Vowel Shortening in Wahrāni Spoken Arabic

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ABSTRACT

The study investigates the phonological process of vowel shortening in Wahrāni Spoken Arabic (WSA): an Algerian Arabic dialect spoken in the north-western region of Algeria. The researcher uses recordings and field notes of spontaneous speech of fifty normal (non-impaired) native male and female Wahrāni adult speakers in a natural context as data for the study.

The study shows that vowel shortening (VS) in WSA occurs in both closed and open syllables. In the case of closed syllables, vowels shorten to avoid trimoraic syllables. In open syllable, long vowels shorten due to deletion of coda consonants rendering CVVC syllables open. CVV syllables are not allowed in WSA and so the vowel is shortened leading to mora loss.

Keywords: vowel shortening, closed syllable shortening, open syllable shortening, Wahrāni spoken Arabic, Algerian Arabic.

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تقصير الصوائت في العربية الوهرانية المنطوقة

الملخص:

تتناول هذه الدراسة عملية تقصير الصوائت في اللهجة الوهرانية المنطوقة (WSA)، وهي لهجة من لهجات العربية الجزائرية المتداولة في المنطقة الشمالية الغربية من الجزائر. يستخدم الباحث تسجيلات وملاحظات ميدانية لخطاب عفوي لخمسين متحدثًا ومتحدثة من البالغين، من الناطقين الأصليين للوهرانية، لا يعانون من أية إعاقات، في سياقات طبيعية، كمادة تحليلية للدراسة.

تُظهر نتائج الدراسة أن تقصير الصوائت أو الحركات(VS) في الوهرانية يحدث في المقاطع المغلقة والمفتوحة على حد سواء. ففي حالة المقاطع المغلقة، يتم تقصير الصوائت لتفادي وجود مقاطع ثلاثية المورا.(trimoraic) أما في المقاطع المفتوحة، فيتم تقصير الحركات الطويلة نتيجة لحذف الصوامت اللاحقة(coda) ، مما يؤدي إلى تحول المقطع CVVC إلى مقطع مفتوح. وبما أن المقاطع من نوع CVV غير مقبولة في الوهرانية، يتم تقصير الصوائت، مما يؤدي إلى فقدان المورا.

كلمات مفتاحية: تقصير الصوائت- تقصير المقطع اللفظي المغلق- تقصير المقطع اللفظي المفتوح- العربية الوهرانية المنطوقة- العربية الجزائرية.

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La réduction des voyelles dans l'arabe parlé Wahrāni

Résumé:

Cette étude examine le processus phonologique de la réduction des voyelles dans l'arabe parlé Wahrāni (WSA), un dialecte arabe algérien parlé dans la région nord-ouest de l'Algérie. Le chercheur s'appuie sur des enregistrements et des notes de terrain de discours spontanés de locuteurs adultes, hommes et femmes, natifs et sans troubles de la parole, dans un contexte naturel comme corpus de l'étude. Les résultats montrent que la réduction vocalique (RV) en WSA se produit aussi bien dans les syllabes fermées que dans les syllabes ouvertes. Dans le cas des syllabes fermées, les voyelles se raccourcissent afin d'éviter la formation de syllabes trimoriques. Dans les syllabes ouvertes, les voyelles longues sont raccourcies en raison de la suppression des consonnes codales, ce qui transforme les syllabes de type CVVC en syllabes ouvertes. Or, les syllabes de type CVV ne sont pas acceptées en WSA, d'où l'abrègement de la voyelle, entraînant une perte de mora.

*Mots clés***:** Réduction vocalique – Réduction en syllabe fermée – Réduction en syllabe ouverte – Arabe parlé d'Oran – Arabe algérien.

Introduction

Wahrāni Spoken Arabic (WSA) is an Algerian Arabic dialect spoken in the city of Wahrān (Oran), located in the northwest of Algeria. This dialect exhibits several phonological features that merit detailed analysis. One such feature is Vowel Shortening (VS) -a phonological process whereby long vowels are shortened in specific environments. In WSA, various instances of vowel shortening can be observed. For example, the long vowels of hollow verbs in the perfective aspect become short when a consonant-initial suffix is attached to the stem. In such cases, VS involves the reduction of vowel quantity from long to short whenever the stem is extended by suffixed material within a closed syllable, regardless of vowel quality. This type of vowel shortening appears to be motivated by syllable structure constraints.

