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Syllable Structure of Amrani Yemeni Arabic

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Abstract*: The aim of this paper is to investigate the syllable structure in Amrani Yemeni Arabic (AYA), a variation of Yemeni Arabic spoken in the northern-west part of Yemen. It focuses on the elements of syllable structure and possibilities of syllable in terms of C (consonant) and V (vowel). It analyzes the different syllabification patterns in terms of sonority scales (principles) and syllable shapes attested in AYA. AYA has two types of syllables open syllables (CV), (CV:) and closed syllables (CVC), (CV:C), and (CVCC). AYA does not allow consonant clusters syllable onsets and allow a maximum of two consonant clusters in coda position.*

1. Introduction

The syllable has generally been taken to be recognized in the intermediate position between a word and a phoneme. It is believed to be a unit of pronunciation optimally larger than a single sound and smaller than a word. Syllable has gone through innumerable definitions by many linguists. Daniel Jones (1918-1972), for example, discusses this unit in terms of the following: "Each sound which constitute a peak of prominence is said to be syllabic and the word or phrase is said to contain as many syllables as there are peaks of prominence." Hockett defines it differently as "the smallest unit in the structure of an utterance, consisting of onset, nucleus and coda."

There are a number of distinct properties relative to the syllable structure of AYA and which are language-specific and differ from the dialects spoken in the other cities of Yemen. The phonemic inventory of AYA consists of 27 consonants, six vowels; 3 short and 3 long ones and 2 diphthongs. There are seven syllable patterns attested in AYA; (mono-syllabic, di-syllabic, tri-syllabic, tetra-syllabic, penta-syllabic, hexa-syllabic and septa-syllabic). The phonotactic constraints of AYA do not allow consonant clusters in syllable onsets and it allows a maximum of two in syllable codas. Each syllable in AYA must begin with one and only one consonant; vowels never occur syllable initially. However, there are few restricted examples where CV:CVCCC pattern is seen such as in /ma:.sirtʃ/ 'I didn't go' and /ma:.sˁaljitʃ/ 'I didn't pray'. Moreover, a wide-ranging agreement on the fact that sonority has a direct relationship with syllables.

1.1. Aims and Objectives

The present paper aims at drawing a starting point in the discussion of AYA by achieving the following objectives;

- To investigate the syllabification patterns in AYA.
- To analyze AYA syllable in the light of generative phonology and the sonority principles.

1.2. Materials and Methods

The materials used in conducting this research paper are taken from subjects' spontaneous speech, the data recordings and e-resources like e-books and e-journals. The present paper followed an explanatory and theoretical methods.

1.3. Scope and Limitations of the Study

The scope of the current paper is clarified in three points; a) it is restricted to the study of syllable in AYA, b) the number of participants is very limited and c) few words are analyzed. Thus the scope is limited.

1.4. Significance of the Study

The significance of this study draws form the fact that it is the first to tackle the problem of syllabification in Yemeni Arabic; precisely in AYA. It also brings a paramount information about the syllable types in the dialect under investigation.

2. Background to the Study

Syllable structure has received a lot of attention by linguists and so many studies have been conducted on this topic across languages of the world. Crystal (1997) described the syllable as "a unit of pronunciation typically larger than a single sound and smaller than a word" words can be divided into three different categories based on their number of syllables: monosyllabic, disyllabic and polysyllabic.

Crystal divides syllables further into an onset, a nucleus and a coda. The onset describes the opening if the syllable, the nucleus describes the middle and the coda describes the end. The nucleus of a syllable is almost always a vowel, while the onset and coda can consist of only consonants. Combinations of sounds fall into language-specific restrictions to appear in the onset or coda. There are some languages which disallow codas completely.

Crystal further describes syllables based on their position within the word, providing terms only for the final three syllables; ultimate, penultimate and antepenultimate syllables respectively. He also rip to shreds the syllable parts; onset, nucleus and coda, into moras. A mora is defined as the minimal unit of metrical time or weight whereby syllables are classified in terms of syllable weight.

