

ON THE PRECEDENCE
OF MORPHOPHONEMIC RULES*

by

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In this paper, I shall present evidence motivating two morphophonemic rules in Iraqi Arabic that crucially interact with a purely phonological rule; in both cases, the phonological rule takes precedence.¹ I also suggest that this way of interaction is not arbitrary, rather, it is determined by the principle of transparency or minimization of opacity suggested by Kiparsky (1971).

The first case is that of the interaction between *l*-assimilation and vowel epenthesis. In Iraqi Arabic, spoken by people in Iraq, the definite article /l-/, when prefixed to a noun, assimilates completely to the first sound of the noun if this happens to be a coronal consonant, as is seen from the following examples:

<u>Indefinite</u>		<u>Definite</u>	<u>Indefinite</u>		<u>Definite</u>
[beet]	'house'	[lbeet]	[fan]	'art'	[lfan]
[mooz]	'banana'	[lmooz]	[gumar]	'moon'	[lgumar]
[kutub]	'books'	[lkutub]	[yeema]	'cloud'	[lyeema]
[xubuz]	'bread'	[lxubuz]	[qalam]	'pencil'	[lqalam]
[ʕuuda]	'stick'	[lʕuuda]	[ħooš]	'house'	[lħooš]
[harja]	'noise'	[lharja]	[ʔawwal]	'first'	[lʔawwal]
[yarda]	'yard'	[lyarda]	[walad]	'boy'	[lwalad]

But:

[tufga]	'gun'	[ttufga]	[dib]	'bear'	[ddib]
[ṭabul]	'drum'	[ṭṭabul]	[θaliʃ]	'ice'	[θθaliʃ]

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Examples (continued)

Indefinite		Definite	Indefinite		Definite
[ðeel]	'tail'	[ððeel]	[ðahar]	'back'	[ððahar]
[suug]	'market'	[ssuug]	[ʃooɸa]	'heater'	[ʃʃooɸa]
[ʃabaka]	'net'	[ʃʃabaka]	[zir]	'thigh'	[zzir]
[čalib]	'dog'	[ččalib]	[jeeb]	'pocket'	[jjeeb]

Certain points must be clarified about this assimilation:

(a) In the speech of people coming from outside Baghdad, the capital, it is only the definite article that undergoes the assimilation. Other homophonous prefixes do not, e.g. the directional preposition 'to', and the possessive particle, both phonetically [l]. A test showed that these speakers are not consistent in applying the rule to the latter prefixes. Many did not assimilate these at all, e.g.,

[mʃeet l raas i ʃʃaariʃ]	'I walked to the beginning of the street.'
[ktabit risaala l ʃaariq]	'I wrote a letter to Tariq.'
[nʃeetha l saʃduun]	'I gave it to Saduun.'

and:

[ʃifitha l tamaaɸur]	'I saw (her) Tamaadur.'
[ʃiggeeta l ʃooɸi]	'I tore (it) my dress.'
[razzalta l ʃaahib]	'I scolded (him) Saahib.'

(b) The rule does not apply morpheme-internally when an /l/ is followed by a coronal, e.g.,

[lsaan]	'tongue'	[filseen]	'two fils' (coin)
[falʃa]	'pull it down'	[balda]	'town'
[maljaʔ]	'shelter'	[gilta]	'I said it'

Moreover, it does not apply in derivations representing 'derived verbs' that are morphologically composed of the non-derived trilateral stem, with /-t-/ infix after the first radical, e.g.,

[ltiʔam]	'healed'	[ltiga]	'met'
[ltiha]	'divert oneself'	[ltiwa]	'bend'

(Notice here that the preceding /l/ and following /t/ belong to two different morphemes.)

(c) The rule does not apply between words, when one ends with /l/

and the following begins with a coronal, e.g.,

[buṭul sevinap]	'a Seven Up bottle'
[ḥimil jimal]	'a camel's load'
[suʔaal sahil]	'easy question'
[ṭifil θaani]	'a second child'

From this exemplification, we see that as far as this dialect is concerned, this rule of assimilation is morphophonemic, since it is confined in its application to a certain morpheme; it makes use of diacritic features and a morpheme boundary:

(1) Z-Assimilation:²

$$[+\text{def. article}] \xrightarrow{C} [\alpha F] / \text{---} + \left[\begin{array}{c} C \\ +\text{coronal} \\ \alpha F \end{array} \right]$$

(The definite article /l-/ assimilates completely to an immediately following coronal; it takes up all its features.)

A general fact about the phonology of Iraqi Arabic is the existence of two-consonant clusters initially. Clusters of more than two consonants are not tolerated anywhere. Therefore, in cases of a noun beginning with a consonant followed by a vowel, the addition of the definite article does not constitute a breach of that law. Another fact is that whenever there occurs in the derivation a case of a three-consonant cluster, a vowel is inserted between the first and the second consonants to break up the cluster. This vowel epenthesis is blind to any morphological or lexical constraints or considerations. In other words, the rule of vowel-epenthesis applies whenever its structural description is satisfied. And from the following examples, it becomes clear that its structural description does not involve any morphological information:

[yšabbiʕ]	'satisfy'	but	[yišbaʕ]	'be satisfied'
[bkutubi]	'in my books'	but	[biktaabi]	'in my book'
[šraad]	'what did he want?'	but	[šitriid]	'what do you want?'
[lbaabi]	'to my door'	but	[lilbaab]	'to the door'
[mniidi]	'from my hand'	but	[min jaasim]	'from Jassim'
[beet bušraa]	'Bushra's house'	but	[beet i ḥseen]	'Hussein's house'
[ʔalf]	'thousand'	but	[ʔalifna]	'our thousand'
[ḥarb]	'war'	but	[ḥarubhum]	'their war'