Benyagoub (2017), in his study of vowel shortening in Bechar Arabic, states: *"This shortening is the result of a phonological rule that aims at making the system satisfy the bimoraic (σμμ) requirement of the syllable."* However, his analysis does not account for vowel shortening that occurs in open syllables. In fact, in Wahrāni Spoken Arabic (WSA), another type of vowel shortening is observed in open syllables as a result of coda deletion—thus arising from the removal of phonological material rather than its addition. Some of these instances involve the deletion of a glide or a glottal stop. In such cases, the argument that vowel shortening functions solely as a structure preservation process becomes less tenable.

Abu Salim (1986) argues that "*underlying long vowels are shortened whenever the stem is amplified by any suffixal material that would attract stress*". Stress is considered as "*the display of prominence by the exaggeration of one or more of the phonetic parameters on certain syllables when contrasted with others*" (Nash, 2005). Hence, a syllable displaying such prominence can be said to have possibly longer duration, higher pitch, greater acoustic intensity, and more carefully articulated phones when in contrast with unstressed syllables (Hayward, 2000).

The present study aims to analyze vowel shortening in Wahrāni Spoken Arabic (WSA) and to investigate the various factors contributing to its occurrence. Accordingly, it seeks to answer the following research questions:

1. Is vowel shortening in WSA moraically motivated?
2. Does syllable weight influence vowel length?

3. Does stress play a role in vowel shortening in WSA?

a. Theoretical framework

One common way to formalize syllable structure and weight is to assume mora, a phonological unit intermediate between the phoneme and the syllable (Kenstowicz, 1994). Hyman (1985), McCarthy and Prince (1986) and Hayes (1989) suggest that mora represents the distinction between heavy and light syllables. A light syllable has one mora whereas a heavy syllable has two. Moreover, the mora counts as a phonological position: just as in previous theories, a long segment is normally represented as being double connected to two moras. Hayes (1989:254) provides us with the following representation for syllable structure:

(1) a.   σ   b.   σ   c.   σ
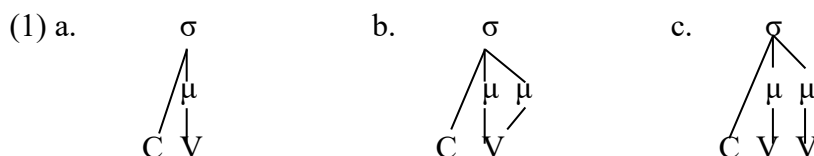
Syllable structure in Wahrāni is C(C)V(V)(C)(C), where the C and V are the only obligatory elements whereas the other vowels and consonants are optional. Hence, we can have both open and closed syllable. In terms of syllable weight, WSA syllables can be classified into a two-way distinction.

 a) Monomoraic: CV/ CVC
 b) Bimoraic: CVV / CVCC

The vowel system in WSA includes six short vowels /i e o a u/ and a phonetic schwa, in addition to four long vowels /i: a: u: o:/. Vowel length in WSA is phonemic. The distinction in vowel quantity is distinctive in WSA as shown in (2):

(2)   sab   'poor'   sa:b   'find'

        ʕam   'uncle'   ʕa:m   'swam'

tul	'peek'	tu:l	'length'
mor	'sour'	mo:r	'after'

(3)   Vowel system of WSA

i. short vowels   ii. Long vowels

i	u	i:	u:
e	o:		o:
ə			
a			a:

1. Literature Review

Vowel shortening and its different types has been well-documented in different Arabic dialects including Egyptian Arabic (Broselow, 1976); Palestinian Arabic (Abu-Salim, 1986; Younes, 1995); Madina Hijazi Arabic (MHA) (Jarrah, 1993); Jordanian Arabic (JA) (2003); Syrian Arabic (SA) (Adra, 1999; Al-Omar, 2011); Cairene Arabic (CA) and San'ani Arabic (SA) (Watson, 2002); Makkan (MA) and Egyptian Arabic (EA) (Abu-Mansour, 1991); Moroccon Arabic (Bernouss, 2007); Lybian Arabic (Sheredi, 2015). As for Algerian Arabic, there is a study on closed syllable vowel shortening by Benyagoub (2017) in Bechar dialect, However, VS has not been studied in WSA and Benyagoub's study only talks briefly about shortening in closed syllables.

In languages other than Arabic, Sarmış and Canalis (2021) analyze high vowel shortening in Turkish by examining five native speakers. The researchers found that there is a direct correlation between the voicing of the preceding or following consonants and high vowel shortening. In addition, high vowels tend to assimilate to vowels in proximity in height. They conclude that [+high] vowels in Turkish are weaker as opposed to [-high] vowels.

