

Morphological truncation: The case of truncated person names in Faifi Arabic *

Essa Alfaifi
Jazan University
Saudi Arabia
alfaifiessa@gmail.com

ملخص:

تُفَعِّلُ اللهجة العربية الفيفية، لاقتطاع الأسماء وتركيبها، أساليب صوتية مختلفة عن تلك التي تستعملها لغات العالم السابق دراستها. لكنها تثبت، في الوقت نفسه، أن قاعدة اقتطاع الكلمات المسماة بـ الحد الأدنى للكلمة هي قاعدة موحدة في جميع لغات العالم، وإن اختلفت الأساليب. تشير نتائج هذه الدراسة إلى أن الحد الأدنى لأي كلمة في اللهجة العربية الفيفية - على سبيل المثال - هو مقطع صوتي واحد يتضمن حرف علة أو مقطعان صوتيان يتم اقتطاعهما من بداية الاسم. وبناء على ذلك، فإن المتحدثين بهذه اللهجة يقتطعون الاسم بالترتيب الصوتي من اليمين إلى اليسار، فمثلا اسم سليمان يصبح سيل عند النداء، وهكذا. تتناقص هذه الدراسة أربعة أنواع مختلفة لاقتطاع الأسماء تحكمها قاعدة صوتية واحدة في هذه اللهجة. تحاول هذه الدراسة الإجابة على الأسئلة التالية. أولا: ما الأجزاء التي يتم الاستغناء عنها عادة في الاسم المقتطع؟ وما الأجزاء التي يجب أن تبقى في الاسم المقتطع وتظهر فيه؟ وكيف تتلاءم قواعد اقتطاع الكلمات في اللغة العربية ولهجة فيفاء مع قواعد اقتطاع الكلمات في لغات أخرى؟

Abstract

This paper is concerned with the structure of truncated person names in *Faifi Arabic* (FA), an isolated dialect of Arabic spoken in mountain areas called *Faifa* in the southwest of the Arabian Peninsula. FA exhibits word-shortening tactics that are slightly different from those found in other languages. Yet, they conform to *Minimal-Word requirements* universal principles, which are believed to govern truncation processes in all languages. This paper argues that a word in FA must be at least two moras ($\mu.\mu.$) to satisfy the minimum requirement. Hence, when truncation applies, speakers extract only two moras from the left edge of the source name (whether one name or compound of names) and use the extracted segments as the truncated name, e.g., [*si.lay.ma:n*] 'person name' → [*si.la*] 'vocative from *Silayman*'. The paper discusses four different patterns of truncation processes found in FA. The paper answers the following questions: What part of a name is usually cut-off? What part of a name must remain after shortening? And how do the truncation patterns in FA fit with the universal patterns observed in most languages?

Keywords: Truncation, Arabic, Faifi Arabic, morphology, names, compound names.

*I would like to thank IJAL anonymous reviewers for their insightful comments to improve this article. Any errors are the responsibility of the author alone.

1 Introduction

Truncation is a process that consists of the reduction of a word to one or more of its parts (Benua, 1995; Mester, 1990). Name truncation is the reduction of a person's name, e.g., *Thomas* → *Tom* and *Tommy*. This paper is concerned with the structure of truncated person names in Arabic, particularly in the Faifi dialect of Arabic (henceforth FA). FA is spoken by around 50,000 people in mountain villages called *Faifa*, located in the southwest region of Saudi Arabia.

In this paper, name truncation is analyzed within the framework of Prosodic Morphology, which refers to elements of prosodic structure, such as moras, syllables and feet (Mester, 1990). According to McCarthy and Prince, Minimal word requirements in Arabic regulate the correspondence relation between truncated names and their source names. The present paper argues that this is also the case in FA. Truncation in FA applies on a large scale since FA truncation occurs in a variety of patterns that are not attested in Arabic, as it will become clear in the discussion. The paper attempts to answer the following two questions:

Question 1) What output structures do truncated names exhibit in Arabic and FA?

Question 2) What parts of the base (i.e., the original name) survive in the truncated names?

The paper argues in favor of the following truncation rule (cf. McCarthy and Prince, 1990):

Extract a heavy syllable or two light syllables from the left edge of the source name (linearly).

Truncated stems must always be bimoraic. The paper discusses four different patterns in FA, which all obey this rule.

1.1 Types of data and sources

There are two types of data sets in this paper. The first type consists of truncated names that result from vocatives (the so-called '*uslūbalnidā*' in Arabic terminology). For example, the name /*gāsim*/ becomes [*gās*] when addressed or summoned. This type of data shows what appears to be irregularity since the consonantal roots of the source name and other segments in the right edge of the base do not appear in the truncated form. For example, the segments /im/ from /*gāsim*/ do not make it to the truncated name [*gās*]. This type of data consists of one source name /*gāsim*/ and one truncated name [*gās*].

The second type of data sets consists of multiple words in the source name and one truncated name. This type of truncated form emerges when two person names are fused together. This is realized in the combination of a person's first name, the word *bin/bint* 'son/daughter', and the father's first name. For example, the three-word name /*zubrān#bin#salmān*/ becomes the compound (one unit) name [*zubra+m+salmān*], which syllabifies as /*zub.rān#bin#sal.mān*/ → [*zub.ra+m.+sal.mān*]. As seen in this example and others to follow, truncation along with syllable repair processes such as vowel shortening, lenition, and epenthesis happen at the morpheme boundaries of these compound names. *lenition* is a sound change that alters consonants by making them more sonorous, e.g., /b/ → /m/ or /b/ → /n/, etc. (Millar and Trask, 2015). Plenty of examples of truncation in the vocative and compound names will be seen throughout the discussion.

Data in this paper came from various sources. In addition to my own native repertoire of Arabic and FA, two native speakers were consulted for their intuitions about the data sets in the present paper. Both are males 30 to 35 years old and were born and raised in the mountain village of *Faifa*, where FA is spoken. The two speakers were asked two basic questions to elicit their responses about the two types of truncation mentioned above (in vocatives and compound names). The two questions were: 1) in your neighborhood, how would you call or summon a person whose name is X?, (X = PERSON

NAME), and 2) how would you refer to or combine the names X *bin/bint* Y?

Since truncation is a common phenomenon in FA that has highly systematic patterns, speakers have complete agreement on the list of the truncated names they produced, which are used in this paper. All truncated forms in the speakers' responses were also well-formed according to my intuitions as a native speaker. In addition to the data from FA, other data of name truncation were drawn from previous literature on Arabic and other languages such as English, German, Spanish, Japanese and other languages for comparison.

The remaining part of the present paper is divided into three sections. Section 2 gives a brief synopsis of the relevant literature. Section 3 deals with the FA truncation phenomenon in vocatives. Section 4 deals with the FA truncation phenomenon in compound person names.

2 Literature review

Section 2.1 presents a brief description of Prosodic Morphology since the truncation processes under consideration are defined in terms of prosodic categories. Section 2.2 presents a brief overview of truncated names cross-linguistically, such as in Classical Arabic, English, Spanish, German and other languages.

