Langage, Langues et Cultures d'Afrique Noire
Llacan

INTRODUCTION

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INTRODUCTION

- Northern sub-Saharan Africa is obviously a spread zone:
  - Macro-Sudan belt
  - Sudanic zone
- Not interested in whether we are dealing with a Sprachbund:
  - its delimitation
  - any features defining it

Interested in:

- features that have a marked areal distribution,
- how their emergence and spread can be explained,
- whether and how such areal features are relevant for the reconstruction of proto-languages, how old and/or how stable they are.

FEATURES WE ARE STUDYING

TODAY

Phonology

- C-emphasis prosody (consonant length) & stem-initial accent
- labial-velar stops

and perhaps

Morphosyntax

- clause final negation markers
- possessee-like qualifiers

C-emphasis prosody

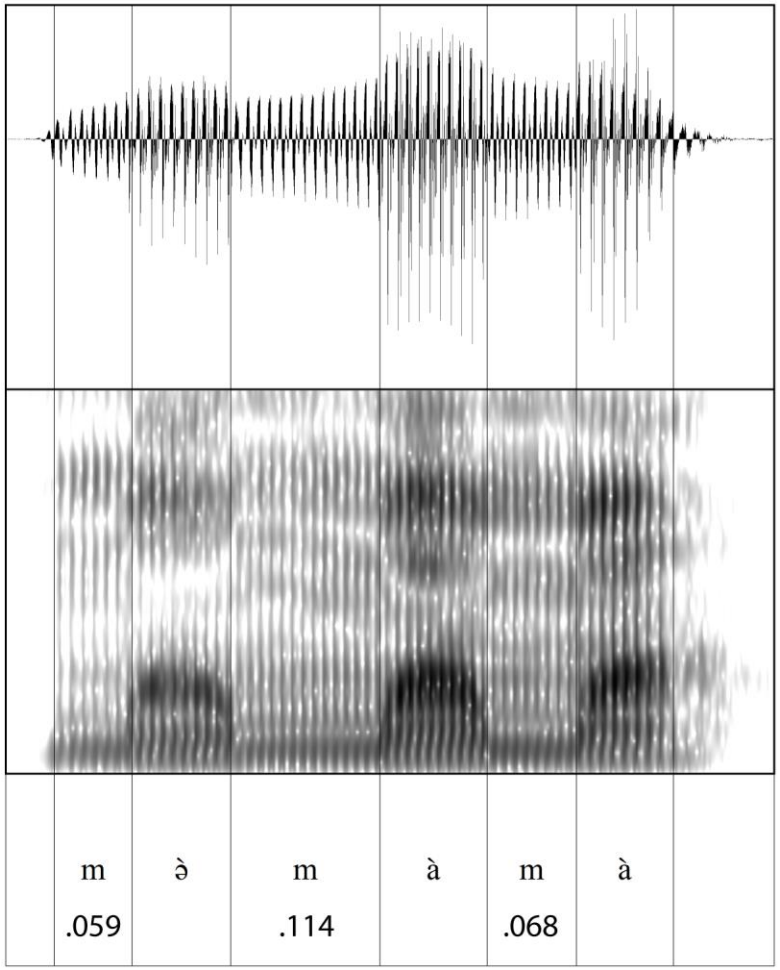
&

Stem-initial accent

C-EMPHASIS & STEM-INITIAL ACCENT

- Several NW Bantu languages have been described with stem-initial accent.
- E.g. in Eton (Bantu A70, Cameroon), stem-initial accent is manifested phonotactically, phonetically & phonologically, as well as tonologically:
  1. phonotactic skewing: half of the consonant phonemes restricted to C_1
  2. C_1 consonants are longer than consonants in other positions
  3. C_1 not subject to lenition rules that occur elsewhere
  4. only accented syllables can host two underlying tones

Consonant length in the nonsense word *mə-màmà*



C-EMPHASIS & STEM-INITIAL ACCENT

- C-lengthening as a significant stress correlate is typologically rare and even rarer as the primary phonetic parameter in the realization of stress
- Remijsen (2014) cites the following languages with lengthening of the consonant that follows the vowel of the stressed syllable as a stress correlate:
  - Iquito (Michael 2011) (primary parameter)
  - Washo (Yu 2008)
  - Welsh (Williams 1985, 1986)
  - Zapotec (Pickett, Villalobos & Marlett 2010)

C-EMPHASIS & STEM-INITIAL ACCENT

- Although typically stem-initial, C-accent in Bantoid may be fixed to sites other than the stem-initial position:
  - In Bube (A31), it seems to be the C of the penultimate syllable providing an interesting connection to the penultimate V-lengthening in many Bantu languages (mostly E Bantu)

Our original research programme for stem-initial accent:

- provide an instrumental analysis
  - is consonant length the primary/only phonetic correlate?
  - how important is the difference in length between C_1 and other positions?
  - is this difference in C_1 length constant among the languages with stem-initial accent
- establish the boundaries of the phenomenon (hypothesis: it might be (much) more recurrent in NSSA)
- look for correlations between stem-initial accent and: labial-velars, maximality constraints, and morphosyntactic properties that may correlate with the latter (cf Hyman 2004).

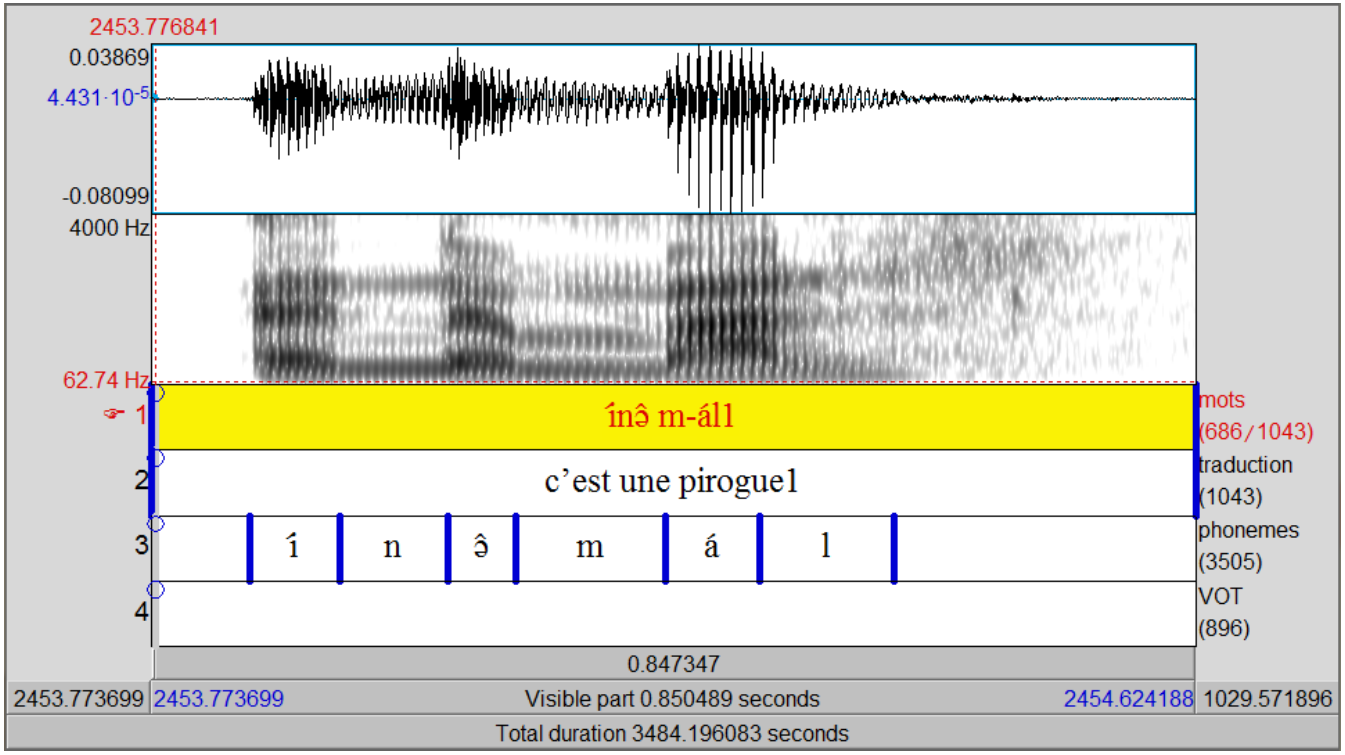
We recorded questionnaires for eight languages in Cameroon and Gabon (09/2012) for a total of ca. 30 hours:

- Eton (Bantu A70): 4 men, 5 women, ca. 90 min / questionnaire
- Bafut (Bantoid): 2 men, ca. 70 min / questionnaire
- Bapuku (Bantu A30): 2 men, ca. 50 min / questionnaire
- Basaa (Bantu A40): 2 men, 1 woman, ca. 45 min / questionnaire
- Fang (Bantu A70), different regional varieties: 4 men, 5 women, ca. 50 min / questionnaire
- Kota (Bantu B20): 2 men, ca. 45 min / questionnaire
- Kwasio (Bantu A80): 2 men, ca. 35 min / questionnaire
- Bagyeli (Bantu A80): 1 man, ca. 35 min / questionnaire

C-EMPHASIS & STEM-INITIAL ACCENT

C-EMPHASIS & STEM-INITIAL ACCENT

Ca. 7 hours have been segmented and annotated in Praat for Eton, 4 h for Fang, 1 h for Basaa.



C-EMPHASIS & STEM-INITIAL ACCENT

Some (impressionistic) initial findings:

- Stem-initial consonant length in all languages, except Bapuku, which has penultimate vowel length and which lacks the typically NW Bantu morphosyntactic characteristics
- Within A70, relative length of C1 appears to decline as one moves further south

Hypothesis

C-accent (including the stem-initial accent) as the exaggeration of the duration of consonants rather than vowels in a certain position in a word is **in origin** an **utterance-level prosodic / intonational phenomenon** marking a particular **emphasis** on a given element within the utterance

C-emphasis prosody → C-accent → stem-initial C-accent

- the stem-initial position is expected to be the most frequent site for the realization of such an emphatic prosody as the primary position associated with expressing lexical meanings, which are likely to be in need of emphasis more frequently than the more functional types of meanings, such as number, agreement, TAM, etc., which tend to be expressed by prefixes or suffixes.
- this frequency correlation has gradually lead to a reanalysis (phonologization) of C-lengthening as an inherent property of the stem-initial position
- SIC-accent would enhance any existing tendency for word-internal C-lenition, which is a common phenomenon cross-linguistically anyway and may occur for reasons unrelated to the presence of SIC-accent

C-emphasis prosody → C-accent → stem-initial C-accent

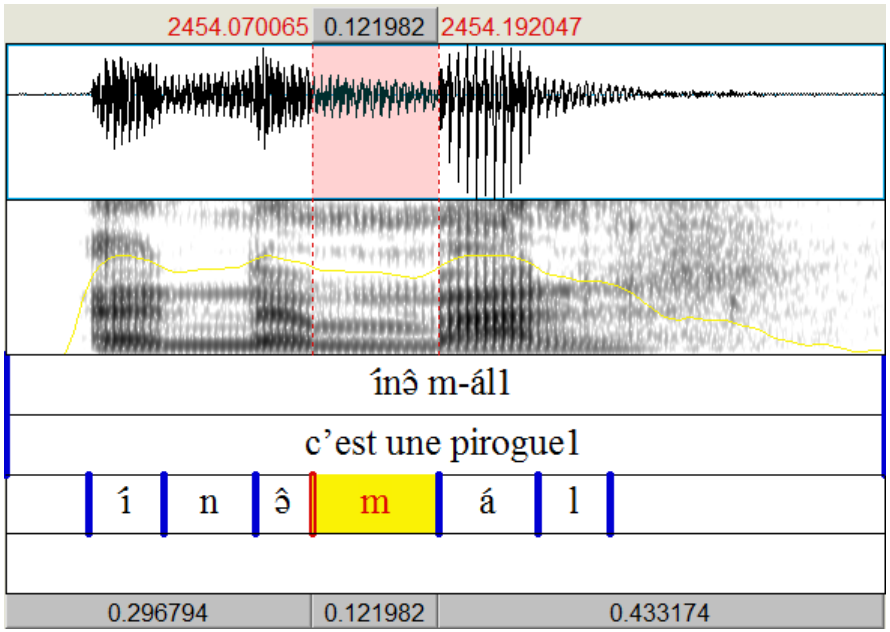
- The origin of the SI-accent in an utterance-level prosodic / intonational phenomenon marking a particular emphasis on a given element within the utterance accounts for the ease of its spread in language contact situations (see Matras 2009, 2014… on borrowability)

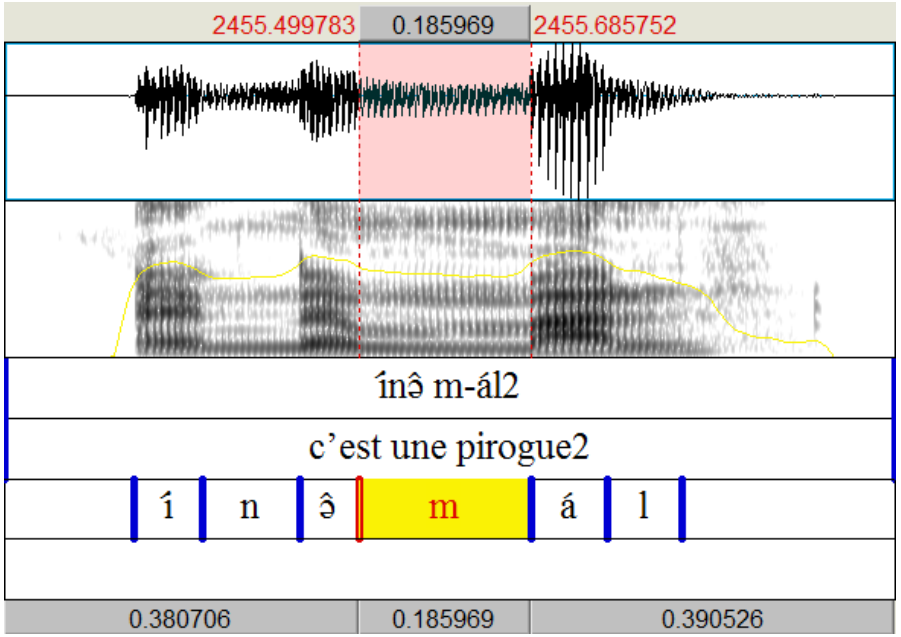
> Functions that serve to negotiate attitudes among the participants in the interaction and which convey evaluations, assessments, the processing of presuppositions, or emotions, are particularly prone to borrowing: This includes information structuring at the level of the discourse and clause, [...], prosody in phonetics and phonology, discourse particles [...] They represent bilingual speakers' need to align the emotional and presupposition-oriented side of negotiating communicative interaction across interaction settings.
>
> (Matras 2014:5)

