

The Theory of Prosodic Phrasing: the Chimwiini Evidence

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Introduction.

1. Bantu languages have played a critical role in the development of the theory of the "phonological" or "prosodic" phrasing of sentences. The core idea of this theory is that the words of a sentence, both lexical words and also function words, are grouped together into a hierarchical arrangement of prosodic units. At the bottom of this hierarchy is the so-called "prosodic word"; at the next level of this hierarchy is the "prosodic phrase" (we ignore the issue of whether there might be more than one sort of prosodic phrase); and prosodic phrases are themselves organized into "intonational phrases". In our discussion, we will assume an Optimality Theoretic implementation of this theory.

2. The initial data that led to the theory of prosodic phrasing appeared in a paper written in 1974 by Mohammad Imam Abasheikh and myself (henceforth K&A) in which we presented a preliminary description of the phonology of Chimwiini, a Bantu language closely related to Swahili that at that time was spoken only in the town of Brava in southern Somalia. This paper argued that there are both underlying long vowels, and also long vowels produced by various morphophonemic operations, that shorten under a certain set of conditions. The two most important conditions reported are: (a) a long vowel shortens if in a syllable that precedes the antepenult, and (b) a long antepenult vowel shortens if it precedes a penult long syllable. The critical point argued in the paper, however, is that the notions antepenult and penult are not making reference to the word, but rather to some other unit referred to as the "phrase". K&A did not, however, attempt to predict how the phrases are constructed (defined).

Example:

- (2a) [mw-áana] 'child' [jfile] '(s)he ate'
 [mw-áana/ jfile] 'the child ate'
 [mw-ana úyu/ jfile] 'this child/ ate'
 [mw-ana úyu/ jile róoti] 'this child/ ate bread'
 [mw-ana úyu/ jilee n-sí] 'this child/ ate fish' (Note: the word-final long vowel in the second phrase requires explanation, but we set this matter aside for present purposes.)

3. In 1986, Selkirk proposed the so-called "indirect reference" model of the phonology-syntax interface which involved the claim that sentences are mapped into prosodic phrases. These phrases are not themselves syntactic units, but they are constructed by locating the edge of a prosodic phrase at either the right or left edge of syntactic phrases. Selkirk 1986 used the Chimwiini data to motivate this theory and suggested that the right edge of phrases occur at the right edge of (lexical) maximal projections in Chimwiini. Call this the Align-XP R principle. This proposal predicts that any pre-verb maximal projection (subject NP, preposed XP) will be at the right edge of a prosodic phrase, and that a VP of the structure V XP YP ZP will join the verb into the same prosodic phrase as XP, but XP, YP, and ZP will all stand at the right edge of a prosodic phrase: (V XP) (YP) (ZP) This proposal succeeds in accounting for the data cited in K&A.

- (3a) [w-áana/ mú-ke/ wa-fu|lee n-gúwo/ ka saabúni] 'the children/ the woman/washed clothes for them/ with soap'
 [|kóombe/ mú-ke/ m-paku|le mw-áana/ zíjo] 'the spoon/ the woman/ dished out for the child/ zijo'

4. With the development of Optimality Theory, it was recognized that phonological phrasing in some languages is determined by interactions among multiple constraints, some in conflict with one another and some merely complementary to one another. The ultimate phrasing of a sentence is determined by the ranking of these constraints. Chimwiini turns out to support the multiplicity of phrasing constraints (see below).

5. A constraint that is (possibly) in conflict with Align-XP R is one proposed in Truckenbrodt (1999). He hypothesises a phrasing principle, Wrap-XP, that requires that elements inside an XP be part of the same phonological phrase. He argues for this constraint on the basis of data from Chichewa in Kanerva (1990). We have developed independent evidence for this constraint from another Bantu language, Shingazdija. Wrap-XP is apparently in conflict with Align-XP R since given as input verb phrase of the form V XP YP, Align-XP R seems to require the phrasing (V XP) (YP), while Wrap-XP requires the phrasing (V XP XP). As it turns out, this conflict is present just in the event recursive structure is not permitted in the phonological phrasing. [Truckenbrodt \(1999\)](#) argues for recursive structure in phonological phrasing and specifically argues that data from Kimatuumbi could be explained in terms of a recursive structure (V XP) YP) (cf. [Odden 1987,1990](#) for discussion of the data).

6. [Truckenbrodt \(1999\)](#) proposes a third constraint, Align-Foc R, again drawing his evidence from the insightful paper by Kanerva (1990) on Chichewa. Align-Foc R will make the right edge of a focused element in Chichewa coincide with the right edge of a phonological phrase. Truckenbrodt (1999) shows that Align-Foc R must outrank Wrap-XP since it requires a phrasing that violates the latter constraint (on the assumption that Chichewa does not allow recursive phrasing); he further concludes that since Wrap-XP cannot be satisfied, the lower ranked Align-XP R will emerge to play a role in the phrasing of sentences involving focus.

7. In the present paper, we look anew at Chimwiini and argue that it provides significant new evidence supporting the Selkirkian theory of prosodic phrasing as well as its Optimality Theoretic implementation. We will argue the following main points:

- Besides the vowel-length alternations discussed in the earlier literature, Chimwiini has a second phenomenon, accent, which operates in phrases rather than the word level. The phrases required in order to account for accent are the same phrases as needed to account for the vowel length alternations.
- The phrases motivated by the vowel length alternations and accent are clearly not necessarily syntactic phrases themselves, even though Align-XP R may serve to define their right edge.
- Align-XP R provides the backbone of Chimwiini phrasing in the sense that under elicitation conditions, and taken out of context, the phrasing of sentences tend to reflect the effects of Align-XP R alone. Align-XP R is insufficient, however, since even in elicitation there are cases where phrases end at points not predicted by Align-XP R. One of these cases involves (morphological) negation: negative verbs stand at the end of phonological phrases.
- A deeper examination of the phrasing of negative verbs suggests that the notion of focus is relevant. A broader examination of the Chimwiini data suggests that not only focus, but a more broadly defined notion of "emphasis" or "stylistic highlighting" has the same phrasing consequences in Chimwiini. The constraint Align-Foc/EMP is critical to the phrasing of sentences in Chimwiini.
- The pattern of final accent in the past/present tenses and relative clauses seems to motivate both a role for Wrap-XP and also the need for recursive structure in Chimwiini phrasing. The interaction of the Align-Foc R constraint and final accent suggests the need for a small modification in the constraint originally proposed in [Truckenbrodt \(1999\)](#).

Chimwiini revisited.

8. K&A argued for phonological phrases in Chimwiini on the basis of the pervasive pattern of vowel shortening in the language. [Selkirk \(1986\)](#) treated these vowel length alternations in Chimwiini as being indicative of an (abstract) stress system that stresses the penult syllable of a phrase if it is heavy (bimoraic), otherwise the antepenult syllable. The crucial fact then about Chimwiini is that unstressed syllables must be short. Any vowel that is further forward than the antepenult must shorten since it is impossible for such a syllable to bear stress. Furthermore, an antepenult syllable must shorten

if the penult syllable is bimoraic since in that situation the antepenult syllable is not stressed (rather the penult syllable is stressed).