LaFond (2024) discusses vowel weakening in Latin. Weakening as a historical process refers to vowel reduction, which can be similar to vowel shortening in some cases. In this process, there is an apparent raising and fronting of short vowels in medial and final syllables. In Latin, vowels tends to move towards the center of the mouth from the back and the front. LaFond (2024) explains this phenomenon as articulatory undershoots. He states that when a

speaker produces a sound, articulators go into movement mode, but their movements are physically and physiologically constrained.

Abu-Salim (1986) discusses two types of vowel shortening in Palestinian Arabic whereby the first type is the shortening of long vowels in unstressed open syllables and the second is the shortening of long vowels in stressed open and closed syllables. He argues that stress happens cyclically because there are cases where unstressed open syllables do not undergo shortening due to stress shift. In a case of shortening of unstressed open syllable, he discussed a hollow verb which can also be found in WSA /ja:b/. This hollow verb is shortened when an affix is added and it renders it open.

Watson (2002) studies vowel shortening in both open and closed syllables in Cairene Arabic. In open syllables, VS targets long vowels occurring in non-final unstressed open syllables. Watson (2002) argues that this shortening is a result of the ban on a constraint against unstressed long vowels. The process is expressed as a mora deletion. Watson (2002) also discusses closed syllable shortening (CSS) which targets long vowels in closed syllables. It has been claimed in the literature that this type of shortening is an obligatory process in Arabic dialects because syllables with three moras are generally not permitted. Watson (2002) claims that syllables can only be maximally bimoraic.

Bernouss (2007), in advocating for the role of mora in distinguishing syllable weight, argues that vowel shortening serves as a piece of evidence. In the northern region of Morocco, people shorten vowels in hollow verbs as a result of suffix concatenation. He states that this shortening is a phonological rule that permits only bimoraic syllables and hence this process is considered a structure preservation process.

Sheredi (2015) provides in his thesis a comprehensive overview of two types of vowel shortening in Lybian Arabic (LA): open syllable shortening and closed syllable shortening. He argues that stress is the driving factor that leads to vowel shortening. Long vowels in non-final unstressed open syllables are shortened whenever it is followed immediately by a suffix which attracts stress to the right edge of the word. The final stem and suffix vowels are underlyingly long and they undergo vowel reduction after stress assignment. The added suffix to the syllable CVVC-C leads to vowel shortening in this closed syllable. This is one of the strategies in which structures are repaired in LA dialects.

Benyagoub (2017) studies a number of phonological processes in Bechar Arabic as spoken in the Bechar region of Algeria. He analyses vowel shortening in this dialect and argues that it is the result of suffix concatenation. He states

that this phonological process aims to satisfy the bimoraic rule which asserts that syllable can only be bimoraic in weight. He also states that this process is a structure preservation one that prevents the violation on superheavy syllables.

2. Methodology
The data of the study are recordings and field notes of natural and spontaneous conversations drawn from real life situations and gatherings during family or individual meetings. The population of the study consists of fifty normal (non-impaired) native male and female Wahrāni adult speakers. No social factor variables such as gender, age, education were considered.

Tape recorded naturally occurring conversations seem to be adequate for capturing natural language use in context. The use of naturally occurring data is a necessity to the field of phonology. The researcher decided not to tell the participants that they are being recorded until the recording is finished in order not to fall into Labov's observer paradox. Then she would go and ask for the permission to use the recording. Fortunately, since most the participants were family members, friends and neighbors, the researcher did not face rejection of recordings' usage. The observer's paradox claims that natural data turns into something almost as simulated as a role-play which renders it unnatural.

It is important to note that this study does not take into consideration any variable whatsoever. This may be considered as a shortcoming of the study itself. Even though the data is collected from 25 males and 25 females, it does not account for gender differences. Age, same as gender is not taken into consideration.

3. Analysis
In the following sections, data collected are analyzed and discussed. The first is shortening in closed syllables and the second is shortening in open syllables.

