8. PHRASAL TONOLOGY

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8.1 P-phrases consisting of more than one word

In the chapter on Prosody (ch. 3), we restricted ourselves to processes which occur in p-phrases consisting of one word. We continued with this restriction in the description of the Noun (ch. 4), Pronominal Forms, Invariables (ch. 5) and the Tenses (ch. 7). In this chapter, the processes which occur in p-phrases consisting of more than one word are described. P-phrases consisting of more words have specific rules of shifting and bridging, specific Noun-Specifier rules, specific instances of Structure Simplification and Tone Assimilation, and a rule called Regressive H Tone Dissimilation. These rules are the rules of phrasal tonology.

In 3.2, we described that p-phrases do not necessarily fall together with syntactic phrases. In particular, there are VP’s where the verbal form and the object do not appear in the same p-phrase; there are also NP’s where the noun and the specifier do
not appear in the same p-phrase. We suspected that the difference between a verb-object and a noun-specifier in the same p-phrase and a verb-object and a noun-specifier in different p-phrases has to do with Focus in VP’s and something like Determination in NP’s. In this chapter, we give a more accurate description of the relation between the NP, the VP and p-phrases, and we describe phrasal tonology within NP and VP. We conclude this chapter with a short description of the processes which apply in the domains which are larger than p-phrases: (intonational) i-phrases and utterances (U).

We start with the relation between the NP, the VP and the p-phrase. We first recognize that there are three types of NP’s and VP’s with respect to p-phrases (8.2.1 and 8.3.1). The three types of VP’s are described earlier in 7.3.2. The different types are determined by the verbal forms they contain: whether the verbal forms are disjoint, conjoint or both. Disjoint verbal forms constitute a p-phrase on their own (i.e., verbal focus tenses, marked GMW). Conjoint verbal forms constitute a p-phrase with a following noun (i.e., post verbal focus tenses, marked FMW). And there are also verbal forms which have both characteristics: they may form a p-phrase on their own, but when they are followed by a noun, they form a p-phrase with it (conjoint-disjoint tenses, not followed by an abbreviation). There are also three types of NP’s. These types are determined by the specifiers they contain, and they are described in the next section.

8.2 The Noun Phrase and p-phrases

First, we describe the three types of specifiers in NP’s. Then, we describe phrasal tonology: special tone rules for nouns when they are combined with specifiers (such as: delete all H tones of the noun when followed by ſtwáani ‘what kind of?’), an instance of H Tone Bridge (where there is a bridge between the last H tone of the noun and the first H tone of the specifier), a H Tone Retraction rule (which shifts the H tone of the pronominal prefix of the possessive to the final TBU of the preceding noun), Regressive H Tone Dissimilation (which deletes the first H tone when a second one appears next to it), Tone Assimilation (which raises the TBU preceding a syllabic nasal with a H tone), and Structure Simplification (which reduces two penultimate TBU’s to one TBU).

8.2.1 Conjoint, disjoint and conjoint-disjoint specifiers

There are specifiers which do not form a p-phrase with a preceding noun (disjoint specifiers), there are specifiers which do form a p-phrase with a preceding noun (conjoint specifiers), and there are specifiers which have both characteristics: they
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may form a p-phrase on their own, but when they are preceded by a noun, they form a p-phrase with it (conjoint-disjoint specifiers). These three types resemble the three types of verbal forms disjoint, conjoint and conjoint-disjoint mentioned above (and described below in 8.3). Devos (2004) also recognizes these three types of specifiers (which she calls modifiers) for Makwe. She notes that conjoint modifiers appear to be inherently focussed, and that they all have the function of selecting one or more things to the exclusion of others and thus indicate contrastive focus. She describes that Demonstratives appear to be the only true conjoint-disjoint modifiers because whether a p-phrase is formed depends on the way the speaker wants to present the information. She concludes that whether or not the head noun and the following modifier appears in the same p-phrase is to a large extent lexically determined. In our work, we do not go into detail in such a way as Devos does, and this is also not done by Liphola (2001) nor by Manus (2003) who also describe noun-specifier tonology. Manus distinguishes noun-specifier constructions which appear in one prosodic group from constructions in different prosodic groups (while two noun-specifier constructions, noun-possessive and noun—ene, may choose between the two possibilities). In the first case, the preceding noun does not have penultimate lengthening, in the case of different prosodic groups, the preceding noun does have penultimate lengthening. Liphola’s analysis is different. He assumes that all words have penultimate lengthening in every environment. When the specifiers are numbers and quantifiers, the preceding noun has penultimate lengthening; with the other specifiers, Liphola posits a ‘phrasal vowel shortening’ to get rid of the penultimate lengthening of the preceding nouns.

For our description below, it must be known that specifiers may be nominals (N), pronominals (P), or Invariables (I). First, there are specifiers that do not form a p-phrase with preceding nouns: numerals (N, P), adjectives (N), connexives (P), na- (I) ‘with’, -njí (P) ‘other’, -ôhe (P) ‘many’, -ôhe-ôhe (P) ‘all’, -ômi (P) ‘healthy, strong, whole’, -lida (P) ‘which’ and -ngápi (N) ‘how many’. They form phonological phrases on their own, and this is shown by the penultimate length of the noun.

- lipoónó liímo  one hole
- mapoónó maviíli  two holes
- lipoónó lidikidííki  small hole
- valúúme vá-pantwáála  men of Mtwara
- valúúme na-váána  men with children
- viténg’u viínji  other chairs
- ding’ánde dyóóhe  many houses
- chitaámbo chohechohóhe  every country
- vaánu vóómi  healthy people
- liíóve liliída  which word?
- malóóve mangáapi  how many words?
Remarkably, when the interrogatives ‘-liđa and ‘-ntgápi are preceded by ýé which indicates amazement, they form a p-phrase with the preceding noun they specify (see 8.2.2).

Second, there are specifiers which can not occur on their own; they are generally preceded by a noun with which they form a p-phrase. When there is no noun, they are preceded by a verbal form or by another specifier. The preceding word never has penultimate length. These specifiers are weéka (I) ‘on one’s own’, ‘-éne (P) ‘self’, chihi (N) ‘only’ and ŋtwáani (I) ‘what kind of?’.

valámé weéka men on their own
vavawene véene they have seen themselves
valámé chihi only men
avanó ŋtwáani what kind of these (cl.2)?

Third, there are specifiers which can occur on their own, but when they are preceded by a noun, they must form a p-phrase with it. These specifiers are the Possessives (P), Demonstratives (P) and ‘-naàng’o (P) ‘the same, the very one’.

cháangu mine (cl.7)
chiténg’ü chaángu my chair
achiño this one (cl.7)
chiténg’ü áchiño this chair
chináang’o the very same (cl.7)
chiténg’ü chináang’o the same chair

These three types show the relation between the NP and p-phrases. With the first type, there are two different p-phrases within the NP, and there is no phrasal tonology (see ch. 4 and 5). With the second and the third type, there is one p-phrase within the NP, and there is phrasal tonology. In the next section, we describe the post-lexical processes that take place in the NP’s of the second and third type. In 8.2.2, we start with NP’s with a noun and one specifier; more complex NP’s are described in 8.2.3.

8.2.2 Post-lexical processes with nominal p-phrases consisting of two words

Special phrasal processes occur in nominal p-phrases consisting of two words: noun-specifier tone rules, as well as the Prefix-H tone Retraction rule, Structure Simplification, Tone Assimilation and Regressive H Tone Dissimilation; H Tone Bridge, too, applies especially to nominal p-phrases consisting of two words. Phrasal processes occur post-lexically (for more details, see 8.3.3).

NOUN-SPECIFIER TONE RULE 1 (penultimate H on the noun)
+ H TONE BRIDGE (HTB)
From the specifiers of the second type, i.e., those which must constitute a p-phrase with a preceding noun, there are three specifiers which add a H tone to the penultimate syllable of the preceding noun (\textit{weěka} ‘on one’s own’, \textit{-éne} ‘self’ and \textit{chiįhi} ‘only’), and there is one specifier which lowers all H tones of the preceding noun (\textit{tiwáani} ‘what kind of?’). We first describe the former case: specifiers which cause a H tone on the penultimate syllable of the preceding word; there appears to be a H Tone Bridge between this H tone and the first H tone of the specifier. The tonal influence is best shown with nouns of TG D1 which have all L tones, e.g., ‘\textit{nankakataambwe}, surface form: \textit{nankakataambwe} ‘spider’.

\begin{tabular}{ll}
D1 & L.no H  \\
& \textit{nankakataambwé wéeka} \quad the spider on its own  \\
& \textit{nankakataambwé mwéene} \quad the spider itself  \\
& \textit{nankakataambwé chiįhi} \quad only the spider \\
\end{tabular}

The following nouns of all TG’s are used as examples below. Remember that nouns of TG B and D2 can not be distinguished; below, they are classified to TG B.

\begin{center}
\begin{tabular}{llll}
A & L.S1/SF & `chitúvís` & chitúví \quad bundle \\
& & `utútúlí` & utútúlí \quad brain \\
B & L.S1 / H.no H & `litáwa` & litáwa \quad clan \\
& & `lihíndílì` & lihíndílì \quad cooking stone \\
C1 & L.SF & `lutaví` & lutaví \quad branch \\
& & `lukalóngó` & lukalóngó \quad throat \\
C2 & H.SF & `litinjí` & litinjí \quad pumpkin \\
& & `únjenjemá` & unjenjemá \quad mosquito \\
D1 & L.no H & `chiyewé` & chiyewé \quad chin \\
& & `ntandása` & ntandása \quad porridge \\
E & L.S2 & `limbéénde` & limbéénde \quad skin \\
& & `liputilă` & liputilă \quad trap sp. \\
\end{tabular}
\end{center}

