

Exceptional Arabic Diminutive Forms of Nouns with [aa]: An Optimality-Theoretic Analysis

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Abstract

Most diminutive forms in Arabic adhere in their derivation to certain simple phonological and morphological processes without any complications. However, there are exceptions to be found, including diminutive forms of nouns with [aa] in which the segment [w] surfaces. Using Optimality Theory (OT) as a framework and using syllable weight as a base of analysis, this study aims to provide an accurate explanation of such phenomena. This work will show that the root of words with [w] is not simply biconsonantal with an emphatic segment (i.e., [w]) inserted to fill the empty onset. Instead, the root is triconsonantal in which [w] is an essential segment. It also reveals that syllable-weight constraint is inviolable in Arabic dialects.

Keywords: diminutives, optimality theory, Standard Arabic, disyllabic bases

1. Introduction

Arabic has different diminutive forms that express different meanings, including: smallness, familiarity, endearment, and contempt. The morphological process the diminutive forms in Standard Arabic (henceforth SA) undergo is usually viewed as a simple derivation process that maps root consonants onto well-defined positions of diminutive patterns, depending upon certain phonological principles. The input includes /a u j/, the consonantal root, and the consonantal base. However, Arabic diminutive forms exhibit some exceptional cases, including those with /w/ in the middle, like *mwijl* [a small amount of money] from *maal* [money]. This paper is designed to examine this case within the Optimality Theory (OT) framework as a syllable-related phenomenon, revealing that the root of words with [w] is not simply biconsonantal with an emphatic segment (i.e., [w]) inserted to fill the empty onset. Using data from the author's native dialect, Qassimi Arabic (henceforth QA), which is one of the Najd dialects (that are close in their phonological and morphological structures to SA), and which is based on syllable-weight, we will show that such words have triconsonantal roots of which [w] is a part. This highlights that syllable-weight constraint, which requires all syllables be bimoraic, is inviolable in Arabic dialects.

2. Theoretical Background

Diminutive forms are linguistic items used in almost every language, including Arabic (Azieb & Mahadin, 2015; Bauer, 1997; Jurafsky, 1996; Muho, 2019). The phenomenon exists in almost all Arabic dialects, such as Libyan Arabic (Gadoua & Davis, 2019), the Arabic dialect of Tunis (Procházka, 2017), Najdi/Hā'ili Arabic (Alshammari & Davis, 2019), and Qassimi Arabic (Al-Rojaie, 2012), among others. As Ibn 'Usfur (1972) stated, diminutive forms in Arabic are used to mean: (a) minimizing the number of something as in *tumajraat* (a few dates), (b) minimizing the status of someone or something, as in *kuwajtib* [a less well-known writer] and *kutajib* [a short book], (c) to show contempt, as in *rudzail* [a little man], (d) an approximation of time, as in *qubajl* (a little before) and *buṣajd* [a little after], or (e) an approximation of place, as in *fuwajq* [a little above]. Al-Ghalayāni (2002) added the use when stating a term of endearment and affection, as in *bunaj* [my little son].

Generally speaking, singular nouns in SA have one of the syllable structures as presented in Table 1.

Table 1. Standard Arabic singular nouns syllable structure

Noun Class	Syllable Structure	Example
a. Noun of Instrument	miC.CāC	<i>muf.tāh</i> [key]
b. Noun of Place	maC.CaC	<i>mak.tab</i> [place of writing – office]
	maC.CiC	<i>mas.dʒid</i> [place of kneeling- mosque]
c. Primitive noun or abstract verbal noun	Ca.CaC	<i>wa.lad</i> [boy]
	Ci.CaC	<i>dʒa.bal</i> [mountain]
	Ca.CiC	<i>najm</i> [star]
	Ci.CiC	<i>fikr</i> [thinking]
d. Occupational or Active participle	CaC.CaaC	<i>ham.maal</i> [porter]
	Caa,CiC	<i>ʕaa.mil</i> [worker]
e. Passive participle	maC.CuuC	<i>mas.muuh</i> [permitted]
f. Abstract noun from adjective	Ci.CiC	<i>fibr</i> [size]
	CaCaaCeh	<i>dʕa.raa.fah</i> [daintiness]
g. Comparative adjective and color and physical defect words	ʔaC.CaC	<i>ʔak.bar</i> [bigger] <i>ʔas.wad</i> [black] <i>ʔaθ.wal</i> [disease of sheep]