3.1. Shortening in stressed closed syllables (CSS)
In (4) long vowels are shortened if they form part of closed syllables with an added suffix that has no vowel. For instance, hollow verbs in Wahrāni Spoken Arabic in the perfective form tend to shorten when a suffix has been added to the stem. Abu-Salim (1986) argues that underlying stem long vowels shorten

whenever a suffix is added. In this case, the suffix added is a consonant adding to the already existing stressed closed syllable; as in the following examples:

(4)	Imperfect	Perfect	
	/nfu:t/	[fut-t]	'to pass by'
	/nru:ħ/	[ruħ-t]	'to go'
	/nku:n/	[kun-t]	'to be'
	/nʒi:b/	[ʒib-t]	'to bring'
	/nʕi:ʃ/	[ʕiʃ-t]	'to live'

The /n/ is a first person prefix for the imperfect form of the verb is shortened from /na/ to /n/ for ease of speech only when followed by one consonant, otherwise; it remains the same if followed by two consonants. As for the perfect form, a suffix is added in the form of /t/ instead if /tu/ in MSA. The listed words would have the following segmental rule:

V: → V / ….. CC #

The change of vowel quantity in this case has nothing to do with stress since the stem prior to the shortening was stressed. Watson (2002) argues that syllable weight can only be maximally bimoraic. Syllables with more than two moras are impermissible. McCarthy & Prince (1990) have argued that the core syllable of MSA is maximally bimoraic. Moreover, Broselow (1992) puts forth the following constraint on bimoracity preferences.

Bimoracity Constraint: Syllables are maximally and optimally bimoraic.

Therefore, the verbs in (4) shorten their vowels when a suffix of a /C/ nature is added to prevent the violation of one of the most powerful constraints on syllable form, viz. the constraint forbidding superheavy syllables listed above. To maintain the prosodic structure of the word, the long vowel is subjected to VS. The syllable stays bi-moraic rather than adding a third mora to the existing structure leading to the following moraic structure:
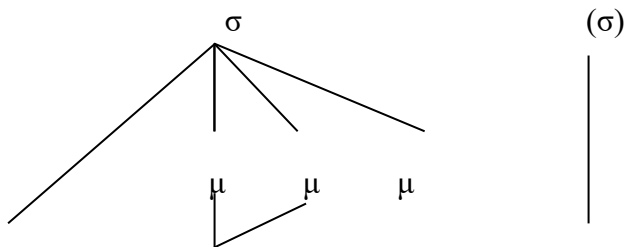
(5)

σ   (σ)

n   r   u   ħ   t

(6)

σ

r   u   ħ   t

Rather than:

(7)*

σ   (σ)
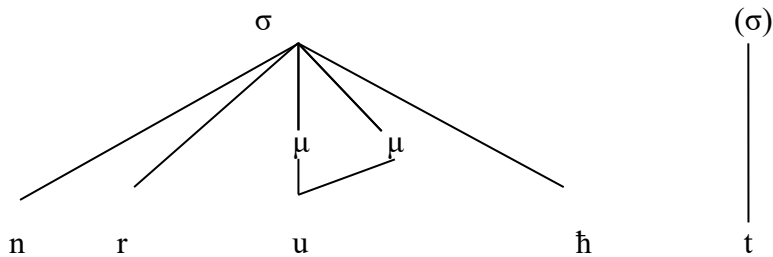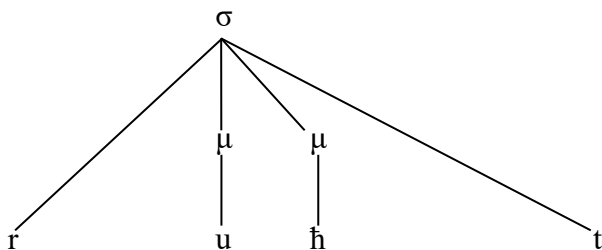
r	u	ħ	t

Of course, at the end of a root, a long vowel may as well be followed by a consonant, as in (5). However, the addition of a C type suffix with no vowel automatically means it is extrametrical and so is not part of the syllable until the post-lexical loss of extrametricality (Myers, 1987). The stem-final consonant cannot be incorporated into the suffixed syllable, and so is forced, as in (6), into the preceding one. Since, trimoraic syllables are not permitted, the vowel must be shortened. This shows that coda consonants can be weight bearing or weightless depending on their context in the phonological word. Broselow (1997) states that in Egyptian Arabic and Levantine Arabic, coda consonants may bear a mora depending on the context. Therefore, CVC syllables in final position pattern with CV syllables and non-final CVC syllables pattern with CVV syllables making syllable weight maximally bimoraic.