These nouns are followed by the specifier `\textit{-éne} ‘self’:

\begin{center}
\begin{tabular}{ll}
A & `chitúví chéene` \quad the bundle itself  \\
& `utútúlí wéene` \quad the brain itself  \\
B & `litáwa lyéene` \quad the clan itself  \\
& `lihíndílì lyéene` \quad the cooking stone itself  \\
C1 & `lutaví lwéene` \quad the branch itself  \\
& `lukalóngó lwéene` \quad the throat itself  \\
C2 & `litinjí lyéene` \quad the pumpkin itself  \\
& `únjenjemá mwéene` \quad the mosquito itself  \\
D1 & `chiyewé chéene` \quad the chin itself  \\
& `ntandásá wéene` \quad the porridge itself  \\
E & `limbéénde lyéene` \quad the skin itself  \\
& `liputilă lyéene` \quad the trap itself  \\
\end{tabular}
\end{center}
Words in a p-phrase are concatenated post-lexically. This means that all words have their H tones which are assigned in the lexicon, and in case of this Noun-Specifier Tone Rule (NSTR) 1, the penultimate H is assigned in addition to the lexical H’s of the noun. Together with this process of placing a penultimate H, the final H (SF, with TG A, C1 and C2) is deleted, and there is a H Tone Bridge from the penultimate H of the noun to the first H of the specifier. It is maybe Meeussen’s Rule (MR) which deletes the final H, but MR maybe also deletes the penultimate H in case of a preceding H (as with ‘lìhindili’) and the HTB is then from this preceding H (to the first H of the specifier). The examples below represent TG C1 (‘lutavi’) and TG B (‘lìhindili’).

\[ \text{post-lex. concat.} \quad \text{PUL} \quad \text{NSTR 1 and MR} \quad \text{HTB} \]
\[ \text{‘lutavi luéene > lutavi luéene > ‘lutávi luéene > ‘lutávi luéene} \]

\[ \text{post-lex. concat.} \quad \text{PUL} \quad \text{NSTR 1} \quad \text{HTB} \]
\[ \text{‘lìhindili liéene > ‘lìhindili liéene > ‘lìhindili liéene > ‘lìhindili liéene} \]

The surface form is reached after Glide Formation. The FL melody of weéeka after HTB is unexpected since HTB from the penultimate H of the noun to the R tone of the specifier results in level H tones on the specifier (as occurs with demonstratives, see below). But I suspect that with this invariable, the FL tones are very close or similar to the tones which appear after register lowering of the final two TBU’s utterance-finally (see 3.6.1). The penultimate R of this word can for example be seen when it occurs after a verbal form: vachiwené weéeka ‘they have seen it on its own’. The invariable chiihi has no H tones, and the HTB stops at the final TBU of the preceding noun.

As noted in 8.2.1, there are two specifiers of the type that does not have tonal influence on the preceding noun (since they form a p-phrase on their own), the interrogatives ‘-ngápi ‘how many’ and ‘-lída ‘which’, which probably forms a p-phrase with the preceding noun when the noun is preceded by ýé; this particle indicates amazement, and the noun gets penultimate H. But there is a difference with the specifiers we have described above: there is no H Tone Bridge from the penultimate H of the noun to the first H of the specifier, although there is a final H everywhere which probably comes from doubling of the penultimate H (see also the Pronominal Possessives below). The two interrogatives are the only specifiers with which this occurs in combination with the particle ýé.

ýé mātińji mangáápi (what?) how many pumpkins?

cf. mātińji mangáápi how many pumpkins?

ýé chiyévé chíliída (what?) which chin?

cf. chiyéewe chíliída which chin?
NOUN-SPECIFIER TONE RULE 2 (delete all H tones of the noun) + TONE ASSIMILATION

Before the specifier ŋtwáani ‘what kind of?’, all words become (default) L-toned. However, under influence of the H-toned syllabic nasal of the specifier, the final mora of the preceding noun becomes H; cases like this one are described as instances of tone assimilation in 3.5.8 and 8.3.2.

A  chituvi ŋtwáani what kind of bundle?
    ututuli ŋtwáani what kind of brain?
B  litawá ŋtwáani what kind of clan?
    lihindili ŋtwáani what kind of cooking stone?
C1 lutaví ŋtwáani what kind of branch?
    lukalongó ŋtwáani what kind of throat?
C2 litinji ŋtwáani what kind of pumpkin?
    unjenjemá ŋtwáani what kind of mosquito?
D1 chiyewé ŋtwáani what kind of chin?
    ntandasá ŋtwáani what kind of porridge?
E  limbendé ŋtwáani what kind of skin?
    liputilá ŋtwáani what kind of trap?

From the third type of specifiers, i.e., those which may occur on their own as well as form a p-phrase with other words, the Demonstratives and ‘-naáng’o ‘the same, the very one’ also add a H tone to the penultimate syllable of the preceding noun (NSTR 1), from where there is also an H Tone Bridge to the first H tone of the specifier. The other specifiers of the third type, the Pronominal Possessives, add a H tone to the final syllable of the preceding noun. But we first describe the tonal influence of the Demonstratives and ‘-naáng’o; this influence is best shown with nouns of TG D1: all L tones.

D1  chiyewé áchiíno  this chin
    ntandasá unááng’o  the same porridge

In the examples below, we use the demonstrative ‘a-PPx-nó ‘this’, which has a R tone on its penultimate syllable when occurring on its own (e.g. áchiíno this one, cl.7).

A  chituví áchiíno  this bundle
    utútuli áúúno  this brain
B  litawá áliíno  this clan
    lihindili áliíno  this cooking stone
C1 lutaví áliúúno  this branch
    lukalóngó áliúúno  this throat
C2 litinji áliíno  this pumpkin
    unjenjemá áyuúno  this mosquito
D1  chiyévé áchíño  this chin
     ntandásá áũũno  this porridge
E   limbéndé állíno  this skin
     liputilá állíno  this trap

Px-H TONE RETRACTION

Pronominal Possessives which occur on their own have a FL tone pattern, e.g., cháangu ‘mine’ (cl.7). In 5.5 we have explained that the FL melody is the result of tonal coalescence of the HLH tones on the penultimate syllable after vowel coalescence/glide formation (VC/GF):

VC/GF    Retraction    PUL
cháangu <  ‘chíaáng <  ‘chiááng <  ‘chiáng

The underlying tones of the Pronominal Possessives are a H-toned PPx and a stem-final H tone. When Pronominal Possessives and nouns are concatenated, we assume that the H tone of the PPx of the Pronominal Possessive retracts to the final mora of the preceding noun after VC/GF. The example below has a noun of TG D1 which has all L tones.

VC/GF and Px-Retraction    PUL and Retraction
ntandásá weétu <  ntandasa úcétu <  ntandasa úcétu

Examples with nouns of all TG’s are the following:

A  chitúvi chaángu  my bundle
    utútúli waángu  my brain
B  litáwá lyeétu  our clan
    lihindlí lyeétu  our cooking stone
C1 lutaví lwaáke  his branch
    lukalongó lwaángu  my throat
C2 litińji lyeétu  our pumpkin
    unjénjémá waáke  his mosquito
D1  chiyewé chaángu  my chin
    ntandásá weétu  our porridge
E   limbéndé lyángu  my skin
     liputilá chaako  your trap

With nouns of TG A, C1 and C2, the retracted H tone coincides with the SF-H tone. There is a bridge between the H tone on the S1-position and the retracted H tone on the final syllable of nouns with stems of TG B and C2 having three or more syllables. Maybe Meeussen’s Rule occurs in case a H tone precedes the retracted H tone (as with litáwa), but then we must assume that this preceding H tone doubles to the final syllable (just as we did with nouns followed by the interrogatives -ngápi and -ída in combination with the particle yé above).
The OC-H Tone Retraction rule, described in 3.5.6, is another instance of this rule.

**REGRESSIVE H TONE DISSIMILATION (RHTD)**

As can be seen above, nouns with disyllabic stems of TG E (S2-H tone) only appear with the retracted H tone on the final syllable. This is described by the tonal process Regressive H Tone Dissimilation: the retracted H causes the preceding H to be deleted. This resembles Meeussen’s Rule, but in reversed order. This process is also the reason why all disyllabic nouns (with minisyllabic stems, disyllabic vowel-initial stems as well as disyllabic consonant-initial stems without a NPx) have a LH tone pattern before Pronominal Possessives. The examples below demonstrate this tone pattern.

<table>
<thead>
<tr>
<th>Surface form</th>
<th>Phonemic form</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>A  <code>ívááu</code> íweétu</td>
<td>our net</td>
<td>ívááu net sp.</td>
</tr>
<tr>
<td>B  liíína liyaángu</td>
<td>my name</td>
<td>liíína name</td>
</tr>
<tr>
<td>C1 <code>moongo</code> waángu</td>
<td>my back</td>
<td>moongo back (of body)</td>
</tr>
<tr>
<td><code>teso</code> yaángu</td>
<td>my adze</td>
<td>teesó adze</td>
</tr>
<tr>
<td>C2 <code>mwaana</code> waángu</td>
<td>my child</td>
<td>mwaana child</td>
</tr>
<tr>
<td>D1 <code>muuyo</code> mweétu</td>
<td>before us</td>
<td>muuyo front</td>
</tr>
<tr>
<td><code>kanya</code> yaángu</td>
<td>my mouth</td>
<td>kaanya mouth</td>
</tr>
<tr>
<td>E  <code>muundu</code> waángu</td>
<td>my chopper</td>
<td>muundu chopper</td>
</tr>
<tr>
<td><code>kaaya</code> yeétu</td>
<td>our homestead</td>
<td>kaaya homestead</td>
</tr>
</tbody>
</table>

Regressive H Tone Dissimilation (RHTD) deletes the first H tone when a second one appears next to it. Such an environment appears with a noun with a disyllabic stem of TG E which has S2-H tone, e.g. `limbeénde` ‘skin’, followed by a Pronominal Possessive. When the retracted H tone of the Possessive appears on the final syllable of the noun, a (default L)H.H tonal sequence occurs word-finally. In such an environment, the first H is deleted (see 8.3.2 for an environment where RHTD occurs with verbal forms).

post-lex. concatenation  | PUL and Retraction | VC/GF and Px-Retraction
---|---|---
`limbeénde liángu` >  `limbeénde liáángu` >  `limbeéndé liyaángu` >  RHTD `limbeéndé liyaángu` |

It is expected that nouns consisting of minisyllabic stems and vowel-initial disyllabic stems of TG C1 and D1 have a LH tone pattern before Possessives, but the fact that those of TG A, B and C2 also have this tone pattern needs explanation: such nouns have similar underlying configurations before Possessives as nouns of TG E.

post-lexical concatenation  | PUL and Retraction, Px-H Tone Shift (C2) | VC/GF and Px-Retraction
---|---|---
A  `luááu` luéétu >  `luááu luéétu` >  `ívááu íwéeetu` |
B  `liíína` liángu >  `liíína liáiángu` >  `liíína liyaángu` |
C2 `muuná` üángu >  `muuná úaángu` >  `mwáná waángu` |
There is no VC/GF in case of identical vowels within non-final words in p-phrases which become disyllabic, as is the case with 'liiná of TG B. With this first word of the p-phrase, the vowel of the NPx and the vowel of the stem are identical, they do not merge, and after resyllabification, a disyllabic word appears with two (identical) penultimate TBU’s. This phenomenon is very common with non-final verbal forms consisting of minisyllabic stems preceded by a SC (see 8.3.1), and we suspect that it is the result of a minimal structure condition such as the one on verbal forms suggested in 6.3.1 (a verbal form should at least have three TBU’s underlyingly). Below, RHTD removes the first H of the noun.