As far as the syllable in Arabic is concerned and having gone through various studies, syllable in the so called language has witnessed three significant facts. Firstly, complex onsets are prohibited in Arabic. Many linguists like McCarthy (2005), Hadad and Archibald (2005), agreed that complex onset is not allowed in many varieties of Arabic. Second, words never start with a vowel. Several studies like Haddad (2005), McCarthy (2005) and Gadoua (2000), have all pointed out that words in Arabic do not start with initial vowels. Carter (2004) explains that classical Arabic does not allow a syllable to begin with a vowel. Third, there are varieties of Arabic that allow geminates to occupy the onset. Boudlal (2004) illustrates that with several examples in Casablanca Moroccan Arabic which allows geminates even initially.

Watson (2007) has conducted a study based on Kiparsky's (2003) classification of Arabic dialects into three groups, CV-, VC- and C- dialects. She extends the three-way typology put forward by Kiparsky for Arabic to a four-way typology. She argues that the syllables incorporating long segments are distinguished from syllables ending in final consonant clusters in relevant dialects, and accounted for by means of a mora-sharing analysis. She also considers many dialects which were not considered by Kiparsky's (2003) and fits them into the classification.

- **Group1: CV- dialects**

Yemen (al-Hudaida, San'ani, Yaafi'I, Yariimi, Ibbi), Egypt (Cairene, Middle Egyptian dialects), Saudi Arabia (Meccan).

- **Group2: VC- dialects**

The Levant (Haifa, Ras-Beirut), Turkey (Cukurova dialects and Kinderib), Yemen (in-NaDhiir), Egypt (il-'Awam'a) Libya (Tripoli).

- **Group3:** Dialects which display both VC- and CV- epenthesis patterns Sudan (Shukriyya, Central Urban Sudanese)

Hence, Watson has added five Yemeni dialects to the group of CV-dialects, the closest of which to AYA is the San'ani dialect, spoken in the city of Sana'a, about 63 km from Amran. She also argues that some charcteristics cited by Kiparsky as typical of particular groups are in fact shared by other dialects of other groups. Thus, Watson argues that some dialects fail to fully conform to the characteristic phenomena of Kiparsky's dialect types and she proposes a new type of dialects and gives them the name Cv dialects, distinguished from CV-dialects by the lower case 'v'. However, not much work has been reported in my dialect (AYA). As such the literature review is limited.

3. Methodology

The data for the present paper was collected from two AYA native-speakers. These subjects are the researcher and his wife as they are the only native speakers of AYA available in Aurangabad.

The data collection is done through recordings of spontaneous speech devoid of any direct interference. The data was collected in two different sessions 30 minutes each. A number of 100 words were collected, representing all types of syllables attested in AYA (mono-, di-syllabic, tri-syllabic-tetra- syllabic, penta-syllabic, hexa-syllabic and sepa-syllabic).

Having recorded the two sessions, the researcher copied them to the laptop for further analysis and discussion. Then, they were tabulated and syllabified accordingly. Data analysis for both syllable templates and word structure were done manually. It provides a wide range of word structures; as seen below. As seen from the data, the structure of words varies. As per the syllable patterns in AYA, they are found to be five types; CV, CV:, CVC, CV:C and CVCC.

4. Data Presentation an Analysis

4.1. Yemeni Arabic: Amrani dialect

A concise description of phonological system; phonemic inventory of both the consonants and the vowels, syllable structure patterns and phonotatic constraints.

4.2.1 Consonants

Manner of Articulation \ Place of Articulation		Bilabial	Labio-dental	Inter-dental	Dental-alveolar	Post-alveolar	palatal	Velar	Uvular	Pharyn-geal	Laryngeal
		VL V	VL V	VL V	VL V	VL V	VL V	VL V	VL V	VL V	VL V
Stop Emphatic		b			t d tˤ			k g			ʔ
Nasal		m			n						
Fricative Emphatic			f	θ ð ðˤ	s z sˤ	ʃ ʒ			χ ʁ	ħ ʕ	h
Liquid	Lateral				l						
	Tap/Trill				r						
Glide		w					j				