- (8a) stressed syllable underlined (remember: stress is abstract; there is no necessary phonetic property identifying it; the acute mark refers to the independent accent. discussed below):

[x-sóoma] 'to read' [x-sóomela] 'to read to, for'
 [x-somowa] 'to be read' (the syllable *soo* is shortened because unstressed)
 [x-somelána] 'to read to one another' (the syllable *soo* is shortened because unstressed)
 [x-soma chi-buku] 'to read a book' (the syllable *soo* is shortened because unstressed)

9. Although the phrasing of a sentence can often be deduced on the basis of whether a long vowel has shortened or not, there are also many cases where phrasing is indeterminate on the basis of vowel length facts alone. Fortunately, it turns out that there is a second prosodic phenomenon in the language that is a reliable indicator of phrasing. Specifically, in addition to the (abstract) stress system, there is an *accentual* system in Chimwiini. The accented syllable in Chimwiini has an entirely consistent phonetic attribute: it is characterized by high pitch. The accentual system is in some respects very simple: accent falls either on the penult syllable or the final syllable. The *default* accent is penult.

Final accent occurs only in certain morphological or syntactic structures (and, as it turns out, in certain intonational structures). A very brief survey of the main contexts for final accent are listed and illustrated below.

- (9a) *Person-marking final accent in the past and present tenses.*

First and second person subject verbs in the present and past tenses are characterized by final accent, whereas the very large range of third person forms (large due to the system of noun classes in Bantu) all have default accent. (Note: In these tenses, the second person singular and the [cl.1] subject prefixes are both phonologically null. As a consequence, it is only accent that distinguishes these two forms.)

[n-jiilé] 'I ate' [jiilé] 'you (sg.) ate' [jfile] '(s)he ate'
 [n-someelé] 'I read' [someelé] 'you read' [someéle] '(s)he read'

[m-phakujiilé] 'I dished out with' [pakujiilé] 'you dished out with'
 vs. [wa-pakujiile] 'they dished out with'

[n-naa-ku-já] 'I am eating' vs. [naa-kú-ja] '(s)he is eating'
 [n-na-x-soomá] 'I am reading' vs. [na-x-sóoma] '(s)he is reading'

[n-na-x-pakujiá] 'I am dishing out with' [na-x-pakujiá] 'you are dishing out with'
 vs. [wa-na-x-pakufíla] 'they are dishing out with'

- (9b) *Relative-clause marking final accent.*

A relative verb in all tenses and all uses and with all subject prefixes is marked by a final accent. (They are also marked in most cases by a final *-o* vowel; the exception to this is the relative of a passive verb in all tenses and active verbs as well in negative tenses.)

[mu-nthu **i-kusiló**/ ha-mw-íwi/ mw-enyee n-dála]
 'the person who is satiated/ does not understand [lit. know]/ the hungry one'
 [**olosheló**] 'the one who came'
 [**jiiló**] 'the one who ate'
 [ta-xu-welé]a/ y-aa wé/ **na-x-suuló**] 'she will be for you/ whatever you/ want'
 [mí/ n-tha-xu-pa y-aa wé/ **na-k-ihtaajó**/ na boyeesa=w-ó/ ta-xu-pikíla] 'I/ will give you
 whatever you/ need/ and the maid/ will cook for you'
 [wé/ ch-andjiká=ni/ muxtaa mí/ **n-illó**] 'you/ were writing what/ when I/ came?'

- (9c) *Negative imperative.*

The negative imperative verb always exhibits final accent.
 [si-meershé] 'don't turn it! (cf. méersha) 'turn it!'
 [s-piké] 'don't cook!' (cf. [píka] 'cook!')
 [si-boolé] 'don't steal!' (cf. [bóola] 'steal!')

(9d) **Conjunction-marking final accent.**

The conjunction *na* 'and' triggers final accent on its complement.

[suungúra/ **na siimbá**] 'hare/ and lion' [text]

[mí/ n-tha-xu-pa y-aa wé/ na-k-ihtaajó/ na boyeesa=w-ó/ ta-xu-pikíla] 'I/ will give you
whatever you/ need/ and the maid/ will cook for you'

Note: If a (prosodic) word is monosyllabic, then it will be accented on its only syllable both when accent is final and when accent is the default accent.

10. **The accentual system is phrasal and not word-level.**

Accent in Chimwiini is a phrasal phenomenon. Specifically, it is the last word in the phrase that bears the accent (either penult in the default case, or final in the morphosyntactic environments specified above).

11. There are situations, of course, where each content word in a Chimwiini sentence/clause may be accented, as the examples below illustrate (in these examples the accent may be the only possibility, or there may be an alternative available without accent for reasons considered below):

[hóosi/ i-chi-gúura] 'if the shade/ moves'

[hokómu/ i-tindishíle] 'a verdict/ has been given'

[harúusi/ ghaalibu/ hu-fanyóowa/ ka wa-zéele/ w-a mw-aa-mú-Bli] 'the wedding ceremony/
often/ is held/ at (the home of) the parents/ of the young man'

[Hasíibu/ ishíize/ karka ráaha/ na amaani/ hatá/ mówti/ u-mw-iiliilo=pó] 'Hasiibu/ lived/ in
comfort/ and peace/ until/ when death came to him'

[n-khúku/ ha-m-úBli/ mw-a-n-khukú=w-e] 'a hen/ does not kill/ her chick' [proverb]

12. However, it is also immediately apparent that any content word may appear without accent (and when it appears without accent, it also necessarily does not contain word-internal vowel length, an extremely significant fact):

(12a) verb lacks accent in deference to a complement:

[ku-bíga] 'to hit', [hóoni] 'horn', but [ku-biga hóoni] 'to blow a horn'

[wa-naqishéene] 'they argued with one another', but [Núuru/ naqishene na Múusa] 'Nuuru/
argued with Muusa [lit. argued one another with Muusa]'

[ch-iingíla] 'he entered', but [ch-ingila m-uyí=ni] 'he entered (into) the town'

(12b) nominal lacks accent in deference to a modifier:

[hóosi] 'shade', but [hosi y-aa mú-ti] 'shade of a tree'

[natíja] 'result', but [natíja y-a imtíháani] 'the result of the examination'

[m-sála] 'mat', but [m-sala úje/ ni m-násha] 'that mat/ is smooth'

[**m-zaha mw-íngi**/ h-angamiza u-wéenza] [proverb]

'joking too much/ spoils friendship'

(12c) both a verb and a nominal lack accent:

[hu-furáhísha] '(it) pleases', [duníya] 'world', but: [naazí=y-a/ hu-furahisha duniya n-zíma] (a
riddle) 'my cononut/ pleases the whole world'

yé/ **ta-x-tala m-tuzi úyu/ ta-kú-na** 'he/ will take soup this/ (and) drink it'

We explain when a content word has an accent and when it does not in an extremely simple way. We propose that accent is assigned at the phrasal level, and that the two options (final or penultimate) are assigned to the final prosodic word in the phrase.