RHTD
A  lwaú lweétu
B  liiná lyaángu
C2  mwana waángu
E  muundú waángu
   kaayá yeétu

The process Structure Simplification (see below), which reduces two penultimate TBU’ s to one TBU, is blocked in case of non-final disyllabic words in p-phrases with identical penultimate TBU’s, as is the case with nouns of TG B and E.

STRUCTURE SIMPLIFICATION (SS)

With SS, two penultimate TBU’s of non-final words in p-phrases are reduced to one TBU, except in the cases mentioned above. Two penultimate TBU’s are mainly due to S2 tonal lengthening with disyllabic stems (TG E). After the specific Specifier-Noun rules, Tone Assimilation, the Px-Retraction rule, H Tone Bridge and Regressive H Tone Dissimilation, nouns with a disyllabic stem of TG E still have two penultimate TBU’s. SS reduces them to one TBU.

Noun-Specifier Tone Rule 1 and H Tone Bridge:
NSTR 1     HTB        SS
    'limbeende lyéeene > 'limbééndé lyéeene

Noun-Specifier Tone Rule 2 and Tone Assimilation:
NSTR 2     TA         SS
    'limbeende ŋtwaani > 'limbééndé ŋtwaani

Px-H Tone Retraction and Regressive H Tone Dissimilation:
VC/GF and Px-Retraction  RHTD        SS
    'limbeéndé lyaángu > 'limbééndé lyaángu

Another instance of SS is described in 3.5.6.
We conclude this section by giving a summary of the tonal consequences of combining specifiers with nouns they specify.

<table>
<thead>
<tr>
<th>specifiers</th>
<th>tonal influence on noun</th>
</tr>
</thead>
<tbody>
<tr>
<td>disjoint:</td>
<td></td>
</tr>
<tr>
<td>numerals (N, P)</td>
<td></td>
</tr>
<tr>
<td>adjectives (N)</td>
<td></td>
</tr>
<tr>
<td>connexives (P)</td>
<td></td>
</tr>
<tr>
<td>\textit{na} (I)</td>
<td>`with’</td>
</tr>
<tr>
<td>\textit{H\textunderscore njį} (P)</td>
<td>`other’</td>
</tr>
<tr>
<td>\textit{ôhe} (P)</td>
<td>`many’</td>
</tr>
<tr>
<td>\textit{ohe\textunderscore ôhe} (P)</td>
<td>`all’</td>
</tr>
<tr>
<td>\textit{ômi} (P)</td>
<td>`healthy, strong, whole’</td>
</tr>
<tr>
<td>\textit{lida} (P)</td>
<td>\textit{yé\textunderscore lida} (P) `which’</td>
</tr>
<tr>
<td>\textit{ngápi} (N)</td>
<td>\textit{yé\textunderscore ngápi} (N) `how many’</td>
</tr>
<tr>
<td>conjoint:</td>
<td></td>
</tr>
<tr>
<td>\textit{weêka} (I)</td>
<td>`on one’s own’</td>
</tr>
<tr>
<td>\textit{êne} (P)</td>
<td>`self’</td>
</tr>
<tr>
<td>\textit{chílí} (N)</td>
<td>`only’</td>
</tr>
<tr>
<td>\textit{ítwáani} (I)</td>
<td>`what kind of?’</td>
</tr>
<tr>
<td>conjoint-disjoint:</td>
<td></td>
</tr>
<tr>
<td>pronominal possessives</td>
<td></td>
</tr>
<tr>
<td>demonstratives</td>
<td></td>
</tr>
<tr>
<td>\textit{-naáng\textunderscore o} (P)</td>
<td>`the same, the very one’</td>
</tr>
</tbody>
</table>

8.2.3 Post-lexical processes with longer nominal p-phrases

When two specifiers follow the noun, the first specifier has tonal influence on the preceding noun as described in the previous section (and forms a p-phrase with it); the second specifier generally has no tonal influence on the preceding specifier and shows its inherent tones (and forms a p-phrase on its own; there are two exceptions, see below). There is also no tonal influence from the second specifier when the first specifier is a short demonstrative which cliticizes to the preceding noun.

\begin{verbatim}
ntandaasa üunjį auúno  this other porridge
ntandásá aúúno üunjį  id.
ntandásá\textunderscore u üunjį  id. (clitic demonstrative)
ntandásá aúúno wáavo  this their porridge
ntandasá wáavo auúno  id.
ntandásá\textunderscore u wáavo  id. (clitic demonstrative)
\end{verbatim}

If a nominal possessive construction occurs after a specifier, the connexive loses its H tone, except when the specifier is an interrogative (see 5.4).
There are specifiers which do have tonal influence on the preceding specifier: when ñtwáñi is the second specifier, the specifier preceding it gets all (default) L tones. This is the NSTR 2 rule described in the previous section.

<table>
<thead>
<tr>
<th>English</th>
<th>Tonal Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>ntandásá aunó ñtwáñi</td>
<td>what kind of this porridge?</td>
</tr>
<tr>
<td>ntandásá wavó ñtwáñi</td>
<td>what kind of their porridge?</td>
</tr>
</tbody>
</table>

When the second specifier is a short demonstrative which cliticizes to the preceding specifier, the preceding specifier gets penultimate H tone, and the same things occur as with nouns (except when it cliticizes to na-, see 5.3). This is an instance of the NSTR 1 rule described in the previous section.

<table>
<thead>
<tr>
<th>English</th>
<th>Tonal Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>ntandásá wávó áúúno</td>
<td>this their porridge</td>
</tr>
</tbody>
</table>

Both are cases of p-phrases consisting of three words. Note that in both cases, the preceding specifier still determines the tonal influence on the preceding noun. So first the rules of p-phrases consisting of two words described in the previous section apply to the first two words, followed by (the same) rules applying to the second and the third word. With a special question intonation, demonstratives are also specifiers which do have tonal influence on the preceding specifier: the preceding specifier gets penultimate H tone, and there is HTB to the (first) H tone of the demonstrative. This is the NSTR 1 rule.

<table>
<thead>
<tr>
<th>English</th>
<th>Tonal Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>ntandaasa unjí ñtwáñi</td>
<td>what kind of other porridge?</td>
</tr>
<tr>
<td>ntandaasa unjíi-u</td>
<td>this other porridge</td>
</tr>
<tr>
<td>ntandaasa unjí áúúno</td>
<td>this other porridge</td>
</tr>
</tbody>
</table>

When in a nominal possessive construction the connexive is directly followed by a demonstrative, and the initial vowel of the demonstrative merges with the vowel of the connexive marker with a H tone, there is HTB from the H tone of the connexive to the first H tone of the demonstrative (akuúno and ukúunó in the examples below).

<table>
<thead>
<tr>
<th>English</th>
<th>Tonal Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>vayééni v'ákúúno</td>
<td>guests of this (place) (connexive vá-)</td>
</tr>
<tr>
<td>vayééni v'akuúno</td>
<td>id. (connexive va-)</td>
</tr>
<tr>
<td>vayééni va-ukúunó</td>
<td>id. (connexive va-)</td>
</tr>
<tr>
<td>vayééni vá-ukúunó</td>
<td>id. (connexive vá-)</td>
</tr>
<tr>
<td>vayééni v'ükúunó</td>
<td>id. (connexive vá-)</td>
</tr>
</tbody>
</table>

The specifiers ‘-éne and weéka can not occur as second specifier; they always follow the noun immediately.
In marked contexts, specifiers may occur before the noun, except for ʼéne, weēka and ńtwāani. Preposed specifier and noun do not occur in the same p-phrase, but each forms a p-phrase on its own, and the specifier has its own tone. The specifier has penultimate lengthening, but penultimate shortening may also occur with faster speech.

vānji / vānji valúúme
chá-kí-mariáámu / chá-kí-mariáámu chitéengʼu
vaviili / vaviili valúúme
vangáapi / vangáapi valúúme
avaáno / avaáno valúúme
vāangu / vāangu vayeéni

váanji / vánji valúúme
chá-kí-mariáámu / chá-kí-mariáámu chitéengʼu
vaviili / vaviili valúúme
vangáapi / vangáapi valúúme
avaáno / avaáno valúúme
vāangu / vāangu vayeéni

other men
Mariamuuʼs chair
two men
how many men?
these men
my guests

There may also be two specifiers before the noun, all being separate p-phrases. The specifiers ʼéne and weēka may be the second specifier, but ńtwāani obligatory occurs after the noun; when ʼéne and weēka are the second specifier, they form a p-phrase with the preceding specifier, having tonal influence on it. When a demonstrative is the second specifier, it can tonally influence the preceding specifier, just as we have seen earlier.

aāla maviili makáála
vahivohé véene valúúme
vaviili weēka valúúme
vaviili avááno valúúme
vaviili ávááno valúúme
these two pieces of charcoal
all men themselves
two men on their own
these two men
id.

8.3 The Verb Phrase and p-phrases

First, we describe the three types of verbal forms (conjoint, disjoint and conjoint-disjoint) in more detail. Then, we describe phrasal tonology: special tone rules for conjoint verbal forms being followed by other words with different grammatical functions (object, adjunct). These rules involve Prefix-H Tone Shift (where the H tone of the SC is shifted to the final syllable), H Tone Bridge (where there is a bridge between the final H tone of the verb and the first H tone of the following nominal), Regressive H Tone Dissimilation (which deletes the first H tone of the H Tone Bridge), and Tone Assimilation (which raises the L to the level of a lowered H in a L.H.H environment). Due attention is paid to H Tone Bridge, trying to solve questions as: how does HTB work, to what kind of words does it extend from the verb, and at what stage of the derivation does it occur?
8.3.1 Types of verbal forms

As outlined in 7.3, the conjoint/disjoint system distinguishes three types of verbal forms: verbal forms which constitute a p-phrase on their own (i.e., verbal focus tenses or disjoint tenses, marked cjt); verbal forms which form a p-phrase with a following noun (i.e., post-verbal focus tenses or conjoint tenses, marked cjt); and verbal forms which have both characteristics, i.e., they may form a p-phrase on their own, but when they are followed by a noun, they form a p-phrase with it (conjoint-disjoint tenses, not followed by an abbreviation). In 7.2, the disjoint tenses are presented in detail. The other two types are described here, and we start with the conjoint tenses.