2.1 Prosodic Morphology

Prosodic Morphology is a theoretical model of how templates are defined in terms of prosodic units (McCarthy and Prince, 1990, 1996b). In this model, templates are spilled into units of prosody that are made according to the following *prosodic hierarchy*:

Phonological Word	ω
Foot	F
Syllable	σ
Mora	μ

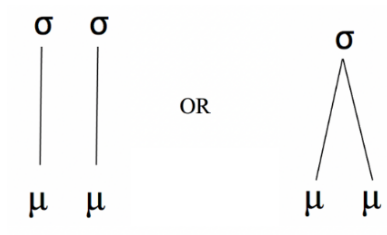
This scale represents a top-down hierarchy so that each higher element on the scale contains at least one unit from the (immediate) element below it. A phonological word must contain at least one foot, a foot must contain at least one syllable, and a syllable must contain at least one mora. The prosodic hierarchy proves to be useful in predicting constraints on minimal and maximal word requirements in some languages such as Arabic (McCarthy and Prince, 1990). The present paper demonstrates that the truncation process in FA must be expressed in terms of its moraic content. The satisfaction of a minimum of two moras templates ($\mu.\mu.$) plays a major role in predicting the truncation process in FA.

2.2 Truncation: An overview of the phenomenon cross-linguistically

Truncation has received ample attention in morphological studies (Benua, 1995; Lappe, 2003; McCarthy and Prince, 1990; Mester, 1990, among others). Some scholars argue that truncated names should not be considered among proper word-formation processes. This is because truncated names involve “expressive morphology”, meaning that they merely express familiarity between one person and another; hence they do not fall within the area of grammatical morphology (Dressler, 2000; Ronneberger-Sibold, 2010; Zwicky and Pullum, 1987). However, the structure of truncated words (including names) has been shown to be a product of the word-formation process determined by the phonology and prosody of a language (Benua, 1995; Lappe, 2003; McCarthy and Prince, 1990). This study argues in support of the latter position since truncation in Arabic and in FA is clearly a product of the phonology and prosody, as we will see in the remainder of this article.

The question of what segmental material from the base word actually surfaces in the truncated word has been discussed in previous literature. According to Prosodic Morphology (McCarthy and Prince, 1990), truncated words do not involve the deletion of segments or syllables from the base form, but rather mapping of the base melody segments to prosodically defined templates. In Arabic, words must contain at least two metrical moras AKA *minimal word requirement* (McCarthy and Prince, 1990; Watson, 2002). The two metrical moras can be either a sequence of two monomoraic syllables or a single bimoraic syllable, as illustrated in (1).

(1) **Minimal word in Arabic** (Watson, 2002, p. 130)

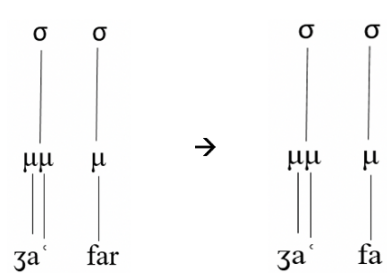


Regarding the truncation of person names in Arabic, which is the focus of this study, McCarthy and Prince (1990) propose that truncated names in Classical Arabic poetry (as discussed by Wright, 1971) are predicted by *the minimal word requirement* in Arabic, as seen in (1). According to McCarthy and Prince (1990), Classical Arabic has different types of truncated vocatives in classical verse for rhyming purposes, and all truncated names exhibit the minimal word impact, as the examples in (2a) illustrate. In (2b), I illustrate the mapping process of the prosodic material using the truncated vocative name [ʒaʿfa] form /ʒaʿfa/.

(2a) **Representative data of Classical Arabic name truncation** (McCarthy and Prince, 1990, p. 259)

- | | |
|--------------------|--------------------|
| I. Cṽ CṽC names | II. CṽCṽ C names |
| /māzin/ → [māzi] | /suʿād/ → [suʿā] |
| /mālik/ → [māli] | /maʒīd/ → [maʒī] |
| /ʿāmir/ → [ʿāmi] | /θamūd/ → [θamū] |
| /ḥāriθ/ → [ḥāri] | |
| III. CṽCCṽC names | IV. CṽCCṽ C names |
| /ʒaʿfar/ → [ʒaʿfa] | /ʿuθmān/ → [ʿuθma] |
| | /marwān/ → [marwa] |

(2b) **Truncation in Classical Arabic poetry**



According to McCarthy and Prince (1990), the minimal word impact is clearly seen in the contract between the truncated forms of CṽCṽC and CṽCCṽC stems, seen in (2a). The stem CṽCṽ C retains

the length of the final vowel in the truncated form while CvCC \bar{v} C does not, as in /su 'ād/ → [su 'ā] and /'uθmān/ → ['uθma], respectively. The difference between the two stems is the weight of the initial syllable, which is light in CvC \bar{v} C and heavy in CvCC \bar{v} C.

In this paper, I argue in support of McCarthy and Prince's claim and show that truncated names in FA also involve mapping of the base melody segments into prosodically defined templates, minimally requiring bimoraic forms. We will see that the truncated names in FA have similar behavior to the truncated names in Classical Arabic that were discussed by McCarthy and Prince (1990). However, while the name truncation in Classical Arabic appears to be restricted to rhyming purposes, it is a highly productive process in FA and occurs in everyday use of the language. Name truncation is a common phenomenon in FA since it involves four different patterns (see Section 3), and it is used for different semantic functions (such as vocatives and compounds), as we will see. Yet, the notion of mapping segments onto the bimoraic template holds strongly in FA. The productive truncation process in FA makes the phenomenon worthy of investigation since the literature does not contain much about the person name truncation phenomenon in contemporary Arabic varieties.

Vocatives in MSA and most spoken dialects of Arabic are, sometimes, formed by adding of the vocative particle /yā/ before the name, e.g., [yā xālid], [yā šālih], etc. (Ryding, 2005; Shormani and Qarabesh, 2018). Some dialects have different vocative particles than /yā/. For example, FA uses the particle /wa/ or the glottal stop /'a/ instead of /yā/, e.g., [wa xālid], [wa šālih], ['axālid], ['ašālih] (Alfaifi, 2012). The vocative particle /'a/ is also found in Classical Arabic (Abuasi, 2016; Alfaifi, 2012). Vocatives in contemporary Arabic varieties can also be indicated by intonation with no preceding particle (Alharbi, 2004).

Name truncation is a cross-linguistic phenomenon. English, for example, has two productive types of name truncation, the monosyllabic and the disyllabic y-suffixed truncated names (Lappe, 2003; McCarthy and Prince, 1996a). For example, the truncated names [tom] and [to.mi] are extracted from /to.məs/ Thomas and [barb] and [bar.bi] from /bar.brə/ Barbara. However, Lappe (2003) argues that monosyllabicity is not the only principle behind the process of English name truncation, although it is a significant one. Lappe's data suggest that there are at least two other structural principles that supplement the monosyllabic requirement in English truncated names. One is consonant finality, which is true in about 90% of the data. For example, names such as Octavia and David are reduced to [teiv] and [daiv], respectively. These names could appear only as *[tei] or *[dai] to satisfy the monosyllabic requirement, but the final consonant, in this case, is required. The second principle in Lappe's data is word-final consonant clusters, which is true for about half of the data. For example, names such as Alfred and Vincent can be shortened to become Al/Alf [æl/ælf], and Vin/Vince [vin/vins], respectively. These truncated names, although monosyllabic, appear with either one or two consonant clusters at the end. Therefore, Lappe (2003) concludes that consonant-finality and word-final consonant clusters are additional factors that must be considered along with the monosyllabic requirement when examining English name truncation.