Most Arab grammarians (e.g., Al-Ghalayṭi, 2002; Sībawayhi, 1999, and others) view the process of forming the different diminutive forms as a derivation based on the following three basic conjugations: *fuʕayl* for a triconsonantal noun, *fuʕayʕil* for a quadriconsonantal noun with a short-vowelled second syllable, and *fuʕayʕiil* for a quinqueconsonantal noun with a short-vowelled second syllable. These conjugations are shown with examples in Table 2.

Table 2. Diminutive conjugation and examples

Root Type	Diminutive Conjugation	Example	
		Non-Diminutive	Diminutive
a. Triconsonantal	<i>fu.ʕail</i>	<i>qa.mar</i> [moon] <i>kalb</i> [dog] <i>nahr</i> [river]	<i>qu.majr</i> [little moon] <i>ku.lajb</i> [little dog] <i>nu.hajr</i> [little river]
b. Quadriconsonantal noun with a short-vowelled second syllable	<i>fu.ʕaj.ʕil</i>	<i>ʕaq.rab</i> [scorpion] <i>dir.ham</i> [drachma] <i>ʕal.qam</i> [bitterness]	<i>ʕu.qaj.rib</i> [small scorpion] <i>du.raj.him</i> [little drachma] <i>ʕu.laj.qim</i> [little bitterness]
c. Quadriconsonantal noun with a long-vowelled second syllable	<i>fu.ʕaj.ʕiil</i>	<i>ʕusʕ.fuur</i> [sparrow] <i>sul.tʕaan</i> [sultaan] <i>mis.baah</i> [lamp]	<i>ʕu.sʕaj.fiir</i> [small sparrow] <i>su.laj.tʕiin</i> [little sultan] <i>mu.sʕaj.biīh</i> [little lamp]

However, Traditional Analysis of Arabic diminutive forms has some exceptional cases, which are presented in Table 3. These diminutive forms have their own conjugations, whereas forms in 3a, 3b and 3c are trisyllabic, such as those that have the conjugation *fuʕajʕil*, but they have [w], which does not have a correspondent in the related non-diminutive forms. The non-diminutive forms of the diminutive forms in 3d and 3e are triconsonantal. They have the diminutive conjugation *fuʕajl* that preserves the last vowel of the bases.

Table 3. Standard Arabic exceptional diminutive forms

Non-diminutive	Diminutive
a. <i>ʕaa.ʕir</i> [poet]	<i>ʕu.waj.ʕir</i>
b. <i>qaa.rib</i> [boat]	<i>qu.waj.rib</i>
c. <i>baab</i> [door]	<i>bu.wajb</i>
d. <i>hudʒ.ra</i> [room]	<i>hu.dʒaj.ra</i>
e. <i>sib.ya</i> [paint]	<i>su.baj.ya</i>

To overcome this drawback of Traditional Analysis, some Arab linguists (e.g., Ismail, 2012; Rashid, 2010) have analyzed the linguistic phenomenon of diminution within the framework of OT. However, the process in Arabic has not received ample attention in the literature of the theory as yet (Azieb & Mahadin, 2015). The case of

nouns with [aa] in their base and [w] in their diminutive forms, specifically, is still debated. Considering [w] as an epenthetic segment that is controlled by the constraint DEP –PL(ACE), as Ismail (2012) argued, would not be able to eliminate the presence of [w] in some Arabic dialects, such as Qassimi Arabic, which is similar to Standard Arabic. Hence, this paper considers the effects of the syllable and its weight to resolve the issue. Syllable has its role in phonology and its analytic frameworks as a referential domain in phonotactic constraints (Fudge, 1969; Selkirk, 1982) and one with applications for phonological processes (Blevins, 1995; Selkirk, 1982). Syllable effects can be seen and represented by the weight that has been accounted for within moraic theory (McCarthy & Prince, 1986) to distinguish between light, heavy, and super heavy syllables, depending upon the number of moras each syllable has.