Conjoint tenses fall into three TG’s: A, D1 and D2.

A L.S1/SF Past cjt
Far Past cjt
Past Perfective cjt

D1 L.no H Present with participants as SC cjt
D2 H.no H Present with classes as SC cjt
Present Perfective cjt

The tenses used below as examples are the Past cjt (TG A), the Present with participants as SC cjt (TG D1) and the Present with classes as SC cjt (TG D2). The forms are given with and without OC, the OC is placed in parentheses when no vowel coalescence/glide formation with a vowel-initial stem is involved. The forms given first are followed by a nominal (object), viz. malíidi ‘voices’, vayeéni ‘guests’, mahaála ‘fields’, malóóve ‘words’ and viýlo ‘food’. The forms given in second place are followed by a non-nominal (adjunct), kadiíki ‘a bit’. Conjoint verbal forms constitute a p-phrase with a following object or adjunct.

With conjoint tenses with a final H tone (TG A), there is a H Tone Bridge (HTB) from the final H tone of the verbal form to the first H tone of the following object. When an object follows without H tones (TG D1), or when an adjunct is following, there is no HTB (see 8.3.3 for further details).

Conjoint tenses of TG D2 have a H-toned SC. This H tone shifts to the final syllable (see 8.3.2), and there is HTB, just as we have seen with verbal forms with TG A, followed by Regressive H Tone Dissimilation which deletes the final H tone of the verbal form (see 8.3.2). Here, too, when an object follows without H tones, or when an adjunct is following, there is no HTB; the final H tone stays on the final syllable of the verbal form. Conjoint tenses of TG D1 do not have a H tone at all; there is no HTB, and the TP’s are the same whatever follows.

A L.S1/SF tu-(la-)pilikáná malíidi, tu-(la-)pilikáná kadiíki we heard (the) voices, we heard (them) a bit tu-(va-)yángátá váyéñi, tu-(va-)yángátá kadiíki we helped (the) guests, we helped (them) a bit tu-(la-)limá máháála, tu-(la-)limá kadiíki
we cultivated (the) fields, we cultivated (them) a bit
túúdyá málóóve, túúdyá kadiiki
tu-lúúdyá málóóve, tu-lúúdyá kadiiki
we asked (the) words, we asked (them) a bit
túúlyá váílyo, túúlyá kadiiki
tu-váílyá váílyo, tu-váílyá kadiiki
we ate (the) food, we ate (it) a bit
D1 L.no H

we hear (the) voices, we hear (them) a bit
tu-(la-) pilikana maliidi, tu-(la-) pilikana kadiiki
we help (the) guests, we help (them) a bit
tu-(la-) lima mahaála, tu-(la-) lima kadiiki
we cultivate (the) fields, we cultivated (them) a bit
tuudya malóóve, tuudya kadiiki
tu-ludya malóóve, tu-ludya kadiiki
we ask (the) words, we ask (them) a bit
tuula váílyo, tuula kadiiki
tu-váílyá váílyo, tu-váílyá kadiiki
we eat (the) food, we eat (it) a bit

D2 H.no H

va-(la-) pilikana máliidi, va-(la-) pilikaná kadiiki
they hear (the) voices, they hear (them) a bit
va-(va-) yangata váyeéni, va-(va-) yangata kadiiki
they help (the) guests, they help (them) a bit
va-(la-) lima máháála, va-(la-) limá kadiiki
they cultivate (the) fields, they cultivated (them) a bit
vudya malóóve, vudýá kadiiki
va-ludya malóóve, va-ludýá kadiiki
they ask (the) words, they ask (them) a bit
vaalýa váílyo, vaalýá kadiiki
va-váílyá váílyo, va-váílyá kadiiki
they eat (the) food, they eat (it) a bit

Since there is no penultimate lengthening and hence no retraction of the final H tone, there is no difference in TP’s between verbal forms with a simple final syllable and those with a complex final syllable. In the table below, we give the TG’s and the resulting TP’s (including the tone of the subject concord) of the conjoint verbal forms, also those with minisyllabic stems and disyllabic vowel-initial stems (1/2v). HTB is indicated by placing “-h” after the first TP’s (before the comma). All tenses have zero TM’s, except for the two Far Past tenses which have the TM -a- in slot 3. The tones of the subject concord and the stem are separated by a dot, indicating that there may be a tense marker -a- and/or a OC. The tone before the dot indicates the tone immediately preceding the stem: if there is a OC, it indicates the tone of the OC, otherwise it indicates the tone which appears on the preceding subject concord (with fused -a- with the two Far Past tenses). With verbal forms with minisyllabic stems as
well as with vowel-initial disyllabic stems, the immediately preceding prefix, SC or OC, is fused with the stem.

<table>
<thead>
<tr>
<th>Verbs conjoint</th>
<th>four-syllable stems</th>
<th>trisyllabic stems</th>
<th>disyllabic C stems</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG</td>
<td>TP</td>
<td>TP</td>
<td>TP</td>
</tr>
<tr>
<td>A</td>
<td>L.HHHH-h, L.HHH</td>
<td>L.HHH-h, L.HHH</td>
<td>L.HH-h, L.HH</td>
</tr>
<tr>
<td>D1</td>
<td>L.LLLL, L.LLLL</td>
<td>L.LLL, L.LLL</td>
<td>L.LL, L.LL</td>
</tr>
<tr>
<td>D2</td>
<td>L.LLLL-h, L.LLLH</td>
<td>L.LLLL-h, L.LLLH</td>
<td>L.LL-h, L.LL</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Verbs conjoint</th>
<th>disyllabic V-stems and minisyllabic stems</th>
<th>with OC</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG</td>
<td>TP</td>
<td>TP</td>
</tr>
<tr>
<td>A</td>
<td>H:H-h, H:H</td>
<td>L.HH-h, L.HH</td>
</tr>
<tr>
<td>D1</td>
<td>L.L, L.L</td>
<td>L.LL, L.LL</td>
</tr>
<tr>
<td>D2</td>
<td>L:L-h, L:H</td>
<td>L.LL-h, L.LL</td>
</tr>
</tbody>
</table>

There is penultimate length with forms having disyllabic vowel-initial stems as well as those having minisyllabic stems because there is no VC/GF nor SS within non-final disyllabic words in p-phrases where the vowel of the SC and the initial vowel of the stem are identical (see 8.2.2).

We now turn to conjoint-disjoint verbal forms. Conjoint-disjoint verbal forms fall into three TG’s: A, C1 and C2.

A  L.S1/SF  Infinitive
C1  L.SF  Optative (without OC)
     Imperative (without OC)
C2  H.SF  Direct Relative Present with participants + cl.1 as SC
     Direct Relative Perfective with participants + cl.1 as SC

The tenses used as examples below are the Infinitive (TG A), the Optative without OC (TG C1) and the Direct Relative Present with participants or cl.1 as SC (TG C2). Below, the forms given first exemplify the disjoint variant constituting a p-phrase on its own, without a following object or adjunct. The forms given in second and third place exemplify the conjoint variant constituting a p-phrase with a following object or adjunct. The nouns used as objects below are malidi ‘voices’, ding’áande ‘houses’, vayeéni ‘guests’, vitundí ‘yams’, mahaála ‘fields’, viinu ‘things’, malóóve ‘words’ and viíyo ‘food’. The adjunct used below is kadiíki ‘a bit’. The conjoint variants have the same behaviour as the conjoint forms seen above. All have a final H tone,
and there is a H Tone Bridge (HTB) from the final H tone of the verbal form to the first H tone of the following object. When an object follows without H tones, or when an adjunct is following, there is no HTB.

The OC with an Infinitive of TG A has a H tone instead of a (default) L tone (see 7.2.4); this H tone deletes the S1-H tone by Meeussen’s Rule, and there is no HTB (see 3.4.3).

Conjoint forms of TG C2 have a H-toned SC. This H tone shifts to the S1-position in case there is no OC; it shifts to the OC if present (3.4.4). Just as we have seen above with conjoint verbal forms, Regressive H Tone Dissimilation applies whenever the proper environment is met. Since there is penultimate lengthening and retraction of the final H tone with the first (disjoint) forms, there is a difference in TP’s between verbal forms with a simple final syllable and those with a complex final syllable.

Remarkable forms are the Optative forms without OC of TG C1 with a complex final syllable where the final H tone stays on the final syllable instead of being removed by the process Final H deletion (see 3.5.6). Also remarkable are the Direct Relative forms with disyllabic stems of TG C2 where the shift of the H tone of the SC to the S1-position triggers an extra lengthening of the stem instead of the shift being stranded on the syllable preceding the stem because of the penultimate R on simple stems (see 7.2.3).