While English truncated names are monosyllabic or the disyllabic y-suffixed words, German truncated names appear commonly in two syllables (Plag et al., 2015). For example, the German name *Manuela/manu.e:la/* is shortened to *Manu* [ma.nu:], and the name *Sabine/za.bi:nə/* is shortened to *Bine* [bi:.nə], and so on.

Name truncation is also a productive process in Japanese (Mester, 1990). For example, the Japanese name *Akira* is shortened to [a.ki], *Megumi* to [me.gu], *Keiko* to [kei], *Junko* to [jun] and *Hiromi* to [hi.ro]. Name truncation in Japanese appears to be sensitive to moraic constraints, similar to FA, as we will see, and the Classical Arabic poetry situation (mentioned earlier). For example, the trimoraic name /a.ki.ra/(μ.μ.μ.) is shortened to the bimoraic name [a.ki] (μ.μ.), and trimoraic /me.gu.mi/(μ.μ.μ.) to the bimoraic [me.gu] (μ.μ.) (Mester, 1990).

In Romanian, the first-name truncation is a common phenomenon (Avram, 2014). In Romanian, truncated names are commonly formed according to the two syllables of a disyllabic source name or on the first two syllables of longer source names. For example, the Romanian name [lu.li] is extracted from /Lulia/ and [nic] from /Nicolae/. In addition, the stress in Romanian names usually determines what segmental material can be preserved from the source name. When the second part of the name is stressed, the first syllable does not make it into the truncated name. For example, the name /Con 'stanta/ becomes [tan.ta], and the name /Geor 'geta/ becomes [ge.ta]. Avram (2014) notes that stressed syllables are usually prioritized in the truncation process, not only in Romanian but also in other languages.

In Spanish, stressed material is also preserved in Spanish name truncation. For example, /Fernando/ is shortened to[nan.do] because the first syllable /fer/ is not stressed, and therefore it does not appear in the truncated form (Weeda, 1992). According to Prieto (1992), (see also Colina, 1996), the first two syllables of a name in Spanish are copied to the truncated names if they are both light (e.g., *Te.re.sa* → *Te.re* and *Ma.ri.a* → *Ma.ri*), or if the first syllable is heavy and the second is light (e.g., *Mar.ga.ri.ta* → *Mar.ga* and *Cris.ti.na* → *Cris.ti*). However, if the second syllable is heavy and the first one is light, then the second syllable can optionally be closed, i.e., free variation in the truncated form (e.g., *Ro.dol.fo* → *Ro.do* or *Ro.dol* and *Ri.car.do* → *Ri.ca* or *Ri.car*).

While stress has a significant role in the name truncation process in languages such as Spanish and Romanian, it does not have a significant role in determining the shape of truncated names in FA, as we will see in the discussion below.

To sum up, truncation is a common phenomenon cross-linguistically, but it operates differently from one language to another. In this section, we have seen that different factors determine the shape of truncated words in different languages, such as the number of syllables, consonant finality, stress assignments, and prosodic requirements. The next section is devoted to the discussion of the truncation phenomenon of vocatives in FA, which clearly adheres to prosodic requirements.

3 Truncation in Vocatives

Truncated vocatives in FA fall into four categories. Some illustrative examples of truncated vocatives (all proper nouns) appear in 3, 4, 5, and 6 below. Each data set listed below will be discussed later in detail.

(3) C̄vC vocatives

Actual Name	Vocative	Pattern	Root and meaning
fāṭma	fāṭ	C̄vC	/fṭm/ 'weaning'
‘āyša	‘āš	C̄vC	/‘yš/ 'life'
‘āfyā	‘āf	C̄vC	/‘fy/ 'health'
ḥālyā	ḥāl	C̄vC	/ḥly/ 'sweetness'
zābir	zāb	C̄vC	/zbr/ 'reform and fix'
sālim	sāl	C̄vC	/slm/ 'peace'
kāḍyā	kāḍ	C̄vC	/kḍy/ 'type of tree'
gāsīm	gās	C̄vC	/gsm/ 'divide'
hādi	hād	C̄vC	/hdy/ 'guidance'

(4) Cv.Cv vocatives

Actual Name	Vocative	Pattern	Root and meaning
ḥisayn	ḥisa	Cv.Cv	/ḥsn/ 'well and fine'
silaymān	silā	Cv.Cv	/slm/ 'peace'
salāma	sala	Cv.Cv	/slm/ 'peace'
sa'ayda	sa'a	Cv.Cv	/s'd/ 'happiness'
mḥammad	maḥa	Cv.Cv	/ḥmd/ 'praise'

(5) CvC.Cv vocatives

Actual Name	Vocative	Pattern	Root and meaning
salmān	salma	CvC.Cv	/slm/ 'peace'
zubrān	zubra	CvC.Cv	/zbr/ 'reform and fix'
'as'ad	'as'a	CvC.Cv	/s'd/ 'happiness'
'aḥmad	'aḥma	CvC.Cv	/ḥmd/ 'praise'
farḥān	farḥa	CvC.Cv	/frḥ/ 'joy'
miryam	mirya	CvC.Cv	'Mary'
mit'iba	mit'i	CvC.Cv	/t'b/ 'tiredness'

(6) CvCC vocatives

Actual Name	Vocative	Pattern	Root and meaning
ḥasan	ḥass	CvCC	/ḥsn/ 'well and fine'
yahya	yahḥ	CvCC	/ḥy/ 'live'
'ali	'all	CvCC	/'ly/ 'superiority'
mašniya	mašš or mašn	CvCC	'Related to Mishnaic'
zamīla	zamm	CvCC	/zml/ 'beauty'
yazīd	yazz	CvCC	/zyd/ 'increase and grow'
šarīf	šarr	CvCC	/šrf/ 'honor'

Three hypotheses regarding truncated names in FA should be ruled out. First, truncated names in FA are not fixed to a specific number of syllables because there are monosyllabic truncated names (as in *fāt* and *ḥass*, see 3 & 6) and disyllabic ones (as in *si.la* and *sal.ma*, see 4 & 5), and the two types are equally common in FA. Second, the number of syllables in the source name does not determine the shape of the output. For example, the disyllabic name /*hi.sayn*/ and the trisyllabic name /*si.lay.mān*/ both have their truncated vocatives on the pattern of [Cv.Cv] as shown in (4) which are [*hi.sa*] and [*si.la*], respectively. Third, although prominent syllables in the source name (such as the syllable that carries stress) appear to have a role in determining the shape of the truncated names in some languages such as English and Romanian (Avram, 2014), it is not the case in FA. Stress pattern does not determine the shape of the truncated name in FA. For example, the last heavy syllable /*mān*/ in the name [*si.lay.mān*], which carries the stress, does not appear at all in the output truncated name [*si.la*].

