

METATHESIS IN LIBYAN ARABIC

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Abstract

The aim of this paper is to provide an Optimality Theoretic analysis of CV metathesis in one variety of Libyan Arabic. Output forms in which adjacent segments swap places violate the faithfulness constraint LINEARITY. It will, however, be shown that the dialect under scrutiny resorts to metathesis in order to avoid a marked syllable type. The paper will also prove that metathesis is inapplicable to forms in which the stem includes either a long vowel or a geminate consonant.

Keywords: metathesis, OT, weak syllable.

1. Introduction

In this paper I present an examination of metathesis in Libyan Arabic (LA) with special focus on the variety spoken in the city of Misrata, starting with a general overview of this process. Metathesis is a process in which two segments occurring in a given sequence in a word show up in an opposite sequence in another form of this word. Thus, in a sequence of segments where in one word-form the sequence ...xy... surfaces as ...yx... in a related word-form (Hume 2001). Difference in the linear order of constituents is widely attested in syntax. However, this difference is relatively uncommon in the field of phonology, being distinct from the majority of other phonological phenomena, which can be described by reference to a given sound which changes in a particular environment (ibid).

For these reasons and despite the fact that metathesis is a commonly occurring phenomenon metathesis has been “a poorly understood process” (Hume 1998: 148) that has not received the focus it deserves in the phonological literature. A noteworthy exception is McCarthy’s (1995) investigation of Rotuman metathesis in which he explains that while metathesis is a good way of distinguishing between morphological classes, prosodic requirements are crucially important in establishing the specific shape of the metathesis alternants (ibid).

Hume (2001: 3) characterizes Chomsky and Halle’s (1968) account of metathesis as the following transformational notation.

(1) s k 1 2 □ □ 2 1 Output: [ks]

But, as Hume (2001: 3) argues, “Unrestricted rewrite rules of this nature are excessively powerful and unconstrained, however; virtually any operation could be formally described in these terms, whether attested or not.” For instance, it is true that such rules can successfully describe actual cases of metathesis in which contiguous sounds swap places. They, however, fall short of excluding unattested instances where sounds switch over any number of consonantal and vocalic segments, e.g. C1V2C3V4C5V6C7 □ C7V2C3V4C5V6C1. But the inadequacy of such rules to deal with metathesis should not lead to rejecting it as a major process (Hume 2001). This means that it is not metathesis that is unusual; it is simply phonological theory that failed to represent it.

Similarly, in non-linear phonology metathesis has also failed to receive a good characterisation. For example, Hume (1998) says that some instances of CC metathesis are particularly difficult to analyse given the recognised principles of nonlinear phonology, such as the No Line Crossing convention.

Unlike traditional linear and non-linear theories of phonology we have just viewed, Optimality Theory with its violable constraints provides an insightful way of dealing with metathesis. This is mainly because in OT differences in linear order between input and output are both allowed and expected to occur (McCarthy & Prince 1999).

Banjar (2003) deals with CC metathesis as manifested in Eastern Arabic with special reference to the dialects used in Mecca and Cairo. However, rather than presenting an analysis, she merely lists 34 tables containing instances of adjacent and non-adjacent metathesis¹. She also argues that “the nature of Arabic sonorant consonants: /m/, /n/, /l/, and /r/ gives them credit to be metathesised.” (p. 28) Among the examples Banjar lists are *?ih̄taraq* ~ *?atharag* ‘to burn oneself’, and *?ablah* ~ *?ahbal* ‘idiot’. Although Banjar (2003) presents some interesting examples of forms that have undergone metathesis, she does not deal with the trigger that causes these forms to surface the way they do. Moreover, she only says that such forms are instances of LINEARITY violation and that this faithfulness constraint must be ranked below some other markedness constraint. She, nonetheless, does not state what the latter constraint is. She makes use of the hypothetical tableau in (2) where the input is /VxyV/, with two competing candidates: totally faithful VxyV and unfaithful (but optimal) VyxV.

¹ By “non-adjacent metathesis”, Banjar probably means cases when two distant consonants swap places, as when /zanjabii/ surfaces as [janzabiil] ‘ginger’ in Meccan Arabic. This is sometimes referred to as “long-distance metathesis” as in /art/ → [tar] (McCarthy 2007: 87)

² Note that the sonorants /r/ and /l/ are also mentioned by Elgadi (1986) as “important” in giving rise to metathesis.

(2) Constraint Q forces a violation of LINEARITY: metathesis applies.

Output	Candidate	Input: /VxyV/	Q	LINEARITY
	a.	VxyV	*!	
□□□□□	b.	VyxV		*

She postulates *Q* (a variant) as a markedness constraint outranking LINEARITY. Thus the actual reason for metathesis is left unaccounted for.