In this case, vowel shortening is morphologically motivated. The data in (4) shows that the long vowel is subject to shortening when the perfect verb stem Cu:C/ Ci:C takes C-initial subject suffixes. This process may help to repair the syllable structure since the vowel undergoes shortening in the case of a C-initial suffix. When the suffix starts with a vowel, shortening does not occur. Evidence of this constraint may come from data covering such kind of verbs when V-initial prepositional clitics are suffixed to them; in these cases, the long vowel remains even though the syllable is closed. Consider the following examples:

(8)

/nru:ħ/	'to go'	/nru:ħ-əlha/	'I'll go to her'
/nʒi:b/	'to bring'	/ʒi:b-əlha/	'I'll bring her ..'
/nʕi:ʃ/	'to live'	/nʕi:ʃ-əlha/	'I'll live for her'

In the examples above, the vowel reserves its length even after the syllable becomes open. In this case, it can be argued that syllable weight and mora preservation are the reasons for the shortening of vowels.

3.2. Shortening in open syllables (OSS)

Abu-Salim's (1986) suggests that stress placement is a driving factor in the shortening of long vowels. He states that vowels shorten in open syllables as a result of shift of primary stress, from the long vowel to the added suffix. In

agreement, Sheredi (2015) claims that long vowels in open syllables are shortened whenever they are followed immediately by a suffix, which attracts stress to the right edge of the word. He gives the examples listed below.

(9) (a) maka:tib 'offices'

(b) maka:tb-i 'my offices'

(c) makatib-na 'our offices' →Shortening

(a) sa;hib 'friend (m.)'

(b) sa:hb-ak 'your (m.sg.) friend'

(c) sahi'b-kum 'your friend' →Shortening

Bouhadiba (1988) investigates stress placement rules and syllabification in Wahrāni Spoken Arabic and gives us three basic rules of stress. He emphasizes the importance of weight and position in stress assignment. He argues that stress patterns of many varieties of Arabic are crucially dependent on syllable weight. Bouhadiba (1988) states that stress follows a number of basic rules. First, stress the last syllable of a word if it is heavy, i.e. any syllable whose rhyme branches. Otherwise, stress a heavy penult (CVC, CVV). That is, a penult whose rhyme branches. Otherwise, stress a light antepenult (CV), that is, a syllable whose rhyme does not branch or a monosyllabic word.
Let's take a look at the following examples of nouns form WSA:

(10) (a) sa:həb 'friend (m.)'

(b) sa:hb-ək 'your (m.sg.) friend'

(c) sa:həb-kum 'your friend'

(a) xa:təm 'ring'

(b) xa:tm-ək 'your ring'

(c) xa:təm-kum 'your ring'

As observed in the above examples, the long vowel does not shorten, as stress is heavily dependent on the weight of the syllable and its position. In addition to

the fact that schwa doesn't bear stress, we have to assume that the primary stress remains in the antepenultimate syllable in 9c. That leaves the vowel of the antepenultimate syllable *sa:'həb-kum* long and stressed. The vowel in *həb* reduces to schwa because of the lack of stress. Because the ultimate and the penultimate are both not suitable for stress bearing since the ultimate is monomoraic and the penultimate is a schwa and schwas do not bear stress.

However; if we take look at the following examples, where stress is located on the penultimate syllable, the vowel doesn't shorten although it doesn't bear stress set against other varieties of Arabic. After the addition of the dual neutral suffix /i:n/ 'two' to both adjectives and nouns, the stress moves to the ultimate syllable, yet, the vowel remains long.

(11)   (a) ʃa:'ba   'pretty (f.sg)'

         (b) ʃa:bi:'n   'pretty (n.pl)'

         (a) ʕa:'m   'year'

         (b) ʕa:mi:'n   'two year'

         (a) farħa:n   'happy (sg)'

         (c) farħa:ni:'n 'happy (pl)'

The moraic representation for these words would be the following:

(12)
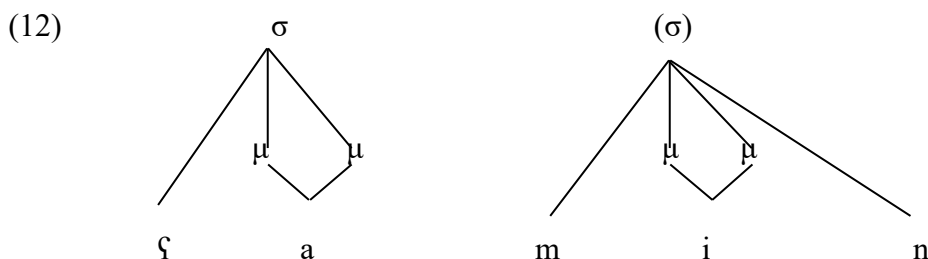
So far, we can argue that stress plays no factor in the shortening of vowels in WSA. This goes against the conclusion made by previous studies on Arabic varieties and vowel shortening where several linguists argue that stress results in the shortening of vowels (Broselow, 1976; Abu-Salim, 1986; Watson, 2002).