A  ku-pílikáána, ku-pílikáná málíidi, ku-pílikáná kadiiki
ku-lá-pílikáána, ku-lá-pílikaná málíidi, ku-lá-pílikáná kadiiki
to hear (them), to hear (the) voices, to hear (them) a bit
ku-kátápaadya, ku-kátápaádyá ding’aande, ku-kátápaádyá kadiiki
ku-di-kátapaadya, ku-di-kátapadya ding’aande, ku-di-kátapadyá kadiiki
to clean (them), to clean (the) houses, to clean (them) a bit
ku-yángááta, ku-yángátá váyééni, ku-yángátá kadiiki
ku-vá-yangaáta, ku-vá-yángata váyééni, ku-vá-yángatá kadiiki
to help (them), to help (the) guests, to help (them) a bit
ku-kúndáanya, ku-kúndáná vitúúndi, ku-kúndányá kadiiki
ku-ví-kúndaanya, ku-ví-kúndanya vitúúndi, ku-ví-kúndányá kadiiki
to mix (them), to mix (the) yams, to mix (them) a bit
ku-liíma, ku-límá máháála, ku-límá kadiiki
ku-lá-liíma, ku-lá-líma máháála, ku-lá-límá kadiiki
to cultivate (them), to cultivate (the) fields, to cultivate (them) a bit
ku-láadya, ku-láadyá víínu, ku-láadyá kadiiki
ku-ví-láadya, ku-ví-ládyá víínu, ku-ví-ládyá kadiiki
to spread (them) out, to spread out (the) things, to spread (them) out a bit
ku-úúnda, ku-úúndá málóóve, ku-úúndyá kadiiki
ku-lúúnya, ku-lúuña víílyo, ku-lúunya kadiiki
to ask (them), to ask (the) words, to ask (them) a bit
ku-úúlyá, ku-úúlyá víílyo, ku-úúlyá kadiiki
ku-úlýya, ku-úlýya víílyo, ku-úlýyá kadiiki
to eat (it), to eat (the) food, to eat (it) a bit

C1  
\begin{align*}
\text{tu-	ext{pilikaàne}, tu-	ext{pilikanà málìdìi, tu-	ext{pilikanà kàddìëki}} & \\
\text{we should hear, we should hear voices, we should hear a bit} & \\
\text{tu-	ext{kàta}pàdyàë, tu-	ext{kàta}pàdyà dìëng\'ànë, tu-	ext{kàta}pàdyà kàddìëki} & \\
\text{we should clean, we should clean houses, we should clean a bit} & \\
\text{tu-	ext{yangàà}ë, tu-	ext{yangàà} váyëëëë, tu-	ext{yangàà} kàddìëki} & \\
\text{we should help, we should help guests, we should help a bit} & \\
\text{tu-	ext{kùnda}口腔ë, tu-	ext{kùnda}口腔ë vitùùndë, tu-	ext{kùnda}口腔ë kàddìëki} & \\
\text{we should mix, we should mix yams, we should mix a bit} & \\
\text{tu-	ext{li}ììë, tu-	ext{li}ììë màhààlà, tu-	ext{li}ììë kàddìëki} & \\
\text{we should cultivate, we should cultivate fields, we should cultivate a bit} & \\
\text{tu-	ext{la}àdyë, tu-	ext{la}àdyà ví\\nu, tu-	ext{la}àdyë kàddìëki} & \\
\text{we should spread out, we should spread things out, we should spread out a bit} & \\
\text{tuùdyë, tuùdyà màlòò\'vë, tuùdyë kàddìëki} & \\
\text{we should ask, we should ask words, we should ask a bit} & \\
\text{tuùlyë, tuùlyà ví\\lë, tuùlyë kàddìëki} & \\
\text{we should eat, we should eat food, we should eat a bit} & \\
\end{align*}

C2  
\begin{align*}
\text{tu-	ext{pilikaàna}, tu-	ext{pilikanà málìdìi, tu-	ext{pilikanà kàddìëki}} & \\
\text{we who hear (them), we who hear (the) voices, we who hear (them) a bit} & \\
\text{tu-	ext{kàta}pàdyà, tu-	ext{kàta}pàdyà dìëng\'ànë, tu-	ext{kàta}pàdyà kàddìëki} & \\
\text{we who clean (them), we who clean (the) houses, we who clean (them) a bit} & \\
\text{tu-	ext{yangàà}ë, tu-	ext{yangàà} váyëëëë, tu-	ext{yangàà} kàddìëki} & \\
\text{we who receive (them), we who receive (the) guests, we who receive (them) a bit} & \\
\text{tu-	ext{kùnda}口腔ë, tu-	ext{kùnda}口腔ë vitùùndë, tu-	ext{kùnda}口腔ë kàddìëki} & \\
\text{we should mix (them), we should mix (the) yams, we should mix (them) a bit} & \\
\text{tu-	ext{li}ììë, tu-	ext{li}ììë màhààlà, tu-	ext{li}ììë kàddìëki} & \\
\text{we who cultivate (them), … (the) fields, … (them) a bit} & \\
\text{tu-	ext{la}àdyà, tu-	ext{la}àdyà ví\\nu, tu-	ext{la}àdyà kàddìëki} & \\
\text{we who spread (them) out, … (the) things out, … (them) out a bit} & \\
\text{tuùdyà, tuùdyà màlòò\'vë, tuùdyà kàddìëki} & \\
\text{tuùlyë, tuùlyà ví\\lë, tuùlyà kàddìëki} & \\
\text{we who ask (them), we who ask (the) words, we who ask (them) a bit} & \\
\text{tuùlyë, tuùlyà ví\\lë, tuùlyë kàddìëki} & \\
\text{we who eat (it), we who eat (the) food, we who eat (it) a bit} & \\
\end{align*}

In the table below, we give the TG’s and the resulting TP’s (including the tone of the subject concord) of the conjoint-disjoint verbal forms. HTB is indicated by placing a “-h” after the TP’s in the table below. All tenses have zero TM’s. The tone before the
dot indicates the tone immediately preceding the stem: if there is an OC, it indicates
the tone of the OC, otherwise it indicates the tone which appears on the preceding
subject concord. With verbal forms with minisyllabic stems as well as with vowel-
initial disyllabic stems, the immediately preceding prefix, SC or OC, is fused with the
stem. The second row of each TG indicates the TP’s of forms with complex final
syllable (in italics in the tables below).

<table>
<thead>
<tr>
<th>Verbs</th>
<th>four-syllable stems</th>
<th>with OC</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG</td>
<td>TP</td>
<td>TP</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Verbs</th>
<th>trisyllabic stems</th>
<th>with OC</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG</td>
<td>TP</td>
<td>TP</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Verbs</th>
<th>disyllabic stems</th>
<th>with OC</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG</td>
<td>TP</td>
<td>TP</td>
</tr>
</tbody>
</table>

L.HRL-L, L.HHL-h, L.HHLH
Note the different TP’s of Direct Relative forms with disyllabic vowel-initial stems and forms with minisyllabic stems of TG C2. Minisyllabic stems have a different status in Direct Relatives: their final syllable allows retraction of the final H tone to the penultimate syllable, a process which never applies in that way when the final syllable is complex, as is the case with minisyllabic stems (see 7.2.3).

### 8.3.2 Post-lexical processes with verbal p-phrases consisting of two words

We here describe the phrasal tonology of VP’s containing conjoint and conjoint-disjoint verbal forms followed by one other word. In these VP’s, the verbal form and the following word form one p-phrase, and we call it a verbal p-phrase consisting of two words. Special processes occur within these p-phrases: Prefix-H Tone Shift, H Tone Bridge, Regressive H Tone Dissimilation and Tone Assimilation.

Four out of seven conjoint tenses have final H tone because they belong to TG A. Two tenses get final H tone since they belong to TG D2 where the H tone of the SC shifts to the final TBU by the process Prefix-H Tone Shift. There is a H Tone Bridge from a final H tone to the first H of the following object. One conjoint tense belongs to TG D1 (no H tones), and there is no tonal influence upon a following object. All five conjoint-disjont tenses have final H tone: one belongs to TG A, two belong to TG C1 and two belong to TG C2. There is a H Tone Bridge from a final H tone to the first H of the following object.

**H TONE BRIDGE (HTB)**

HTB has the following consequences for the tone patterns of following objects (the tense used below as an example is the Past cjít which belongs to TG A):

<table>
<thead>
<tr>
<th>vachóñá chítúúvi</th>
<th>they saw the bundle</th>
</tr>
</thead>
<tbody>
<tr>
<td>vawóñá útútúúli</td>
<td>they saw the brain</td>
</tr>
<tr>
<td>vályóñá litáawa</td>
<td>they saw the clan</td>
</tr>
<tr>
<td>A chítúúvi</td>
<td></td>
</tr>
<tr>
<td>B litáawa</td>
<td></td>
</tr>
</tbody>
</table>
valyóná lihindíili they saw the cooking stone lihindíili
valwóná lútaávi they saw the branch C1 lutaávi
valwóná lukalóongo they saw the throat lukalóongo
valyóná litínjí they saw the pumpkin C2 litínjí
vawóná unjénjeéma they saw the mosquito unjénjeéma
vachóná chiyeewé they saw the chin D1 chiyeewé
valóná matandaasa they saw the porridges matandaasa
valyóná limbéénde they saw the skin E limbéénde
valyóná lipútíila they saw the trap lipútíila

HTB does not extend to the first surface H tone of the following object, as the analysis in the next section shows (see 8.3.3). Nouns of TG D1 do not have H tones, and there is no HTB: the final H tone stays on the final syllable of the verb. This can be seen best with tenses of TG C1 which have only a final H tone. The Optative (without OC) of TG C1 (‘valolé ‘they should look at...’) is used in the examples below.

valole chitúúvi they should look at a bundle
valole útúútúuli they should look at a brain
valole litáawa they should look at a clan
valole lihindíili they should look at a cooking stone
valole lútaávi they should look at a branch
valole lukalóongo they should look at a throat
valole litínjí they should look at a pumpkin
valole unjénjeéma they should look at a mosquito
valolé chiyeewé they should look at a chin
valolé matandaasa they should look at porridges
valolé limbéénde they should look at a skin
valolé lipútíila they should look at a trap

The same melodies appear with the Imperative (without OC), which also has a final H tone.

lola chitúúvi look at a bundle!
lola útúútúuli look at a brain!
lola litáawa look at a clan!
lola lihindíili look at a cooking stone!
lola lútaávi look at a branch!
lola lukalóongo look at a throat!
lola litínjí look at a pumpkin!
lola unjénjeéma look at a mosquito!
lolá chiyeewé look at a chin!
lolá matandaasa look at porridges!
lola limbéénde look at a skin!
lola lipútíila look at a trap!
In 6.3.1, we stated that there is a (minimal) structure condition on words that demands a word to have at least three TBU’s in its underlying representation. Imperatives have only two TBU’s, and we argued that a third TBU is created in the final syllable, making a complex final syllable analogous to the final syllable of minisyllabic, causative and passive stems, e.g. 'iviá ‘make steal’. This third TBU is filled with a copy of the final vowel, indicated by a smaller letter: ’lolsá. When not followed by a noun, the final H tone retracts to this newly created vowel after penultimate lengthening, exactly as happens with minisyllabic, causative and passive stems which have complex final syllables: ’looλá (cf. ’iviá ‘make steal’). This is why disyllabic Imperatives do not have the retraction of the final H tone to the penultimate syllable causing a penultimate R with trisyllabic Imperatives: ’oloła ‘watch’!, ’iıyá ‘make steal’!, cf. ’tongoóła ‘speak’!. When followed by a noun, there is no penultimate lengthening with the Imperative, hence no retraction, and with VC/GF, the extra vowel in the final syllable merges with the final vowel (or becomes a glide with causatives and passives): ’lolá... (cf. ’ivyá...).