13. **Both default accent and final accent are phrasal.**

Unaccented words occur both within a phrase that has default accent and a phrase that has final accent. The fact that accent is phrasal is independent of how that accent is manifested (i.e. whether it is on the penult or the final syllable of the word where it is pronounced).

14. *Default accent is phrasal.*

- (14a) [wé/ olóka/ **kala numba y-a máam-o**] 'you/ go/ live in the house of your mother'
 [wáa-nthu/ **wa-lungamene ka kula chíi-nthu**] 'people/ are united in each thing'
 [w-ótte/ **wa-sh-pokezanya ku-vula m-áayi**] 'all/ took turns bailing water'

in the following example the default accent rests on the final syllable because the last prosodic word in the phrase is a monosyllable and does not allow a penult/final distinction:

[mí/ **n-tha-xu-pa y-aa wé**/ na-k-ihtaajó] 'I/ will give you whatever you/ need'

15. *Final accent is phrasal.*

Take the case of person-marking final accent first. We have said that the verb is assigned final accent if the subject is either first or second person. However, when the verb is not at the end of the phrase, then the accent is manifested not on the verb but on whatever word ends the phrase:

- (15a) [n-jilee namá 'I ate meat', [jilee namá] 'you ate meat'
 vs.
 [jilee nama] '(s)he ate meat', [wa-jilee nama] 'they ate meat'
- [chi-jiiélé] 'we ate', but: [chi-jile ma-tuundá] 'we ate fruit'
 [chi-neelé] 'we drank', but [chi-nele m-aayi] 'we drank water'

These data suggest that whatever morphosyntactic element triggers a final accent, it triggers this final accent on the last syllable in the phrase containing the triggering element. There is some difficulty with respect to this generalization. If there are multiple complements, the final accent appears at the end of each phonological phrase in the verb phrase. At first glance, it does not seem that the triggering element is indeed inside the phrase where the final accent occurs. (The theoretical implications of this fact are taken up later.)

16. *Relative clause final accent is phrasal.*

Turning now to the case of relative clauses, when the relative verb is not at the end of the phrase, then the final accent is heard not on the relative verb but on the word at the end of the phrase that contains the relative verb.

- (16a) head noun is subject of the relative verb:
 [sh-kombe **chi-vunzila na Hamadi**] / chi-waliko gháli]
 the cup that was broken by Hamadi/. was expensive
- (adverbial clauses which require the verb to be in a relative form)
 [muxta l-pépo/ **l-anzizo ku-vuma ka w-iingí**] 'when the wind/ began to blow hard'
 [báaba/ **lazilo=po ka m-tanaa=ni**] '(when) father/ came out of the room'
 [fijiri/ muxtaa yé/ **ondoshelo ka u-sinzizii=ni**] 'one morning/ when he/ woke up from sleep'

See later for the complexity that arises when the relative verb has multiple complements. Space limitations lead us to forego discussing the phrasal nature of other final accent triggers.

17. *The phrases required to assign accent are exactly the same phrases as required in order to explain the vowel length alternations.*

The most critical point concerning the phrasal nature of accent in Chimwiini is that the phrases that it requires are exactly the phrases that alternations in vowel length require. This strongly supports the theory of prosodic phrasing since in this theory a single system of phrasing constraints determines how a sentence is phrased, but any number of different phonological constraints may have these phrases as their domain of application.

It should be stressed that accent *always* reveals the phrasing transparently. Vowel length alternations on the other hand are not always probative, and in any case utilizing vowel shortening evidence requires sufficient knowledge of the language to know exactly which vowels would be expected to be long. Given the greater transparency of the accentual evidence, it is this evidence alone that will be focused on here. The observant reader will notice, however, that in all the phrases marked

below, long vowels only occur in either the penult syllable of the phrase or the antepenult syllable (but not both). In some cases these long vowels are underlying, in some cases they are produced via morphophonemic processes, and in some cases they are word final vowels that we suggest are long due to a preference for "stressed" syllables to be heavy. We do not, however, discuss these matters here.

18. *Arguments that the prosodic phrase is not a syntactic phrase.*

The Chimwiini data that Selkirk had available to her did not unambiguously prove that a prosodic phrase is not a syntactic phrase. This however is one of the major claims made in Selkirk's paper and thus stronger evidence in support of this point is required. Fortunately, Chimwiini provides abundant evidence, as shown below.

- (18a) [jilee náma/ na rootí] '(s)he ate meat /and bread'
 [wa-somelele w-áana/ naa wa-ké] '(s)he read to the children/ and the women'
 [yé/ pishilee nsí/ naa zi-jó/ yúuzi] 'he cooked fish/ and zi-jo /the day before yesterday'
 (in these examples a verb phrases with the first member of a conjoined NP)
- (18b) [w-ana w-aa yé/ wa-somelee] 'the children whom he/ read to'
 [mu-nthu w-a Jáama/ hadilo kuwa ilé/ waliko Núuru] 'the person who Jaama/ said came/
 was Nuuru'
 (where the particle *-a*, which agrees with the head of the relative verb, joins the head to a following subject phrase)
- (18c) [mu-nthu m-pelo Jaamá/ chi-buukú...] 'the man who gave Jaama/ a book'
 (where the head of the relative, which is also the subject of the relative verb, joins the relative verb and its first complement in a phrase)

Chimwiini sentential complements provide another source of evidence that phrasing is a phonological construct and not a syntactic construct.

- (18d) [n-na-x-taraja kuwa Jaamá/ oloshelé] 'I hope that Jaama/ went'

In this sentence, the verb *-taraja* takes a sentential complement that is introduced by the complementizer *kuwa*. Notice that the accentual facts indicate that *n-na-x-taraja kuwa Jaamá* is a single phrase. If the verb and complementizer constituted a phrase, then we would expect a pronunciation *n-na-x-tarajaa kuwá]. But this is unacceptable. The complementizer *kuwa* must be part of the same phrase as *Jaama*. The verb *oloshelé* cannot be part of the same phrase; if it were, we would have to have the pronunciation *n-na-x-taraja kuwa Jama oloshelé].

The evidence that phonological phrases are not the same as (widely-assumed) syntactic phrases is considerably more extensive than shown above. However, these additional data are connected to the insufficiency of Align-XP R to explain prosodic phrasing in Chimwiini and will be taken up later.

19. *The role for Align-XP R in Chimwiini.*

We will begin by using the accentual evidence to illustrate Selkirk's insight into Chimwiini phrasing: Align-XP R (make the right edge of each (lexical) maximal projection the right edge of a prosodic phrase. Since this part of Chimwiini phrasing is so well known, we shall confine ourselves to a few examples.

A subject NP is separated from its verb phrasally.