Figure 1. Amrani Yemeni Arabic Phonemic Inventory

Amrani, as many other Yemeni Arabic dialects viz. San'ani has maintained all the classical Arabic places of articulation. However, the voice less Uvular stop [q] is no longer present it is realized as voiced velar stop /g/ and in /galb/ 'heart' but /q/ is still used when reciting the Holy Quran or speaking formal situations. Watson

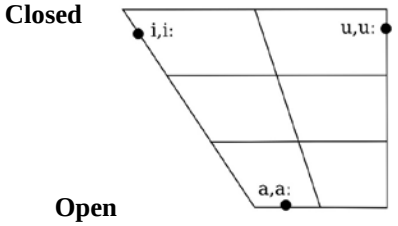
4.2.2 Vowel sounds

Amrani dialect is said to have three short vowel along with their long counterparts as well as two diphthongs.

4.2.2.1 Short and long vowels:

AYA has three short vowel phonemes; two close vowels, palatal /i/, labio-velar /u/, and one open guttural /a/.

Diagram 1 Short and long vowels of AYA



4.2.2.2 Diphthongs

AYA has two diphthongs; the palatal /aj/ and the labio-velar /aw/.

palatal	labio-velar
/aj/	/aw/

4.2.3 Syllable Structure in Amrani Yemeni Arabic (AYA)

The syllable structure in AYA dialect as in many Yemeni Arabic dialects has five major types. As shown in the table below, AYA has five different types of syllables:

Table 1. Syllable types in AYA

No	Syllable Shape	Example	Gloss
a.	CV	/ **ra**.si: / / **ʔa**.di /	'my head' 'I give'
b.	CV:	/ **li**: /	'for me'
c.	CVC	/ **dim** /	'cat'
d.	CV:C	/ **ra:s** / / **ʒi:** /	'head' 'come'
e.	CVCC	/ **kalb** /	'dog'

As we can see from the table above, AYA has five different types of syllables; some may argue that CV:CC is there in AYA in words like /χa:sˤsˤ/ 'special'; but actually the last geminate does not appear unless a suffix is attached and in this case the second consonant, that is C_2, of the geminate is syllabified as an onset to the next vowel as in /χa:sˤ.sˤun.bih/ 'special to him'. Thus, it is only CV:C in the above example /χa:sˤ/ 'special' and in /χa.wa:sˤ/ 'properties', /ħa.wa:s/ 'senses'.

The syllable type 'a' in the table above is the most preferred type by all languages of the world (e.i. CV is unmarked syllable type), which consists of an onset and a short vowel. "The CV syllable is an absolute substantive universal; all languages have CV syllables, and some have only CV syllable type. Any syllable types that are more complex than the CV syllable are therefore marked, the degree of markedness is relatively dependent on the degree of complexity." (Carlisle, 2009).

The **CV** syllable types occurs very frequently in AYA. It occurs word initially as in /**ga**.lam/ 'pen', /**ʔa**.si:r/ 'I go', /**ʔa**.biz/ ' I take', or /**ðˤa**.wa/ 'he went home', word medially as in /ha.**ka**.ða:/ 'like this' or word finally as in /ma:.**ʃi**/ 'no'.

The syllable type 'b' in the table above, **CV:**, which consists of an onset and a long vowel, can occur word initially as in /**ra:**.si/ 'my head', /**ra:**.ʕi/ 'wait', /**sa:**.rat/ ' she's gone' or /**ʕa:**.sˤi/ 'disobedient', /**tˤa:**.wah/ 'washtub', or word

medially as in /ðˤa.**ruː**.ri/ 'necessary', /ni.**saː**.fir/, 'we travel' and rarely occurs word finally as in /ʔil.**laː**/ 'yes, it is'.