These three factors (the number of syllables in the source name, the number of syllables in the output name, and stress) do not determine the shape of the truncated name in FA. More importantly, truncated

names in FA cannot consist of segments that are not adjacent in the source name, although this is a common phenomenon cross-linguistically, e.g., [liz] from /*Elisabeth*/ (Avram, 2014). In other words, segments occurring at the end of the source name in FA do not appear in the truncated name, whether they are consonants or vowels. For example, the names [salmān] and [silaymān] are both related to the consonant root /slm/ ‘peace’, but the truncated vocatives of these names are [sal.ma] and [si.la], respectively. Note that the nasal /m/ (which is the final radical of the consonantal root /slm/) appears in [sal.ma] but not [si.la]. The upcoming Section 3.1.2 accounts for the [si.la] type of names, and Section 3.1.3 accounts for the [sal.ma] type of names.

Furthermore, adjacent segments from the left edge of the source name must also appear in the same order, with no interruption to their adjacency. Other languages allow segments of the source name to be replaced or reordered in the truncated names, such as in the English names [bob] from /*Robert*/ and [bill] from /*William*/ (Avram, 2014). In FA, segments of the source name cannot be replaced, reordered, reduplicated or skipped since the radical of an Arabic consonantal root are discontinues (Ryding, 2005). Therefore, the onset of the first syllable and the string of segments after that remain intact in all truncated names. For example, the name /fātma/ gets truncated to [fāt] and not [*tām], [*fāf] or any other form. The question remains is: How can we account for name truncation in FA? The following section 3.1 attempts to answer this question thoroughly.

3.1 The two-mora minimality of truncated vocatives

As mentioned earlier, the minimal word in Arabic should be expressed in terms of moraic content (not in terms of syllables), and it must contain at least two moras (McCarthy and Prince, 1990; Watson, 2002). Thus, a minimal word must comprise either a single bimoraic syllable or a sequence of two monomoraic syllables (as illustrated in 1 earlier). The truncation process in FA is similar to CA and MSA studied by McCarthy and Prince (1990) and Watson (2002). In FA, a short vowel is assigned one mora [(μ.)], and a long vowel is assigned two moras. For example, the single-syllable word [bāb] ‘door’ is linked to two moras (a bimoraic syllable) while the disyllabic word [xa.šab] ‘wood’ is also linked to two moras, i.e., two monomoraic syllables.

The two-mora minimality principle explains the remarkable behavior of the truncated vocatives in FA. Regardless of the number of syllables in the source name, they are reduced to a bimoraic word. The two moras template [(μ.μ.)] is filled by the melodic material of the source name linearly from left to right, and the residue of the source name is disregarded. This means that there is a directionality (left to right) to the name truncation process in addition to weight. None of the truncated names in FA violates the directionality requirement, as illustrated in the examples throughout this paper. The following sections (3.1.1-3.1.4) thoroughly look at the individual types that the data sets in (3-6) above represent.

3.1.1 CVC vocatives

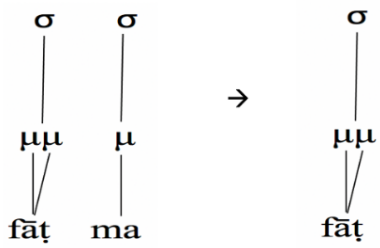
Each source name shown in (3) contains an initial single bimoraic syllable, which is either CVC or CVC̄. The derivation of the truncated vocatives of this type seems to be as follows: First, in names containing an initial heavy closed syllable, the minimum of two metrical moras requirement is already satisfied in the initial syllable of the source name. Hence, the initial syllable is taken and used as it is in the truncated form. Some examples of this type are shown in (7a). An illustration of segments mapping is shown in (7b) using the truncated name [fāt].

Segment mapping in (7b) shows that the trimoraic name [fāt.ma] gets shortened to the bimoraic truncated name [fāt]. The same process applies to the names [‘āf.ya] → [‘āf], [kād.ya] → [kād], [hāl.ya] → [hāl], and similar names in FA.

(7a) Examples for the first type of $C\bar{v}C$ vocatives ($C\bar{v}C.Cv \rightarrow C\bar{v}C$).

fāṭma [fāṭ.ma] → [fāṭ]
 ‘āfya [‘āf.ya] → [‘āf]
 kāḏya [kāḏ.ya] → [kāḏ]
 ḥālya [ḥāl.ya] → [ḥāl]

(7b) Mapping of the truncated name [fāṭ]

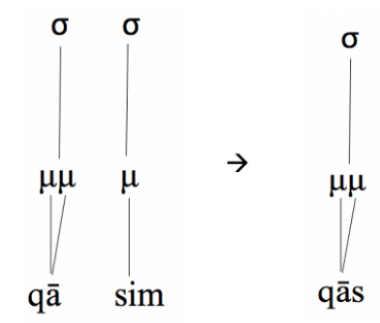


The second type of $C\bar{v}C$ vocatives are names with initial heavy open syllables, as shown in (8a). The two moras minimal word requirement is satisfied in the first syllable, but FA does not permit an open heavy syllable (i.e., containing a long vowel) to occur in word-final position (which will happen if this syllable was taken as it is to be the truncated name). Hence, the onset of the second syllable in the source name becomes the coda in the truncated name. Examples of this type are listed in (8a), and segment mapping appears in (8b).

(8a) Examples for the second type of $C\bar{v}C$ vocatives ($C\bar{v}.CvC \rightarrow C\bar{v}C$)

zābir [zā.bir] → [zāb]
 gāsīm [gā.sim] → [gās]
 sālim [sā.lim] → [sāl]
 ḥādi [hā.di] → [hād]

(8b) Mapping of the truncated name [gās]

3.1.2 $Cv.Cv$ vocatives

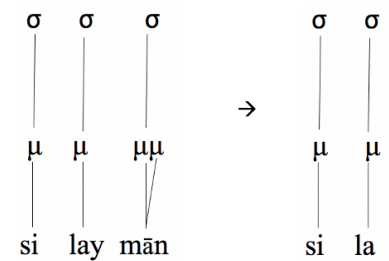
The second pattern is $Cv.Cv$ vocatives that are listed in (9a) and illustrated in (9b). The first syllable in these names is a light Cv syllable, which clearly does not satisfy the minimum of two metrical moras. Thus, an additional mora (Cv) is taken from the second syllable (in a linear fashion) to satisfy the bimoraic requirement. The truncated names in this category do not exhibit codas (/CV.CV/) for two reasons. First, the bimoraic requirements are met with CV.CV, and there is no need for additional sound material to be extracted from the source name, e.g., [si.lay.mān] → [si.la] (i.e. the minimality requirement is met by /CV.CV/ [si.la]). Second, the source name contains the initial open syllable

/si./: Making the onset of the second syllable a coda to the first syllable would result in an ill-formed onsetless syllable $[si.lay.mān] \rightarrow */sil.ay/$. In addition, FA only requires final syllables to be closed if they contain a long vowel, as discussed in C̄vC vocatives in the previous section. If they do not contain a long vowel, final syllables can be open in FA.