- (19a) **subject noun phrase in a main clause**
 [niyaa n-jéema/ hu-tabíibu/ niyaa m-bóvu/ hu-xaríba]
 intention good/ cures/ intention bad/ spoils

[sultani w-aa nóka/ chi-m-uza Hasiibu/ xabari=z-e]
 the king of the snakes/ asked Hasiibu/ his news

subject noun phrase in a complement clause

[dhíbu/ ku-m-wele]a níngi] 'difficulties/ being many to him

[Jáama/ tulubile Núuru/ k-oolóka] 'Jaama/ asked (directly or indirectly) for Nuuru to go' (Note:

In this example it is apparent that Nuuru is the subject of the infinitive phrase and not the object of the

higher verb; if it were the object of the higher verb, then that verb would have to bear the object prefix *m* in agreement.)

Any other pre-verbal lexical maximal projection is separated both from the verb and from the subject if one occurs.

- (19b) preposed NP:
 [l-fuungúlo/ m-fungulile mw-aalímu/ m-láango] 'the key/ [cl.1] opened for the teacher/ the door (with it)'
 [l-kóombe/ mú-ke/ m-pakulile mw-ána/ zíjo] 'the spoon, the woman dished out *zijo* for the child with it'
 [Abú/ sh-kóopa/ chi-m-gafile 'Abu/ alcoholic drink/ missed (getting)' ([sh-kóopa] is subject) (alternative: [Abú/ gafile sh-kóopa] 'Abu/ missed getting an alcoholic drink')

preposed locative:
 [numbáa=ni/ i-waliko sandúuxu/ naa mí/ ni-'i-fungiilé]
 inside the house/ was a box/ and I/ I opened it

pre-verbal adverbs
 [ináa=y-a/ ni Buluxíya/ na waawé/ waliko sultáni/ lakíini/ ísa/ file]
 my name/ is Buluxiya/ and my father/ was sultan/ but/ now/ he is dead

multiple maximal projections in pre-verbal position:
 [téena/ sku móoyi/ má-sku/ m(-)kulá=z-e/ wa-chi-weka majlisi/ wa-chi-háda...]
 then/ one day/ at night/ his elder brothers/ held a meeting/ (and) they said...

Any post-verbal lexical maximal projection separated from a following lexical maximal projection.

- (19c) [m-phelee dáwa/ x-poléla] 'he gave me medicine/ to help (me) recover'
 [m-pholeze cháayi/ ka chi-jámu] 'he cooled down the tea/ with a saucer'
 [wa-m-pokeze m-géeni/ mi-zigó=y-e] 'they gave to the guest/ his luggage'
 [m-lungishize fúundi/ jaházi] 'he had a skilled worker build/ a boat'
 [Áli/ m-pikishilize mú-Bli/ mú-ke/ ch-aa-kú-ja] 'Ali/ made cook the husband's/ wife/ food'
 (NOT: 'Ali made the wife cook food for the husband', where the husband is going to eat the food)
 [(mí)/ n-somelela chi-buukú/ na Nuurú] 'I/ was read a book/ by Nuru'
 [Hamádi/ mw-andikilile mw-ána/ xáti/ ka Núuru] 'Hamadi/ wrote the child/ a letter/ to Nuuru'

20. *Selkirk's analysis predicts no phrasal break in various critical locations.*

On the assumption that the only phrases are those constructed by Selkirk's Align-XP R, then it follows that there will not be phrasal separation between two elements inside a minimal maximal projection (i.e. a maximal projection not itself containing a maximal projection). This is very often true.

No break between a verb and a following verb phrase element.

- (20a) verb followed by an argument:
 [ni-sh-fungile chi-sanduuxú/ na n-dani y-a chi-sanduuxu ichi/ chi-walimoo ch-úwo]
 I opened the box/ and inside of box this/ was a book

[fanya koođi=z-o/ muxtasári] 'make your speech/ short'

verb followed by a prepositional phrase:
 [oloshale ka waawá=y-e] 'he went to his father' [text]
 [wáa-nthu/ wa-lungamene ka kulá chíi-nthu] 'people/ are united in each thing'

verb followed by a non-argument noun (phrase)
 [yé/ pozele marádhí] 'he/ recovered (from) sickness'

verb followed by an infinitival phrase

[w-ótte/ **wa-sh-pokezanya ku-vula m-áayi**] 'all/ took turns bailing water'

No prosodic break between a nominal and a modifier of that nominal.

(20b) [chi-mera **n-dílaa n-khúlu**/ y-a múu-yi] 'he looked for the main street/ of the town'

No prosodic break between an adjective and a modifier of that adjective.

(20c) [sulttani w-aa **nóka**/ chi-mw-aambila/ kuwa xisá=ze/ **ni ndee nthó**
the king of the snakes/ told him/ that his story/ was very long

No prosodic break between preposition/complementizer/particle etc. and following word

(20d) [**kamaa m-pháka/ naa m-phaná**] 'like a cat/ and a rat'
[**muxta núumba**/ i-welo tayaarí] 'when the house/ was ready'
[**karaka n-díla**/ síimba/ chi-wa-'uza w-eenzi=w-e] 'on the way/ lion/ asked his companions'

No prosodic break between an auxiliary verb etc. and the following verb.

(20e) [chi-mw-ambila mw-aaná=w-e/ **waliko chi-m-liindó**] 'he told his son/ who (it was) waiting
for him'

21. **The inadequacy of Align-XP R as a full account of phrasing in Chimwiini: Morphological Negation.**

Although Align-XP R plays a critical role in phrasing Chimwiini sentences, it only provides the core element in phrasing (in the sense that it is a principle that in the clearest cases is never violated). There are however other factors governing phrasing. Let's begin with morphological negation

(21a) [marti w-ítu/ ile numbáa=ni] 'our guest/ went home' vs.
[marti w-ítu/ **nth-aa-kú-ya**/ numbáa=ni] 'our guest/ did not go/ home'

[mu-kée=w-e/ shishile míimba] 'his wife/ became pregnant' vs.
[mu-kée=w-e/ **nth-a-x-shíika**/ míimba] 'his wife/ did not become/ pregnant'

[úyu/ ta-k-infa káazi] 'this one is suitable for the job' vs.
[úyu/ **h-a-ta-k-íinfa**/ káazi] 'this one is not suitable for the job'

During hours of elicitation and in numerous narrative texts, negative verbs were regularly separated prosodically from what follows. Below we are going to provide evidence that a notion of *focus* and an even weaker notion of *emphasis* triggers the assignment of the right edge of a prosodic phrase after the focused/emphasized element. There is some initial evidence to suggest that negative verbs bear some sort of inherent (default) focus which accounts for the fact that they receive a parallel treatment.

The issue then becomes whether it is possible for focus/emphasis to be located on an element after the negative verb, and if it is, does the negative verb still appear at the end of a phrase? We did not specifically address this issue in our research some thirty plus years ago, but there is some relevant evidence available to suggest that under certain circumstances the negative verb is not phrase-final. One case involves a relative negative verb.

(21b) [**ha-fundowi na maamay-é**/ hu-m-fundo l-mweengú] [proverb]
the one who is not taught by his mother/ is the one whom the world teaches

[ha-ta-x-fáanya/ kaazi] 'he won't work'
versus

[**mu-nthu ha-ta-x-fanya kaazí**] 'the man who won't work'

As we shall document below, we generally do not find any element internal to the relative verb phrase to be focused or emphasized; if there is such a constraint operative in the language, then we would not expect a negative relative verb to be focused/emphasized, and thus we predict it would not be at the end of a prosodic phrase.

