context of muscular activities and lung movements in the process of speech. Stetson conceives of the syllable in this case as "basically the result of a ballistic-type periodicity of movement in the expiratory muscles so that each syllable is a puff of air from the chest"(Brosnahan and Malmberg,1970:142).

Abercrombie (1967:40) clarifies that the syllable has three phases: 1)the starting chest pulse phase is of a small amount of air on its way out from the lungs,2)the passage of this air through the vocal tract,and3)the conclusion of the movement of this air coinciding with the beginning of another chest pulse. The syllable in this case is defined as "a product of the way the pulmonic air-stream mechanism works; its basis is a chest pulse on which are superimposed the articulatory movements and the allied movements of the vocal cords and velum which produce segments" (Ibid:73).

Gimson (1980:56) assumes that the number of chest pulses, accompanied by an increase of air pressure can determine the number of syllables produced. However, this approach has its shortcoming as it cannot account for cases when two vowels occur one after the other.

So the second chest pulse in words like being /bi:l / might be almost irrelevant; a matter which leads to the mistaken conclusion that such words consist of one syllable only.

#### 4-Syllable Structure:

The bulk of present-day phonological theory agrees that the syllable has a constituent or a hierarchical, rather than, a linear structure. Ladefoged(2006:242) and other linguists(e.g. Katamba,1989:154; Giegerich,1992:138; Clark and Yallop, 1995:411; Roach,2000:73) argue that for descriptive purposes, the syllable can be divided into onset and rhyme; within the rhyme we find the nucleus (also the peak) and coda. Not all syllables have all parts; the smallest possible syllable contains a nucleus only( which is almost always a vowel),as in are / /, or / / and err /3: /.

The onset stands for the beginning sounds of the syllable ; the ones preceding the nucleus. These are always consonants in English. The rhyme is the rest of the syllable after the onset. It can be divided up into the nucleus and the coda. The nucleus, which is an obligatory element, represents the nuclear or most sonorous element in a syllable .It is a vowel in most cases, although the consonants /r, l, m, n/ and the velar nasal / / can also be the nucleus of the syllable. On the contrary ,the coda is an optional element and includes all consonants that follow the peak(Katamba, 1989:154 ; Durand, 1990:216; Giegerich,1992:138; Clark and Yallop, 1995:411; Roca and Johnson,1999:242; and Roach,2000:73).

Hassan (1990:173) and many other Arab linguists (e.g. Al-Ani ,1983:13; Abdo , 1970:129 ; Anis, 1995:164) adopt the idea that the syllable is an ordered symmetry of analytic molecules and that there are six types of syllables denoted by the symbols (s) and (h) for consonants and vowels respectively (though Hassan prefers instead of h ) in the following ordered sequence: 1) sh (short closed), 2)sh (short open) ,3) shs (mid-closed), 4) shh (mid-open), 5) shhs (long closed), and 6) shss (long, double – closed).

Generally speaking , phonetic syllables can be maftuh (open) which ends with a semi-vowel (waw and ya ) or a short sound, and muqfal (closed) when a consonant or more closes it up. In both cases; the syllable must start with consonant which is mostly said write) and (hamza) as in qala ktub قال اكتب (He doubling of consonants must be done by doubling the vowel. It is a postulate in Arabic that consonants ( sometimes except/ l/, /m/ and/ n/ occupy the bases of the syllable ;whereas vowels form the peak (Ayub,1968:161 and Anis, 1995:161).

Al-Ani (1983:131) seems to rely heavily on the way British linguists handled the term "syllable" in that it has a prominent part which is the nucleus and the other elements are marginal factors. The nucleus appears as a prominent formant acoustically and acquire syllabicity with the presence of short and long vowels; whereas non- syllabic consonants waw and ya are non-syllabic as they constitute the marginal factors.

Hassan (1973:68-71) gives a detailed description of the functions of consonants and vowels in Arabic syllables. To start with consonants:1)they form the origin of the Arabic word and it`s base, 2)if geminated, they refer either to a multiple syllable as in `al in `allam عَلم (taught) or to pause on the geminated sound as in bb in Yarabb يا رب (O my God)and 3) they constitute the beginning of the syllable and almost always it`s end . On the other hand, vowels can:1) constitute the nucleus of the syllable and the base of sonority which is a basic element in stress within Morphology and intonation within Syntax, 2)be the clue to morphological derivation to the same stem as in qatil قَاتِل (was killed ) and qatal قَاتَلَ (killed) which are both derived from the same stem q-t-l , and 3) form important signs in parsing .

### **5-Functions of the syllable:**

The syllable , being the unit in terms of which phonological systems are organized, is at the heart of phonological representations. It is purely a phonological entity which has its own functions. Katamba (1989:164) expounds that the syllable can function as the basic

phonotactic unit as it regulates the ways in which lower level units ,i.e. consonants and vowels of the phonological hierarchy can combine.