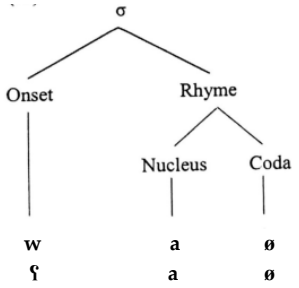
The syllable type 'c' in the table above, **CVC**, which consists of an onset and short vowel followed by a one consonant coda, also frequently occurs in AYA in all word positions. It occurs word initially as in /**nis**.waːn/ 'women', /**niðˤ**.wi/ 'we go home', word medially as in /ʁas.**sal**.tu/ ' I washed something', /ʃi.**rib**.tu/ ' I have drunk' /si.**far**.ʒal/ 'quince' and word finally as in /ʕi.**nab**/ 'grapes', /kaw.**zar**/ ' he sat down'.

The syllable type 'd' in the table above, **CV:C**, which consists of an onset and long vowel followed by a single consonant as a coda, can occur only in word final position as in /bi.**laːʃ**/ 'free' /ʕin.**naːb**/, 'jujube' /ʁa.**riːb**/ 'anonymous'. It also can occur word medially only and only if a suffix is added to after such a syllable as in /mur.taːħ + iːn/ → /mur.taːħ.ħiːn/ 'comfortable (MAC PL)'; if the suffix is added starts with a consonant, an epenthetic vowel is inserted to break the CC cluster followed by a re-syllabification for the final C with the epenthesis as in /tuf.faːħ + kum/ → /tuf.faː.ħa.kum/ 'your (MASC PL) apples'.

From the table above which is a representation of markedness scale of those syllables in itself, with (a) CV as the least marked and (e) CVCC as the most highly marked. Some other observations were taken; first, all the syllables begin with a single consonant which means that we don't have onset-free syllables, and that we don't have consonant clusters, in the onset position. Second, only some syllables are open while some others have codas which can be either simple or complex maximally of two consonants. The nuclei can also be simple or complex; it can either be short or long, to establish the fact that the complexity is in the sense of having one vowel occupying two timing slots not two vowels. Therefore, we can conclude that onsets are always present, codas are not always represented and complexity i.e. the presence of more than a C or a V under a syllable position node, is only absent in onset.

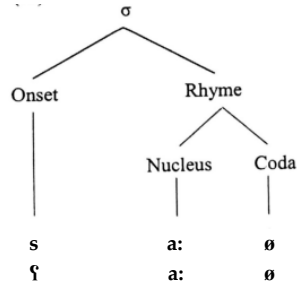
Syllable type 1: CV

a. CV /wa/ 'and'
b. CV /**ʕa**.sal / 'honey'



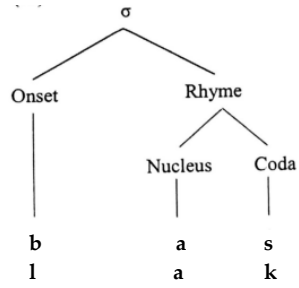
Syllable type2: CV:

a. CV: /saː.mir/ 'staying up late'
b. CV: /ʕaː.gil / 'wise-man'



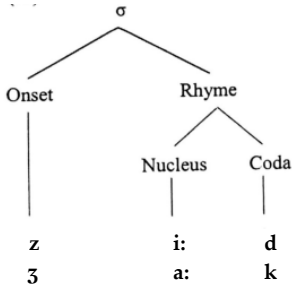
Syllable type 3: CVC

a. CVC /bas/ 'enough'
b. CVC /lak/ 'for you'



Syllable type 4: CV:C

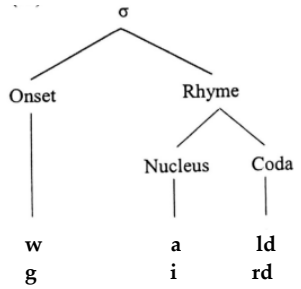
a. CV:C /ziːd/ 'do more'
CV:C /ʒaːk/ 'jug'



Syllable type 5: CVCC

a. CVCC /wald/ 'boy'

CVCC /gird/ 'monkey'



4.2.4 Sonority and Sonority Scale

Ladefoged (1982) referred to sonority as `the sonority of a sound is its loudness relative to that of other sounds with the same length, stress and pitch' Clements (2006) said the sonority is related not to loudness or audibility in such but to the relative resonance of speech sounds.