Although we do not have a great deal of relevant material, we did identify another clear case where the assignment of a phrase edge to the end of the negative verb is blocked. Look at the following crucial sentences.

- (21c) [nth-a-k-éenda/ numbáa=ni] 'he did not go/ home'
 vs.
 [nth-a-k-enda numbáa=ni] 'he did not go *home* (i.e. he went somewhere else, not home)'
- [yé/ nth-a-m-letela Núuru/ chi-búuku/ m-letelele Múusa] 'he/ did not bring Nuuru/ a book/
 he brought Muusa (one)'
 [yé/ nth-a-m-letela chi-búuku/ Núuru/ m-letelele xalámu] 'he/ did not bring a book to/
 Nuuru/ he brought him a pen'

These examples suggest that when there is contrastive focus on a post-verbal complement, then a negative verb does not rest at the right edge of a prosodic phrase (since it is not focused).
 The separation of the negative verb also does not occur within the scope of interrogatives:

- (21d) [ha-ṭa-x-fáanya/ káazi] 'he won't work'
 versus:
 [yé/ ha-ṭa-x-fanya káazi/ líini] 'he won't work when?'
- [nth-a-ku-léeta/ chibuku chi-hába] 'he didn't bring/ the small book'
 versus:
 [nth-a-ku-leta chi-buku gáni] 'which book did he not bring?'
- [yé/ nth-a-m-leetéla/ Múusa// chi-búuku] 'he/ didn't bring to/ Muusa/ a book'
 versus:
 [yé/ nth-a-m-letela náani/ chi-búuku] 'who didn't he bring a book to?'

There are other cases where perhaps emphasis on an element in the verb phrase supersedes the inherent emphasis on the negative verb. One example involves the adverb *teena* 'again, anymore'. In the following examples it is located after the negative verb and the negative verb in each case is grouped into the same prosodic phrase as *teena*.

- (21e) [nthangú/ sku íyo/ téena/ i-chi-waa wó/ ha-wa-ṭindi téena/ s-kúnyi] 'since/ that day/ never/ it
 be that they/did not cut again/ firewood'
 [nthangú/ sku íyo/nth-a-k-enda téena/ numbáa=ni] 'since/ that day/ he has not gone again/
 home '
 [yé/ ha-somi téena] 'he/ doesn't study anymore'

22. *The inadequacy of Align-XP R as a full account of phrasing in Chimwiini: The role of emphasis/focus in phrasing in Chimwiini.*

The most extensive case where the phonological phrase does not end at the right edge of a (lexical) maximal projection involves a broad range of cases that we refer to generally as *emphasis*. Emphasis includes matters such as stylistic or narrative emphasis, contrastive stress, focus. We categorize them together because we have not detected any distinctions between the type of emphasis involved and the phrasing. There may be intonational differences associated with differences in the use of emphasis, but the phrasing regularities are the same as far as we have been able to judge.

In Chimwiini, words that would normally be medial to a phrase may be emphasized, in which case they stand at the end of a phonological phrase. Typically, the accented syllable in that word will be raised in pitch such that it does not stand in the normal "downdrift" intonation that otherwise exists (whereby each accented syllable is somewhat lower in pitch than a preceding accented syllable in the intonational phrase).

- (22a) ordinarily the first complement of the verb groups into the same phrase as the verb:

[sh-funga safári] 'he set out on a journey (lit. tied a journey)
 [ch-anza x-fanya káazi] 'he began to do work'
 [chi-biga hóodi] 'he asked for permission to enter (lit. beat *hoodi*)'
 [n-jilee namá] 'I ate the meat; I ate the MEAT'

but emphasis on a verb separates the verb from its complement:

- (22b) *separated from a following argument*
 [n-jiilé/ náma] 'I ate/ meat'

verb separated from a sentential complement

[chi-lóota/ kuwaa yé/ wene ruuhú=y-e/ u-ko maha]a súura/ na na-ku-m-nesha moojé/ xámri]
 'he dreamed/ that he/ saw himself/ in a lovely place/ and he was serving his master/ liquor'

[(n)-na-x-suulá/ wé/ k-enda náa mi/ ku-ja úki]
 'I want/ you/ to go with me/ to eat honey'

[dhíbu/ ku-m-we]e]a níngi/ mw-áana/ **chi-'azíma**/ k-ondoka ka ápo]
 'difficulties/ being many to him/ the boy/ decided/ to go from there'

[wazíiri/ m-kúlu/ **chi-mw-ambíla**/ ku-m-letela m-phíngu/ na xpalá]
 'minister/ chief/ told him/ to bring to him a chain/ and a padlock'

[Hasíibu/ **chi-m-jíiba**/ kuwa ni wa-zíiri] 'Hasiibu/ answered him/ that he (Hasiibu) was the minister'

separated from a following prepositional phrase

[**chi-láwa**/ karka múu-yi/ óyo] 'he left/ from town/ that'

separated from a following adverb

[Yuusúfu/ waliko **sh-pendóowa**/ nthó/ na waawá=y-e]
 'Joseph/ was loved/ very much/ by his father'

There are examples of a post nominal element being set off from the preceding word.

- (22c) mí/ m-phindi y-aa mí/ n-chhí-fa/ u-sultáni/ na-ta-walishowa **mw-áana**/ úyu]
 I/ time of I/ when I die/ sultanship/ he will be installed on boy/ this
 'when I die, this boy will be made sultan'

[**ba'ada y-a mi-yézi**/ hába] 'after months/ few'

[**xabári**/ ízi/ zi-m-komele sultáni] '[lit.] news/ these/ reached the king'

[**wazíiri**/ m-kúlu/ chi-mw-ambíla/ ku-m-letela m-phíngu/ na xpalá]
 'minister/ chief/ told him/ to bring to him a chain/ and a padlock'

mí/ m-baliko sh-kála/ mu-yi úyu/ **karka núumba**/ íyi]
 I/ was residing in/ this town/ in house/ this'

[má-sku/ **z-ilee n-fúye**/ níngi] 'at night/ came monkeys/ many'

23. *Other factors determining phrasing: lexical isolates.*

An interesting range of cases where phonological phrases do not appear to end at the right edge of a lexical maximal projection involves lexical items which *always* are at the end of a phonological phrase (and sometimes at the left edge as well).