C-EMPHASIS & STEM-INITIAL ACCENT

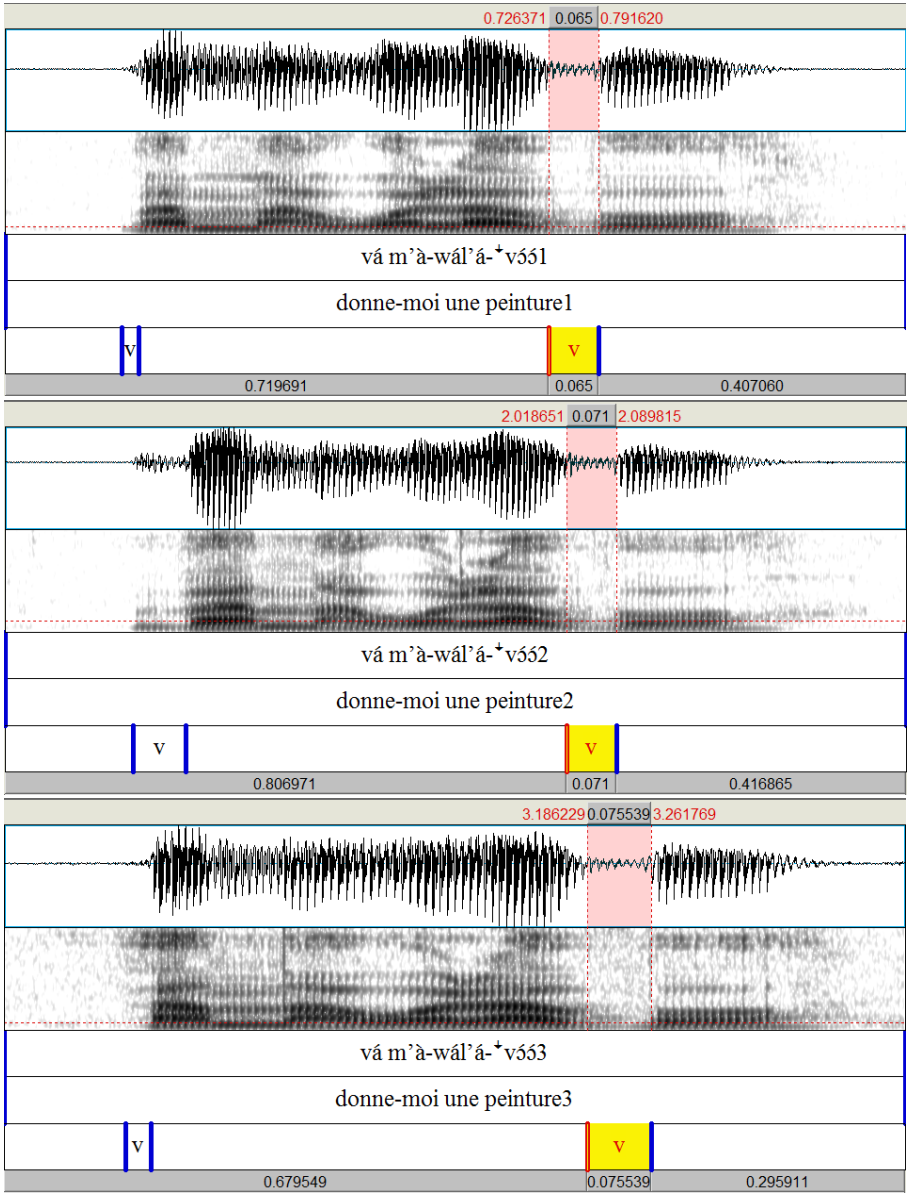
- In a longer utterance, certain SICs are lengthened more than others:
  - SIC of the word that expresses the new information focus of the utterance
  - SIC of the word that is contrastively focused

Eton (A70)



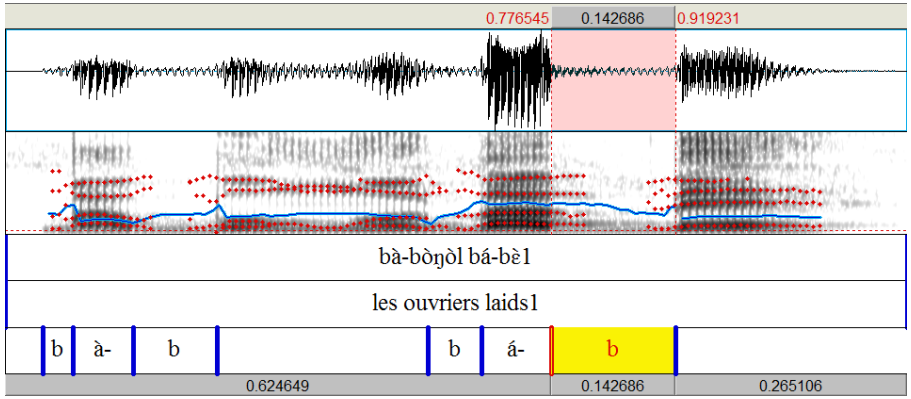


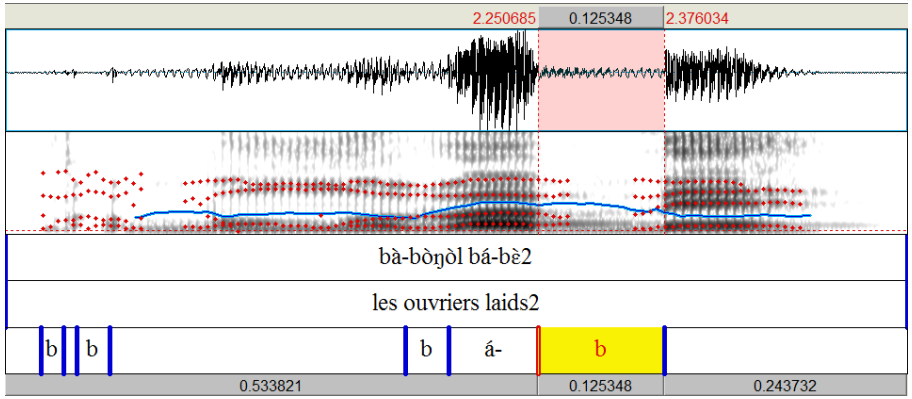
C-EMPHASIS & STEM-INITIAL ACCENT

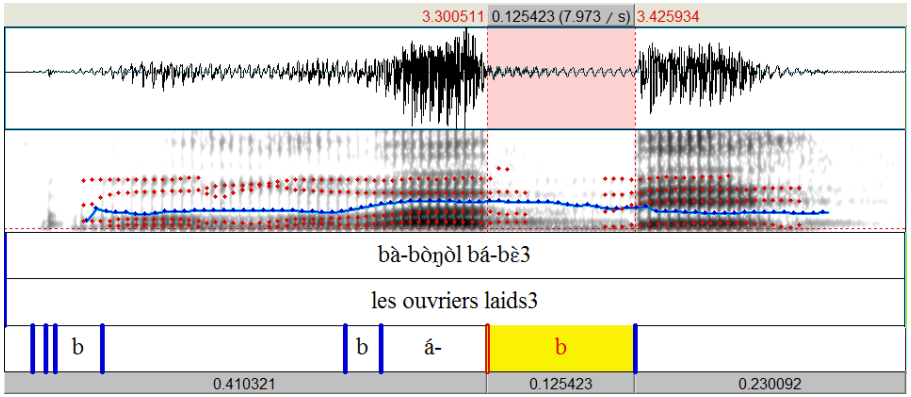


Okak Fang (A70)

C-EMPHASIS & STEM-INITIAL ACCENT



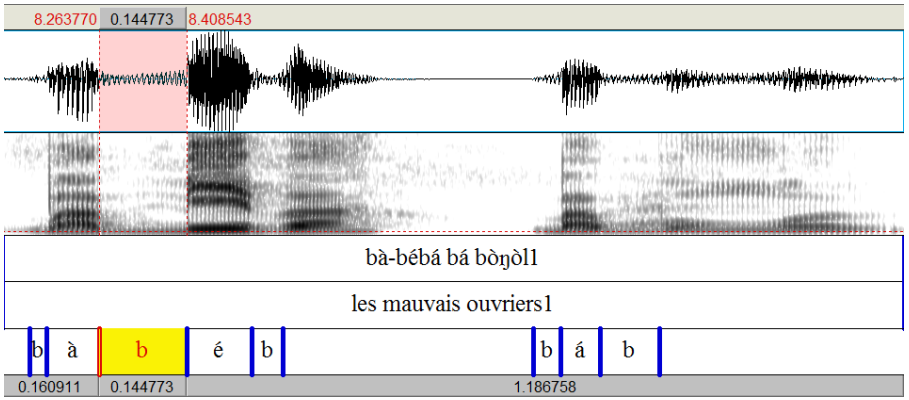




Basaa (A40)

