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IS SYLLABLE WEIGHT DISTINCTION RELEVANT FOR AMHARIC STRESS ASSIGNMENT?

Alemayehu Haile

Since the seminal work of Khan (1976) which established the syllable as an important domain for some phonological processes, a lot of work in phonology has concentrated on the study of the syllable. Liberman and Prince (1977), Clements and Keyser (1983) and Selkirk (1982), among others, have used the syllable in their analysis.

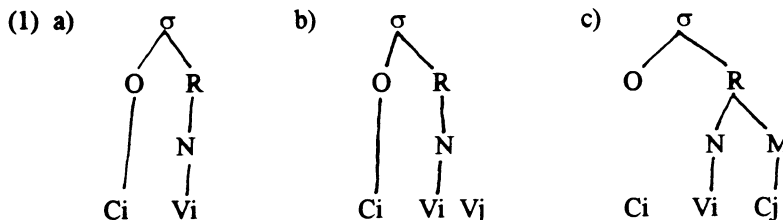
Hayes (1981) distinguished between two types of syllables, namely: light and heavy. Open syllables with short vowels (i.e. CV) are considered as light and closed syllables or open syllables with long vowels (i.e. CVC or CVV respectively) are considered heavy. Stress assignment rules in many languages seem to favour heavy syllables.

This paper tries to see the types of syllables in Amharic and evaluate whether stress assignment is determined by syllable weight or not. The finding may be used as a piece of evidence to prove that although syllable weight is important for the stress assignment algorithm in many languages, such as English (cf. Chomsky and Halle (1966) it is not relevant in Amharic.

1. Introduction

The recognition of the syllable as a phonological domain was a major breakthrough in phonology¹. Khan (1976) established that the exclusion of the syllable was a "serious omission in generative phonology and that many phonological rules only receive approximate formulation in terms of this notion" (Clements and Keyser (1983:1).

Further research in generative phonology made it clear that some languages make use of the distinction between "light" and "heavy" syllables. Hyman (1975) indicated that heavy syllables are those having greater quantity or weight than light syllables. It is the internal structure of the syllables that determines their weight. He (1985:6-7) represents three kinds of syllables as follows:



(1a) represents a syllable (σ) which is made up of an onset (O) (i.e. Ci) and a rhyme (R) which in turn is made up of a nucleus (N) dominating a short vowel (Vi). (1b) is made up of an onset and a rhyme which dominates a branching nucleus² (i.e. Vi and Vj). (1c) is a syllable with an onset and a rhyme which branches into a nucleus and a margin or a coda (M). By counting the constituents within the rhyme, the syllable represented in (a) is considered light because the rhyme does not branch. (1b) and (1c), on the other hand, are heavy syllables on account of their branching rhymes.

In the representations in (1a), (1b) and (1c), the onset is not considered in determining weight. The heavy vs. light distinction is based only on the internal structure of the rhyme. "Thus in order to establish the weight of a syllable, only its rhyme is "projected" and the heavy vs. light distinction is redefined as one between branching vs. non-branching" (Hyman 1985:7). A different view is suggested by Davis (1988) where he shows that there are languages whose onsets may also be important in determining the position of stress. (See Davis (1988) for details). It appears that most of the research done on stress considers the rhyme and not the onset and our discussion will also be limited to the composition of the rhyme node only.

It is accepted in Hayes (1981) and others that syllable weight is important for the stress assignment rule in many languages, (See Hayes (1982) for details).

2 The Purpose of this paper

In Alemayehu (1987:31), it was suggested that Amharic has the following lexical stress assignment rule:

2) Lexical Stress Assignment Rule:

Mark the penultimate syllable of the stem of a lexical unit as the bearer of stress or as the metrically strong syllable.

An additional rule of extrametricality was also suggested and that is stated as follows:

(3) Extrametricality:

$\sigma \rightarrow$ [EX]/ -]N

In other words, the last syllable of a noun or an adjective stem is extrametrical which means that the stress assignment rule is blind to the final syllable of a noun or an adjective stem (See Alemayehu (1987) for a detailed discussion of the stress rule in Amharic).

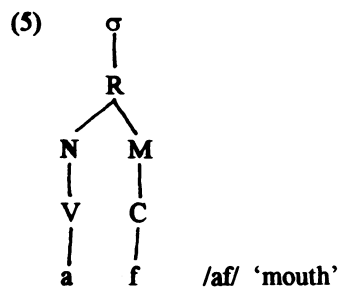
The purpose of this paper is to see whether or not the above rule can be modified by the weight of syllables in environments other than the penultimate. If it is found out that syllable weight matters to the stress assignment rule, then Amharic will be typologically grouped with those languages which distinguish between light and heavy syllables in their stress assignment.