3. An Optimality-Theoretic Analysis

Diminutive forms are formed in Arabic through an output-based process where they are “derived from bases that exist as independent words (typically nouns) in the language” (Ismail, 2012, p. 189), especially with having parts of the base preserved in the diminutive forms. The formation of the diminutive in SA also involves taking the entire base (the consonantal root) as input: *dʿam*, the first consonant of the base (i.e., an apostrophe-like shape written above the consonant which precedes it in pronunciation to represent the short vowel; /u/), *fath* the second consonant (a diagonal stroke written above the consonant, which precedes it in pronunciation to represent the short vowel /a/); and, inserting /j/ after it. For example, to derive the diminutive form *nuhajr* [little river] from *nahr* [river], the following steps should be followed:

1) *Dʿam* the first consonant

[nahr] → /nuhr/

2) *Fath* the second syllable

/nuhr/ → /nuhar/

3) Inserting /j/ after the second consonant

/nuhar/ → [nuhajr]

Nouns with medial [aa] have [w] in their diminutive forms, like *mwijl* [a small amount of money] from *maal* [money]. It might be said that [w] is an emphatic segment that is inserted to fill the empty onset. In terms of OT, the candidate with the epenthetic segment [w] wins in the case of SA, because it surfaces in the related diminutive forms to minimize the violation of syllabic well-formedness and because it satisfies the constraint DEP –PL(ACE) that requires inserting the least expensive epenthetic segment.

(a) DEP –PL(ACE): An epenthetic segment must not have independent place features of its own

However, this constraint above in (a) cannot eliminate the presence of [w] in some Arabic dialects, like Qassimi Arabic which is very similar to Standard Arabic.

3.1 Qassimi Dialect and Its Diminutive Forms

As a native speaker of both QA and SA, I argue that analyzing diminutive forms in QA according to Traditional Analysis has the same exceptional cases, as presented in Table 4.

Table 4. Standard Arabic and Qassimi Arabic exceptional diminutive forms

SA		QA	
Non-diminutive	Diminutive	Non-diminutive	Diminutive
a. <i>faa.ʕir</i> [poet]	<i>ʕu.waj.ʕir</i>	<i>faa.ʕir</i>	<i>ʔif.wij.ʕir</i>
b. <i>qaa.rib</i> [boat]	<i>qu.waj.rib</i>	<i>qaa.rib</i>	<i>ʔiq.wij.rib</i>
c. <i>baab</i> [door]	<i>bu.wajb</i>	<i>baab</i>	<i>ʔib.wijb</i>
d. <i>hudʒ.ra</i> [room]	<i>hu.dʒaj.ra</i>	<i>hid.ʒreh</i>	<i>ʔih.dʒij.reh</i>
e. <i>sib.ya</i> [paint]	<i>su.baj.ya</i>	<i>sib.yeh</i>	<i>ʔis.bij.yeh</i>

Before providing this novel analysis, I would like to note that I disagree with the phonological representation of *hudʒra*—and words that end in [a] in general—that Ismail (2012) provided. These should be represented with a final [h] after the [a] because SA typically does not allow dropping the final consonant, and with the feminine singular marker [ah], in particular. The word should be represented as *hudʒrah*, instead of *hudʒra*. However, because the scope of this paper is diminutive forms, I will keep such words in SA with the final [a] to maintain Ismail’s assertion, especially because such a representation does not affect the ranking of constraints that

accounts for the optimal candidate.

In the case of QA, [w] surfaces in the related diminutive forms of nouns with medial [aa]. More examples are given in Table 5.