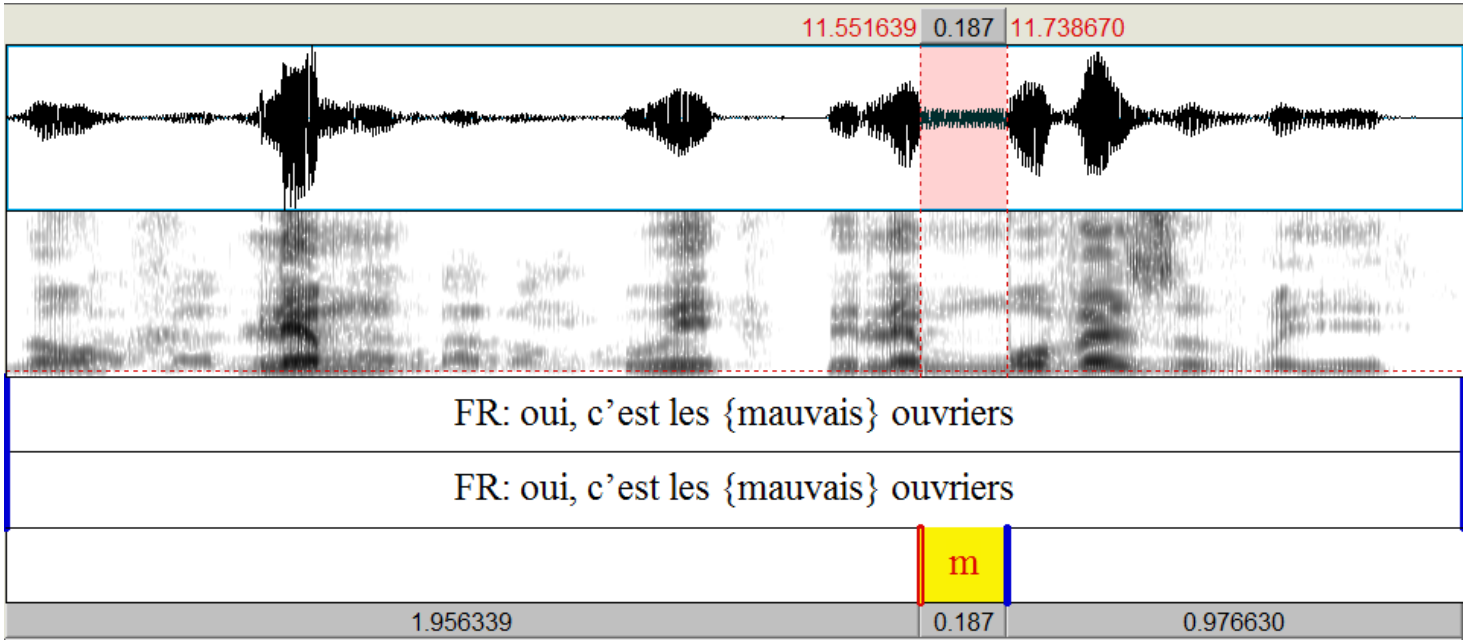
N	Adj
bà-bòŋòl	*bá-bɛ̀*
G2-worker	AG2-ugly

C-EMPHASIS & STEM-INITIAL ACCENT



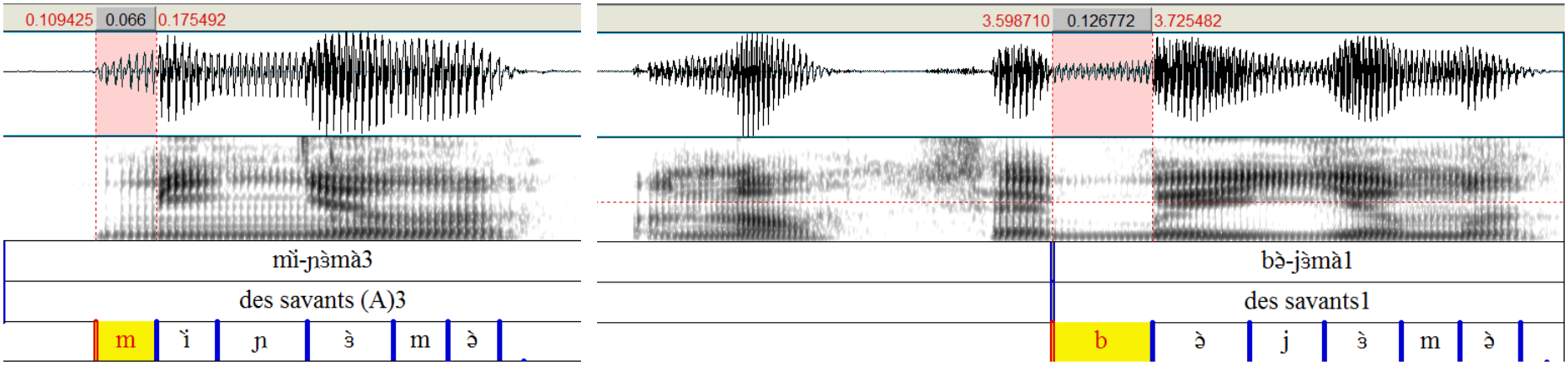
Basaa (A40)

N1	CON	N2
bà-bébá	*bá*	*bòŋòl*
G2-bad	AG2.CON	worker



- Occasionally, C-emphasis (new information, contrastive focus) can also occur on morphemes other than stems

Eton (A70)



mì-ɲɜ̀mà. Non, c'est *bə̀-jɜ̀mà*

- This kind of prosody can also be found outside of NSSA, but in other languages it appears to have very low frequency and to be restricted to certain types of consonants (only fricatives? only continuants?...)
  - English:

    *Now… ˈ**th**at* [ðː] *is interesting!*

  - Russian:

    *Mm, ˈ**s**uka* [sː] *kakaja!* 'Mm, what a bitch!'

C-EMPHASIS & STEM-INITIAL ACCENT

- C-emphasis prosody must be widespread in NSSA (except in the extreme W and in the N), although it may be somewhat less readily observable in non-Bantoid languages
- It is more readily observable in Bantoid because they have more morphology (especially, prefixes)
- SI-accent is likely to be responsible for the emergence of maximality constraints in many languages of NSSA
- Similarly, C-emphasis prosody in the form of SI-accent seems to be relevant for the emergence and spread of labial-velar stops in NSSA.

Labial-velar stops

LABIAL-VELAR STOPS

Given that:

- typologically, LV are known to be rather rare
- LV are common in NSSA languages

Interested in:

- Are LV "normal" phonemes in NSSA languages?
- Are there differences between languages in the frequencies of LV in their lexicons?
- Are there geographic patterns in the LV frequency distribution?
- Are the distributions of LV within the lexicons random?
- How can we explain the observed patterns?
- Why are LV common in NSSA?

LABIAL-VELAR STOPS

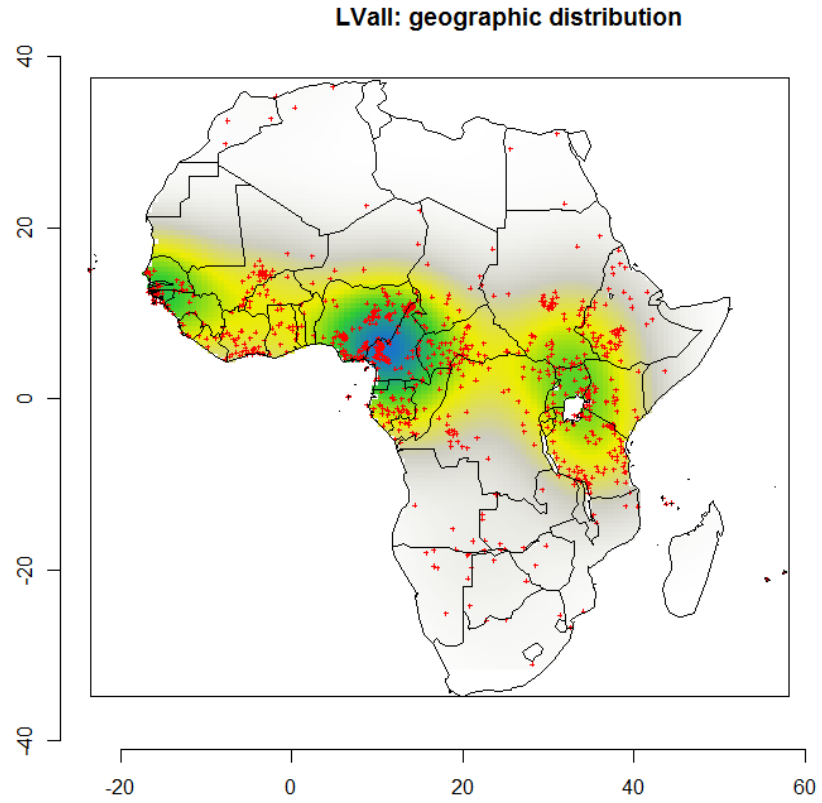
LV data sources:

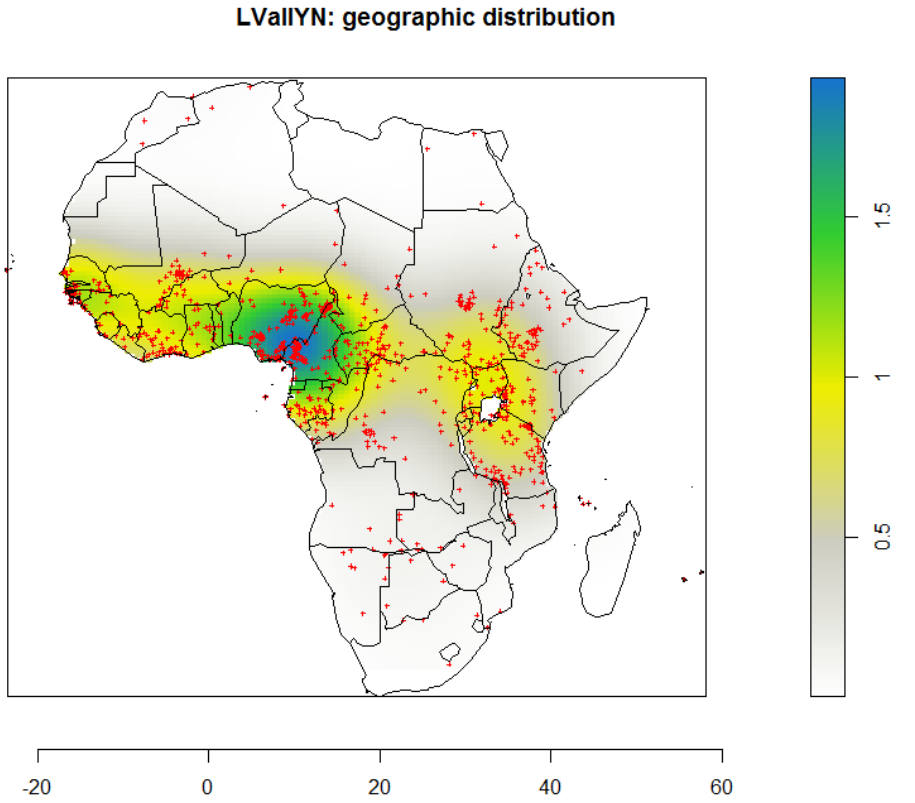
- **RefLex**, www.reflex.cnrs.fr, LVFreq data
- Phoible, www.phoible.org, YN data
- Additional LVFreq data for some Mande and Bantu languages

Pre-process the data:

- only the sources after 1900
- only the sources with **≥ 100 entries**
- if there are 2 sources for the same language, keep the one that is bigger and/or of better quality
- remove languages with only V + L clusters
- **split clusters** that Reflex treats as units:
  - "pre-nasalized" N + C
  - C + labialization, C + palatalization and C + labiodental C
- recode the digraphs not recognized by Reflex
- clean up occasional mistakes in C recognition in Reflex

LABIAL-VELAR STOPS





LVall

1074 languages with frequency data:

- LV & their frequency is known (336 lgs)
- No LV

LVallYN

1304 languages:

- LV & their frequency is known (336 lgs)
- LV, but no frequency data (230 lgs)
- No LV

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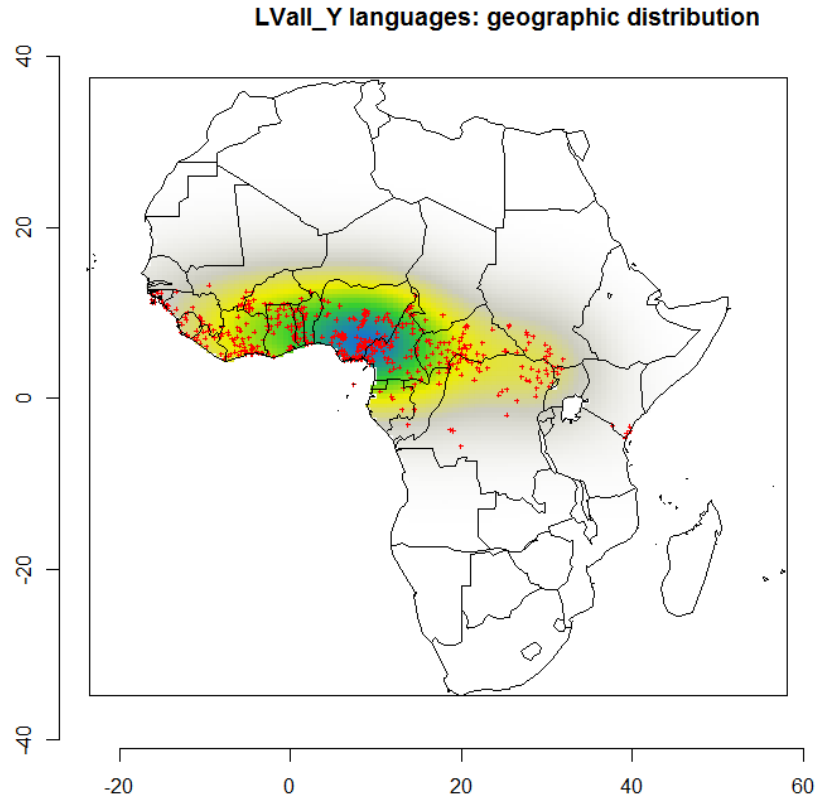
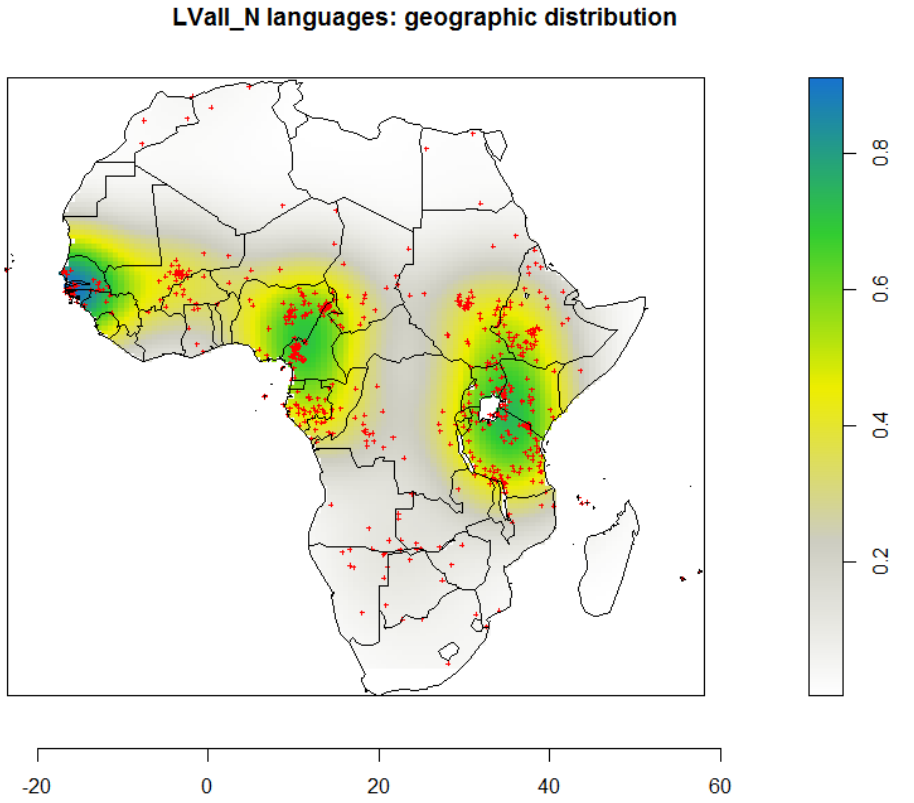
LABIAL-VELAR STOPS