(9a) Examples for the first type of Cv.Cv vocatives

silaymān [si.lay.mān]	→	[si.la]
hisayn [hi.sayn]	→	[hi.sa]
salāma [sa.lā.ma]	→	[sa.la]
sa'ayda [sa.'ay.da]	→	[sa.'a]

(9b) Mapping of the truncated name [sila]



As the examples and mapping figure above illustrate, the residue of the second syllable and any extra syllables after that do not contribute to the output in the truncated name. Interestingly, however, the vocative of the name $[mḥam.mad]$ [CCvC.CvC] is $[ma.ḥa]$ [Cv.Cv]. Here, the onset consonant cluster is simplified by breaking the cluster with an epenthetic vowel $[mḥa] \rightarrow [maḥa]$. The epenthesis rule, in this case, must precede truncation because otherwise, the truncated name would be $*maḥama$, which is ill-formed. Note that by breaking the cluster in the first syllable of the name $[mḥam.mad]$, the second syllable is completely absent in the truncated form, including the second nasal /m/ since there is no need for them once the bimoraic template is fulfilled $/mḥam.mad/ \rightarrow /ma.ḥam.mad/ \rightarrow [ma.ḥa]$. More on rules order and derivation will be offered in Section 4. This remarkable behavior demonstrates the significant role of the bimoraic minimal word requirement, which, in FA, seeks segments only from left to right in the source name.

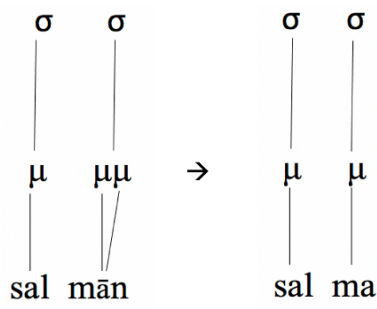
3.1.3 CvC.Cv vocatives

The third pattern is CvC.Cv vocatives. The formation of this vocative is straightforward and similar to the previous one in Section 3.1.2 except that the initial syllable of the source names is closed [CvC]. The first CvC syllable appears in the truncated form with no changes, and an additional mora is taken from the second syllable. The residue of the source name is disregarded once truncation applies. Some examples are shown in (10a), and a mapping illustration of this type is shown in (10b).

(10a) Examples for the first type of CvC.Cv vocatives

salmān [sal.mān]	→	[sal.ma]
farḥān [far.ḥān]	→	[far.ḥa]
aḥmad [ʾaḥ.mad]	→	[ʾaḥ.ma]
miryam [mir.yam]	→	[mir.ya]
mit'iba [mit.'iba]	→	[mit.'i]

Note that the truncation rule only extracts the initial Cv from the second syllable regardless of the form of the second syllable, whether or not it involves a long vowel ($[sal.mān] \rightarrow [sal.ma]$), an extra

(10b) Mapping of the truncated name [*salma*]

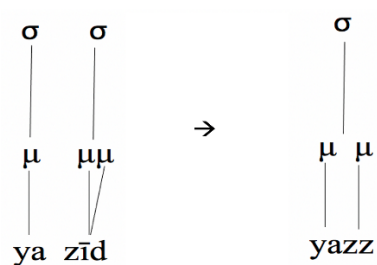
consonant CvC ([*ʾaḥ.mad*] → [*ʾaḥ.ma*]), or neither such as the name [*mit. ʿi.ba*] → [*mit. ʿi*] in which the second syllable is taken without modification.

3.1.4 CvCC vocatives

The fourth pattern is CvCC. This vocative form is particularly interesting because it exhibits a somewhat different derivational process from what we have seen thus far in the previous types. In this type, geminates are formed from the second consonant in the source name, and the gemination feature adds a mora to the metric weight of the truncated name. Consider the examples listed in (11a) and the mapping illustration in (11b).

(11a) Examples for the first type of CvC.Cv vocatives

yazīd[ya.zīd]	→	[yazz]
ḥasan[ḥa.san]	→	[ḥass]
yahya[yaḥ.ya]	→	[yaḥḥ]
ʿalī[ʿa.li]	→	[ʿall]
šarīf[ša.rīf]	→	[šarr]
zamīla[za.mī.la]	→	[zamm]
mašniya[maš.ni.ya]	→	[mašš] or [mašn]

(11b) Mapping of the truncated name [*yazz*]

We see, first, that a CvC syllable is extracted from the source name. However, the CvC syllable is too light in this case to satisfy the minimal word requirement, hence the gemination of the final consonant CvCC. In fact, such compensatory consonant lengthening is common in Arabic to meet the minimal-word requirement. In Saudi Bedouin dialects, foreign words of CvC monosyllabic forms are borrowed with gemination of the final consonant such as [*bašš*] ‘bus’ and [*natt*] ‘nut’ to compensate for the missing mora (McCarthy and Prince, 1990).

3.2 Summary of truncation in vocatives

This section has established that the name truncation in FA vocatives is predictable by its prosodic structure. Similar to what has been proposed by McCarthy and Prince (1990), the rule of name truncation in FA is as follows:

Extract a heavy syllable or two light syllables from the left edge of the source name. Truncated stems are always exactly bimoraic.

So far, in the discussion, we have seen that languages are different regarding which part of the base (source name) survives after truncation. Different languages have different prominent units that influence the shape of the truncated name, such as syllable structure, number of syllables, stress assignment, consonant finality, and prosodic cues. Therefore, different languages have different requirements on what must survive from the source name.

Regarding FA, the prominent material that survives from the source name is the following:

- a) The initial syllable of the name is always preserved. However, the syllable structure might change, e.g., $C\bar{v} \rightarrow C\bar{v}C$.
- b) The first and second radical of the root are always preserved, but the third radical of the root does not make it to the vocative form in the majority of the names.
- c) The vowel of the first syllable is always preserved with no change in quality.

Thus far, the discussion has been around the vocatives of the person's first name (i.e., single word). However, the first name truncation in FA can also be formed when two-person names are combined to form a compound name along with the particle [*bin/bint*/ 'son/daughter of' ($/X\#Y\#Z/ \rightarrow [X+Y+Z]$). In this case, truncation, along with other phonological processes such as lenition and epenthesis, occur at the morpheme boundaries of these compound names. The following section details the truncation phenomenon in the compound names.

4 Compound Person Names

4.1 Overview

Like many Arab cultures, a person's full name in the FA community is a combination of his/her first name and his/her father's first name. Optionally, the word *bin/bint* 'son/daughter of' is inserted between the two names to emphasize the paternity relationship, for example, *yazīd bin salmān*. The father's first name is added to a person's name as a way of an extra identification of that specific person. Based on my knowledge of Arabic, the three-word-name in Classical Arabic or MSA is usually pronounced separately so that the morpheme and sound boundaries of each word coincide with the boundaries of the orthographic words, e.g., the name *yazīd bin salmān* is pronounced [*yazīd*] [*bin*] [*salmān*]. However, this is not the case in FA. The three-word-name is treated more like a compound or a one-word given name. Hence, the boundaries between the three words are not preserved. For example, the name *yazīdbinsalmān* is usually combined into one phonological utterance [*yazi+m+salmān*], which syllabifies as [*ya.zim.sal.mān*]. This section explains the truncation and morphological construction of the compound names in FA.