Table 5. Examples of Qassimi diminutive forms with [w]

Noun	Diminutive Form
<i>baab</i> [door]	<i>ʔab.wijb</i> [little door]
<i>maal</i> [money]	<i>ʔam.wijl</i> [a small amount of money]
<i>naar</i> [fire]	<i>ʔan.wijr</i> [little fire]
<i>dʒaal</i> [side of a place or a road]	<i>ʔadʒ.wijl</i> [little side]

Like SA, the QA syllable template requires an obligatory onset, but adding DEP-PL(ACE) to the undominated constraints in the set gives a wrong sinning candidate, as shown in Table 6.

Tableau 6. Analysis after adding DEP-PL(ACE) to the undominated constraints in Qassimi dialect

Input: /ʔ i j/ + /ml/ Base [maal]	ONSET	MAX-IO	*COM _{ONS}	IDENT-IO	ALIGN-DIM-L	ANCH-R (B,PWD)	ANCH-L (I,PWD)	DEP-PL(ACE)	CONTIG-IO	LINEARITY-BO	DEP-BO
a. ʔam.ʔaijl								*!	***	*	****
⊗ b. ʔam.waijl									***	*	****

Tableau 6 shows that by adding this constraint, it is possible to predict the appropriate epenthetic segment, but the winner candidate is still not the optimal one because it has a medial [a] after the epenthetic [w]. The way traditional Arabic linguists (e.g., Sibawayh) classify consonantal roots solves the problem. These scholars state that the consonantal root of *maal* is /mwl/. I argue that there is no noun in SA with a biconsonantal root. When the noun *maal* is derived from its consonantal root, the [w] is deleted. I propose that to derive a noun using the conjugation *faʔal* from a consonantal root with a medial glide (i.e., [w] or [y]), the glide is deleted to obey the syllable-weight constraint.

Below, on Table 7, is a set of examples showing deletion of [w] when /aa/ is inserted to derive nouns, and retention of [w] when deriving accusative past tense verbs using the conjugation *faʔʔal*. It is important to note that the same nouns and verbs are used in both SA and QA, as there is no dialectal variation with these nouns.

Table 7. Examples of derivations with and without [w]

Consonantal Root	Noun	Verb [accusative past tense]
/mwl/	<i>maal</i> 'money'	<i>maw.wal</i> [funded]
/nwr/	<i>naar</i> 'fire'	<i>naw.war</i> [added lights to the place]
/dʒwl/	<i>dʒaal</i> [side of a place or a road]	<i>dʒaw.wal</i> [walked someone]

These past tense forms of accusative verbs show [w] is part of the consonantal root of the noun with /aa/. In the traditional method of Arabic linguists, conjugation of the accusative past tense is *faʔʔal*, where the second consonant is geminated. In all these examples, [w] is geminated. In Optimality Theory, this means that MAX-C is dominated in Arabic in some environments. This is a rejection of several Abu Mansour (1995) assumptions, including that this constraint is undominated because of the unique role of consonants in Arabic. These nouns are derived from their consonantal roots through mapping /aa/ into these consonants where the first /a/ is inserted after the second consonant and the second /a/ is inserted after the third consonant. In this analysis, I assume that this formation process is an input-base process. To obtain the optimal candidate, /aa/ must be mapped onto the consonantal root.

Therefore, MAX-IO dominates DEP-BO to preserve segment correspondence. Another correspondence constraint (IDENT-IO) is obeyed to prevent any change in features, and ANCHOR-BO is obeyed to ensure that

the input segments do not appear on the edges. ONSET is also obligatory in Arabic. This ranking is shown in (b), below, and tested in Tableau 8.

(b) ONSET, MAX-IO, IDENT-IO, ANCHOR-BO >> DEP-BO

Tableau 8. Analysis of diminutives after adding IDENT-IO

Input: /aa/ Base /qbs/	ONSET	MAX-IO	IDENT-IO	ANCHOR-BO	DEP-BO
a. qabas					*
b. qubas			*!		*
c. Qabsa				*!	*
d. Qbs		*!*			

Candidate 8a is the optimal candidate because it satisfies all highly ranked constraints. Candidates 8b, 8c, and 8d are ruled out because they violate IDENT-IO, ANCHOR-BO, and MAX-IO, respectively.