LVFreq estimation

H_0: In a lexicon, all C phonemes have equal frequency (have equal probability of occurrence)

$$\boldsymbol{LVFreq} = \frac{LV_O}{LV_E * W_{LV}} * 100\% = \frac{\sum T_{LV}}{\frac{\sum T_C}{\sum P_C} * \sum P_{LV}} * 100\%$$

LV_O - observed LV count

LV_E - expected LV count

W_{LV} - LV weighting coefficient

T_{LV} - LV token

T_C - any C token

P_{LV} - LV phoneme

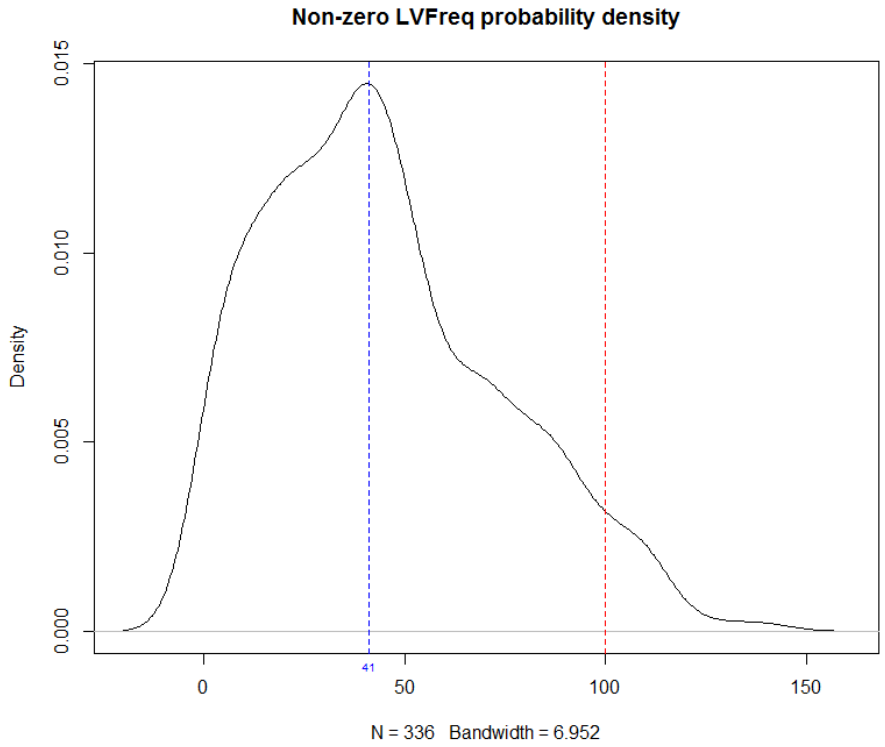
P_C - any C phoneme

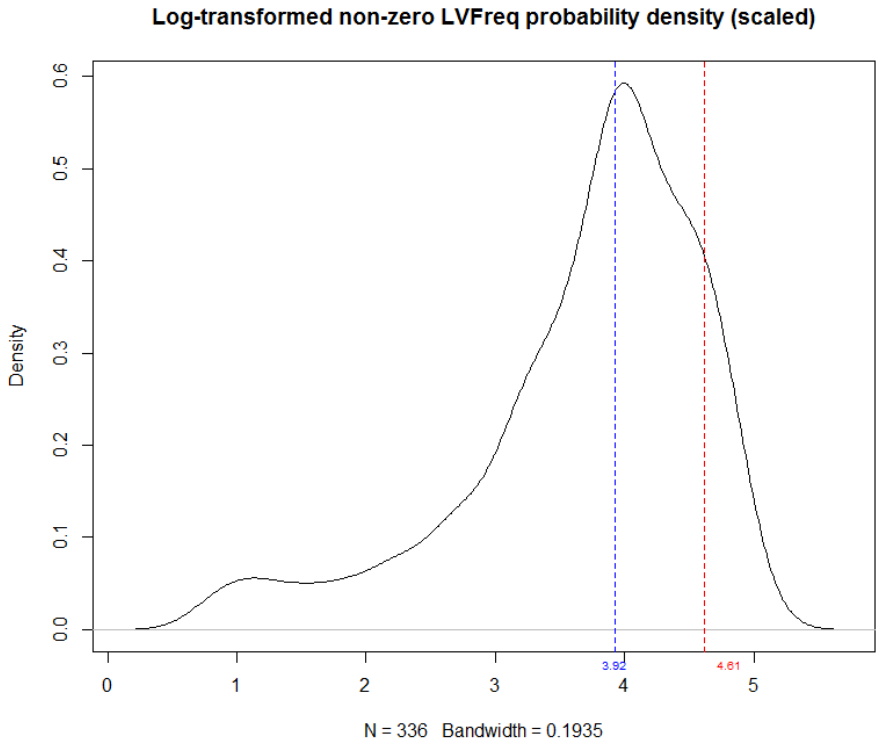
LVFreq estimation

LVFreq = **0%** no LV

LVFreq = **100%** **"reference LVFreq"** - LV are "normal" phonemes, i.e. the observed number of occurrences of LV is the same as would be expected given the H_0

LABIAL-VELAR STOPS





median reference LVFreq

- LV are relatively rare phonemes in most languages that have them, which is in accordance with their typological rarity
- Log-transformation does not help to make the data more normal

Are the distributions of LV within the lexicons random?

H_0: LV are distributed randomly throughout the lexicon

H_T: LV are NOT distributed randomly throughout the lexicon, but are more common outside of the "basic" vocabulary domain, especially in the "expressive" parts of the lexicon

Are the distributions of LV within the lexicons random?

- background: LV are relatively rare, both typologically and within the lexicons
- compare Olson & Hajek (2003, 2004) on the "phonological status" of the labial flap /ⱱ/:
  - distribution across grammatical categories
  - frequency of occurrence
  - distribution within the word
  - borrowed words

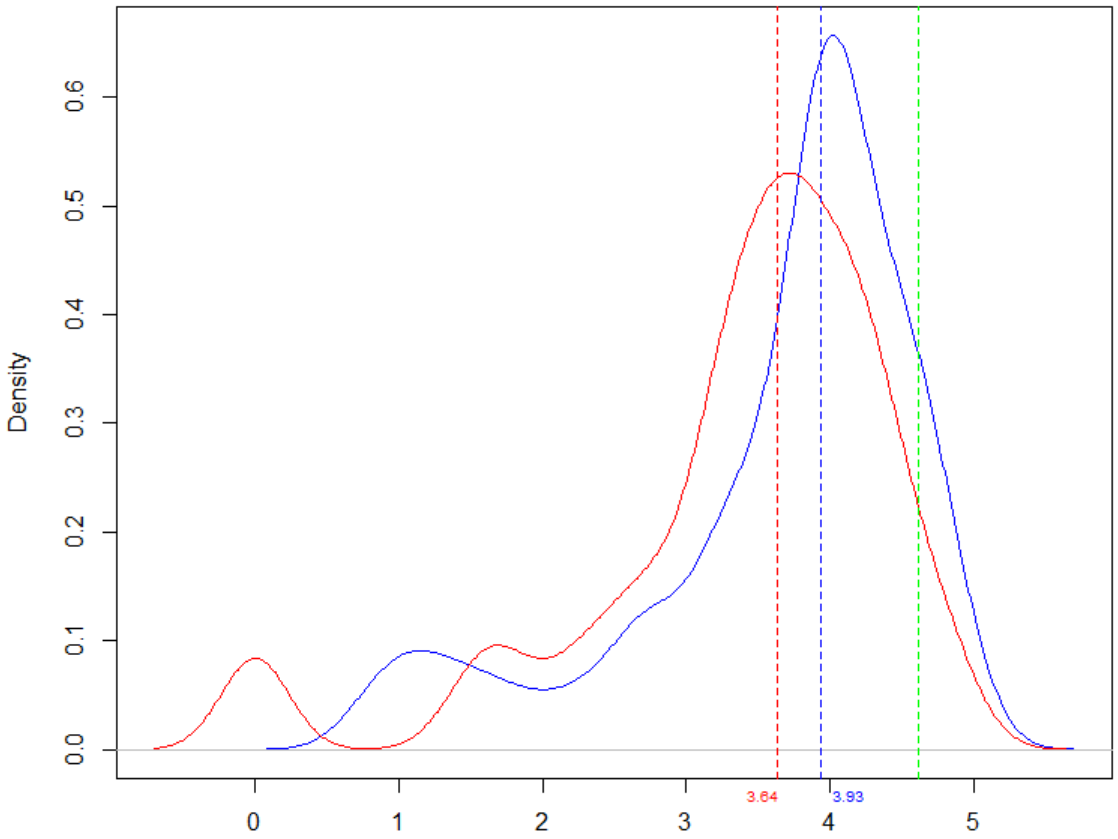
  E.g., in Bena (Adamawa), /ⱱ/ only in the ideophone *pàⱱàd* 'suddenly (appear)'
- impressionistically, a similar pattern holds for (at least some) languages with a low LVFreq

