Stress Attractors in Lattakian Syrian Arabic

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□ ABSTRACT □

Stress in Lattakian Syrian Arabic is not sufficiently investigated. The present paper considers a number of issues related to stress in Lattakian Syrian Arabic. Focus is made on attractors of stress. Using the Metrical Stress Theory, data are analysed. Lattakian is shown to variably assign stress to the penultimate. This is due to a difference between non-final CVC syllables and CVG/CVV syllables. Weight in various guises seems to be one main attractor of stress.

Keywords: Lattakian Syrian Arabic, stress, weight, attractors of stress

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جاذبات النبر في اللهجة اللاذقية

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□ ملخّص □

النبر في اللهجة اللاذقية غير مطروق بشكل عام. يعالج هذا المقال عدد من المواضيع المتعلقة بالنبر باللهجة اللاذقية. في هذه المقالة، سيكون التركيز على النبر وجاذبات النبر. سيتم تحليل بيانات من هذه اللهجة باستخدام نظرية Metrical Stress.

تضع هذه اللهجة النبر على المقطع الصوتي ما قبل الأخير. يعزى هذا للاختلاف بين المقاطع الصوتية غير النهائية CVC و CVG/CVV. كما ويبدو أن وزن المقطع الصوتي بأشكاله المختلفة جاذب مهم للنبر.

الكلمات المفتاحية: اللهجة اللاذقية، النبر، الوزن، جاذبات النبر

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1. Introduction

In the literature (not very extensive), there is no explanation for the stress pattern in Lattakian (as proposed in Broselow (2018) and Melhem (2016)). That is, no theoretical phonological background was advanced to explain the facts about stress in Lattakian city dialect.

1. Stress a heavy final syllable (except a CVC)
2. If not, stress a heavy penultimate (including CəC)
3. If not, stress a heavy antepenultimate
4. If none of the three final syllables in a word is heavy, stress the penultimate syllable

There is also no explicit account as to attractors of stress in this dialect.

The organization of the paper is as follows: the next section shows the importance and objectives of the study. The model that will be adopted for Lattakian data is discussed in section 3. Attractors of stress are then considered in section 4. The concluding remarks are in section 5.

2. Importance of the study and objectives

The present paper shows that the above-pattern is not sufficient, and that there are other facts that should be taken into consideration, particularly the fact that while CVC syllables behave as light in certain positions in the word, CVV and CVG syllables attract stress in those same positions as will be made clear in the course of this paper. It also considers syllable weight and attractors of stress. It points out some of the significant properties of stress in this dialect within the framework of the Metrical Stress Theory. The following questions will be addressed:

1. Does weight play a role in stress in Lattakian?
2. What is the status of word-final consonants?
3. Is gemination an attractor for stress?

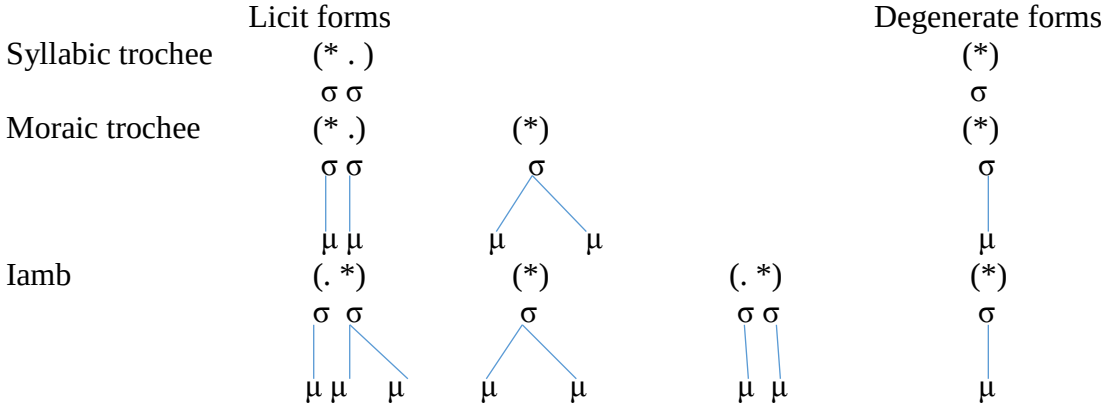
3. Hayes's Model

Initially, stress was decided based on the researcher's intuition on the dialect. The researcher is a native speaker of the language. However, Hayes's Model, the Metrical Stress Theory (1995), will be used for analyzing data for a number of reasons:

1. It minimizes the surface differences between languages to some parameters (see Hellmuth, 2013).

(a) Foot type can be either bounded as is made clear in diagram (6) adopted from Kager (2007: 7), or unbounded where the parameters of a foot will be the entire phonological word:

Diagram 6 Foot type



(b)Foot construction: a foot can be calculated from left-to-right or right-to-left. They can be left-headed or right-headed.
(c)The size of the extrametrical constituent differs: segment, syllable or foot.
(d)The treatment of degenerate feet differs. Degenerate feet are those that are left unaccounted for in the end of a footed string, in other words, they are 'subminimal feet which survive to the surface' (Hayes, 1995: 87). Some languages allow them, others do not.
2. It shows the parameters of variation among different languages.

The principles of the Metrical Stress Theory of Hayes (1995) will be introduced together with two important concepts crucial to the understanding of this theory, namely extrametricality and syllable weight.

In a metrical grid, there are four levels above the CV segmental level: the moraic layer, the syllable layer, the foot layer, and then the word layer. In a grid column, if a mark is placed on the word layer then there should be other marks on the foot, syllable and foot layers. Some of the main principles of this theory are listed here (Hayes 1995: 2-3):

1. The smallest metrical unit is the foot.
2. The Iambic/Trochaic Law, which is responsible for the foot inventory, decides all possible feet and prompts the creation of segmental rules that modify the metrical structure.
3. Metrical structure creation need not use up all syllables in the word; some syllables may be left unaccounted for.
4. Many languages disallow 'degenerate' feet; the feet that consist of just one mora.
5. Syllable weight is not treated similarly in different languages; some languages respect syllable quantity (i.e. mora count), while others respect syllable prominence (i.e. some properties of the syllable).

So crucial to Hayes's theory is the concept of extrametricality. Extrametricality is when the last consonant, foot, syllable, or mora is invisible to stress. Many Arabic dialects exclude the last consonant in a final syllable. Consequently, the consonant does not add to the weight of the syllable.

It hardly needs saying that weight plays a significant role in attracting stress. Hayes (1989) assumes three sources for syllable weight:

1. Short vowels correspond to only one mora and long vowels to two moras.
2. Geminate consonants correspond to a mora.
3. Weight-by-Position: a coda consonant is assigned a mora in the process of syllabification.

After introducing the model, the model will be used to investigate the factors that contribute to stress placement.

4. Attractors of Stress[1]

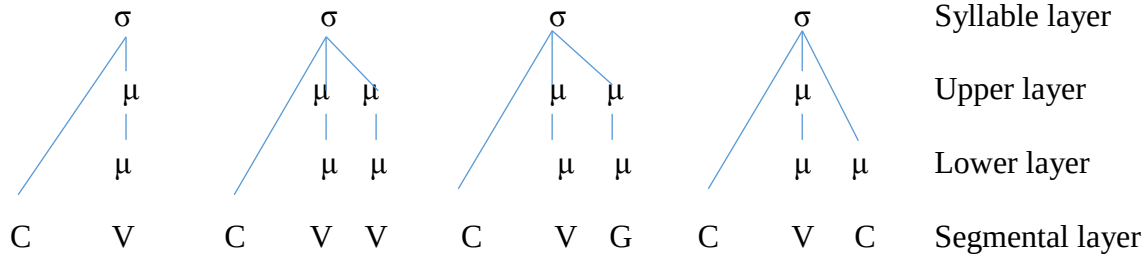
4.1. Non-Final CVV/CVG vs. Non-Final CVC

The weight of the syllable is a significant attractor of stress. The issue at stake here has to do with whether there are other attractors for stress, in particular (1) whether there is an influence for the constituents that come before or after the stressed syllable; (2) whether gemination plays a role.