4.2 Truncation in compound names

In addition to the first-name truncation, the compound names involve lenition, truncation of the word *bin/bint*, re-syllabification and epenthesis to repair unacceptable syllables. In what follows, I argue that truncation must be ordered before lenition and syllabification. This is because when truncation applies, it removes segments creating an environment for lenition to apply. Furthermore, syllabification applies in the derivation process to re-attach segments that are broken by truncation. Some compound names require extra modifications, such as epenthesis (not all names require the epenthesis rule). Before discussing these rules and their sequential order, some illustrative examples of compound person names are shown in (12). Note that all names in (12) involve lenition /b/ → /m/. Note also that the examples in (12a-d) represent the four types of vocatives we have seen in (3-6).

(12) Name combination (lenition)

Compound name	Source names	Compound name	Source names
a. [sa.lam.sālim] [sa.'am.sālim]	salāmabintsālim sa'aydabintsālim	c. [zub.ram.sālim] ['as.'am.sālim]	zubrān bin sālim 'as'ad bin sālim
b. ['ā.fim.sālim] [gā.sim.sālim]	'āfyabintsālim gāsim bin sālim	d. [ya.zim.sālim] [ḥa.sam.sālim]	yazīd bin sālim ḥasan bin sālim

Each first name in the compound names in (12) exhibits the same truncation patterns (with two-mora minimality) discussed in Section 3. It is, however, important to emphasize that the compound names in this section are all referential and not vocatives, even though they exhibit the same truncation patterns as the vocatives. Let us now look more closely at the derivation process for each type in (12a-d) separately. We start with the first type in (12a). The derivation of the compound name [*salamsālim*] involves the serial rules in (13) from the input to output.

(13) Derivation of the compound name [*salamsālim*]

Input:	/salāma/ /bint/ /sālim/
Truncation:	/sala/ /b/ /sālim/
Syllabification:	sa.lab.sālim
Lenition:	sa.lam.sā.lim
Output:	[sa.lam.sā.lim]

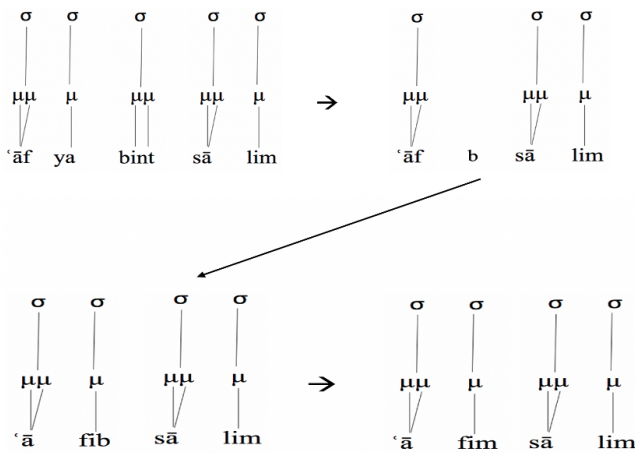
By ordering the truncation rule prior to other rules, we get the correct output combination in (13), [*salamsālim*]. First, the truncation deletes some segments from the words [*salāma*] and [*bint*] and leaves the residue /sala/ and /b/. Then, the lenition rule applies. Lenition arises when the bilabial stop /b/ (the residue of the word *bint* ‘daughter’) is attached as the coda of the preceding syllable /sa.lab./. Since codas do not require a strong consonant (Hayes, 2009), lenition applies changing /b/ to /m/ for a looser degree of closure. This lenition rule is common in FA and applies in all compound names with only one exception. The lenition rule /b/ → /m/ is blocked if and only if the following word (i.e., the father’s name) begins with glottal stop /ʔ/ such as the name ['aḥmad], but more on this later in this section.

Now, let us look at a slightly different example of compound names to further illustrate the derivation process discussed above but with the epenthesis phenomenon. Consider the type of a compound person name such as ['āfimsālim], from / 'āfya/ /bint/ /sālim/ (see 12b). Recall that, in vocatives, the truncated form of ['āfya] is /Cv̄C/, ['āf]. When this type of name is involved in compound forms, the serial rules in (14a) predict the output compound.

(14a) **Derivation of the compound name** [ʿāfimsālim]

Input:	/ʿāfya/ /bint/ /sālim/
Truncation:	/ʿāf/ /b/ /sālim/
Syllabification and [i] epenthesis:	ʿā.fib.sālim
Lenition:	ʿā.fim.sālim
Output:	[ʿāfimsālim]

The example in (14a) also supports the early application of the truncation rule in the derivation process. The derivation process in (14) follows exactly the same rules we have seen earlier in (13) but with an extra rule, epenthesis. The epenthesis rule must apply due to the un-syllabified segment /b/ after truncation (*ʿāf.b.sālim) (see (14b) for mapping illustration). The bilabial /b/ cannot be syllabified with the preceding syllable *ʿāfb (due to constraints on syllable length *Cv̄CC) or the following syllable *bsā (due to constraints on both complex onsets and syllable length *CCv̄). Therefore, the epenthetic vowel /i/ must be inserted to make a correct syllable resulting in (*ʿāf.ib.sālim). However, due to constraints on onsetless syllables (*vC) (Kiparsky, 2003), we wind up with the form *ʿā.fib.sālim in which the coda of the first syllable became the onset of the second. Only at this point when the right environment is created, the lenition rule applies to give us the correct output [ʿā.fim.sālim] (see 14 b). Similar processes to that in (14a-b) apply to [gāsimsālim], [ḥālimsālim], and all other names that exhibit Cv̄C truncated form.

(14b) **Mapping of the compound name** [ʿā.fim.sālim]

The third type of names we have seen in (12c) exhibits the same derivation processes we encountered thus far. For example, the name /zubrān#bin#sālim/ undergoes truncation /zubra#b#sālim/, syllabification /zub.rab.sālim/, and lenition [žub.ram.sālim]. Note that the epenthesis rule does not apply in the compound name [žub.ram.sālim] because truncation of the source names does not leave un-syllabified segments that require repair by epenthesis.

Finally, the derivation of the fourth type of the compound names (shown in 12d) is an interesting one. Recall that the vocatives of names such as /ḥasan/ and /yazīd/ were mapped onto the geminate CvCC structures [ḥass] and [yazz] in which the final geminate adds weight to the output to meet the minimum of two metrical moras. In compounds, when these names are involved, they exhibit a different truncation process, as shown in (15).

As seen in (15), the name ḥasan is truncated in compounds as Cv.Cv (instead of the geminate form [ḥass] found in vocatives). This is expected because geminates and consonant clusters in a coda position are not generally allowed in FA except in word-final position in limited forms (i.e., compensatory lengthening, see Section 3). Hence, the vocative [ḥass] is an acceptable form when it occurs alone but

(15) **Derivation of the compound name** [*ḥasamsālim*]

Input:	/ḥasan/ /bin/ /sālim/
Truncation:	/ḥasa/ /b/ /sālim/
Syllabification:	ḥa.sab.sālim
Lenition:	ḥa.sam.sālim
Output:	[ḥa.sam.sālim]

not in compound names because **ḥassm.salman* is ill-formed. The two-mora requirement is satisfied by reducing the source name to Cv.Cv in compound names. The truncated outputs of this name, and other names in the same category, are summarized in (16).