- (23a) **laakíni** 'but' (a conjunction borrowed from Arabic) (seems to be always a phrasal isolate)
 [má-sku/ ya-waliko bárdi/ naa wó/ w-ótte/ wa='oféete/ **laakíni**/ ntha-wa-xaadíri/ xalifa ámri]
 'the night/ was cold/ and they/ all/ were tired/ but/ they were not able/ to disobey the order'

[m-uundá=w-a/ ni m-kúlu/ **laakíni**/ ma-vunó=y-e/ ha-ya-yézi/ 1-kúsi] [riddle]
 my farm/ is large/ but/ its harvest/ does not fill/ a hand(ful)

- (23b) **-otte** 'all' (a quantifier of Bantu origin) (seems never to group with anything after it)
 [ma-sku/ ya-waliko bárdi/ naa wó/ **w-ótte**/ wa='oféete] 'the night/ was cold/ and they/ all/ were

tired'

[chi-zéele/ chi-ja mi-káte/ **y-ótte**/ na chi-na m-áayi/ **y-ótte**]
'the old woman/ ate bread/ all/ and she drank water/ all'

(note: this example corrects a typographical error in Kisseberth and Abasheikh 2004)

[n-théende/ i-lazilo=pó/ **mw-ana m-kulu w-a w-ótte**/ chi-háda/ kuwa ndiyé/ ta-k-endo ku-
linda n-theendé] '(when) the dates/ appeared/ the largest child of all/ said/
that it was he/ who would watch over the dates'

[mí/ hu-ja zi-nthu ma-túuri/ **w-ótte**/ laakíni/ mí/ **si-wáandi**] (a riddle) 'I eat fat things/ all/
but/ I/ do not get fat'

(23c) **hatá** 'even'

[chi-láala/ **hatá**/ ma-skuu káti] 'he slept/ until/ midnight'

[ma-xaadímu/ wa-tezezee n-góma/ **hatá**/ ma-skuu káti] 'the servants/ drummed/ until/
midnight'

[m-tendée=ni/ ntha-yi-x-sáala/ **hatá**/ n-thende móoyi] 'on the tree/ it did not remain/ even/
one date'

[muxta n-théende/ zi-laziló/ báaba/ chi-wa-viła w-aaná=w-e/ síta/ chi-wa-'ambíla/ kuwaa yé/
na-m-suła móoyi/ kati k-áawo/ ku-líinda/ n-théende/ **hatá**/ muxtaa zó/ s-ta-ku-
vivó] 'when the dates/ came out/ father/ called his children/ six/(and) he told them/
that he/ wanted one/ among them/ to protect/ the dates/ until/ when they/ became
ripe'

(23d) **nthaasá** 'still'

[n-dasile maali=y-á/ na mulku=w-á/ **na nthaasá**/ s-ku-m-wóna/ m-tume úyu]

'I abandoned my money/ and my property/ and still/ I haven't seen/ this prophet'

[yé/ **nthaasá**/ nth-a-ku-zalóowa] 'he/ yet/ is not born = he is not born yet'

(23e) **walá** 'nor', seems to be an isolate but also to govern final accent on following

[sí/ ápa/ ha-sh-ta-x-páta/ ihtimáamu/ **walá**/ ma-habá/ kamíli/ y-a wawa y-ítu/ chi-wa
Yusúufu/ u-mo karka k-ítu] 'we/ here/ will not get/ the attention/ nor/ the love/
complete/ of our father/ if it be that Jospheh/ is among us' (Note that **kamíli** is
separated from **ma-haba** prosodically and does not fall within the scope of the
final accent triggered by **walá**. The separation involved here is a matter of
emphasis discussed below, and the accentual ramifications are probably the same
as discussed in detail with respect to the person-marking accent discussed in detail
later.)

24. **Other factors determining phrasing: definiteness/indefiniteness.**

A somewhat more subtle case of phrasing not predicted by Align-XP R (apparently) involves the issue of definite versus indefinite noun phrases in Chimwiini. As in many other Bantu languages, there is no formal marking of the indefinite/definite distinction on nouns. We did not pursue any extensive study of the extent to which this distinction is actually reflected in the linguistic system or what the full range of linguistic choices involved might be. Nevertheless, there are situations where phonological phrasing is utilized to signal the indefinite/definite distinction.

When a noun is modified, phrasing serves to separate an indefinite from a definite nominal head. The following examples illustrate that when the noun is indefinite, the noun is in a separate phrase from the modifier.

(24a) [Mwíini/ ni múu-yi/ chi-hába] 'Mwiini (=Brava) is a small town'

[wé/ ta-ku-zala mw-ána/ mw-iimbíli] 'you will bear a male child'

[numbáa=ni/ i-waliko bárza/ n-khúlu] 'in the house/ there was a large reception room'

[barzáa=ni/ zi-walimoo zí-ti/ z-íngi] 'in the reception room there were many chairs'

[ni-wa-wene waa-nthú/ w-íngi/ suxúu=ni] 'I saw many people in the market' (Note: The final accent facts reflect the same pattern as we discuss later with respect to Align-Foc R and its interaction with Wrap-XP in Chimwiini.)

This may be the only way to distinguish an indefinite from a definite reference:

- (24b) [chi-wa-wene w-ana wa-wovú] ‘we saw the bad children’
 vs.
 [chi-wa-wene w-aaná/ wa-wóvu] ‘we saw some bad children’
- [n-uzile mezaa n-khulú] ‘I bought the big table’
 vs.
 [n-uzile meezá/ n-khúlu] ‘I bough a big table’
- [m-ba-li-mo karka numbaa n-khulú] ‘I was in the big house’
 vs.
 [m-ba-li-mo karka nuumbá n-khúlu] ‘I was in a big house’

It is as though the indefinite NP has an appositive structure “a man, a rich one”. If so, then perhaps the algorithm can be maintained. (But cf. Shingazidja facts, where definite plays a disruptive role in phrasing rather than indefiniteness.)

25. *Repacking of the associative phrase into one versus two phonological phrases.*

Possessive structures in Chimwiini involve some variation in their syntactic and therefore PP structuring. The associative construction may be used to show possession, as in the examples below:

- (25a) [**chi-buku ch-a Núuru**/ chi-béele] ‘Nuuru’s book/ is lost’
 [Hamáǰi/ m-bishile **mw-ana w-a Núuru**] ‘Hamadi/ hit the child of Nuuru’
 [Áli/ inenzeze **gari y-a Núuru**] ‘Ali/ drove the car of Nuuru’
 [**mama w-a mw-áana**/ íle] ‘the mother of the child/ came’
 [**m-ambo y-a mwana úje**/ ya-n-uǒishíize] ‘the behavior of that child/ annoyed me’
 [cl.6] behavior [cl.1] child/ [cl. 6] subject prefix on verb

The head of the associative phrase, at least when it consists of a single noun, would appear to not constitute a maximal projection as it is very often the case that there is no phonological phrase edge separating the head of the associative phrase from its complement. Indeed, in elicitation we regularly encountered pronunciations without a phrasal edge in this position. However, in texts, we often encounter the presence of a phrasal edge.