PREFIX-H TONE SHIFT (PHTS)

The tone patterns of tenses of TG D2 are the same as those of tenses of TG C1. With tenses of TG D2, the H tone of the SC shifts to the final syllable by PHTS. From that final H tone, there is HTB just as we have seen above with tenses of TG C1. The present with classes as SC cjt of TG D2 (’váchona, ’váwona ‘they see...’, etc.) is used in the examples below.

| vachona chítúúvi  | they see the bundle |
| vawona útítúuli   | they see the brain  |
| valyona litáawa   | they see the clan   |
| valyona lìhindiíli| they see the cooking stone |
| valwona lútáávi   | they see the branch |
| valwona lúkálóóngo| they see the throat |
| valyona lítiinji   | they see the pumpkin |
| vawona únjénjeéma | they see the mosquito |
| vachona chiyeeewe | they see the chin   |
| valoná matandaasa | they see the porridges |
| valyona limbééende| they see the skin   |
| valyona lípútúila  | they see the trap   |

Another instance of this rule is described in 3.5.4.

REGRESSIVE H TONE DISSIMILATION (RHTD)

The verbal forms which are followed by a noun of TG D1 (no H tones) show that the shift of the H of the SC is to the final syllable of the verbal form. They also show that HTB starts from the final syllable of the verbal form. With nouns of the other TG’s, the H on the final syllable of the verbal form is deleted after HTB. It seems that the first H of a sequence of H’s is deleted when this first H is on a different word; it is
probably viewed as a different H which is deleted by Regressive H Tone Dissimilation. Below, we give the derivation of the first example above.

Post-lex. concatenation PUL, Retraction PHTS

\[ \text{vá-čhi-ona chítúvi} \rightarrow \text{vá-čhi-ona chítúv} \rightarrow \text{va-čhi-ona chítúv} \rightarrow \]

HTB, VC/GF RHTD

\[ \text{vá-chona chítúv} \rightarrow \text{va-chona chítúv} \]

Note that with nouns of TG D1, the tonal process H Tone Doubling does not occur: the final H tone of the tense does not double to the first syllable of the noun. There is, however, one exception: when the following noun is a noun of TG D1 which starts with the word formation element \( \text{na-} \), the final H tone of the tense doubles to this element. This is shown by the example below where the noun \( \text{nankakataambwe} \) ‘spider’ is used. (The H tone of the following syllabic nasal is due to Tone Assimilation, see 3.5.8.)

\[ \text{vamwoná nájkakataambwe} \text{ they see the spider} \]

**TO\(NE\) ASSIMILATION (TA)**

Just as we have seen in 3.5.8, there are two cases of TA: a syllabic nasal with a H tone raises the preceding TBU, and a L tone is raised to the level of a lowered H in a LHH or LHL environment. First, when a non-initial word in a p-phrase has a syllabic nasal with a H tone, the final TBU of the preceding word is raised.

There is also a reversed case: when a syllabic nasal with a L tone is preceded by a word with a final H tone in a p-phrase, the syllabic nasal is raised. When the raised syllabic nasal is followed by a L-toned syllable, a F tone may be heard instead of a H tone (not indicated in the example below).

\[ \text{vamwoná ųnyééni} \text{ they see the guest} \quad \text{C1 nnyééni/} \]

\[ \text{cf. vavona váyééni} \text{ they see the guests} \quad \text{vayeéni} \]

\[ \text{vavóná ųtandaasa} \text{ they saw the cassava porridge} \quad \text{D1 ntandaasa/} \]

\[ \text{cf. valóná matandaasa} \text{ they saw the cassava porridges} \quad \text{matandaasa} \]

Second, the first L in a L.H.H or L.H.L sequence is raised to a level of a lowered H. Such an environment may appear in a p-phrase consisting of more words where the initial word is disyllabic containing a minisyllabic or vowel-initial disyllabic stem, and where the vowel of the SC is identical with the initial vowel of the stem; these vowels being identical, there is neither VC/GF nor SS, and penultimate length survives. When the word is a conjoint or conjoint-disjoint verbal form and belongs to TG A (S1/SF) or C2 (H.SF), the L.H.H sequence (TG A) and the L.H.L sequence (TG C2) appear. The first example below consists of the Infinitive of TG A with the minisyllabic stem ‘-\( \text{.l} \)ia ‘to eat’. The second example consists of the Relative Present with the disyllabic stem ‘-\( \text{udia} \) ‘to ask’.

Post-lex. concat. PUL and Retraction VC/GF and HTB DI and TA

\[ \text{ku-úliá vi-iljò} \rightarrow \text{ku-úliá vi-ilj} \rightarrow \text{kuúlyá viúlyo} \rightarrow \text{kúúlyá vílyó} \]
Post-lex. concat. PUL and Retraction Px-H Tone Shift, RHTD VC/GF and HTB

tú-diá vi-inú > tú-diá vi-i-inu > tú-dya vi-inu > túdyä vi-inu

DI and TA

tú-dya vi-inu

Similar tonal sequences are found on nouns before pronominal possessives, but there the first H is lowered due to the second H which has been shifted from the noun (as the reversed case of MR, see RHTD, 8.2.2). Note also that the proper environments for TA described here only appear with initial words in p-phrases. A L.H.L sequence is very common with words of TG C1 p-phrase-finally, but no TA applies. A L.H.H sequence may appear with words of TG C1 i-phrase-finally (with the intonational H), but no TA applies. But as TA applies in the first words in a sequence of words, the lowered H is often pronounced as a H, so that a level H sequence is heard. This is why we have given the level H sequence in the relevant examples of 8.3.1.

8.3.3 The level of application of post-lexical processes

In this section, we try to answer the following question: at what level of the derivation do phrasal processes (like HTB) apply?

We suggest that the words in a p-phrase are concatenated at the very first stage post-lexically, before penultimate lengthening (PUL). PUL (and Retraction of the final H tone, if relevant) applies to the final word in a p-phrase. Then, the processes which follow PUL (described in chapter 3) occur to all words individually in the p-phrase. The Px-H Tone Shift rule, the Px-H Tone Retraction rule, Structure Simplification and Tone Assimilation apply to individual words (described in chapter 3) as well as to the whole p-phrase (described in this chapter). There are also processes which specifically occur in the whole p-phrase, and not to words individually: special NounSpecifier rules, a variant of H Tone Bridge and Regressive H Tone Dissimilation). These phrasal rules apply together at a certain stage of the derivation.

The level of the derivation at which these phrasal processes apply is analyzed more carefully here by trying to answer the question at what level HTB from the final syllable of a verbal form to a following noun occurs: is the right edge of this instance of HTB the first surface H tone of the following noun, and, if not, at what level does the first underlying H tone of the following noun arise? This question first came up in 4.4.1 where we observed the different tone patterns of nouns with disyllabic stems of TG A and TG E after HTB. As described there, HTB is one of the tests to distinguish these nouns which all have a L.H.L tone pattern when occurring on their own: nouns of TG A have a H.H.H.L tonal sequence after HTB, while nouns of TG E have a H.H.L.L tonal sequence after HTB. One set of examples:
The difference can be explained by assuming that the right edge of HTB is not the surface H tone of the following word, but the first H tone of the underlying level after Penultimate Lengthening and (if there is a SF-H tone) Retraction of the final H tone. Note that the noun of TG E has S2-H tone which causes tonal lengthening of the stem in the second lexicon (chipúla).

Post-lexical concatenation PUL and Retraction

\{'tu-chi-wéné chihúndu\} > \{'tu-chi-wéné chihúndu\} > \{'tu-chi-wéné chipúula\} >

HTB

\{'tu-chi-wéné chihúndu\} > \{'tu-chi-wéné chipúula\}

HTB extends to the S2-H tone. Structure Simplification (SS) reduces three TBU’s to two TBU’s, and a tonal sequence of HHZero becomes F (see 3.5.5 and 3.5.8). What we learn from the derivation above is that the processes which specifically apply to p-phrases occur after PUL and Retraction, and before Structure Simplification.

To be more precise about the level of application of the phrasal rules, we follow the derivation of three examples:

1. kwívílá má-híndlí lečtu to steal our cooking stones for someone or for some purpose

2. kú-vívílá ţíändásá úúno to steal for them this cassava porridge

3. va-vívílá li-tinjí ţítwáani they make them steal what kind of pumpkin?

First, we give the lexical forms of the words individually. Meeussen’s Rule applies in one word where the H tone of the OC deletes the S1-H tone of the stem. Then, after concatenation, we follow the post-lexical processes as described in chapter 3. The specific phrasal processes described in this chapter are in italics. They apply before the processes H Tone Doubling, Final H Deletion and Structure Simplification and after the processes Coalescence, Resyllabification and Prefix-H Tone Retraction. The underlining in the examples indicates where the processes apply.
SECOND LEXICON, AFTER WORD FORMATION:  
1. 'ku-ivilá, 'má-hindili, 'lá-etú
2. 'ku-vá-ivilá, 'ntandasa, 'u-unó
3. 'vá-va-ivia, 'lì-tinjì, ūtwani

Meeussen’s Rule  
1. —
2. 'ku-vá-ivilá
3. —

POST-LEXICAL PROCESSES:  

Post-lexical concatenation  
1. 'ku-ivilá má-hindili lá-etú
2. 'ku-vá-ivilá ntandasa u-unó
3. 'vá-va-ivia lí-tinjì ūtwani

Penultimate lengthening  
1. 'ku-ivilá má-hindili lá-ectú
2. 'ku-vá-ivilá ntandasa u-unó
3. 'vá-va-ivia lí-tinjì ūtwaani

Retraction of the final H tone  
1. 'ku-ivilá má-hindili lá-ectú
2. 'ku-vá-ivilá ntandasa u-unó
3. —

H tone bridge (between S1 and SF in stems)  
1. 'ku-ivilá má-hindili lá-ectú
2. —
3. —

Prefix-H tone shift  
1. 'ma-hindili
2. —
3. 'va-va-ivia lí-tinjì ūtwaani

Coalescence, Prefix-H tone retraction (and resyllabification, not indicated in the examples)  
1. 'kwivilá ma-hindili leétu
2. 'kú-vivilá ntandasa ūunó
3. 'va-vivyá lí-tinjì ūtwaani

