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Tone spreading in the Kabiye associative noun phrase

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Introduction

Kabiye is a language of the Eastern Grusi branch of the Gur family. There are 730,000 speakers[1], 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.

[1] According the lastest edition of Ethnologue which quotes figures from 1998.

The Tone-bearing unit

The basic Tone Bearing Unit (TBU) is V, which, for the purposes of this paper, includes the orthographic symbol ɣ[2].

The bilabial, alveolar velar and palatal nasals [m], [n], [ŋ] and [ɲ] 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 [ɲ] 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.

[2] According to my research, the orthographic symbol ɣ signals pharyngealisation of the preceeding vowel. Other linguists (eg LEBIKAZA 1999) have drawn different conclusions. The crucial point for the purposes of tone study is that, whatever the change in vowel quality, ɣ also *lengthens* the preceeding vowel. Therefore the sequence Vɣ always represents 2 TBUs, and associates to two tones. On this point there is general agreement.

Post-lexical processes

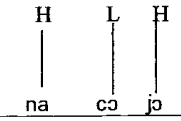
The following post-lexical processes occur systematically throughout the language at the end of the phonological derivation.

1. **Automatic downstep.** A lowering of register occurs immediately before any H which follows a L.
2. **HLH plateauing.** 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*:

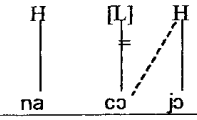
Example 1

/ná/ + /cɔjɔ́/
imp

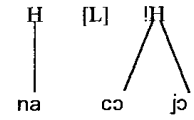
underlying form :



HLH plateauing:



Downstep (Surface form):



see priest!

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:

Example 2

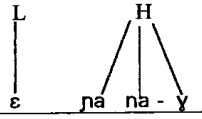
/ ɲá + ɲáná- ɣ́ /
2ps poss pn rt kA sfx
→ [ɲá ɲáná-ɣ́] 'your bowl'

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

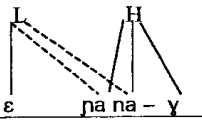
Example 3

/E - + ɲáná-ɣ́/
3ps poss pn rt kA sfx

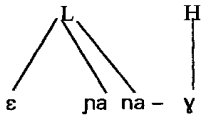
underlying form:



Spreading:



Surface form:



'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:

Example 4

/E - + sáka `ɣ/
3ps poss. pn rt kA sfx
→ [ɛ – sáka - ɣ] 'his canopy'

Example 5

/E + láŋɩ́-yE/
3 ps poss. pn rt ɖI sfx
→ [ɛ – laŋɩ́-yɛ] 'his heart'

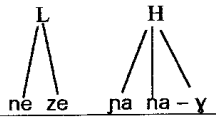
Noun's Noun

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

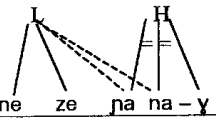
Example 6

/neze + ɲáná-ɣ́/
rt kA sfx

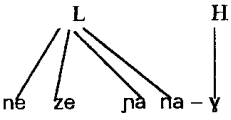
underlying form:



Spreading:



Surface form:



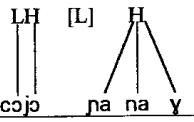
'grandmother's bowl'

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:

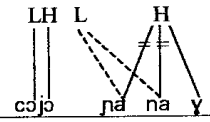
Example 7

/cɔjɔ́ + ɲáná-ɣ́/
rt kA sfx

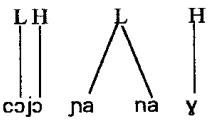
Add posesive marker



Spreading:



Surface form:

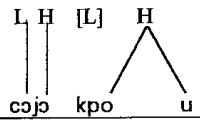


'priest's bowl'

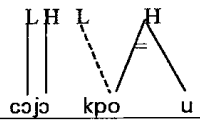
Example 8

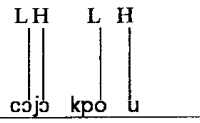
/cɔjɔ́/ + /kpó – Ú/
rt kI sfx

Add possessive marker:

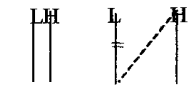


Spreading:

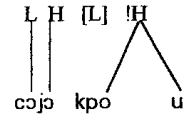




Plateauing:



Surface form:

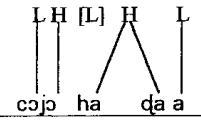


'priest's granary'

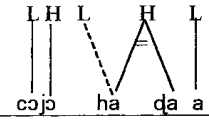
Example 9

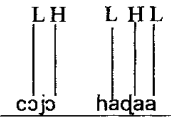
/cɔjɔ́/ + /háɖ – áa/
rt pA sfx

add possessive marker:

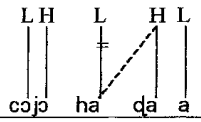


Spreading:

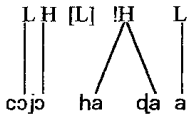




Plateauing:



Surface form:



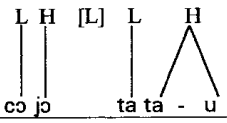
'priest's farming co-operative'

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:

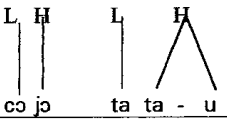
Example 10

/cɔjɔ́ + tatá – Ú/
rt kI sfx

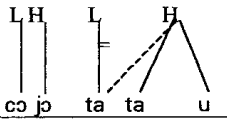
Add possessive marker:



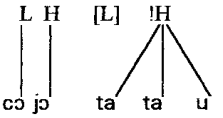
OCP repair:



Plateauing:



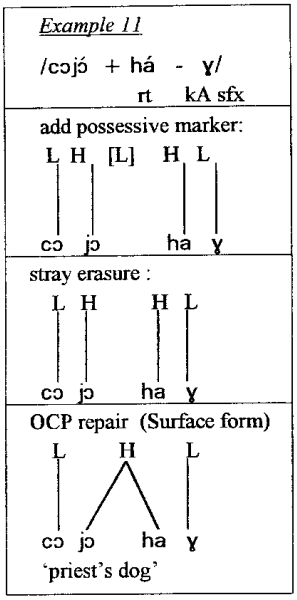
Surface form:



'priest's potsherd'

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:



Summary of the Associative Noun Phrase Concatenation

- **Floating L:** a floating L possessive marker is added between the two nouns.
- **Spreading:** the floating L possessive marker spreads right, across the root, until it is blocked by any singly-linked H.
- **Stray Erasure:** at the end of the derivation, any floating L possessive marker left between two Hs is erased.

Summary of post-lexical processes

- **HLH plateauing:** Any singly-linked L between two Hs delinks and the second H spreads left.
- **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.

Blocked 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 - + -bíl- + -ʈe /
3ps ps pn + dla pfx + rt + ɖI sfx
→ [e-ábíɖe] 'his queen'

Example 13
/E - + ká- + - yá - + -´sɩ /
3ps ps pn +kAsI pfx + rt +sI sfx
→ [ɛ-káyásɩ] 'his squirrels'

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

Example 14
/E - + ɖál - + - Ú /
3ps ps pn + rt + E sfx
→ [ɛ-ɖálú] 'his intestinal worm'

- in certain borrowed words:

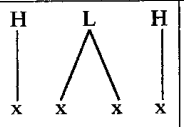
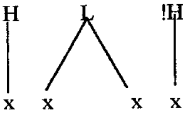
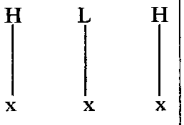
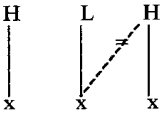
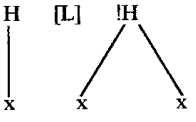
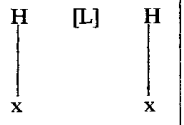
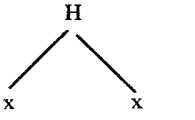
Example 15
/E - + sɔ́ɔja/
3ps poss pn
→ [ɛ-sɔ́ɔja] 'his soldier'

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 H s), 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 H s delinks, and a floating L between two H s is erased completely". This hypothesis requires further study.

Example 16

/ H __ H	Function	Underlying	Derivation	Surface
Multiply linked L	Resists			 automatic downstep
Singly linked L	Delinks		 L delinks, H spreads left	 automatic downstep
Floating L	Erases		 [L] erases	 OCP repair

Bibliography

Comité de langue nationale kabiyè (CLNK). March 1998. Tɔm kpou kabɩyɛ-fransɩɩ. Dictionnaire kabiyè-français avec lexique français-kabiyè et esquisse de grammaire kabiyè. Version pré-publication.

Goldsmith, John A. 1990. Autosegmental and Metrical Phonology. Oxford: Blackwell Ltd.

Lébikaza, Kézié Koyenzi. 2000. Grammaire kabiyè: une analyse systématique - phonologie, tonologie et morphosyntaxe. Köln: Rüdiger Koppe Verlag

Plunkett, Gray. 1991. The tone system of Foodo nouns. MA thesis, University of North Dakota.

Pulleyblank, Douglas. 1986. Tone in Lexical Phonology. Dordrecht: D. Reidel.

Snider, Keith L. 1999. The Geometry and Features of Tone. Dallas: SIL and the University of Texas, Arlington.