Although stress relocates, the application of vowel shortening is blocked since the open syllable is not in a word boundary.

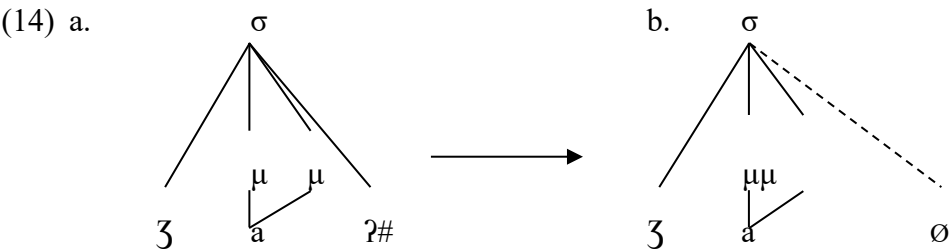### 3.3. Shortening due to glottal deletion

The set of examples that we saw so far that undergo shortening have the syllable structure CVVC without the attached suffix and the structure CVC-C when the consonant initial suffix is added. These verbs have a coda and are closed stressed syllable. We argued that the reason behind the shortening is morphologically motivated and that stress does not play a role in the shortening process.

Another set of verbs that undergo shortening in WSA are open syllables in verbs below (13), they went through syncope. The glottal stop drops in the derivation yielding the structure in (14). The long vowel, when in an open syllable word boundary, is shortened. However; the application of vowel shortening is blocked when it is in a closed syllable.

(13)   ʒa (V. m.sg)   ʒa:t (V. f.sg)   ʒa:w (V. P.nt)   'to come'

         ʃra   ʃra:t   shra:w   'to buy'

         bda   bda:t   bda:w   'to begin'

         kra   kra:t   kra:w   'to rent'

         fra   fra:t   fra:w   'took care of'

The listed words would have the following segmental rule:

V: → V / ….. #

(14) a.

c.   σ
|
μ
|
ʒ   a
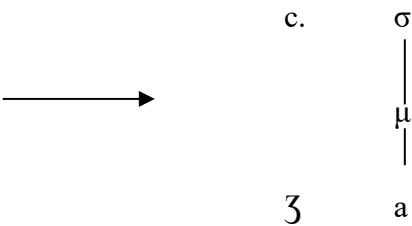
According to this analysis, vowel shortening occurs cyclically. The syncope feeds the shortening:

ʒaːʔ   Underlying Representation

ʒaː   Glottal Deletion

ʒa   Vowel Shortening

The moraic structure of the verb prior to deletion and vowel shortening was bimoraic as in (14a), however; the structure change after the deletion and vowel shortening resulting in a monomoraic structure as in (14c). The mora was dropped due to the vowel shortening. Watson (2002) proposes a rule for the mora deletion:

(15)   μ   μ

V   Condition: V is unstressed
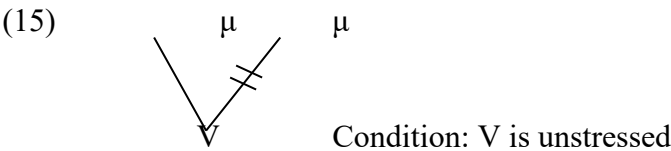
Watson (2002) assumes the rule in (15) for words that are unstressed, same as Abu-Salim (1986), however, the listed words are stressed since the words are monosyllabic. Therefore, we cannot attribute the vowel shortening process to stress. The shortening is also not motivated by the moraic structure; it seems to be motivated by the opening of the syllable word boundary. Sadeghi (2001) looks into the shortening of long vowels before the glottal consonant /h/ in Persian and attributed this process to syllable weight of CVC being preferred over the heavier syllable of CVVC. Kambuziya (2007) further adds that this process is observed in many of the local dialects and accents of Persian as well.

The same case of vowel shortening occurs in nouns after final position deglottalization. It seems that long vowels are shortened in open syllables even though these long vowels occupy the most prominent position in the word, i.e.,

they bear primary stress. Syllable structure has a fully predictable impact on stressed vowel duration: vowels have a tendency to be shorter in closed than in open syllables. Unexpected, since such strong vowels are not usually subject to shortening in open syllables.