  E.g., in Wawa (Martin, today) LV stops are overall rare except in ideophones

Are the distributions of LV within the lexicons random?

- A possible test: Extract a subset of entries of a "basic vocabulary" from each source of a sufficient size and compare the LVFreq pattern in the original sample with the LVFreq pattern in a "basic vocabulary" sample
- Our version of the test:
  - automatically created Swadesh-200 lists
  - the sources with $\geq$ 400 entries
  - fill the gaps with random entries
  - the result is a quasi-Swadesh-200 list
  - due to the automated procedure, in some quasi-Swadesh 200 lists only a small % of the Swadesh-200 list items may be present

LABIAL-VELAR STOPS



paired U-test (Wilcoxon signed rank test):

p-value = 5.061e-13

Bootstrap (rep = 999):

100% p-values < 0.5

50% p-values ≤ p_0

original LVFreq (≥ 400 entries)

quasi-Swadesh-200 LVFreq

original median (≥ 400 entries)

quasi-Swadesh-200 median

reference LVFreq (= 100%)

Are the distributions of LV within the lexicons random?

- LV tend to be less common in "basic vocabulary"
- **{H}:** LV are more common in the "expressive" parts of the lexicon, such as ideophones or property words, rather than referring expressions, such as nouns and verbs
- Somewhat like the labial flap /ⱱ/…
- (Impressionistically) LV are largely restricted to the stem-initial position

Emergence of LV & SiP

- The correlation [LV ~ "expressive" vocabulary] is not independent of the correlation [LV ~ stem-initial position]
- **SI-accent** is a very important factor behind the emergence of LV in NSSA
- **{H}**: Emergence of LV is favored by a significantly longer closer duration of the stem-initial C
- **{H}**: Emergence of LV is favored in the "expressive" parts of the lexicon
  - In origin, SiP is an intonational/prosodic phenomenon: emphasis by exaggerating the closure duration of a C
  - "expressive" words are more often emphasized prosodically

Emergence of LV & SiP

- The "expressive" function & the C-emphasis prosody as important vehicles of spread of LV through language contact (see Matras 2009, 2014… on borrowability)

> Functions that serve to negotiate attitudes among the participants in the interaction and which convey evaluations, assessments, the processing of presuppositions, or emotions, are particularly prone to borrowing: This includes information structuring at the level of the discourse and clause, [...], prosody in phonetics and phonology, discourse particles [...] They represent bilingual speakers' need to align the emotional and presupposition-oriented side of negotiating communicative interaction across interaction settings.
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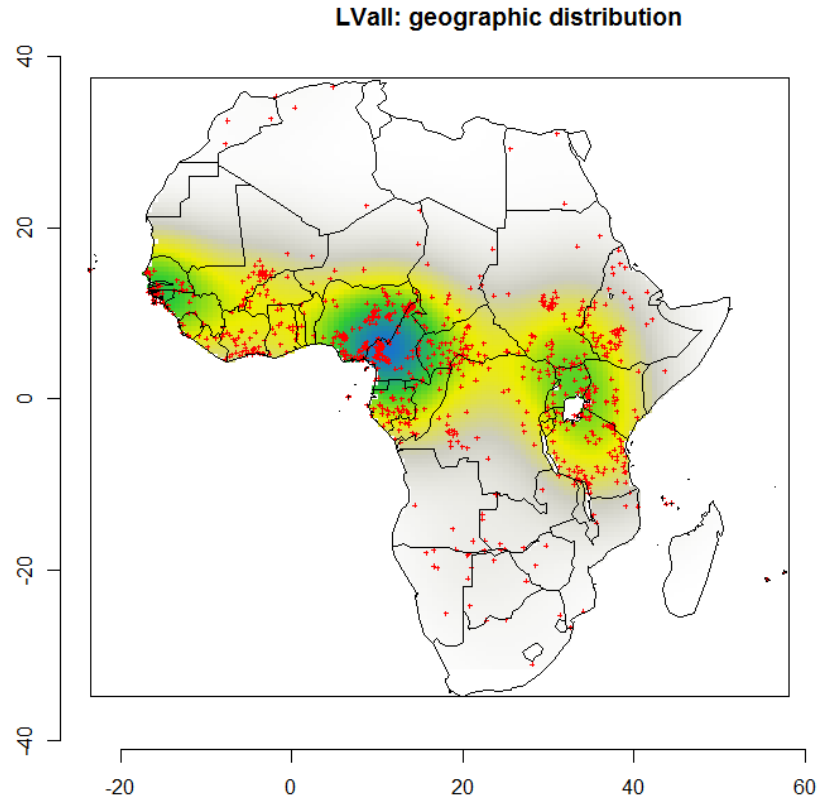