- (25b) [mí/ s-péendi/ wáa-nthu/ x-kaláantha/ n-ǰhíni/ **y-a hóosi**/ y-a mu-ti úyu]
 ‘I/ do not like/ people/ to sit/ under/ of shade/ of tree this’
- [mu-kée=w-e/ m-bigilile páasi/ **n-guwó=z-e**/ z-a ku-laalíla]
 ‘his wife/ ironed (lit. hit iron)/ his clothes/ of sleeping in (i.e. his pyjamas)’
- [mw-ízi/ m-dafkile ǰaǰíri/ **chi-wóvu**/ ch-a péesa]
 ‘the thief/ snatched from the rich man/ a bag/ of money’
- [**sultani w-a múu-yi**/ pozelo=pó/ m-peenzéle/ Hasíibu/ na m-fanyíize/ **daxtári**/ w-a múuyi]
 ‘(when) the sultan of the town/ received (it)/ he loved him/ Hasiibu/ and made him/ doctor/
 of the town’

This variation in the structuring of simple heads requires careful study. It seems, for example, that separation of the head is more common when the head is itself in medial position, whether it is grouped together with the preceding word or not. Furthermore, research on complex heads of the associative construction is clearly needed since our text collection does not offer much exemplification of such structures.

The head and the complement of the associative phrase may appear in sentences with the associative marker itself being omitted. We refer to this as the deconstruction of the associative phrase. This deconstruction has two different outcomes. In one case, the complement precedes the head and the head is marked with a possessive enclitic agreeing with the complement. In this version, the complement is in a different prosodic phrase from the head.

- (25c) [Núuru/ chi-buukú=ch-e/ chi-béele] ‘(lit.) Nuuru/ his book/ is lost’
 [Hamáǰi/ m-bishile Núuru/ mw-aaná=w-e] ‘Hamadi/ hit Nuuru/ his child’

[Áli/ inenzeze Núuru/ gaarí=y-e] 'Ali/ drove Nuuru/ his car'
 [fuláani/ m-aayí=y-e/ kóoko/ muló=w-e/ kóoko] 'let so-and-so stay as far away as possible
 (lit. so-and-so's/ water/ (be) far away/ his fire/ (be) far away)'
 [mw-ana úje/ m-aambó=y-e/ ya-n-ofishíze] 'that child his behavior tired me out'

The head governs subject agreement as is seen in [Núuru/ chi-buukú=ch-e/ chi-béele] '(lit.) Nuuru/ his book/ is lost)', just as it does in the ordinary associative phrase.

There is a third variation possible. Here the possessed noun precedes the possessor and there is no phrasal break between the two words. The possessed is marked in the same fashion as above.

- (25d) [chi-buku=ch-e Núuru/ chi-béele] ' (lit. his book Nuuru/ is lost)'
 [Hamádi/ m-bishile mw-ana=w-e Núuru] 'Hamadi/ hit his child Nuuru (i.e. Nuuru's child)'
 [Áli/ inenzeze gari =y-e Núuru] 'Ali/ drove his car Nuuru (i.e. Nuuru's car)'

The (25c) alternative appears to be connected to the expression of whole-part relationships (particularly with regard to an individual and his body parts) in Chimwiini. The body part (with or without possessive marking) occurs in a separate prosodic phrase from the possessor of the part in examples like the following:

- (25e) [Núuru/ ch-íta/ chi-m-pozéle] 'Nuuru/ head/ hurt him' (verb agrees with the part)
 [Múusa/ m-kóno/ w-anzize ku-m-fúura] 'Muusa/ hand/ began to swell (him)'

26. *Variability in phrasing -- always a matter of focus/emphasis?*

We have attributed the possibility of a phrasal break at the right edge of words that do not stand at the right edge of a lexical maximal projection to a rather vague notion of "emphasis". This seems to us to be essentially correct. Nevertheless, it is possible that other regularities may underlie variation in phrasing.

In particular, close attention should be given to the variability observed in the phrasing of two (perhaps related) constructions where the phrase structure is a bit complex. One of these was mentioned earlier: namely, the associative construction, where the head of the construction is sometimes included in the same phrase as the complement and sometimes not. The second involves relative clauses, where once again there is variability in the phrasing of heads (both subject heads and object heads).

27. *Are constraints ever in conflict in Chimwiini?*

Recall that Truckenbrodt (1999) proposes a constraint Wrap-XP that (in the absence of recursive structure) is in conflict with Align-XP R. Since Chimwiini obeys Align-XP R, it appears that Wrap-XP does not have a role to play in the phrasing of this language. However, although a right edge of an XP must be aligned with the R edge of a prosodic phrase, there is no harm if the VP is also wrapped into a phrase of the following structure: (V XP) YP) ZP). Of course, to satisfy both Wrap-XP and Align-XP R, then the phrasing must allow recursive structure.

There is in fact evidence from accent in Chimwiini that might be argued to motivate that Wrap-XP plays a role in the phrasing. Look at the following data from person-marking final accent.

- (27a) [mí/ n-thinz-il-ee namá/ kaa chi-sú] 'I cut meat/ with a knife'
 [sh-pokele wa-geení/ mi-zigo ayó] 'we took from the guests/ that luggage'
 [n-thovele maandá/ m-tuzii=ní] 'I dipped bread/ into the sauce'
 [ni-m-tovelele mw-aaná/ maandá/ m-tuzii=ní] I dipped for the child/ the bread/ into the sauce'
 [sí/ chi-m-bozele mw-aalimú/ chi-buku ch-a hisaabú] 'we stole from the teacher/ (his) arithmetic book'

We have said that the first/second person present and past verb forms require final accent. We have seen that this final accent is not realized necessarily on the verb form itself, but on the phrase that contains the verb. The above data however show that the final accent is heard on *more than one phrase-final word*. How can that be? A simple answer to this question would be: because the verb occurs in more than one phrase. This is not true if only Align-XP R is assumed. It is true if Wrap-XP and recursive structure are also assumed. Under this assumption, the verb is in the same phonological phrase as every element inside the verb phrase. There may, however, be more than one right edge of a phonological phrase due to the recursive structure. Multiple final accents then are predicted by a tonal

realization principle that says a verb requiring final accent imposes that accent in every phonological phrase in which the verb occurs.

Further evidence for the proposal that the word triggering final accent may be inside multiple phrases comes from relative clauses.

(27b) [sultáni/ funzilo ruuhu=y-é/ mi-konó/ ka silsilí]
'the sultan/ who tied himself/ hands/ with a chain'

Ccomment: in elicitation a definite head of a subject relative clause would typically be phrased together with the relative verb; this example suggests there are circumstances where this does not occur; this example also shows that the head when phrased separately has default accent)

[mw-alimu jilo ch-aa-ku-já/ hotelii=ní/ ha-xadfri]
'teacher who ate food/ at the hotel/ is sick'

[mu-nthu m-pelo Jaamá/ chi-buukú] 'the man who gave Jaama/ a book'
[m-waðihishizo Jaamá/ mas'alá/ ndi mí] 'the one who explained to Jaama/ problem/ is me'
[mu-nthu m-pelo Jaamá/ peesá/ ni Núuru] 'the man who gave Jaama/ money/ is Nuuru'

[sultani w-aa nóka/ ta-ki-sh-paa dáwa/ i-ta-ki-shi-fanuulizo sahalí/ x-koma mahaḷa m-tume
Suleemaani/ ukó] 'the king of the snakes/ will give us medicine/ that will make it
easy/ to reach the place where Prophet Suleemaani/ is'

[mu-nthu somesheleza mw-aaná/ qur'aaní/ na mw-aalimú] 'the man whom the child was
taught for/ the Quran/ by the teacher'

[mw-alimu bojeḷa chi-buukú/ na mw-aaná] 'the teacher who was stolen from a book/ by
the child'

Again, what we see from the relative clause data is that the final accent associated with a relative verb appears not just on the phrase that obviously includes the verb, but also on the final vowel of every other predicted phrase located inside the relative clause as a whole. This would be accounted for if we accept the idea that Chimwiini has recursive phrasal structure and thus Wrap-XP and Align R are both more highly ranked than *Recursive structure.