(16)

/ʃwa:ʔ/	[ʃwa]	'BBQ'
/ʁna:ʔ/	[ʁna]	'music'
/ʃta:ʔ/	[ʃta]	'winter'
/sma:ʔ/	[sma]	'sky'
/kira:ʔ/	[kra]	'rent'

The data in (16) shows the shortening of the vowel /a/ after the loss of the glottal stop rendering the syllable open.
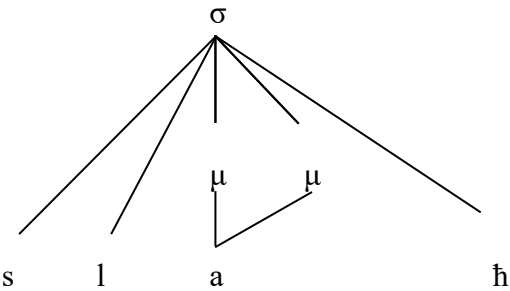
(17) a.
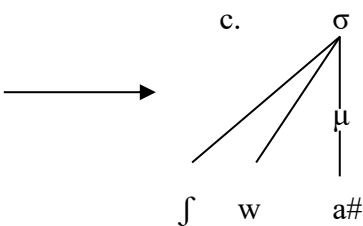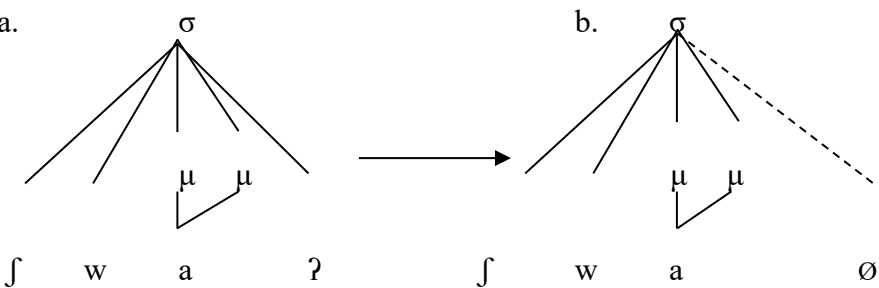
On the contrary, nouns ending in a different consonant are not subject to deletion and as a result are not subject to shortening.

(18)

sla:ħ   'gun'

bla:ʕ   'cover'

kla:b   'dogs'

The moraic diagram of words in (18) is represented as in (19). The word remains bi-moraic as opposed to those in (16) where the bimoraic words lose one mora.

(19)

In WSA, there aren't any CVV syllables that stand alone; either they form part of a bi-syllabic word or a poly-syllabic word, but never on their own as a mono-syllabic word. This might explain the necessity to shorten vowels after the coda deletion. This can be formed in a rule specific to WSA: CVV syllables cannot be monosyllabic.

3.4. Shortening due to glide elision

(20)   rma (V. m.sg) rma:t (V. f.sg) rma:w (V. P.nt)   'to throw'

      lqa   lqa:t   lqa:w   'to find'

kwa	kwa:t	kwa:w	'to iron'
swa	swa:t	swaw	'to be worthy'
qwa	qwa:t	qwa:w	'to be strong'

Brame (1970) argues that the underlying representation of these same is *ramay, laqay, kaway*, however, due to language change, the first vowel is dropped because unlike MSA, WSA allows for such consonant cluster in the onset position.

A verb like *kawaya* is a doubly weak verb, because it possesses two glides, the high glides /w/ and /y/. The latter is elided in the derivation. Brame (1988) states that the derivation of such verbs is as follows:

(21)	Kaway+a	kaway+at	
	Kawa-a	kawa+at	glide elison
	Kawa-a	kawa+t	truncation
	Kawa:	kawa+t	lengthening

Brame (1970) states that the middle glide is not subject to elision; only the third position glide is deleted in the derivation. He also proves the existence of the glide /y/ by showing the doubly weak verbs in the passive form of the verbs.

(22)	Kuwiya	'it was m. ironed'
	Kiwiyat	'it was f. ironed'

In this regards, he proposed the following redundancy:

"The medial glide of all roots of the shape Consonant Glide Glide (CGG) is exceptional with regard to glide eclipsis." Brame (1970)

In MSA, the vowel of these verbs remains lengthened even after the syllable becomes open because of the glide deletion. However, in WSA, the vowel is shortened because it is no longer followed by a consonant in the masculine

singular form. By contrast, it is longer when followed by a consonant, in the case of feminine singular form and the plural form.