Lattakian, similar to a dialect such as Sanʿani (see Watson, 2002), is affected by what comes before a final heavy syllable. In particular, a penultimate or antepenultimate heavy open syllable CVV [*ˋṣāṭūr*] 'heftier blade', [*ˋjīrānu*] 'his ($_{\text{GEN, 3SG, M}}$) neighbours', [*ˋsāfart*] 'travelled I', [*ˋṣābūn*] 'soap', [*ma šār īʿ*] 'projects' … or syllable ending in the left leg of a geminate CVG [*ˋjazzār*] 'cruel' takes precedence over a final CVVC/CVCC syllable. CVV and CVG attract stress from a superheavy or heavy syllable to the right of this syllable. This is unlike the cases which involve a CVC penultimate or antepenultimate with a final CVVC/CVCC where stress falls on the final foot as in [*qim ʾbazt*] 'squatted I' and [*mak ʾtabkīn*] 'your ($_{\text{2PL}}$) office'. So the point is that there is a difference in the behavior of CVV/CVG and CVC. Why is CVC not heavy?

It is assumed here that the noticeable asymmetry between the CVC and CVV/CVG has to do with the underlying moraic representation of these syllable types. Hayes (1995: 300) conjectured a two-layered underlying representation (this was not applied by Hayes to Arabic CVG and CVV syllables though). The upper layer is responsible for footing and other syllable external requirements. The lower layer is responsible for syllable medial requirements such as limiting the number of moras. Segments are given a mora on both the upper and lower levels if they are underlyingly moraic (vowels and the left leg of a geminate), but one mora only on the lower level if they are assigned weight by position as shown in tree diagram (15).

Diagram 15 Two layered moraic representation of the CVC and CVV/CVG syllables



This analysis is similar to the analysis offered by Watson (2002: 104).

There is an alternative to positing an additional layer of moras; it is to appeal to the

[1] **Someone might wonder whether emphatic consonants are attractors. Emphatic consonants in Arabic (which are the pharyngealized coronal, pharyngeal and velar sounds (Watson, 1995b: 253–8) do not seem to attract stress. It is not usual that a type of consonant would attract stress; seeing as the most important factor is the syllable nuclei. The table below shows that the presence of /ṭ/ in 'ˋmaṭṭ' is not the reason why the syllable is stressed; if it were a stress attractor, /tar/ in /ˋməṭṭarra/ would be stressed, which is not the case.**

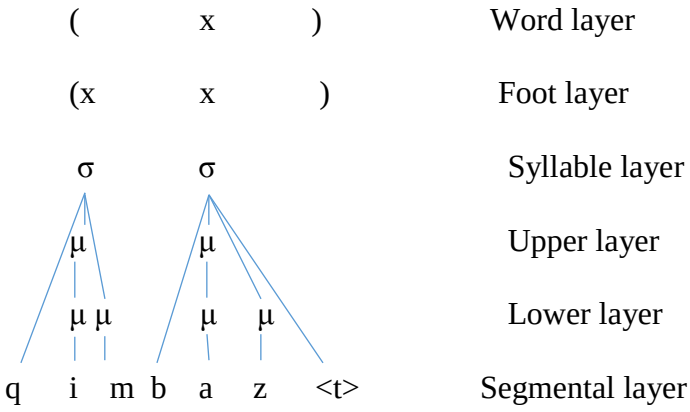
ˋmaṭṭ 'extended'	**ˋməṭṭarra 'she is obliged to'**
ˋḥaẓẓ 'luck'	**ˋḥefiẓ 'memorizing'**