28. *Emphasis/Focus and Recursive Structure.*

The next point that we would like to look at is the implications that recursive structure has for the formulation of the constraint aligning phonological phrases with emphasis/focus. It turns out that the facts about final accent (particularly in relation to person marking final accent) go a long ways to clarify the constraint on focus/emphasis in Chimwiini (and by implication for other languages as well). We suggested earlier that there is a constraint like the following:

(28a) Align-Foc/Emp R
The Right edge of the focused element must be at the Right edge of a phonological phrase.

This constraint, however, will not achieve the correct results in Chimwiini on the assumption of recursive structure. To see this, we need to return to person-marking final accent and look at it in relationship to focus/emphasis matters. Consider the following example:

(28b) [bigilile=ní/ l-kutáa=ni] 'what did you hammer/ into the wall'

Notice that in this sentence, the question word enclitic =ni 'what?' triggers the isolation of the verb from the following locative phrase. Furthermore, notice that final accent occurs only on the verb and not on the locative complement.

A proper answer to this question would be:

(28c) [m-bigilile mu-smaari/ l-kutáa=ni] 'I hammered a nail/ into the wall'

Notice here that the verb and the "new information" provided in the answer are grouped together and receive final accent; however, the locative complement that follows does not exhibit final accent. In contrast, the simple statement that I hammered a nail into the wall would be pronounced:

(28d) [m-bigi*l*iile mu-smaari/ l-kutaa=ní] 'I hammered a nail/ into the wall'

where both *mu-smaari* and *l-kutaa=ni* receive final accent.

(28e) [bigi*l*iile=pi/ mu-smáari] 'where did you hammer the nail?'
[m-bigi*l*iile l-kutaa=ní/ mu-smáari] 'I hammered into the wall/ the nail'

[bigi*l*iile ka ní/ mu-smáari/ l-kutáa=ni] 'you hammered with what/ the nail/ into the wall?'
[m-bigi*l*iile ka n-duundó/ mu-smáari/ l-kutáa=ni] 'I hammered with a hammer/ the nail/ into the wall'

neutral statement: [n-uliile gaarí/ peesá] 'I bought a car with/ money'
emphasis *gaari*: [n-uliile gaarí/ péesa] 'I bought a CAR with/ money'
emphasis *pees*a: [n-uliile peesá/ gáari] 'I used MONEY to buy/ a car'

The conclusion that can be reached on the basis of these data is that final accent stops at a phrase that has been emphasized/focused. The remainder of the verb phrase will exhibit default accent.

More examples illustrating that focus/emphasis (as well as the indefinite phrasing discussed earlier) result in a smaller domain for the final accent:

(28f) [m-ba-li-mo karka numbaa n-khulú] 'I was in the big house'
vs.

[m-ba-li-mo karka nuumbá/ n-khúlu] 'I was in a big house'

[(n-)na-x-suulá/ wé/ ku-mw-uBla m-uBli=w-a]
'[I want you/ you/ to kill him my husband'
*[(n-)na-x-suulá/ wé/ ku-mw-uBla m-uBli=w-á]

[sí/ chi-m-boozelé/ mw-aalímu/ chi-buku ch-a hisáabu]
'we/ STOLE/ from the teacher/ the arithmetic book'
NOT: * [sí/ chi-m-boozelé/ mw-aalímu/ chi-buku ch-a hisaabú]
cf. the simple statement:

[sí/ chi-m-bozele mw-aalímu/ chi-buku ch-a hisaabú]
'we/ stole from the teacher/ the arithmetic book'

[mí/ na askari=z-á/ ch-ondoshelé/ k-enda i-jabali Xáafu/ ku-badilaa háwa]
'me/ and my soldiers/ went took off/ to go to the mountain Xaafu/for a change of air'

[n-thiilee chi-sú/ ma-kalí/ ka tuupá] 'I sharpened a knife with a file'
'I put in knife/ sharpness/ with a file'
but:

[n-thile ka tuupá/ chí-su/ ma-káli] 'I used a file to sharpen a knife'
'I put in with file/ knife./ sharpness'

There are certain expressions that seem to involve inherent emphasis. In this category we can include the "strong" forms of the demonstratives.

(28g) [múumu/ úmu] 'in this very same place'
[kóoko/ óko] 'to that very same place'
[páapo/ ápo] 'at that very same place'

When these expressions are located after a person-marking final accent verb, the final accent does not cross the first element in the complex expression:

(28h) [n-ingile muumú/ úmu] 'I entered this same place/ very'
(cf. default accent case: [ingile múumu/ úmu] '(s)he entered this same place/ very')

[n-oloshele kookó/ óko] 'I went to that same place/ very'
(cannot say: *[n-oloshele kookó/ okó])

[ni-ko paapó/ ápo] 'I am still at the same place/ very'
(cf. [u-ko páapo/ ápo] ;(s)he is still at the same place/ very'

How is this to be explained? The answer seems quite simple: Wrap-XP must *not* have organized the VP into a phrase. But why not? We suggest that the answer is the constraint concerning focal/emphatic items. Specifically, we suggest a constraint along the lines of (28i).

(28i) A focal/emphatic element must be rightmost in any phrase that contains it.

If Wrap-XP were satisfied in sentences like the ones under discussion, then Focus as formulated in (28i) would be violated. Thus by ranking Focus above Wrap-XP, we will successfully prevent Wrap-XP from being involved in the optimal outcome.

The data from relative clauses is at present insufficient to determine whether this analysis makes the correct predictions for these structures. The problem is that in the data available to us, we do not find a word internal to the relative clause being focused, thus we cannot test whether focus interferes with the final accent that marks relative clauses. Further research on this topic is planned.

29. *Conclusion.*

Two independent phenomena in Chimwiini, (abstract) stress and (pitch) accent, serve as an infallible guide to the phrasing of Chimwiini sentences. Phrasing is determined largely by Align-XP R and Align-Foc/Emp, two principles that are not in conflict with one another. The behavior of negative verbs in contrast to affirmative verbs appears to indicate that a negative verb is being focused in the default case. Other phrasing contrasts exist (e.g. the existence of lexical isolates, the definite/indefinite distinction, repacking of the associative construction).

With respect to the (abstract) stress-related facts, there is no evidence for a role for Wrap-XP in Chimwiini, although to assume that it plays a role in phrasing would require recursive phrasing. However, the final accent phenomenon seems to require that Wrap-XP be a highly ranked constraint (and thus requires recursive phrasing). However, a revised Align-Foc/Emp R constraint must dominate Wrap-XP.

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