(23) a.

σ

μ μ

k   w   a   y

b.

σ

μμ

k   w   a   Ø

c.

σ

μ

k   w   a
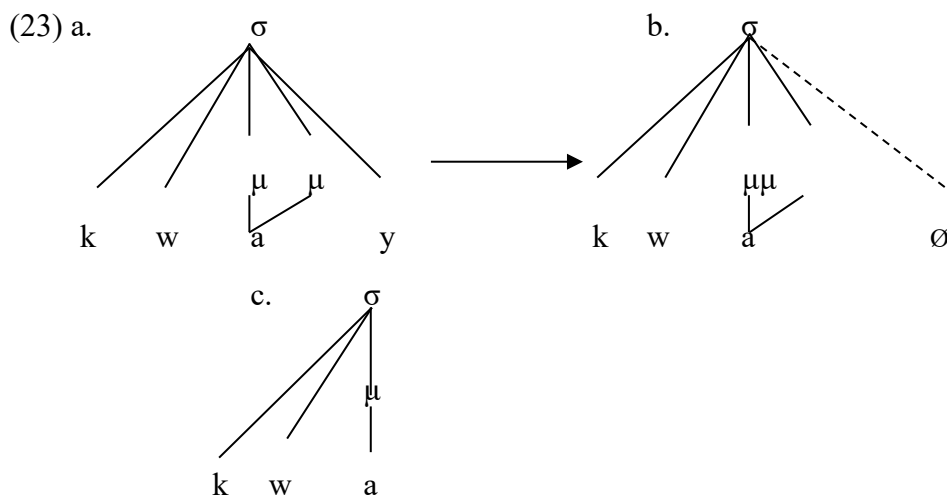
As observed before, long vowels in closed syllables are long only if the syllable is closed. The vowel shortens in case the syllable loses its coda and becomes open. As can be seen in (24) below, the vowel remains long after the suffixation of the C initial suffix even when it does not allow primary stress.

(24)   (a) ra:h

(b) ra:hət

(c) ra:.hu:'

(a) ʒa:b

(b) ʒa:bət

(c) ʒa:bu:

(a) fa:t

(b) fa:tət

(c) fa:tu:

The phonological reason behind the shortening in (13) and (16) would be the lack of coda word finally. In (20) the penultimate syllable is open; however, it is followed by another syllable as opposed to the open syllable in (13) and (16).

(25)

$$\sigma$$

k   w   a#
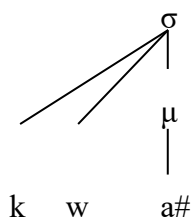
4. Discussion

Vowel shortening in WSA is of two types; Closed Syllable Shortening and Open Syllable Shortening. Both types have different phonological reasoning. In CSS, vowels in syllables of the type CVVC-C are shortened due to suffix concatenation. After the addition of the suffix to the stem, the vowel is shortened to avoid a trimoraic syllable. Syllables in WSA can only be maximally bimoraic and optionally monomoraic. It is important to note that stress plays no factor in the shortening of vowels in closed syllables, but weight does have an impact on the shortening.

OSS, according to other researchers (Abu-Salim, 1982; 1986; McCarthy, 2005) is a matter of stress placement. Abu-Salim (1982) suggests an approach for the analysis of Vowel shortening which was further developed by McCarthy (2005). They argue that short final vowels are underlyingly long; these vowels are shortened whenever they occur in unstressed positions. They further argue that due to stress replacement, the shortening takes place. The long vowel is long when stressed, however; upon suffixation, the stress relocates and it renders the underlyingly long and stressed vowel short.

As we previously seen, OSS in WSA occurs in stressed monosyllabic words because CVV syllables cannot stand alone. In cases where stressed underlyingly long vowel words are amplified by suffixed material, stress relocated to the added suffix, yet; the long vowel remains long. We can argue, then that stress plays no factor in VS in WSA.

5. Conclusion

In this article, two types of vowel shortening are analyzed using the moraic approach: Closed Syllable Shortening and Open Syllable Shortening. To summarize the discussion, in Wahrāni Spoken Arabic (WSA), vowels are shortened in closed syllables following suffix concatenation in order to avoid the creation of trimoraic syllables. In WSA, syllables are limited to a maximum of two moras. In open syllables, vowels are shortened because CVV syllables are not permitted in the language. When coda consonants are deleted, the long vowel is consequently shortened

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