Linguists are of a unanimous agreement that sonority has a direct relationship with syllables. Generally, it is noticed that among syllables, sonority rises till it reaches the peak or nucleus of the syllable then it falls from the peak. It is truly said that, sonority peak corresponds to syllable peak. This observation came to be known as Sonority Sequencing Principle (SSP), Clements (1990). Between any member of a syllable and the syllable peak, only sounds of higher sonority rank are permitted.

Sonority scale according to Clements (1990) is ranked by assigning values or numbers to each group of speech sounds as in the following order:

	Natural Class		**Sonority index**
-	Vowels	(V)	5
-	Glides	(G)	4
-	Liquids	(L)	3
-	Nasals	(N)	2
-	Obstruents	(O)	1

Sonority is ranked according to the values given to each group of speech sounds ranging from (5), for vowels, as the most sonorous downwards to (1), for obstruents, as the least sonorous.

Unlike some Arabic dialects, in AYA, sonority does not play an influential role in shaping the syllable template. For example, AYA accepts coda CC clusters whether obeying or disobeying the Sonority Sequence Principle (SSP).

Examples of coda clusters obeying the SSP:

/gursˤ/ 'iced'

/gird/ 'monkey'

/kalb/ 'dog'

Examples of coda clusters disobeying the SSP:

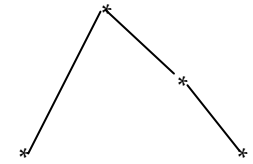
/ħibr/ 'ink'

/fagr/ 'poverty'

/χatm/ 'seal'

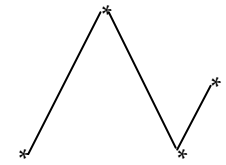
The sonority hierarchy can be represented in the following graphs for both cases:

- (V) = 5
- (G) = 4
- (L) = 3
- (N) = 2
- (O) = 1



/ k a l b / 'dog'

- (V) = 5
- (G) = 4
- (L) = 3
- (N) = 2
- (O) = 1



/ħ i b r/ 'ink'

From the two figures above, we can conclude that AYA, though it sometimes violates Sonority Sequencing Principle (SSP), it allows consonant clusters to occur in coda position, syllable finally.

5 Results and findings:

A number of interesting findings were noted and briefly discussed below:

- There are five types of syllables in AYA: (CV-, CV:-, CVC-, CV:C-, and CVCC)
  - **CV-** as in → /**li**/ 'for me'
  - **CV:-** as in → /**ra:**.ʕi/ 'wait'
  - **CVC-** as in → /**gul**/ 'say'
  - **CV:C-** as in → / **ka:s**/ 'cup'
  - **CVCC-** as in → /**kart**/ 'card'
- Seven patterns of syllables were attested in AYA:
  - Monosyllabic form as in / zi:d/ 'do more'
  - Disyllabic form as in /kita:b/ 'book'
  - Tri-syllabic form as in /kanaba:t/ 'sofa'
  - Tetra-syllabic form as in /ðˤarabuha/ 'he beat her'
  - Penta-syllabic form as in /talafazziju:n/ 'television'
  - Hexa-syllabic form as in /talafazzijunhum/
  - Septa-syllabic form as in /talafazzijunana/

- No consonant clusters in the syllable onset position: a syllable must start with one and only one consonant.
- Consonant clusters are allowed in coda position maximally with two consonants only.
- While syllables must begin with consonants, the can end either with a consonant or a vowel.
- AYA accepts –CC clusters in the coda position regardless of adhering or violating the Sonority Sequencing Principle (SSP).
- Each and every syllable must start with a consonant, vowels never occur syllable initially.

The above mentioned findings were of a major help for the current study.

6 Summary and Conclusion

Five types of syllables (CV-, CV:-, CVC-, CV:C-, and CVCC) and seven patterns (mono- to septa-syllabic) of words were attested in AYA. Syllable structure is similar to that in many dialects of Arabic. AYA falls under the classification of CV-, type illustrated by Watson. Also it is concluded that AYA, though it sometimes violates Sonority Sequencing Principle (SSP), it allows consonant clusters to occur in coda position, syllable finally.

7 Acknowledgements

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