3 Syllable Types in Amharic

Different monosyllabic words which show the different syllable types of the language will be given below. The first set of examples contain syllables with no onset but with a branching rhyme where the nucleus and the margin dominate a short vowel and a consonant respectively.³

- (4) /af/ 'mouth'
/ar/ 'excrement'

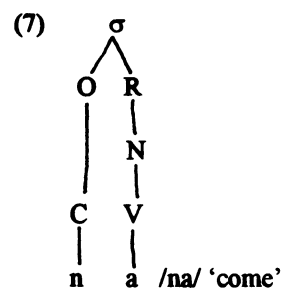
The syllable structure of these examples may be represented as in (5) below:-



The following monosyllabic words consist of syllables with an onset and a nucleus but with no coda.

- (6) /na/ 'you(sg. masculine) come'
/ma/ 'who?'

The syllables in the above utterances may be represented as in (7) below:

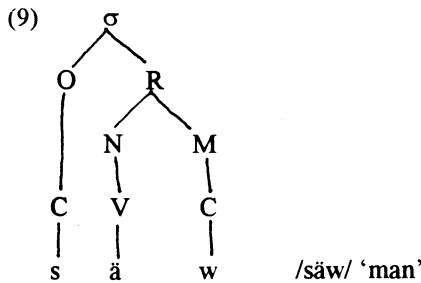


The following provide syllable types different from the above two.

- (8) /sã w/ 'man, human being'
/lam/ 'cow'
/k'ob/ 'hat'
/k'il/ 'stupid'
/set/ 'female'

k'ɨ/ 'gourd'
/mut/ 'you(masculine) die'

The syllable structure that can be abstracted from the above examples appears to have the following representation:

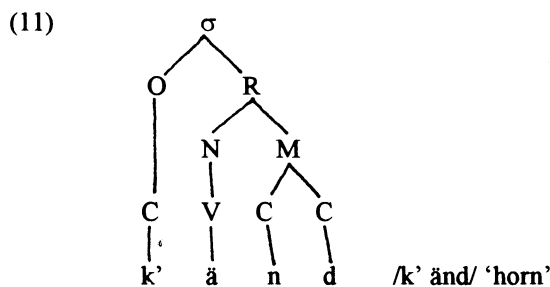


The language provides still another type of syllable as the following monosyllabic words indicate.

(10)

/k'änd/	'horn'
/tult/	'a kind of plant'
/gint'/	'Scorpeon'
/tank/	'container' 'tank'
/k'ent'/	'style'
/sint/	'how much/ many?'
/säk 'k'\	'belt'
/suk'k'/-	'shop'
/hak'k'/	'truth'
/higg/	'law'

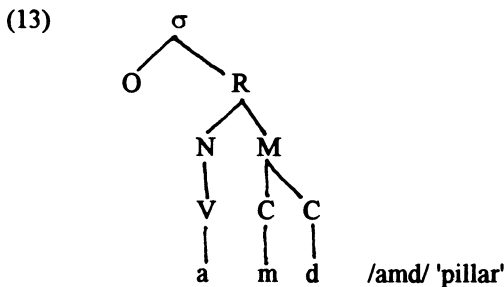
These examples suggest that Amharic has a syllable type which may be represented as in (11) below:



There are other monosyllabic words which display a different type of syllable from the ones shown above. Examples of these are the following:

- (12) /amd/ 'pillar'
 /and 'one'
 /arb/ 'friday'

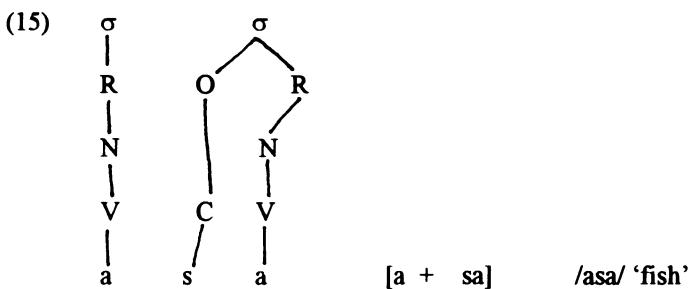
The following syllable structure may be abstracted from the above examples:-



These seem to represent all the syllable types of Amharic found in monosyllabic words. There is still another type of syllable found in disyllabic words.

- (14) /asa/ 'fish' [a + sa]
 /abal/ 'member' [a + bal]
 /asar/ 'suffering' [a + sar]

The initial syllables in (14) contain only a single vowel and this syllable may be represented as follows:-



In accordance with our definition of heavy and light syllables, we may conclude that the syllables shown in (7) and (15) are light as they do not have a branching rhyme while those in (5), (9), (11) and (13) are heavy since they consist of branching rhymes.