(16) **Truncation of the name** /ḥasan/

Vocative:/ḥa.san/	→	[ḥass]
Compound:/ḥa.san/	→	[ḥa.sa-]

The same process applies in the compound name [*yazimsālim*], which is extracted from the source names /yazīd/ /bin/ /sālim/. All other names in the same category exhibit the same process shown in (16).

4.3 **Blocking lenition in compound names**

As mentioned earlier, somewhat different rules apply when the father's name (second name in compounds) begins with a glottal stop /ʔ/ such as in the name [ʔasʔad] and [ʔaḥmad], which are extracted from the roots /sʔd/ 'happiness' and /ḥmd/ 'praise', respectively. The examples in (17) exhibit different structures from the ones discussed earlier in (12) because the lenition rule in (17) is blocked for syllabification purposes, as further discussed below.

(17) **Name combination (lenition blocked)**

Compound name	Source names	Compound name	Source names
a. [ʔā.fi.bāḥ.mad] [gā.si.bāḥ.mad]	ʔāfyabintʔaḥmad gāsim bin ʔaḥmad	c. [ʔub.ra.bāḥ.mad] [ʔas.ʔa.bāḥ.mad]	ʔubrān bin ʔaḥmad ʔasʔad bin ʔaḥmad
b. [sa.la.bāḥ.mad] [sa.ʔa.bāḥ.mad]	salāmabintʔaḥmad saʔaydabintʔaḥmad	d. [ya.zi.bāḥ.mad] [ḥa.sa.bāḥ.mad]	yazīd bin ʔaḥmad ḥasan bin ʔaḥmad

The same rules discussed thus far for the vocative truncation and compound names apply for the names shown in (17), but there is one exception. All the compound names in (17) have the bilabial /b/ in the middle and not /m/ so that the lenition rule (/b/ → /m/) does not apply. To understand why this is the case, let us illustrate this with the derivation of the compound name [ʔāfibāḥmad] shown (18). (Compare (18) to (14a) and (14b)).

The rules in (18) apply in that order, top to bottom. First, the truncation rule in (18) reduces the source names /ʔāfya/ /bint/ /ʔaḥmad/ to /ʔāf/ /b/ /ʔaḥmad/ which, typically, would syllabify as /ʔā.fib.ʔaḥ.mad/. Then, the glottal simplification rule /ʔ/ → /a/ applies at this point. The simplification of medial glottal is a common phonological rule not only in FA but also in most spoken dialects of Arabic (Watson, 2002, p. 18), including Classical Arabic. Once the glottal simplification rule in (18) modifies the form to be /ʔā.fib.āḥ.mad/, we expect lenition to apply (changing the coda /b/ to /m/) as we have seen in the earlier examples. However, in this case, lenition is blocked in order to avoid an onsetless syllable

(18) Derivation of the compound name [ʔāfibāḥmad]

Input:	/ʔāfya/ /bint/ /ʔaḥmad/
Truncation:	/ʔāf/ /b/ /ʔaḥmad/
Syllabification:	ʔā.fib. ʔaḥ.mad
Glottal simplification /ʔ/ → /a/:	ʔā.fib. āḥ.mad
Lenition:	BLOCKED (due to the onsetless syllable /āḥ/)
Re-syllabification:	ʔā.fi.bāḥ.mad
Output:	[ʔāfibāḥmad]

(which is highly marked in FA). Therefore, the coda /b/ must be re-syllabified as an onset giving us the correct output [ʔā.fi.bāḥ.mad].

The same process in (18) applies to all compound names listed in (17). Lenition is blocked in all these compound names due to the simplification of the glottal stop /ʔ/ in the second name (the father's name). For example, the name [salabāḥmad] [sa.la.bāḥ.mad] is extracted from the source names /salāma#bint#ʔaḥmad/, the name [zubrabāḥmad] [žub.ra.bāḥ.mad] is extracted from the source names /žubrān#bin#ʔaḥmad/, and the name [ḥasabāḥmad] [ḥa.sa.bāḥ.mad] is extracted from the source names /ḥasan#bin#ʔaḥmad/, and so on.

The last example shown in (19) below demonstrates how all the processes discussed in this section work together. Consider the name [mašniya] when it occurs in the compound name structure. Recall that this name uniquely stood out because it exhibits free variation in the truncated vocative form [mašš]/[mašn]. In the vocative section, we have seen how each vocative form of the two satisfies the minimality requirement either by gemination as in *mašš* or complex coda CC as in *mašn*. In compound names, however, only the latter (i.e., *mašn*) occurs. This is expected considering the fact that gemination in the vocative [mašš] was only a compensatory lengthening of /š/, and it was not part of the source name.

The derivation of the name *mašniya* is shown in (19) below in which this name is followed in one case by a name with an initial glottal /ʔ/ and in the other case by a name with an initial /s/. The illustration in (19) simply sums up all rules (and their order) introduced in this paper.

(19) Derivation of the compound name [mašnimsālim] and [mašnibāḥmad]

Input:	/mašniya/ /bint/ /sālim/	/mašniya/ /bint/ /ʔaḥmad/
Truncation:	mašn b sālim	mašn b ʔaḥmad
Syllabification and Epenthesis:	maš.nib.sā.lim	maš.nib. ʔaḥ.mad
Simplification /ʔ/ → /a/:	—	maš.nib. āḥ.mad
Lenition /b/ → /m/:	maš.nim.sā.lim	—
Re-syllabification:	—	maš.ni.bāḥ.mad
Output:	[mašnimsālim]	[mašnibāḥmad]

Finally, we have seen that truncation in FA must apply first in all derivation processes discussed in this paper, whether in vocatives or compounds. Regarding other languages, scholars have argued otherwise. Benua (1995), for example, argues that truncation applies very late in the derivation process. In New York-Philadelphia's speech, for example, the truncation must be ordered after post-lexical phonology because syllabification and æ-tensing rules must take place before truncation. In Benua's analysis, the late application of truncation is evident by the blocking of the æ-tensing rule in the truncated name [pæm] from Pamela. This is because when truncation extracts the closed syllable [pæm], it is too late for the æ-tensing rule to apply here since it does not apply in a closed syllable environment. On a similar basis, Benua (1995) argues that truncation rule in Icelandic must also be ordered

after syllabification, initial stress and vowel lengthening rules have applied in truncated words such as [greenž] ‘crying’, which is derived from /grenža/. This, however, is not the case in FA in which truncation applies as high up as possible in the derivation process, as we have seen in all the examples we have discussed.

Conclusion

In FA, a truncated name is related to its source name by maximal reduction of the source name to a minimal word. A truncated name in FA is necessarily bimoraic, in a single syllable or two syllables. Furthermore, a truncated name must be identical to its source name so that the surviving segments in the truncated name appear exactly in the same order as they were in the source name (left to right). In other words, the extractable materials from the source name cannot be replaced, skipped, or reduplicated.

Regarding rule ordering, truncation in compound names clearly demonstrates that some morphological rules can be ordered before post-lexical phonological rules such as epenthesis and simplification. In fact, truncation in FA supports Kiparsky’s claim (1984) that morphological components may precede post-lexical components. Thus, the domain of a lexical rule (such as truncation) can be as ‘high up’ as possible (at Level I derivation), but the same rule may also apply in any subsequent contiguous strata (Level I, Level II).

