Tone spreading in the Kabiye associative noun phrase

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Introduction

Kabiye is a language of the Eastern Gur branch of the Gur family. There are 730,000
speakers1, primarily in Togo, but also in Ghana
and Benin.

Segmental features

Kabiye has:
• a noun class system in which suffixes
predominate, although some prefixes also
occur.
• a vowel harmony system in which the features
[+/- ATR], [+/- round] and [+/- back] all
interact. Since vowel quality has no effect on
the tonal tier, I have used capital letters as a
kind of short-hand to show that the quality of
the vowel in question may change according to
the rules of vowel harmony.

Tonal features

Kabiye has:
• two underlying tones, High (H) and Low (L).
I mark H with an acute accent, and L by the
absence of an accent.
• four underlying melodies on mono- and bi-
syllabic noun roots: H, L, HL and LH.
• three underlying melodies on noun class
suffixes: H, L and HL.

The Tone-bearing unit

The basic Tone Bearing Unit (TBU) is V,
which, for the purposes of this paper, includes the
orthographic symbol γ.

The bilabial, alveolar velar and palatal nasals
[m], [n], [ŋ] and [ŋ] are also TBUs in some
positions:
• Preceding V, I analyse them as being
consonants, and therefore non-tone-bearing.
• In final position they are always TBUs, but
neither [n] nor [ŋ] are permitted in this
position.
• Preceding C, they are sometimes ‘pressed into
service’ as TBUs, when the tones cannot
associate in any other way.

Unlike many Gur languages, Kabiye prohibits
contours on a single TBU, on both underlying and
surface forms. Single tones may associate to
several TBUs (and very frequently do), but single-
TBUs can never associate to more than one tone.

1 According to my research, the orthographic symbol γ
signals pharyngealisation of the preceding vowel.
Other linguists (eg. Lebuch 1999) have drawn
different conclusions. The crucial point for the
purposes of this study is that, whatever the change in
vowel quality, γ also lengthens the preceding
vowel. Therefore the sequence Vγ always represents
2 TBUs, and associates to two tones. On this point
there is general agreement.
Post-lexical processes

The following post-lexical processes occur systematically throughout the language at the end of the phonological derivation.

1. Automatic downstep. A lowering of register occurs immediately before any H which follows a L.
2. HLH plateauning. Any singly-linked L between two Hs delinks and the second H (with its downstepped register because of automatic downstep) spreads left, as in example 1:

<table>
<thead>
<tr>
<th>Example 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ná/ + /cojá/</td>
</tr>
<tr>
<td>imp</td>
</tr>
<tr>
<td>underlying form:</td>
</tr>
<tr>
<td>H</td>
</tr>
<tr>
<td>na</td>
</tr>
<tr>
<td>HLH plateauning:</td>
</tr>
<tr>
<td>H</td>
</tr>
<tr>
<td>na</td>
</tr>
<tr>
<td>Downstep (Surface form):</td>
</tr>
<tr>
<td>H</td>
</tr>
<tr>
<td>na</td>
</tr>
</tbody>
</table>

Possessive Pronoun + Noun

Contrast examples 2 and 3. In example 2, the H of the 2ps possessive pronoun has no effect on the following noun:

<table>
<thead>
<tr>
<th>Example 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ná/ + páná- ý /</td>
</tr>
<tr>
<td>2ps poss pn</td>
</tr>
<tr>
<td>→ [ná páná-ý] ‘your bowl’</td>
</tr>
</tbody>
</table>

Whereas in example 3, the L of the 3ps possessive pronoun spreads right, onto the noun:

<table>
<thead>
<tr>
<th>Example 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>/E - + páná-ý/</td>
</tr>
<tr>
<td>3ps poss pn</td>
</tr>
<tr>
<td>underlying form:</td>
</tr>
<tr>
<td>L</td>
</tr>
<tr>
<td>e</td>
</tr>
<tr>
<td>Spreading:</td>
</tr>
<tr>
<td>H</td>
</tr>
<tr>
<td>e</td>
</tr>
<tr>
<td>Surface form:</td>
</tr>
<tr>
<td>L</td>
</tr>
<tr>
<td>e</td>
</tr>
</tbody>
</table>

‘his bowl’

Note that the L spreading does not reach the last H. Initial impressions are that the L spreads until it is blocked by the morpheme boundary that separates the root and the noun class suffix.