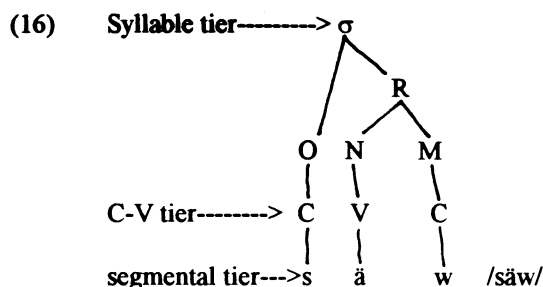
4. Syllabification of Words With More than One Syllable

Clements and Keyser (1983) suggest that syllables are identified as trees built following certain operations. In building syllable trees, they (i.e. Clements and Keyser (1983:8-9)) introduced a C-V tier in addition to the syllable tier and the terminal elements or segments or bundles of distinctive features specifying segments. Others

(eg. Liberman and Prince (1977) and Hayes (1981)) have included an additional level referred to as the metrical foot⁴. For our purpose here, however, we will only use the C-V tier and hence we may not refer to the foot level.

The C-V tier, according to Clements and Keyser (1983:8-9) is a "level which mediates between the syllable tier and the segmental tier". The segment dominated by V is a syllable peak and that dominated by C is a non-peak. The C and V elements may be considered as units on independent lines or tiers.

Following Clements and Keyser (1983), therefore, we may consider syllable trees as consisting of three tiers as the following tree will illustrate:



To syllabify words with more than one syllable, Clements and Keyser (1983:37) suggest the following principles:

(17) The Onset First Principle:

(a) Syllable-initial consonants are maximized to the extent consistent with the syllable structure condition of the language in question.

(b) subsequently, syllable-final consonants are maximized to the extent consistent with the syllable structure condition of the language in question.

They (1983:38) also suggest that these two principles apply according to the following order:

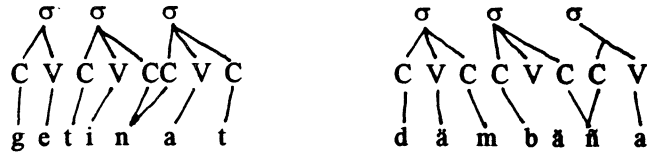
18) (a) V-elements are prelinked to the σ 's

(b) C-elements to the left are adjoined one by one as long as the configuration resulting at each step satisfies all relevant syllable structure conditions.

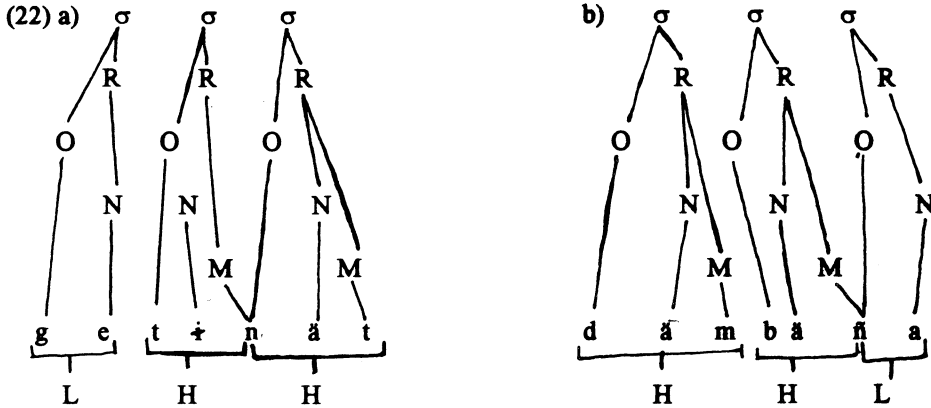
(c) Subsequent C-elements to the right are adjoined in the manner described in (b) above.

Before we proceed to the building of syllable trees following the above principles, we may need to say a few words about the syllable structure conditions of Amharic. In the discussion of the syllable types of this language, we have shown that the following are the set of core syllables.

Adjoining C-elements to the right



As we can observe from the above trees, the word /getinnat/ is made up of CV+ CVC + CVC while the word /dämbäñña/ consists of CVC+CVC + CV syllables. If we look at the syllable sequence in terms of their weight, we find the following:



According to the syllable structure rules suggested above, the words /getinnät/ and /dämbäñña/ will have their last syllable marked extrametrical as they are a noun and an adjective stem respectively. The stress assignment rule will assign stress to the penultimate syllable, of course, excluding the extrametrical syllables. This means that we will build a left-headed tree to determine the position of stress.