2. The Issue

This process abounds in suffixed forms of LA imperfective verbs, as can be seen in the following examples:

(3)	unsuffixed forms	suffixed forms
i.	tixd <u>i</u> m 'she works'	tixi <u>d</u> mik 'she serves you'
ii.	jims <u>i</u> k 'he cathees'	jimi <u>s</u> kik 'he cathees you'
iii.	ni?z <u>i</u> m 'I invite'	ni?iz <u>m</u> a 'I invite him'
iv.	tikt <u>i</u> b 'she writes'	tiki <u>t</u> ba 'she wites it m.'
v.	jinf <u>i</u> d 'he asks'	jini <u>f</u> da 'he asks him'
vi.	nun <u>f</u> ur 'I hang clothes'	nunu <u>f</u> ru 'we hang clothes'
vii.	jur <u>g</u> ud 'he sleeps'	jur <u>g</u> du 'they m. sleep'
viii.	nus <u>b</u> ur 'I become patient'	nus <u>b</u> ru 'we become patient'

Here attaching a vowel-initial suffix to the present imperfective verbs causes the second vowel to swap places with the consonant preceding it. It should be taken into account that this is witnessed only when the first vowel of the stem is a short one, as seen in the examples just cited; no metathesis takes place when this vowel is long, as the following examples illustrate.

(4)	unsuffixed forms	suffixed forms
i.	taaxid 'she takes'	taaxda 'she takes it (s. m)'
ii.	n?aarik 'I reprimand'	n?aarka 'I reprimand him'
iii.	niidim 'I add gravy'	niidma 'I add gravy to it (s. m)'
iv.	juu?id 'he promises'	juu?dik 'he promises you'
v.	nuu?il 'I arrive/ reach'	nuu?lik 'I reach you'
vi.	jiibis 'he becomes hard'	jiibsu 'they become hard'
vii.	nuuguf 'I stop'	nuugfu 'we stop'
viii.	nwaalif 'I become accustomed'	nwaalfu 'we become accustomed'

Likewise, no metathesis takes place when the consonant preceding the second vowel is geminate. This is represented by the examples in (5):

(5)	nnad <u>d</u> if 'I clean'	nnad <u>d</u> fu 'we clean'
	nyarr <u>s</u> 'I plant'	nyarr <u>s</u> u 'we plant'
	nwazza? 'I distribute'	nwazz <u>?</u> u 'we distribute'
	nfallis 'I go bankrupt'	nfall <u>s</u> u 'we go bankrupt'

The examples listed in (4) and (5) show that the existence of long vowels or geminate consonants not only blocks metathesis but also causes the second vowel to disappear (e.g. taaxid ~ taaxda, nfallis ~ nfallsu).

Harrama (1993: 43) argues that the stem vowel of the imperfect verb swaps places with the second radical of the verb due to adding a subject suffix to the verb. He restricts his examples to forms to which the first person plural morpheme /-u/ has been added. But this is not the only case where metathesis takes place; this process is also operative when the second person singular object /-ik/, or the third person singular object /-a/ is attached to such a verb.

Elgadi (1986: 47) correctly includes examples that contain the suffix /-ik/. Nevertheless, when discussing examples that contain the first person plural morpheme /-u/, he maintains that the sounds /r, l, f/ are "important" in giving rise to metathesis³. Again he lists only examples that contain these segments. In fact, metathesis is not confined to these segments, but, rather, it takes place once a suffix beginning with a vowel is added regardless of whether any of these three segments is involved or not. This can be confirmed by looking at examples (i, ii, iii, iv, viii) of (3) above.

All the examples listed here as well as in Elgadi (1986) are restricted to verbs. In fact, metathesis is also at play when a vowel-initial suffix is attached to nouns. This can be seen in (6).

³ Brame (1973: 18) deals with metathesis in Maltese Arabic. He also says that the sonorant sounds *r, l, m* are "crucial in triggering this [metathesis] rule." However, metathesis in the dialect under investigation takes place irrespective of the presence or absence of these segments.

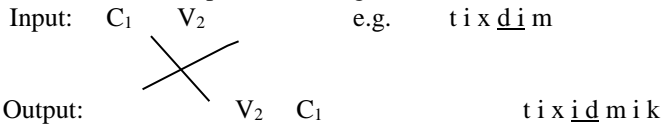
- | | | |
|-----|------------------------------|------------------------------------|
| (6) | makt ib ‘office’ | mak i ti ‘my office’ |
| | mat ʔ im ‘restaurant’ | mat ʔ mik ‘your restaurant’ |
| | bul bul ‘bulbul’ | bul u bla ‘his bulbul’ |
| | xin z ir ‘dagger’ | xin i zri ‘my dagger’ |
| | ʃib ʃ ib ‘slippers’ | ʃib i ʃba ‘his slippers’ |

The examples we have dealt with so far lead to the following descriptive generalisation (cf. McCarthy 2008: 34) about metathesis in the dialect we are studying:

Adding a vowel-initial suffix to nouns or imperfective verbs gives rise to metathesis except when the first vowel of the verb is long, or when the consonant to be metathesised is a geminate.

Forms that undergo metathesis lead to a violation of LINEARITY. (Kager, 1999: 63 McCarthy, 2000; McCarthy & Prince, 1999); Steriade, 2001: 28).