proposal of Hayes (1989) that geminates are distinguished from single consonants in that the former are underlyingly associated with a mora. On this account, the difference in moraic value between CVV and CVG, on one hand, and CVC, on the other, simply reflects differences in underlying mora structure. Following the general assumption that long vowels are underlying bimoraic, then so long as moras are not lost, a CVV syllable will surface as bimoraic. Similarly, if geminates are underlyingly associated with a mora, then a syllable closed by a geminate will also surface as bimoraic given preservation of underlying moras. A singleton coda consonant, in contrast, is not underlying associated with a mora, so if moras are not added to coda consonants, then CVC will surface as monomoraic. Maintaining faithfulness to underlying moraic associations will therefore derive the opposition between heavy CVV/CVG vs. light CVC without the need to posit a second layer of moras. On this account, the coda consonant in a CVVC syllable could be analyzed as sharing a mora with the preceding vowel, along the lines proposed in Broselow et al. 1997 and Watson 2007. This would predict durational differences between vowels in CVC and CVG syllables (a hypothesis that could be tested by phonetic investigations along the lines of Broselow et al. 1997 and Khattab & Al-Tamimi 2014).

However, assuming a two-layered representation, unlike the one-layered representation, can account for certain cases such as the failure of superheavy CVCC syllables to be stressed if a non-final CVV or CVG syllable falls within the word as is the case in [*dūwwart*] 'I looked for'. Therefore, the first conjecture will be followed here.

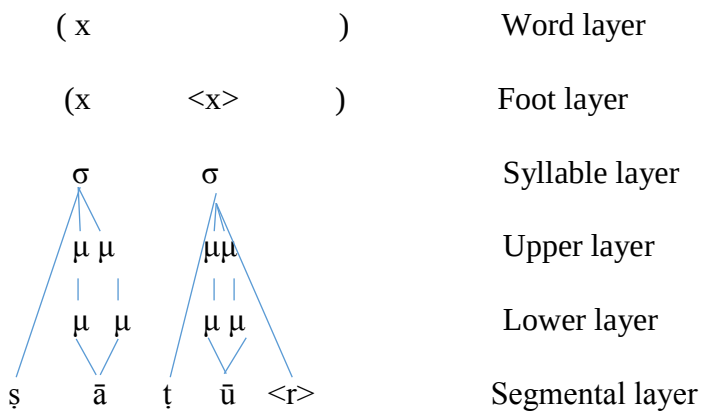
Diagram (16) shows that the two-syllable word has one mora on the upper layer for each syllable corresponding to the vowels /i/ and /a/. /m/ and /z/ were not assigned moras on the upper layer as they are not underlyingly moraic, they are rather assigned a mora by the weight by position at the lower layer.

Diagram 16 Two-syllable word has one mora on the upper layer for each syllable



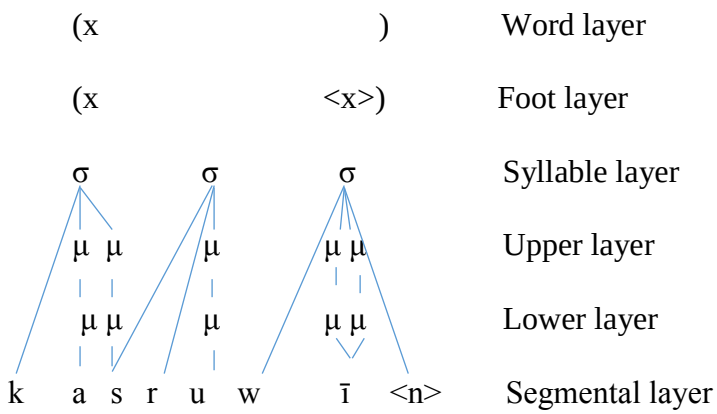
The following examples demonstrate how Hayes' proposal can account for the behaviour of non-final CVC and CVV/CVG. In [*ʿṣāṭūr*], both the ultimate and penultimate syllables get two moras on each layer. The analysis goes as follows: /r/ is rendered extrametrical, the last foot is extrametricalized and the first foot is stressed. Stress falls on the first syllable regardless of the fact that the final syllable is heavy as the diagram shows:

Diagram 17 Non-final CVV under the layered moraic representation



In [*`kassruwīn*] 'they broke them ($_{ACC, 3PL}$)' stress falls on the antepenultimate which is a CVG (geminates consist of a single segment associated with two prosodic positions). Footing scans for heavy syllable on the upper layer. There are two heavy feet at this layer. The second syllable does not constitute a foot by itself. The final is invisible for stress via extrametricality, that is why stress falls on the initial syllable.

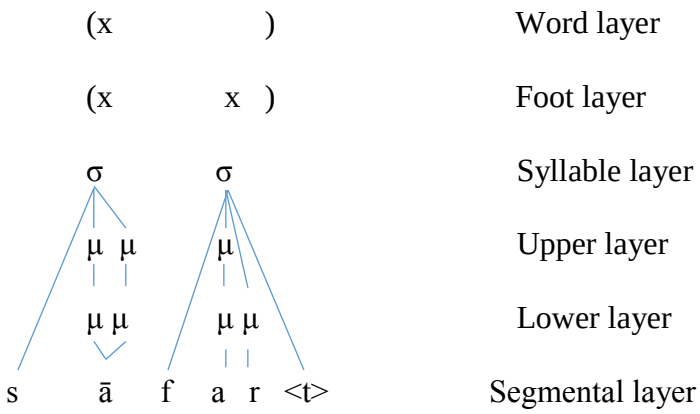
Diagram 18 Non-final CVG under the layered moraic representation



In [*`sāfart*] 'travelled I'[2], the footing scans the upper layer. The first syllable has two moras associated with the long vowel, unlike the last syllable which has one mora associated with the short vowel. So stress falls on the penultimate syllable and there is no need to scan the lower level.

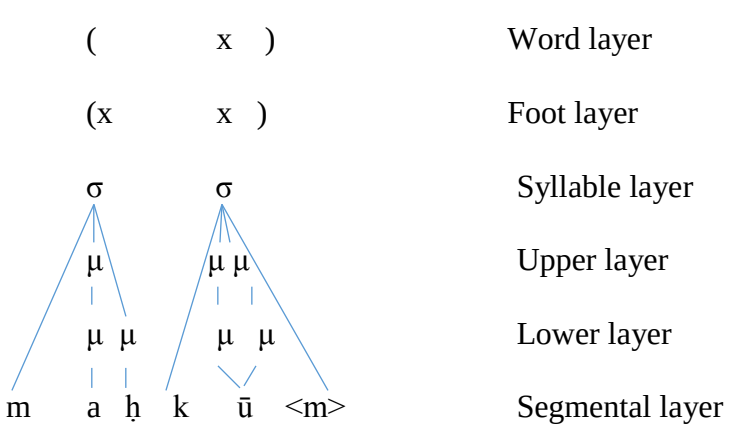
[2] **Similar examples are found in San'ani and discussed in Watson (2002).**

Diagram 19 Heavy penultimate syllable in the upper moraic layer



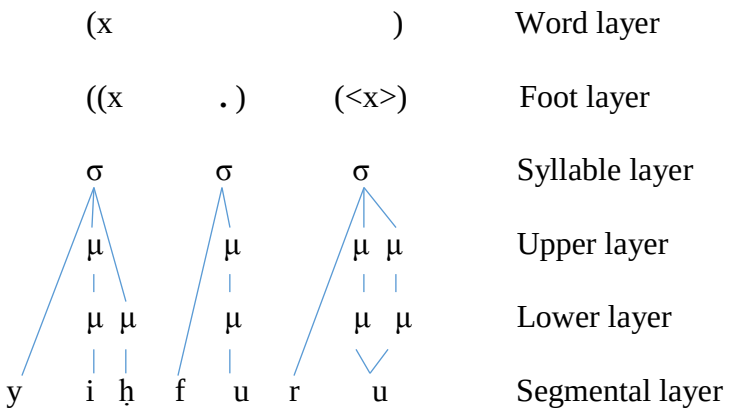
[*ˋsāfart*] contrasts with [*maḥkūm*] in diagram (20) in the sense that in the latter the heavy foot in the upper layer is the ultimate not the penult, hence, receives stress.