But examples 4 and 5 prove that the rule is not as simple as this. It is true that spreading never crosses a morpheme boundary, but it is also blocked, within the root, by any occurrence of a singly-linked H:

<table>
<thead>
<tr>
<th>Example 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>/E - + sáka -ý/</td>
</tr>
<tr>
<td>3ps poss pn</td>
</tr>
<tr>
<td>→ [e - sáka -ý] ‘his canopy’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Example 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>/E + láŋ-ýE/</td>
</tr>
<tr>
<td>3 ps poss. pn</td>
</tr>
<tr>
<td>→ [e - láŋ-ýE] ‘his heart’</td>
</tr>
</tbody>
</table>
Noun’s Noun

In example 6, the L of the 1st noun spreads just as the L of the possessive pronoun did in example 3:

Example 6
/ñeza + páná-y/  
rt  kA sfk

underlying form:

```
ne  ze  na  na - y
```

Spreading:

```
L
H
```

Surface form:

```
L
H
```

‘grandmother’s bowl’

So far, it looks like it’s the 1st noun that’s doing the spreading, because the noun in question is L. But when last tone of first noun is H, the spreading still occurs, as in examples 7-9. So I posit a floating L possessive marker between the two nouns. This spreads onto the root of the second noun until it is blocked by any singly-linked H:

Example 7
/úcojó + páná-y/  
rt  kA sfk

Add possessive marker:

```
LH [L] H
```

Spreading:

```
LH L H
```

Surface form:

```
LH H
```

‘priest’s bowl’

Example 8
/úcojó + /kpó - Ú/  
rt  kl sfk

Add possessive marker:

```
L  H  [L]  H
```

Spreading:

```
LH L H
```

```
LH L H
```

LH L H

LH L H

LH L H
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Plateauing:

Surface form:

Example 9

/spai/ + /l/had - ãa/  
rt pA sfx

add possessive marker:

Spreading:

Plateauing:

Surface form:

Example 10

/lojo + tatâ - ãu/  
rt kl sfx

Add possessive marker:

OCP repair:

Plateauing:

Surface form:

'priest's granary'

Note that, at any point in the derivation, an OCP repair rule applies: Similar adjacent tones merge. This includes the floating tone possessive marker. If it merges with the 1st word, the spreading over the 2nd word still takes place, as in example 6 above. But if it merges with the 2nd word, as in example 10, it loses its capacity to spread:

In example 11, the L possessive marker can't spread, because it is blocked straight away by a singly-linked H. But you would still expect the lurking floating L possessive marker to trigger downstep. The trouble is, it doesn't. So I posit a Stray Erasure rule as well. The floating L possessive marker gets added, and it will merge and/or spread if it can. But failing all else, if it
finds itself surrounded by singly-linked Hs at the
end of the phonological derivation, it is erased:

```
Example 11
/’eajo + há - y/
rt  kA sfx
add possessive marker:
L H [L] H L
co p ha y
stray erasure:
L H H L
co p ha y
OCP repair (Surface form)
L H H L
co p ha y ‘priest’s dog’
```

- **Automatic downstep**: A lowering of register occurs immediately before any H which follows a L.
- **OCP repair**: At any point in the derivation, similar adjacent tones merge.

### Block Spreading in the Associative NP

Spreading is blocked -

- by the morpheme boundary between a noun class prefix and the root of certain nouns:

```
Example 12
/E - + á - + -bil- + -t ara/
3ps ps pn + dla pfx + rt + qfl sfx
→ [e-ábil(a)] ‘his queen’
```

```
Example 13
/E - + ká- + -ya- + -’lu /
3ps ps pn +kAal pfx + rt +vl sfx
→ [e-ka’yâs:] ‘his squirrels’
```

- in a small handful of lexical exceptions which give variant readings:

```
Example 14
/E - + ðil- + - Ú /
3ps ps pn + rt + E sfx
→ [e-ðil(a)] ‘his intestinal worm’
```

- in certain borrowed words:

```
Example 15
/E - + sósja/
3ps poss pn
→ [e-sósja] ‘his soldier’
```

### Stray erasure: a hypothesis

So far, I’ve analysed the Stray Erasure rule (see example 11) as being part of the Associative NP concatenation. But given that the process is so similar to the Plateauing Rule (ie a weakening of whatever occurs between two Hs), it may well be that they are two sides of the same coin (see example 19). If this is the case, Stray Erasure will
have to be relocated amongst the post-lexical processes which apply throughout the language. The complete post-lexical rule would then read something like this: "A singly-linked L between two Hs delinks, and a floating L between two Hs is erased completely". This hypothesis requires further study.

### Example 16

<table>
<thead>
<tr>
<th>/H</th>
<th>H</th>
<th>Function</th>
<th>Underlying</th>
<th>Derivation</th>
<th>Surface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiply linked L</td>
<td>Resists</td>
<td>H L H</td>
<td>x x x x</td>
<td>H L H</td>
<td>x x x x</td>
</tr>
<tr>
<td>Singly linked L</td>
<td>Delinks</td>
<td>H L H</td>
<td>x x x x</td>
<td>H L H</td>
<td>x x x x</td>
</tr>
<tr>
<td>Floating L</td>
<td>Erases</td>
<td>H [L] H</td>
<td>x x x x</td>
<td>H [L] erases</td>
<td>x x x x</td>
</tr>
</tbody>
</table>

**Bibliography**