Noun-specifier tone rules  
1. —
2. 'kú-vivilá ntandásá ūunó
3. 'va-vivyá lí-tinjì ūtwaani

H tone bridge  
1. 'kwivilá ma-hindili leétu, and 'kwivilá má-hindili leétu
2. 'kú-vivilá ntandásá ūunó, and 'kú-vivilá ūntándásá ūunó
3. —

Regressive H tone dissimilation  
1. —
2. 'kú-vivilá ūntándásá ūunó
3. —
H tone doubling (and Final H deletion and Structure Simplification, but they do not occur in the examples)
1. —
2. 'kú-vívila ūtándásá úúno
3. 'va-vivýá lí-tinji ūtwááni

Default L tone insertion
1. kwivilá má-hindíi lëéttû
2. 'kú-vívila ūtándásá úúno
3. 'va-vivýá lí-tinji ūtwááni

Tone assimilation
1. —
2. kú-vívila ūtándásá úúno
3. vá-vivýá lí-tinji ūtwááni

8.3.4 The syntactic status of the verb-headed p-phrase

Conjoint and conjoint-disjoint verb forms always build a single p-phrase with the following word, as can be seen from the short penultimate vowel of the verb form. In this section, we investigate whether there are restrictions as to word category or syntactic function of what follows. In the previous sections, we have simply called the words that appear inside the verbal p-phrase objects and those that appear outside of it adjuncts. These terms indicate grammatical functions which are connected with syntactic phrases like NP and VP, but they are inadequate to describe the categorial status of the words (N, V, P, etc.) which may appear inside a p-phrase. We see below that in addition to nominals (N), also verbal (V), pronominals (P) and invariable (I) forms may appear inside p-phrases, including syntactic phrases built from them (NP, VP, etc.). Note that Adjectives are nominal forms (N/A), as well as the Numerals ‘two’ and ‘three’ (N/NUM); the Numeral ‘one’ is a pronominal from (P/NUM). Independent Personal Pronouns (IPP) are classified as pronominal forms. In the examples below, the Present (with participant SC) cji is used; these verb forms belong to TG D1 which has no H tones and hence no HTB can occur.
<table>
<thead>
<tr>
<th>category</th>
<th>syntactic phrase</th>
<th>word</th>
</tr>
</thead>
<tbody>
<tr>
<td>tu-lima mahaála</td>
<td>NP</td>
<td>N</td>
</tr>
<tr>
<td>we cultivate fields</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tu-lima mahaála madyóóko</td>
<td>NP</td>
<td>N+N/A</td>
</tr>
<tr>
<td>we cultivate small fields</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tu-lima mahaála matúilí</td>
<td>NP</td>
<td>N+N/NUM</td>
</tr>
<tr>
<td>we cultivate two fields</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tu-lima lihaála liimo</td>
<td>NP[N+PP]</td>
<td>N+P/NUM</td>
</tr>
<tr>
<td>we cultivate one field</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tu-lima mahaála lohelóóhe</td>
<td>NP[N+PP]</td>
<td>N+P</td>
</tr>
<tr>
<td>we cultivate all fields</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tu-lima madyóóko</td>
<td>NP</td>
<td>N/A</td>
</tr>
<tr>
<td>we cultivate small ones</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tu-lima matúilí</td>
<td>NP</td>
<td>N/NUM</td>
</tr>
<tr>
<td>we cultivate two (of them)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tu-lima liimo</td>
<td>NP[N+PP]</td>
<td>P/NUM</td>
</tr>
<tr>
<td>we cultivate one (of them)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tu-lima lohelóóhe</td>
<td>NP[N+PP]</td>
<td>P</td>
</tr>
<tr>
<td>we cultivate all (of them)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tu-n-chimulila nááng'e</td>
<td>PP</td>
<td>P/IPP</td>
</tr>
<tr>
<td>we release him</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tu-n-chimulila ayúúno</td>
<td>NP[N+PP]</td>
<td>P/DEM</td>
</tr>
<tr>
<td>we release this one</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tu-n-chimulila aoónge</td>
<td>S[VP]</td>
<td>V</td>
</tr>
<tr>
<td>we release him so that he may take a walk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tu-n-chimulila aongé kadiíki</td>
<td>S[VP[V+IP]]</td>
<td>V+I</td>
</tr>
<tr>
<td>we release him so that he may take a short walk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tu-n-chimulila ñañáni</td>
<td>IP</td>
<td>I</td>
</tr>
<tr>
<td>we release him a bit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Most phrases following the verb form have the syntactic status of object (complement). The Invariable in the last example has the syntactic status of (VP-external) adjunct (the same Invariable in the one but last example is a VP-internal adjunct). Adjuncts can be Invariables, nouns and pronominal forms:
who do we release?

who do we release?

we release him quickly

we release him outside

we release him at night

we release him now

we release him together

The example below shows that words in a p-phrase can also be VP-external (post-posed) subjects. The example is from the Present (with classes SC) 

The example below shows that words in a p-phrase can also be VP-external (post-posed) subjects. The example is from the Present (with classes SC) eft with final H tone (which has been shifted from the SC).

A conjoint tense with a final H tone either keeps its final H tone in place (as in the example above), or forms a H Tone Bridge (HTB) with the first H tone of an immediately following word. Interestingly, HTB does not apply to all kinds of post-verbal constituents. Whether it does or does not apply depends on the category of the word directly following the verb: HTB only occurs when the following word is a noun, adjective, IPP or demonstrative. Below, we use the same examples in the same order as above. The examples which contain a word which is subject to HTB are preceded by a plus-sign ‘+’. Remember that after HTB, the final H tone of the tense is deleted by Regressive H Tone Dissimilation.
va-límá lohelóóhe
they cultivate all (of them)

+ va-n-chimulíla náang’e
they release him

+ va-n-chimulíla áyúúno
they release this one

va-n-chimulíla aóóngé
they release him so that he may take a walk

va-n-chimulíla aongé kádiikí
they release him so that he may take a short walk

va-n-chimulíla kádiikí
they release him a bit

va-n-chimulíla chákaáni
when do they release him?

va-n-chimulíla kwaáchi
where do they release him?

va-n-chimulíla mwadaáchi
why do they release him?

va-chimulíla chámaáni
what do they release?

va-n-chimulíla naaáni
who do they release?

+ va-n-chimulíla úpééhi
they release him quickly

+ va-n-chimulíla pávéélu
they release him outside

+ va-n-chimulíla chiílo
they release him at night

va-n-chimulíla viíno
they release him now

va-n-chimulíla paámo
they release him together

a-li-chimulíla náíkakataambwe
the spider releases itself

Since HTB is only observable when the verb form ends in a H tone and when the following word has a non-final H tone, HTB neither applies to nouns without any H tone (as the noun in the last example, where its two initial H tones are the result of Doubling and Assimilation) nor to demonstratives with a final H tone.

va-n-chimulíla yuulá they release that one
va-n-chimulíla aayó they release that (referential) one
Apart from these environments, the application of HTB does not depend on the syntactic status of the post-verbal constituent, but it does depend on the category of the word directly following the verb: HTB occurs when the following word is a noun, adjective, IPP or demonstrative. One exception is found: there is no HTB when the noun (or: nominal form, see 4.8) *mnaáíni* ‘who?’ follows the verb form. There is HTB to a following noun regardless of its grammatical function: it can be an object, a (VP-external, post-posed) subject, or an adjunct. When an adjunct is not a noun but an Invariable (e.g., *kádiiki, chakaáíni*), there is no application of HTB, although both adjuncts are within the p-phrase.

8.3.5 Post-lexical processes with longer verbal p-phrases

In this section, we describe VP’s which consist of a verbal form followed by a noun plus one or two specifiers. The phrasal tonology of a noun plus specifier(s), and of a verbal form plus a noun is described in 8.2 and 8.3.2 respectively. Now, we want to know what happens when a verbal form precedes a noun plus specifier(s).

It is clear that when the verbal form is disjoint, and the specifier which follows the noun is of the type that constitutes a p-phrase on its own, the VP consists of three different p-phrases. When the specifier within the NP is of one of the other two types than the one mentioned above, it forms a p-phrase with the preceding noun, and there is phrasal tonology within NP. When the verbal form is conjoint or conjoint-disjoint, it forms a p-phrase with a following noun, and there is phrasal tonology within VP. When a conjoint or conjoint-disjoint verbal form is combined with a noun and a specifier, the result is that there is one p-phrase which contains three words. The question is whether the phrasal tonology of the noun and specifier or the phrasal tonology of the verbal form and the noun occurs first in this p-phrase. It turns out that the phrasal tonology of the noun and specifier occurs first: it depends on the tonal influence of the specifier on the preceding noun what happens to the noun after HTB. When the specifier adds a penultimate H tone to the preceding noun, HTB applies to this penultimate H (when the noun already has a pre-penultimate H tone, HTB applies to this tone, of course); since there is also HTB between the penultimate H on the noun and the first H of the specifier, the noun has all H tones. The examples used below are with the the pronominal specifier ‘-éne’ ‘self’, and the demonstrative ‘-a-nó ‘this’.

<table>
<thead>
<tr>
<th>Vachona</th>
<th>Chitúvi chéene</th>
<th>They see the bundle itself</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vachona</td>
<td>Chitúvi áchiino</td>
<td>They see this bundle</td>
</tr>
<tr>
<td>Vawona</td>
<td>Útutúli wéene</td>
<td>They see the brain itself</td>
</tr>
<tr>
<td>Vawona</td>
<td>Útutúli úúnúno</td>
<td>They see this brain</td>
</tr>
<tr>
<td>B/D2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valyona</td>
<td>Lítáwá lyéene</td>
<td>They see the clan itself</td>
</tr>
</tbody>
</table>

| vallyona | lítawá álíño | they see this clan |
| vallyona | líhindílí lyéene | they see the cooking stone itself |
| vallyona | líhindílí álíño | they see this cooking stone |
| valwona | lítáví lwéene | they see the branch itself |
| valwona | lítáví álúúno | they see this branch |
| valwona | líkálóngó lwéene | they see the throat itself |
| valwona | líkálóngó álúúno | they see this throat |
| vallyona | lítínji lyéene | they see the pumpkin itself |
| vallyona | lítínji álíño | they see this pumpkin |
| vawona | únjenjemá wéene | they see the mosquito itself |
| vawona | únjenjemá álúúno | they see this mosquito |
| vachona | chiyéwé chéene | they see the chin itself |
| vachona | chiyéwé áchiíno | they see this chin |
| vawoná | ñtándásá wéene | they see the porridge itself |
| vawoná | ñtándásá álúúno | they see this porridge |
| vallyona | limbéndé lyéene | they see the skin itself |
| vallyona | limbéndé álíño | they see this skin |
| vallyona | lípútilá lyéene | they see the trap itself |
| vallyona | lípútilá álíño | they see this trap |

With pronominal possessives, a H tone appears on the final syllable of the preceding noun, shown most clearly with nouns of TG D1 (all L tones), e.g. *chiyéwé chaángu* ‘my chin’. When a conjoint verbal form with a final H tone precedes such a construction, HTB applies from the final H tone of the verbal form to the final H tone of the noun (when the noun already has a pre-final H tone, HTB occurs to this tone, of course), and the noun has all H tones. But precisely with nouns of TG D1, there is a second possibility: no HTB at all, and the final H tone of the verbal form remains in place; the nouns (and the verbal forms) have the same tones as when the nouns occur without the pronominal possessive.