Diagram 20 Heavy final syllable in the upper moraic layer



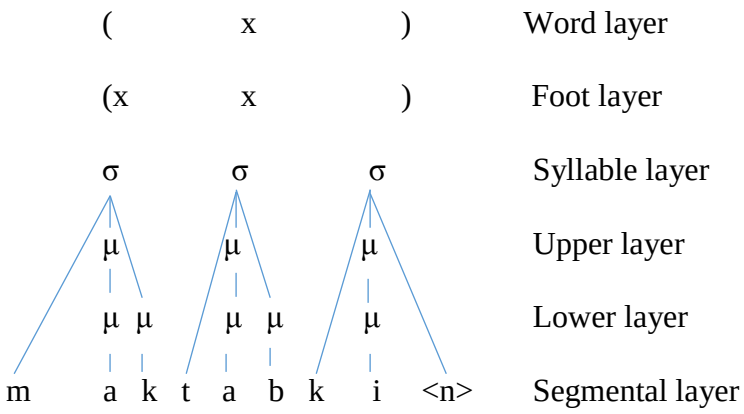
The three syllabic word [*yiḥfuru*] 'they dig it' has two feet on the upper layer. The last is eligible for extrametricality, and the former which consists of the first two syllables is stressed.

Diagram 21 Final Foot extrametricality under the two-layered moraic representation



The situation is different in the case of [*makʾtabkin*] 'your ($_{GEN, 2PL}$) office' where no heavy syllable is found on the upper layer. So scanning proceeds to the lower layer. Following End Stress (a rule which assigns stress to the head of the rightmost foot), stress falls on the penult which is the last heavy foot.

Diagram 22 Stressed penult: heavy penult in the lower moraic representation



The status of non-final CVG/CVV is even more evidenced in the fact that stress does not shift to the right in suffixed words in the environment of CVG/CVV. See table (2) below:

Table 2 No stress shift in suffixed words

[*darras*] 'he taught'	[*darrasna*] 'he taught us ($_{ACC, 1PL}$)'
[*sāʿad*] 'he helped'	[*sāʿadna*] 'he helped us ($_{ACC, 1PL}$)'

In suffixed words, stress does not shift if there is non-final CVV/CVG. Stress does shift, however, if there is no non-final CVV/CVG rather a CVC. Compare diagram (23) with diagram (24):