Finally, truncation in FA involves some exceptions due to sociolinguistic factors. Truncation (whether in vocatives or compounds) applies in all ‘traditional/local’ names in FA without exception. However, modern-day names such as [fahid], [talāl], and [zamāl] do not undergo truncation or involve compound structures (i.e., one phonological utterance). This is because these names have only emerged in FA very recently, and they are not viewed as traditional names by the native speakers. Therefore, it is important to emphasize the fact that the truncation of modern-day names is only blocked by sociolinguistic factors and not structural ones. The truncation rule discussed in this study can systematically derive all names, whether traditional or not, if sociolinguistic factors were not involved. For example, if we apply the truncation rule to the names [fahid], [talāl], and [zamāl] we would get *fa.hi, *ta.la, and *za.ma, but these usages have never been produced by FA native speakers for sociolinguistic reasons.

A future study is needed to explain the sociolinguistic motives behind the spilt in speakers’ intuitions about traditional vs. modern-day names. In other words, a future investigation should examine why certain names in FA are viewed as traditional and, consequently, undergo truncation while other names are viewed as nontraditional and, consequently, do not undergo truncation.

References

- Abuasi, H. R. (2016). “Tarākīb ‘uslūb al-nidā’ fī al-‘arabiyya: dirāsa waṣfiyya taḥlīliyya fī ḍaw’i ‘ilm al-llugha al-tawliḍī”. In: *Mažallat al-žāmi‘a al-‘islāmiyya lilbuḥūth al- ‘insāniyya* 16.1, pp. 211–242 (cit. on p. 5).
- Alfaifi, A. A. (2012). “lahazāt fayfā’ žudhūr al-‘arabiyya”. In: *Mažallat al-dirāsāt al-lughawiyya; Riyad - Saudi Arabia* 16.2 (cit. on p. 5).
- Alharbi, L. (2004). “Grammaticality of Intonation: A Case Study of ‘Tonality’ and Clause Structure”. In: *Journal of King Saud University- Languages and Translation* 16.2, pp. 49–64 (cit. on p. 5).
- Avram, A. (2014). “Name truncation in English and Romanian”. In: *Revue Roumaine de Linguistique* 59, pp. 3–21 (cit. on pp. 6–8).
- Benua, L. (1995). “Identity effects in morphological truncation”. In: *University of Massachusetts occasional papers in linguistics*. 18, pp. 77–136 (cit. on pp. 2, 3, 16).

- Colina, S. (1996). "Spanish truncation processes: the emergence of the unmarked". English. In: *Linguistics* 34.6, pp. 1199–1218. DOI: <https://doi.org/10.1515/ling.1996.34.6.1199>. URL: <https://www.degruyter.com/view/journals/ling/34/6/article-p1199.xml> (cit. on p. 6).
- Dressler, W. U. (2000). "Extragrammatical vs. marginal morphology." In: *Extragrammatical and marginal morphology*. Ed. by Ursula Doleschal and Anna M Thornton (cit. on p. 3).
- Kiparsky, P. (2003). "Syllables and Moras in Arabic". In: *The Syllable in Optimality Theory*. Ed. by C. Féry and R. van de Vijver. Cambridge: Cambridge University Press, pp. 147–182. ISBN: 9780521772624. DOI: [DOI:10.1017/CB09780521772624](https://doi.org/10.1017/CB09780521772624). URL: <https://www.cambridge.org/core/books/syllable-in-optimality-theory/syllables-and-moras-in-arabic/7D0B1CCDF91E9C9EFEFA193DF8F2784E> (cit. on p. 14).
- Lappe, S. (2003). "Monosyllabicity in prosodic morphology: the case of truncated personal names in English BT - Yearbook of Morphology 2002". In: ed. by G. Booij and J. van Marle. Dordrecht: Springer Netherlands, pp. 135–186. ISBN: 978-0-306-48223-6. DOI: [10.1007/0-306-48223-1_6](https://doi.org/10.1007/0-306-48223-1_6). URL: https://doi.org/10.1007/0-306-48223-1_6 (cit. on pp. 3, 5).
- McCarthy, J. and A. Prince (1990). "Foot and word in prosodic morphology: The Arabic broken plural". In: *Natural Language & Linguistic Theory* 8.2, pp. 209–283. ISSN: 1573-0859. DOI: [10.1007/BF00208524](https://doi.org/10.1007/BF00208524). URL: <https://doi.org/10.1007/BF00208524> (cit. on pp. 2–5, 8, 11, 12).
- (1996a). "Prosodic Morphology". In: *Linguistics Department Faculty Publication Series*. 13. URL: https://scholarworks.umass.edu/linguist/_faculty/_pubs/13/%0A (cit. on p. 5).
- (1996b). "Prosodic Morphology 1986". In: *Linguistics Department Faculty Publication Series*. 13. URL: https://scholarworks.umass.edu/linguist/_faculty/_pubs/13 (cit. on p. 3).
- Mester, R. A. (1990). "Patterns of Truncation". In: *Linguistic Inquiry* 21.3, pp. 478–485. ISSN: 00243892, 15309150. URL: <http://www.jstor.org/stable/4178687> (cit. on pp. 2, 3, 5).
- Millar, R. and L. Trask (2015). *Trask's Historical Linguistics*. London.: Routledge (cit. on p. 2).
- Plag, I. et al. (2015). *Introduction to English linguistics*. Walter de Gruyter (cit. on p. 5).
- Prieto, P. (1992). "Truncation processes in Spanish". In: *Studies in the Linguistic Sciences* 22.1, pp. 143–158 (cit. on p. 6).
- Ronneberger-Sibold, E. (2010). "Word Creation Definition—Function—Typology." In: *Variation and Change in Morphology: Selected papers from the 13th International Morphology Meeting, Vienna, February 2008 (Vol. 310, p. 201)*. Ed. by F. Rainer et al. John Benjamins Publishing (cit. on p. 3).
- Ryding, K. (2005). *A reference grammar of modern standard Arabic*. Cambridge university press. (cit. on pp. 5, 8).
- Shormani, M. Q. and M. A. Qarabesh (2018). "Vocatives: correlating the syntax and discourse at the interface". In: *Cogent Arts & Humanities* 5.1. Ed. by P. Stanley, p. 1469388. ISSN: null. DOI: [10.1080/23311983.2018.1469388](https://doi.org/10.1080/23311983.2018.1469388). URL: <https://www.tandfonline.com/doi/abs/10.1080/23311983.2018.1469388> (cit. on p. 5).
- Watson, J. (2002). *The phonology and morphology of Arabic*. Chicago: Oxford University Press on Demand. (cit. on pp. 4, 8, 15).
- Weeda, D. (1992). "Word Truncation in Prosodic Morphology". PhD thesis (cit. on p. 6).
- Wright, W. (1971). *A grammar of the Arabic language*. Cambridge: Cambridge University Press (cit. on p. 4).
- Zwicky, A. M. and G. K. Pullum (1987). "Plain morphology and expressive morphology". In: *Proceedings of the Thirteenth Annual Meeting of the Berkeley Linguistics Society*. Pp. 330–340 (cit. on p. 3).