In the same line of thought, Lass(1989;23) contends that "the syllable is a central unit in phonotactic description' as there are restrictions,i.e. sequence constraints on the number and type of segments that can combine to form syllables and words. In English, if a word begins with /s/ sound, the second sound must be either of the following sounds /p, t ,k/ and the third from among the liquids /l , r/ or glides /w ,y/.

Katamba(ibid:166-173) adds that the syllable plays an important role in conditioning the application of phonological rules internal to a language. It also regulates the combination of features which make up segments and this explains why the syllable is considered as the hub of phonological organization. Besides, higher prosodic phenomena like stress, nasalization and quantity (length) can only be slightly described in terms of the syllable as it is an important factor to count the number of syllables in a word to determine whether a given rule is applicable.

`Umar(1976:281-83) and other linguists (e.g. Sahin,1980:38 and Hassan, 1973 :170) postulate that the syllable in Arabic has certain functions in that speakers of the language cannot pronounce individual phonemes unless they are gathered in syllables ,i.e. this means that the syllable is a semantic unit since individual sounds do not have meaning.

Besides, the syllable can elucidate the vagueness that associate certain phonetic groups and thus it is the main domain of work in stress, tempo and intonation. Most important is that the syllable plays a functional role in Arabic even if it is a short syllable

like the letter waw which is used either to refer to coordination (ال عطف) as in (The pen and the book ) وال ك تاب ( or swear (ال قسم) والله (By God).

### **6-Final word syllables in English and Arabic:**

Roach(2000:71-2) gives a complete and thorough description of final word syllables mainly consonant clusters of up to four consonants at



the end of a word. To start with, if there is one consonant only, this is called the final consonant which may be any consonant except (h ,r ,w and j). If a word ends with two consonant final clusters, it can be one of the types: 1) a final consonant preceded by a pre-final consonant of the set /m, n , ,l ,s/ as in bump /b mp/, bent /bent/, bank /b k/, belt /belt/ and ask /a:sk/, and 2) a final consonant of the set /s, z, t, d, and O /. We can see these sounds in bets /bets/, beds /bedz/, backed /ba kt/, bagged /bag d/ and eighth /eltO/. Roach (ibid:71) identifies these post-final consonants as separate morphemes and these are really so as they refer to one of the following cases: 1) plurality, 2) adding the past morpheme or 3) using ordinal numbers.

Roach (ibid:72) continues his way of analysis assuming that there are two types of final three-consonant clusters: 1) pre-final plus final plus post-final as in helped /helpt/ where /l/ occupies the pre-final position, /p/ the final and /t/ the post-final, and 2) where the pre-final is reduced to nil and the final is followed by two post-final consonants; example word is next /nekst/ where /k/ stands for the final consonant; whereas /s/ and /t/ stand for post-final 1 and post-final 2 respectively.

Taking four consonant clusters into consideration, they can be analyzed as consisting of a final consonant preceded by a pre-final and followed by post-final 1 and post-final 2, as in in twelfths /twelfOs/, where /l/ takes the pre-final position, /f/ the final position and /O/ and /s/ post-final 1 and post-final 2 respectively. A different approach forces itself here with a small number of cases which consist of a final consonant with no pre-final but three post-finals, as in sixths /siksOs/ where /k/ is the final consonant and the cluster /sOs// stand for post-final 1, post-final 2 and post-final 3 respectively.

In Arabic, most linguists (e.g. Hassan, 1990:176; swid and Mustafa, 1993:207; and Sa ir, 2008:72-4) agree that final word syllables are of three types: 1) Sh such as ba in kataba ك ت ب (to write), 2) either shs such as til in y uqatil ي قاتل (to fight) or shh as in nu in nudina ن و دينا (we were called) and 3) either shhs when there is a stop on the final part of the syllable such as lin in dalin

ين (lost) or shss when there is a stop on the geminated sound in a word such as bb in sabb شاب (young man) . This latter case is also found when there is a stop on two consonants from different organs of speech , such as qarr in almustaqarr (settlement) where /q/ is uvular ; whereas /r/ is alveolar.

It seems clear that final word syllable in Arabic is part of the original structure of the word itself ,i.e. it is not a separate morpheme referring to polarity or whatsoever as is the case in English.

### **7-Conclusions:**

This research paper has come up with the following conclusions:

- English and Arabic treat the syllable as a basic unit of organization for a sequence of speech sounds.
- Phonetically, syllables are described in English as consisting of a centre which has little or no obstruction to airflow preceded and followed by great obstruction; whereas in Arabic, syllables are phonetically described as chest pulses.
- In English, the syllable is phonologically a complex unit made up of nuclear and marginal syllables ,and in Arabic it is perceived as a unit per language ,i.e. each language has its own sequences of consonants and vowels besides other features like length, stress and intonation.
- In English, two types of theories dealt with the syllable either in terms of acoustic properties of sounds such as sonority or prominence, or on the notion that the syllable is a unit in the organization of the sounds of an utterance; whereas in Arabic, no theories are built in the strict sense of the word theory, albeit some traces are made by Arab linguists assuming that the syllable can be studied: 1) articulatory as a group of sounds produced in one chest pulse, 2) acoustically as a sonority peak between two bases, and 3) functionally as a sequence of sawamit (consonants) and sawa`it (vowels).