Diagram 23 No stress shift in the case of non-final CVV-CVG

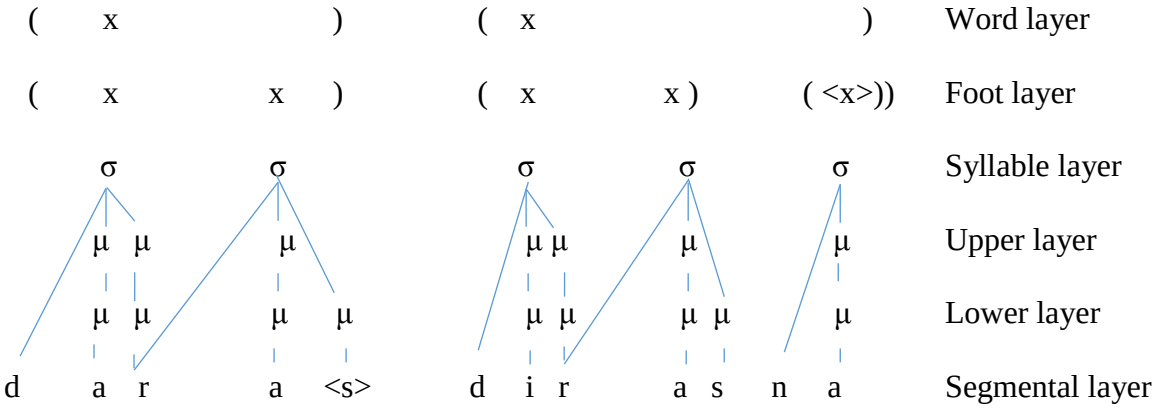
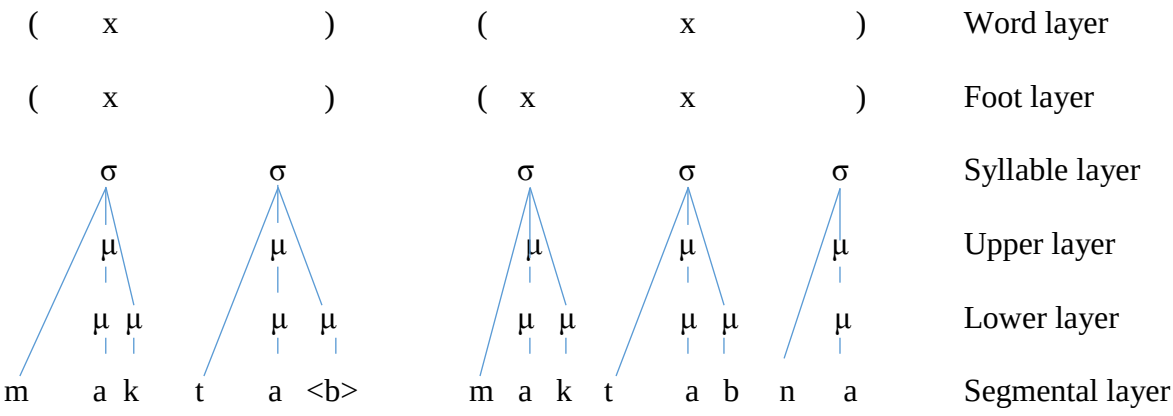


Diagram 24 Stress shift in the case of non-final CVC



In (23) stress remained on the initial syllable in both [darras] and [dirrasna], but moved from [mak] to [tab] in (24).

4.2. Gemination

The above argument made clear that gemination is a factor and ana attractor of stress. In particular, the left leg in penultimate or antepenult position plays a role. Thus, /b/, /z/, /ẓ/, /r/ in [*sabbitni*] 'she cursed me', [*jāzzār*] 'heartless', [*nazzam*] 'he organized', and [mista`qirra] 'settled' add to the weight of the syllables [*sab*], [*jaz*], [*naḏ* and *qir*] respectively and they render the foot stressed. The right leg of the geminate does not play any role, however. Of course, this has to do with the fact that it is syllabified as an onset; onsets are weightless. [*bit*], [*zār*], [*ẓam*] and [*ra*] in the words table (3) are all unstressed. In other words, the right leg of gemination does not add to the weight of the syllable.

Table 3 Gemination and weight

`sabbitni 'she cursed me ($_{ACC, 1SG}$)'	*`jāzzār* 'heartless'
`naḏḏam 'he organized'	*mista`qirra* 'settled'

5. Conclusion

This paper did not only offer an analysis of Lattakian stress following Hayes' stress algorithm, it also showed the peculiarity and salient features of stress in Lattakian.

Lattakian was shown to variably assign stress to the penultimate. This is attributed to a difference between non-final CVC syllables and CVG/CVV syllables (also attested in San'ani). Weight in various guises seems to be the attractor of stress.

This paper has practical implications. Researchers interested in pedagogy and second language acquisition can make use of the data and conclusion in making comparisons between the Lattakian and any second language. This may also help overcome first language influence when learning a second language.

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