In the case of deriving *maal* from /mwI/, the winning candidate with this ranking would be */maw.al/. However, such a word violates the syllabic well-formedness constraint ONSET. Assuming the consonantal root is /mwI/, the more accurate way to justify the deletion of the segment [w] is with syllable-weight. The majority of constraint-based research on Arabic dialects (e.g., Bamakhramah, 2010; Watson, 2007), has found that the syllable-weight constraint that requires all syllables be bimoraic is inviolable in Arabic dialects.

The constraint *3 μ , which requires syllables to be maximally bimoraic and prohibits trimoraic syllables is undominated.

(c) *[3 μ]: No trimoraic syllables (Kager, 1999, p. 268)

To satisfy this constraint, the long vowel in the initial syllable is shortened. Therefore, this constraint dominates MAX-V-IO, while MAX-C-IO should remain undominated. As Al Motairi (2015) noted, CVC syllables are treated as heavy syllables when they are not the final syllable because of the constraint WEIGHT-BY-POSITION (WBP).

(d) WBP: Coda consonants are moraic

Therefore, the WBP constraint must be active in the grammar of Qassimi Arabic. When CVC, CVVC occur finally, they are also bimoraic. This is because the final C is mora-less where it counts as a peripheral extra prosodic element, satisfying the undominated constraint *F INAL-C- μ .

(e) *F INAL-C- μ : The final consonant is mora-less.

The CONTIGUITY constraint as well as *[3 μ] and *F INAL-C- μ , outrank WBP in QA (Al Motairi, 2015). NOSHARED MORA (NS μ) is also part of the set of undominated constraints in Qassimi Arabic.

(f) (NS μ): Moras should be linked to single segments (Broselow et al., 1992).

Because QA does not permit non-final CVVC syllables, NS μ is ranked high. The overall constraint hierarchy developed so far is given below (g) and tested in Tableau 9.

(g) *FINAL-C- μ , *[3 μ], NS μ , ONSET, *Com_{ONSET}, IDENT-IO, ANC-R (B, PWd), ANC-L (I, PWd), ALIGN – DIM-L, MAX-C-IO>> MAX-V-IO>> CONTIG-IO>> WBP >> LINEARITY-BO, DEP-BO

In the above ranking, constraints whose job and ranking have already been established are underlined as a means of clarification and are not included in Tableau 9.

Tableau 9. Weight analysis

	Input: /ʔ i j/ + /mwɪl/ Base [maɪl]	*FINAL-C-μ	*[3μ],	NSμ	MAX-V-IO	WBP
	μμ μ 		*!			*
a.	ʔaam.wijl μ μ 			*!	*	*
b.	ʔaam.wijl μ μ μ 	*!				*
c.	ʔam.wijl μ μ 				*	*
d.	ʔam.wijl					

As seen in Tableau 9, the optimal candidate 9d satisfies the undominated constraints *FINAL-C-μ, *[3μ], and NSμ. The table also shows that candidates 9a, 9b, and 9c, are ruled out immediately by the undominated constraint *FINAL-C-μ, *[3μ], and NSμ, respectively. Therefore, analyzing nouns with [aa] in the basic forms and [w] in their diminutive forms is accounted for in terms of syllable weight. It clarifies that [w] is part of the consonantal root, not an epenthetic segment.

4. Conclusion

The case of exceptional Arabic diminutive forms with [w] that has been debatable has been clarified in this analysis by using syllable weight within the framework of Optimality Theory. This analysis establishes that the root of words with [w] is not simply biconsonantal with an emphatic segment (i.e., [w]) inserted to fill the empty onset. Instead, the root is triconsonantal, where [w] is an essential segment. It also reveals that syllable-weight constraint is inviolable in Arabic dialects, rejecting Abu Mansour's (1995) argument.

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