A rule that accounts for the above variation will have the following form:

$$(2) \quad \emptyset \rightarrow \begin{matrix} V^3 \\ [-long] \end{matrix} / C _ CC$$

The order of application of rules (1) and (2) is crucial, as there are forms that satisfy the structural descriptions of both rules, e.g.:

/l + sbuu ^s /	'the week'	/l + staad/	'the master'
/l + traab/	'the soil'	/l + znaad/	'the lighter'

If l-assimilation were to apply first, it would yield: /s + sbuu^s/, /s + staad/, /t + traab/, and /z + znaad/, to which vowel epenthesis could apply, yielding:

*[sisbuu^s], *[sistaad], *[titraab], *[ziznaad]

—which is the wrong outcome. Instead, the correct outcome is:

[lisbuu^s], [listaad], [litraab], [liznaad]

which clearly shows that vowel epenthesis must apply first and thus block the application of the assimilation rule, since a vowel separates the /l/ and the following coronal.

The second rule that seems to interact with vowel-epenthesis in the same way is stress shift. In Iraqi Arabic, it appears that certain verbal prefixes motivate a shift in the main stress of the verb to the first vowel. These are the prefixes /š-/ 'what', and /ma-/ and /la-/, both meaning 'no'. This shift in the stress seems particular to the above prefixes. Other prefixes do not motivate such a shift, such as /da-/, the progressive prefix, and /la-/, 'lest'. Examples are:

[tirdúun]	'you(p) want'	but	[štírduun]	'what do you want'
[dayli ^s búun]	'they are playing'	but	[šdáyli ^s buun]	'what are they...'
[tikitbúun]	'you(p) write'	but	[štíkitbuun]	'what do you...'
[jibnáalkum]	'we brought to you'	but	[šjíbnaalkum]	'what did we...'
[kitábtuu]	'you(p) wrote'	but	[mákitabtuu]	'you did not write'
[tikitbúun]	'you(p) write'	but	[látikitbuun]	'Don't write.'

But,

[tli ^s bíin]	'you (f) play'	and	[datli ^s bíin]	'you are playing'
[yjiibúuha]	'they bring her'	and	[dayjiibúuha]	'they are...'
[yxarubtúun]	'they mess'	and	[raaqibhum layxarubtúun]	'watch them lest they mess.'

A rule of stress shift can be invoked here to take care of the changes that take place in the examples above. This rule is obviously morphophonemic, since it is restricted to certain morphemes:

(3) Stress Shift:

Word stress shifts to the first vowel in the string when a word is prefixed by either the question or the negative prefixes.

This rule of stress shift interacts with the above-mentioned rule of vowel epenthesis in the same way the *l*-assimilation rule did. Derivations that are open to the application of both rules result when we add the question prefix /š-/ to verbs that begin with a consonantal cluster, which in turn motivates the insertion of a vowel between the prefix and the first consonant of the verb. If stress shift were to apply before vowel epenthesis, because this latter is phonological, the output would be such that no epenthesized vowel will get the stress in these strings. Thus from the underlying representation /š + txallín/, 'what do you(f.s.) put', we would expect the output to be *[šítxallín]; and from /š + tbii^úun/, 'what do you (p) sell', we would expect *[šítbii^úun]. What we get in fact are the following: [šítxalliin] and [šítbii^úun], which show clearly that vowel epenthesis applies first and stress shift applies only after the insertion of the vowel, since the stress shifts to the epenthesized vowel—i.e. the vowel that results from the application of the phonological rule of vowel epenthesis.

What is interesting in all of this is the reason behind the precedence that a phonological rule like vowel epenthesis assumes in its interaction with a morphophonemic rule in each of the two cases above, and whether or not there is a principle of ordering that determines its precedence over *l*-assimilation and stress shift. I believe that an answer to this can be found in appealing to the principle of minimization of opacity that Kiparsky proposed in his (1971) paper on historical linguistics when he was dealing with rule ordering in linguistic change.

In both cases, the correct order results in transparent outputs. In the first case, the application of the *l*-assimilation first, followed by vowel epenthesis, will render the assimilation opaque, since the wrong outputs would appear to have violated the environment for its application: the two consonants will be separated by a vowel. This is opacity of type two in Kiparsky's definition. In the second case, applying vowel epenthesis after stress shift would also render the latter rule opaque, since the outputs would show stress on a vowel which is not the first as the rule requires—i.e., it would not be on the vowel of the syllable that the prefix /š-/ belongs to. This is opacity of type one in Kiparsky's definition of the term.

In the light of the above we may also arrive at another interesting

observation. Transparency or minimization of opacity may not only be a principle governing rule reordering, it may be responsible for ordering them too.

Footnotes

¹The subcategorial distinction between phonological and morphophonemic rules has been employed as a determiner of precedence of rule application. It was suggested that morphophonemic rules take precedence over purely phonological rules (cf. Hooper (1976:20), and Walsh (1977)).

²The use of the morpheme boundary [+] was necessitated by the fact that this rule does not apply to all derived morphemes, as is seen from the examples of the derived verbs. Neutralizing though it may be, it applies to prefixes only, as in the case of the Baghdadi dialect, which assimilates all /l-/ prefixes. This may shed light on the morphological structure of Semitic languages and may direct us towards distinguishing between two different morphological processes, those of prefixation and suffixation, and those of a word-internal nature.

³The phonetic value of the epenthetic vowel depends on the environment: the preceding vowel, and/or the neighboring consonants. For a detailed account of this variation, the reader is referred to Blanc (1964).

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