A

| vachona | chítúví chaángu | they see my bundle |
| vawona | útútúlí waángu | they see my brain |
| valwona | lítawá lycétu | they see our clan |
| vallyona | líhindílí lyáángu | they see my cooking stone |
| valwona | lítáví lwaáke | they see its branch |
| valwona | líkálóngó lwaángu | they see my throat |
| vallyona | lítínji lyááke | they see its pumpkin |
The process Tone Assimilation (see 8.3.2) is assigned in two ways in the last two examples of TG D1: the final H tone of the verbal form in vawoná ŋtandásá weétu is due to the H-toned syllabic nasal of the noun; the H tone of the syllabic nasal of the noun in vawoná ŋtandásá weétu is due to the H-toned final syllable of the verbal form.

With the specifier ŋtwáani ‘what kind of’, which is a specifier of the type that can not occur on its own, preceding nouns become (default) L-toned; because of Tone Assimilation, the final TBU of the preceding noun becomes H under influence of the H-toned syllabic nasal of the specifier. When a conjoint verbal form with a final H tone precedes such a construction, there is no HTB at all, just as with the second possibility with nouns of TG D1 with following pronominal possessives (see above).

A

| vachoná | chitutu ŋtwáani | they see what kind of bundle? |
| vachoná | ututuli ŋtwáani | they see what kind of brain? |
| B/D2

| valyoná | litawá ŋtwáani | they see what kind of clan? |
| valyoná | lindhidi ŋtwáani | they see what kind of cooking stone? |
| C1

| valwoná | lutavi ŋtwáani | they see what kind of branch? |
| valwoná | lukalongó ŋtwáani | they see what kind of throat? |
| C2

| valyoná | litinji ŋtwáani | they see what kind of pumpkin? |
| vawoná | unjenjemá ŋtwáani | they see what kind of mosquito? |
| D1

| vachoná | chiyévé chaángu / | they see my chin |
| vawoná | ŋtandásá weétu / | they see our porridge |
| E

| valyoná | limbéndé lyáangu | they see my skin |
| valyoná | lîpútilá lyáangu | they see my trap |

Constructions of V + NP are derived in steps. The first step is that the specifier is added to the noun, and the second step is that the NP is added to the verbal form. This is best shown with nouns of TG D1 (all L tones). When occurring without specifier after the verbal form, HTB does not apply to these nouns (vachoná
When occurring after the verbal form with a specifier (e.g. a demonstrative which adds a penultimate H to the noun, *chiyéwé áchínó*), HTB does apply to these nouns because of the penultimate H (*vachona chiyéwé áchínó*).

We now describe the phrasal tonology of a verbal p-phrase consisting of a conjoint or conjoint-disjoint verbal form followed by a noun and two specifiers. Some examples:

<table>
<thead>
<tr>
<th>Phrase</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>vazoná ñóntándásá aunó ñótwáani</td>
<td>they see what kind of this porridge?</td>
</tr>
<tr>
<td>vazoná ntandásá wavó ñótwáani / vazoná ñóntándásá wavó ñótwáani</td>
<td>they see what kind of their porridge?</td>
</tr>
</tbody>
</table>

We have seen earlier in this section that in a p-phrase with a verbal form, a noun and a specifier, the phrasal tonology of the noun and the specifier is derived first, followed by the phrasal tonology of the verbal form and the NP. We have seen in 8.2.3 that in a nominal p-phrase with a noun and two specifiers, the phrasal tonology of the noun and the first specifier is derived first, followed by the phrasal tonology of the first and the second specifier. When a verbal form, a noun and two specifiers appear in one p-phrase, which we describe now, the phrasal tonology of the noun and the first specifier is derived first: the NounSpecifier Tone Rules, e.g. NSTR 1 which puts a penultimate H on the preceding noun *ntandasa* when followed by the demonstrative *aunó*, must apply before there can be HTB from the final H of the verbal form to this penultimate H on the noun. The phrasal tonology of the noun and the first specifier must also apply before the tonal interaction between the first and second specifier occurs: there must be first retraction of the H tone of the PPx of the pronominal possessive *úavó* to the final syllable of the preceding noun *ntandasa* (by Px-H Tone Retraction) before *ñótwáani* (by NSTR 2) deletes all H tones of this preceding pronominal possessive (its final H tone is due to Tonal Assimilation with the initial H-toned nasal of *ñótwáani*). We assume that the order of derivation is that the NP is derived first: the noun plus the first specifier (S1) followed by the second specifier (S2). Then the VP is derived: the verb plus the NP.

The verbal form may be followed by a NP without a nominal head, as we have seen in 8.3.4, and the specifier directly follows the verbal form. Adjectives behave like nouns in such environments (there is HTB from the final H of the verbal form to the first H of the adjective), while other specifiers do not (there is no HTB, and the final H of the verbal form stays on the its final syllable). The specifier may be followed by another specifier or by a noun. Some examples are the following.

<table>
<thead>
<tr>
<th>Phrase</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>vazoná wádyóóko</td>
<td>they see the small ones</td>
</tr>
<tr>
<td>vazoná wádyóóko avaáño</td>
<td>they see these small ones</td>
</tr>
<tr>
<td>vazoná wádyóóko váána</td>
<td>they see the small children</td>
</tr>
<tr>
<td>vazoná wádyóóko avaáño váána</td>
<td>they see these small children</td>
</tr>
<tr>
<td>vazoná wádyóóko vééene</td>
<td>they see the small children themselves</td>
</tr>
<tr>
<td>vazoná wádyóóko vééene váána</td>
<td>they see the small children themselves</td>
</tr>
<tr>
<td>vazoná wádyóóko ñótwáani</td>
<td>they see what kind of small ones?</td>
</tr>
<tr>
<td>vazoná vavillí</td>
<td>they see two (of them)</td>
</tr>
</tbody>
</table>
8.4 NP + VP and p-phrases

NP’s appearing before a VP and after a VP may be subjects, preposed and postposed objects, or adjuncts. NP’s which appear before and after a VP never occur in the same p-phrase as the VP, they constitute a p-phrase on their own. They have penultimate lengthening, but penultimate shortening may also occur when appearing before a VP.

valúúme vahwena kúkáaya
valúúme vahwena kúkáaya
valúúme ávááno vahwena kúkáaya
valúúme ávááno vahwena kúkáaya
vahwena kúkáaya valúúme ávááno
valúúme ávááno tuvawene kúkáaya
valúúme ávááno tuvawene kúkáaya
valúúme ávááno tuvawene kúkáaya
valúúme ávááno tuvawene kúkáaya
kukáaya tuvawene válúúme ávááno
kukáaya tuvawene válúúme ávááno
kukáaya tuvawene válúúme ávááno
kukáaya tuvawene válúúme ávááno
valúúme vatúwene kúkáaya
valúúme vatúwene kúkáaya
valúúúme vatúvawéene kukáaya
valúúme vatúvawéene kukáaya
valúúme vatúvawéene kukáaya
valúúme vatúvawéene kukáaya
kukáaya kutúdíéénga ding’aánde
kukáaya kutúdíéénga ding’aánde
kukáaya kutúdíéénga ding’aánde
kukáaya kutúdíéénga ding’aánde

8.5 Post-lexical rules with i-phrases and U’s

A p-phrase consists of one or more words, an (intonational) i-phrase consists of one or more p-phrases, an utterance (U) consists of one or more i-phrases. Every p-phrase ends with a word with penultimate lengthening. When p-phrases are concatenated to form an i-phrase, the lengthened penultimate syllables of p-phrase-final words may be shortened by the process Penultimate Shortening (PUS, see 2.9), and every i-phrase may end with a word with an intonational H tone on its final TBU (iH, see 3.6.1).
Among the post-lexical processes as listed in 8.3.3, PUS and iH apply before Default L tone insertion and Tone Assimilation. Every U ends with a word with lowered tones on its final two TBU’s by the process Utterance-final Register Lowering (UFRL, see 3.6.1). This process follows Default L tone insertion and Tone Assimilation. In the example below, the angled brackets < > indicate p-phrases, the curly braces { } indicate i-phrases and the parentheses ( ) indicate the U. The intonational H tone is indicated under the words by “iH” where it occurs, penultimate shortening by “PUS” and utterance-final register lowering by “UFRL”. Note that not all i-phrases need to end in an intonational H tone. Since PUS is optional, we have not indicated PUS in all possible cases. UFRL lowers the tones of the final two TBU’s of the utterance to the level of a lowered H and an extra L respectively, both indicated by an underscore. There are two other instances of utterance-final register lowering which are not indicated below, one of which is the deletion of all H tones of the final word of an utterance (see 3.6.2). The three processes of utterance-final register lowering are the last post-lexical processes, following Default L tone insertion and Tone assimilation. The square brackets [ ] above the line of words indicate the syntactic phrases into which the utterance is divided, and we have also given their grammatical functions. It clearly shows that syntactic phrases do not necessarily match with phonological phrases.

```
NP-subject PP VP NP-object
[ [ ] ] [ [ ] ]
({<váánú>} {<vá-kÚhúvá>} {<váñítwiiyá> <máhindí} <máviílí>})
iH PUS
```

```
People in trouble had made us steal two cooking stones,
```

```
PP-adjunct VP NP-object VP
[ [ ] ] [ [ ] ]
({<viínó>} {<vátwiiyá vángóndólo váánó>} {<nkáykáámúglá>})
iH iH UFRL
```

```
now they make us steal these sheep, and seize them.
```