-The syllable in English has a hierarchical structure of an onset (mostly consonants) and a rhyme which in turn consists of the nucleus( mostly vowels or one of the following consonants /r/, /l/, /m/, /n/, and the velar nasal/ ʃ / and the coda (mostly consonants) which is an optional element. On the contrary, Arabic treats the syllable as an ordered symmetry of analytic units with six different types depending on the sequence of sawamit (consonants) and sawa`mit (vowels) with the postulate-similar to that of English- that consonants (sometimes except /l/, /m/, and /n/) occupy the bases of the syllable whereas vowels occupy the peak position.

- In English, syllables ending in vowels are called open syllables and those ending with consonants are called closed syllables .The same applies to Arabic with the former type called mutaharric or maftuh and the latter sakin or muqfal.

-The syllable can function as the basic phonotactic unit in English as it regulates the ways in which lower level units can combine. In Arabic, the basic function of the syllable is that it is a semantic unit since individual sounds do not have meaning .Yet, in both languages, the syllable functions as an important factor in the study of stress, tempo and intonation.

-Final word syllables in English are mainly consonant clusters of up to four consonants at the end of a word; whereas in Arabic, final word syllables depend on the combination of sh, i.e. sawamit(consonants) and sawa`it (vowels) of three types only.

-In English, final word syllables refer either to plurality, adding the past morpheme or using ordinal numbers; whereas in Arabic it is a basic part of the original word.

## الملخص

تعامل كل من اللغتين العربية والانكليزية المقطع على انه الزمرة البنائية للكلمات في علم الكلام الوظيفي وبأنه الوحدة الأساسية لتنظيم سلسلة اللغة ونظامها العروضي ونمطها النبري. ولهذا الموضوع بعدان : أولاً بعد صوتي إذ توصف المقاطع في الانكليزية على انه يتكون من مركز لديه الانسداد (العائق) أو القليل من الانسداد لمجرى (سريان) الهواء يكون مسبقاً ومتبوعاً بالقليل من الانسداد بينما توصف المقاطع في العربية على أنها خفقات صدرية. فيما يخص علم الكلام الوظيفي تعدّ المقاطع في الانكليزية صعبة متألّفة من مفردات رئيسة وهامشية وفي العربية تعدّ وحدة لكل لغة وتتكون هذه الوحدة من سلسلة الحروف الصحيحة وحروف العلة بالإضافة إلى ميزات أخرى كالطول والنبر والتنغيم .

تفهم المقاطع في اللغتين المذكورتين آنفاً على أنها وحدات فونولوجية متألّفة من حروف العلة التي تكون المركز أو القمة والحروف الصحيحة التي تكون في الانكليزية هامشية واختيارية وتقع في الحدود الأولية (البداية) والنهائية للكلمات وفي العربية تكون عبارة عن مجموعة أصوات تكوّن القواعد التي تقع قبل وبعد القمم. وللمقاطع بنية هرمية متألّفة من المستهل (حروف صحيحة غالباً) والمركز (غالباً حروف علة أو احد الأصوات التالية: ر، ل، م، ن، الأنفية الحنكية القصية والتقفيلة التي تكون عنصرنا اختيارياً . وعلى النقيض فأن العربية تعامل المقطع على انه تناسق منظم من وحدات تحليلية بالاعتماد على تسلسل الصوامت (الحروف الصحيحة) والصوامت (حروف العلة) مع البديهية المسلم بها - والمشابهة للانكليزية - بأن الحروف الصحيحة (أحياناً عدل م، ن) تشغل قواعد المقطع بينما تشغل حروف العلة موقع المركز .

في الانكليزية ممكن أن يكون المقطع مفتوحاً أي منتهياً بحرف علة أو مغلقاً أي منتهياً بحرف صحيح ، وهذا ينطبق على العربية أيضاً إذ يكون المقطع المفتوح منتهياً بأشباه الصوائت (الواو والياء) أو بحرف قصير والمقطع المغلق منتهياً بحرف

صامت ويكمن الاختلاف في إن المقاطع الأخيرة للكلمات في الانكليزية تتألف من تجمعات صوتية تتألف من أربعة حروف صحيحة في نهاية الكلمة وتشير إلى الجمع أو الماضي أو استخدام الأرقام الترتيبية أما في العربية فتعتمد المقاطع الأخيرة للكلمات على اتحاد الصوائت والصوامت والتي تعدّ بحد ذاتها جزءا رئيسا من الكلمة الأصلية .

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