(23) a) getin [nät]Ex dämbäñ [ña]Ex

The correct pronunciation of these words in their citation form will, therefore, be as in (24) below:

(24) a) getinnät b) dämbäñña

The syllable that receives stress in (23) a) is light. Notice that the following syllable is heavy and also notice that this heavy syllable does not receive stress. If weight were important in Amharic, the second syllable, instead of the first, in (24 a) should have attracted stress. This suggests that the syllable node is the only constituent projected for the stress assigning algorithm. This claim may further be strengthened by the following examples.

(25)	/sämunə/	'soap'
	/rā kəbot/	'a small table for putting on coffee cups'
	/akimbəlo/	'a cover for the Ethiopian pan'
	/lominət/	'a kind of soft drink'
	/ɪnk'ut'ət' əʃ/	'new year'
	/t'ɪmk'ət/	'baptism'
	/angəbgəbi/	'burning issue'
	/tɪnikkəre/	'strength'
	/dik'ələ/	'illegitimate child'
	/tɪmatɪm/	'tomato'

From the examples in (25), it is clear that stress may be assigned to all the seven vowels i.e. t, ɪ, a, ə, u, o and e if they occur in a stressable position without paying heed to the quality of the following (or the competing) vowel or to the syllable structure it is found in. Even the vowel which is claimed to be epenthetic and hence not found in underlying representations (see Hayward (1986) and Alemayehu (1991) for the discussion of the epenthetic vowel ɪ) can be stressed if inserted in penultimate positions. This may be illustrated by syllabifying the word /t'ɪnikkəre/ "strength". Assuming that the vowel ɪ is an epenthetic vowel, it may be suggested that the underlying C-V template of the word is CCCCəCe. An epenthetic vowel is inserted following the first consonant to break the unwanted cluster resulting in CɪCCCCəCe. A sequence of three consonants is not allowed in Amharic and hence another epenthetic vowel must be inserted to break the disallowed cluster. The epenthetic vowel could be inserted in two possible positions resulting in either CɪCɪCCəCe or CɪCCɪCəCe. In concrete terms, the choice seems to be between /t'ɪnikkəre/ and tɪnikkəre/. The second alternative is ill-formed and this ill-formedness may be accounted for by the principle of the "integrity of geminates" discussed in Hayward (1986). The principle stresses that geminates may not be splitted at all and hence the only location allowed for the epenthesis insertion is before the geminates. This gives us the reading /t'ɪnikkəre/. The word being a noun, will have its final syllable labelled extrametrical (i.e. tɪnikka [rɛ]Ex). The stress rule then builds a left headed tree which amounts to saying that stress is assigned on the second syllable of the word (t'ɪnikkəre). This shows that even an epenthetic vowel can bear stress if it occurs in the proper location for the stress assigning algorithm. We believe that this example strengthens our claim that contents of the rhyme node are not considered in the assignment of stress in the language. In other words, Amharic stress rule considers the syllable node without looking at the content of the rhyme node in the computation of stress. This means that the language is parametrized as one which does not make a distinction between light and heavy

syllables when assigning stress. Additional piece of evidence to support this claim may also be obtained from Amharic poems and that will be subject for future research.

5. Conclusion

Even though research has shown that the distinction between heavy and light syllables is important in some languages, this does not seem to be the case in Amharic. Both light and heavy syllables seem to receive stress if they are found in penultimate positions without considering the weight of the syllable(s) following or preceding them. Central and peripheral vowels alike may be proper contenders to the stress assignment rule even when other vowels in non-penultimate positions may be peripheral. Thus we may conclude that the syllable node and not the rhyme node is the only material visible for the stress assignment rule.

Notes

- 1 See Khan (1976) for the phonological rules that can be explained in terms of the syllable structure of English. See also Williams (1976) and Liberman and Prince (1977) for the relevance of the syllable in phonological representations.
- 2 A branching nucleus may have a long vowel (ViVi) or a sequence of unlike vowels (ViVj).
- 3 The fact that onset-less syllables begin with the vowel [a] may be considered as an indication of a loss of an initial guttural. This may be tackled in depth in future research.
- 4 Metrical feet is a unit of prosodic constituent structure considered to be intermediate between the (prosodic) word and the syllable. It encompasses maximally one weak and one strong syllable, but monosyllabic words may be considered as having only one strong syllable by default. (See Selkirk (1984:14-15) for a detailed discussion).
- 5 CVCC is only realized either in monosyllabic words or word finally in multisyllabic words.

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