(7) Metathesis Correspondence Diagram



Here we see that C₁ and V₂ exchange places, resulting in a violation of LINEARITY. This constraint is defined in (15) (Kager, 1999: 63).

(8) LINEARITY (No metathesis)

The output reflects the precedence structure of the input, and vice versa.

But why does the dialect violate LINEARITY? Let us take one of the forms and have a look at its syllable structure pre and post-suffixation. Consider, for example, the verb *jurgud* in (3 vii). This, as can be seen, consists of two closed syllables with stress falling on the initial (i.e. penultimate) syllable, thus *JUR.gud*. Appending the vowel-initial suffix does not affect stress location. It, nevertheless, causes the coda of the final syllable to resyllabify as an onset to the newly added vowel *JUR.gudu*. This renders the now-penultimate syllable open. A markedness constraint *WEAK militates against weak syllables. McCarthy (2007: 168) classifies a syllable as weak if it meets all of the following conditions:

- (i) It contains a short high vowel.
- (ii) It is open.
- (iii) It is unstressed.
- (iv) It is non-final.

It is obvious that the penult of *JUR.gudu* does meet all of these conditions. *WEAK prefers [JUrugdu] to [JUrgudu]. This is to say, metathesis avoids a weak syllable by adding a coda to the penult ...rug... Tableau (9) depicts the interaction between LINEARITY and *WEAK.

(9)

	Input: /jurgud+-u/	*WEAK	LINEARITY
Candidate	a. □ jurugdu		*
weak respects	b. jurgudu	*!	

(9a) wins because it avoids having a syllable. Its rival (9b), by contrast, LINEARITY at the expense of incurring a violation of *WEAK. This causes it to be ruled out of the competition.

2.1 Metathesis in v: forms and C₁C₁ forms

I have said that weak syllables are intolerable in LA and that the existence of long vowels or geminate consonants blocks metathesis and causes the second vowel to disappear (see (4) and (5) e.g. taaxid ~ taaxda, nfallis ~ nfallsu). Here as well appending a vowel-initial suffix yields a weak penult: *taaxida*, *nfallisu*. But rather than making use of metathesis, the dialect chooses to get rid of the impermissible syllable. Let us apply metathesis to cases that contain such sequences (i.e. long vowels or consonant clusters) and see what the outcome would look like. If metathesis was applied to a word like *taaxid*, the result would be *taaxida⁴. Here metathesis is impermissible as it will result in a sequence of three vowels in a row. Therefore, instead of metathesis the dialect resorts to vowel deletion.

Similarly, metathesis is not resorted to in forms that have geminate consonants. Take, for example, the form *nfallis*. Adding the plural suffix *-u* yields **nfallisu*. Here as well the penultimate syllable is weak. But metathesizing the vowel with its onset will lead to breaking up the geminate sequence, e.g. **nfallisu*. So here again the dialect opts to deleting the impermissible syllable.

In this respect, it is worthwhile to say that, according to Goldsmith (1990: 77), epenthesis rules which append a vowel to get rid of an undesirable string are inapplicable in case their application would give rise to splitting a geminate consonant. This feature is considered to point towards the “integrity” of geminate

⁴ Note that metathesis takes place between the onset and nucleus of the second syllable, e.g. tix**dim** ~ tix**id**mik. Here as well we are applying it to the same domain.

consonants. It is also considered to be a good indication that geminates behave differently from other strings of consonants (ibid).

An exception to this universal tendency can be found in Marshallese, “an Austronesia language of the Oceanic branch” (Goldsmith 1990: 78). This language, similar to what we have just seen in the preceding two paragraphs, applies vowel insertion to separate a cluster of two consonants. Such an epenthesis, however, fails to apply when the two consonants comprising the cluster are either identical or homorganic. However, geminates are broken up via epenthesis when they are word-initial, as when the stem *lliw* ‘angry’, as in [yi-lliw] ‘I am angry’ undergoes epenthesis and becomes [liliv] when no prefix is attached to the stem (Bender 1968). Commenting on this, Goldsmith (1990: 78) says that “[T]he behaviour of Marshallese in this respect is extremely unusual.”

Taking these observations into account and going back to the examples listed in the first and second paragraph of this section, we see that if the vowel had not been deleted, the forms would have surfaced as **taaxida* and **nifallisu*. Note here that the vowel of the penultimate syllable in these forms is short, high, open and unstressed (i.e. a weak syllable). This can be a piece of evidence lending support to the claim that the dialect disfavors weak syllables.

3 Conclusion

This paper has shed light on metathesis, the process whereby adjacent segments exchange positions. Appending a vowel-initial suffix to imperfective verbs results in CV metathesis in the present dialect. Metathesis fails to apply when the first vowel of the stem is long. Similarly, metathesis is not witnessed when the consonant preceding the second vowel is geminate. The dialect under analysis metathesizes its CVs in order to get rid of a weak syllable, i.e. an unstressed open syllable with a short, high non-final vowel.

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