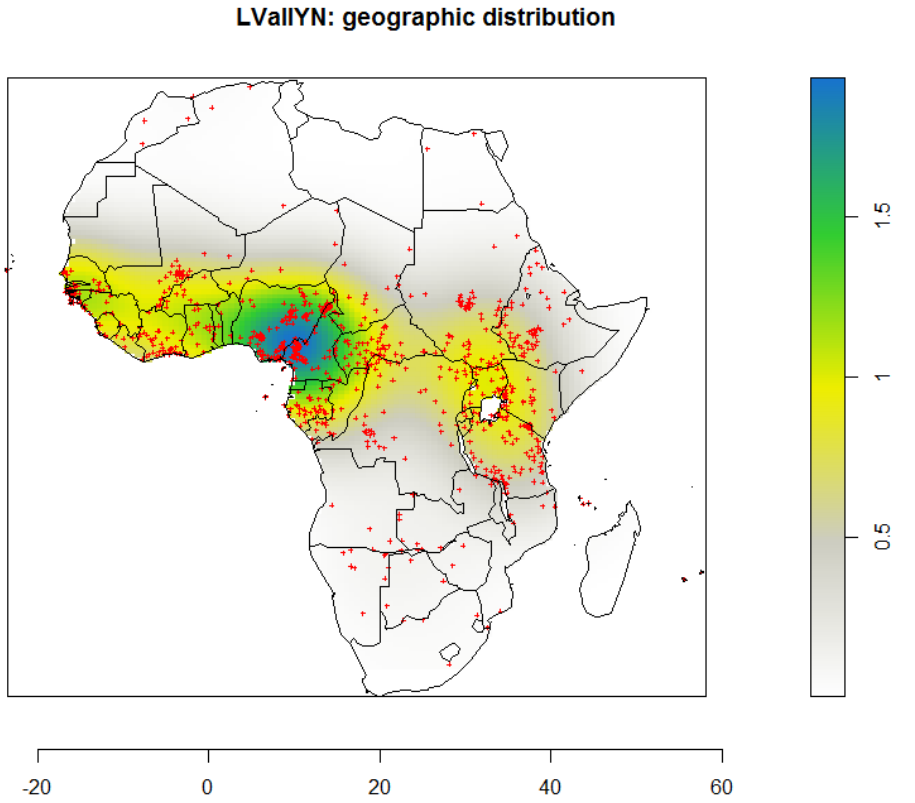

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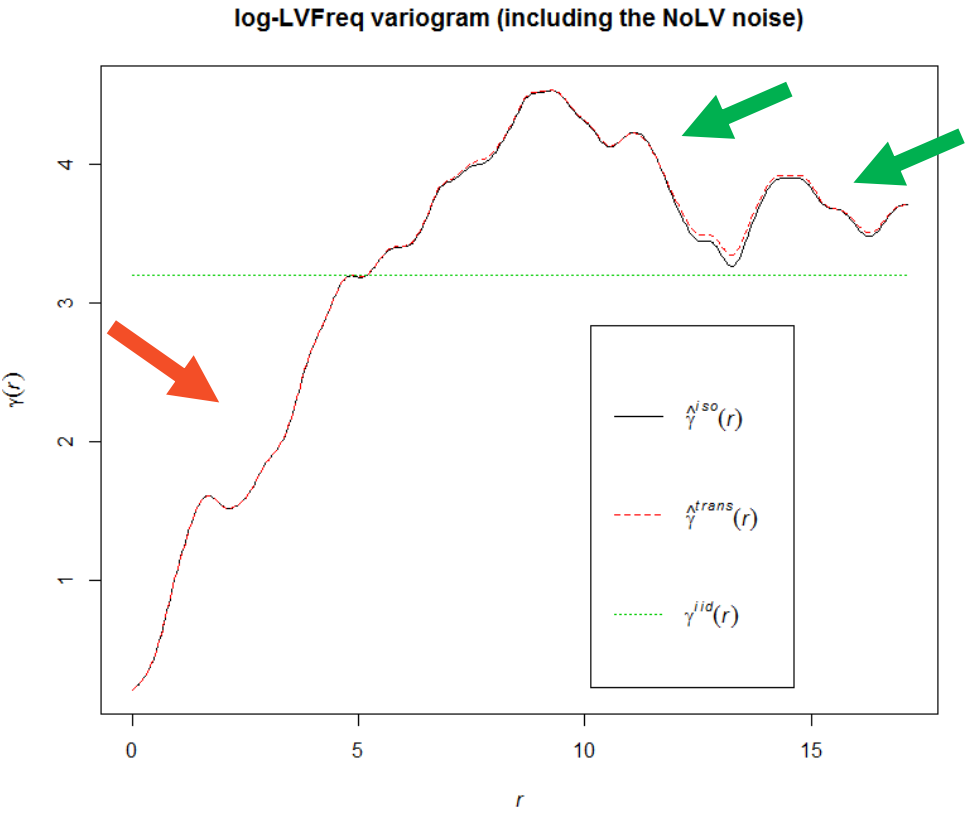
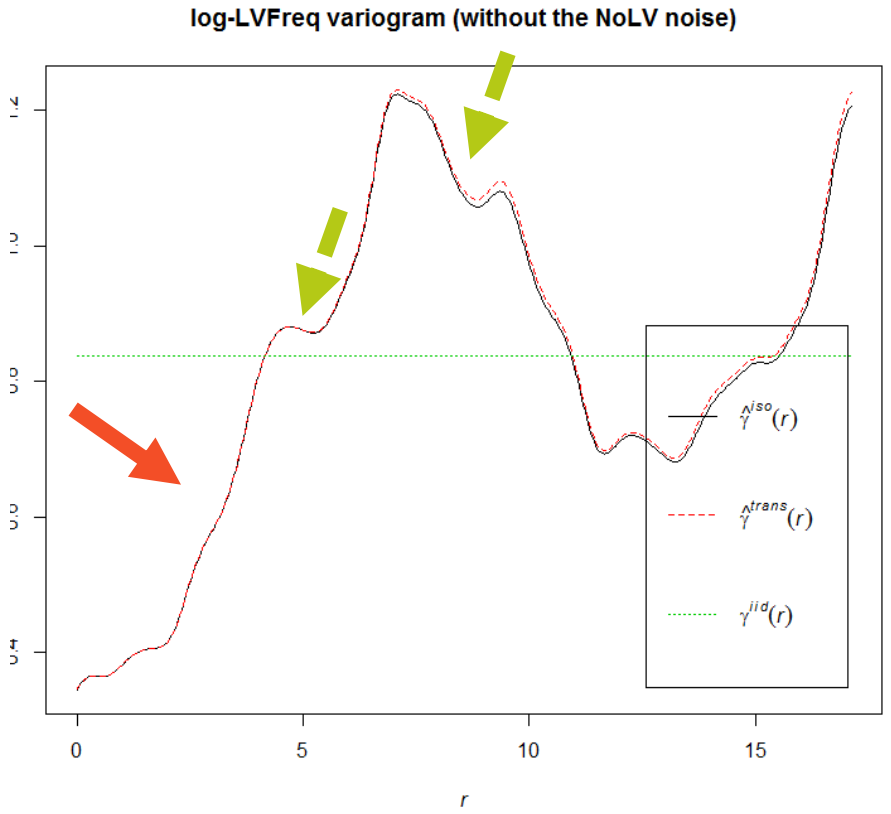
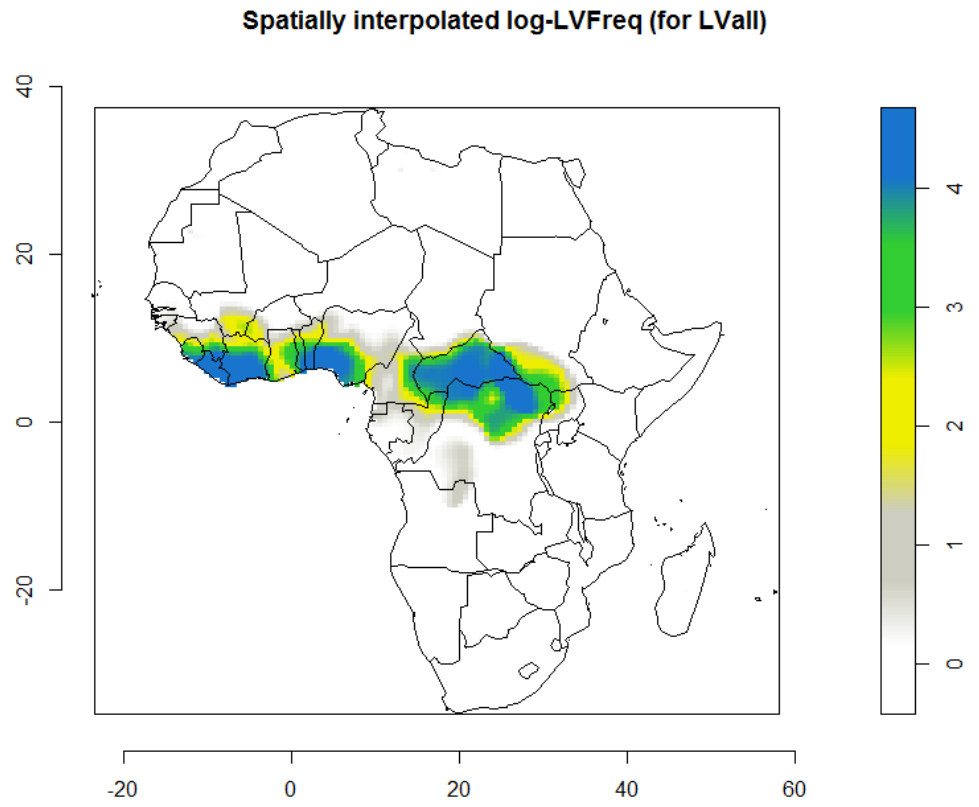




The **variogram** (variance as a function of range) characterizes the spatial continuity or roughness of a data set.

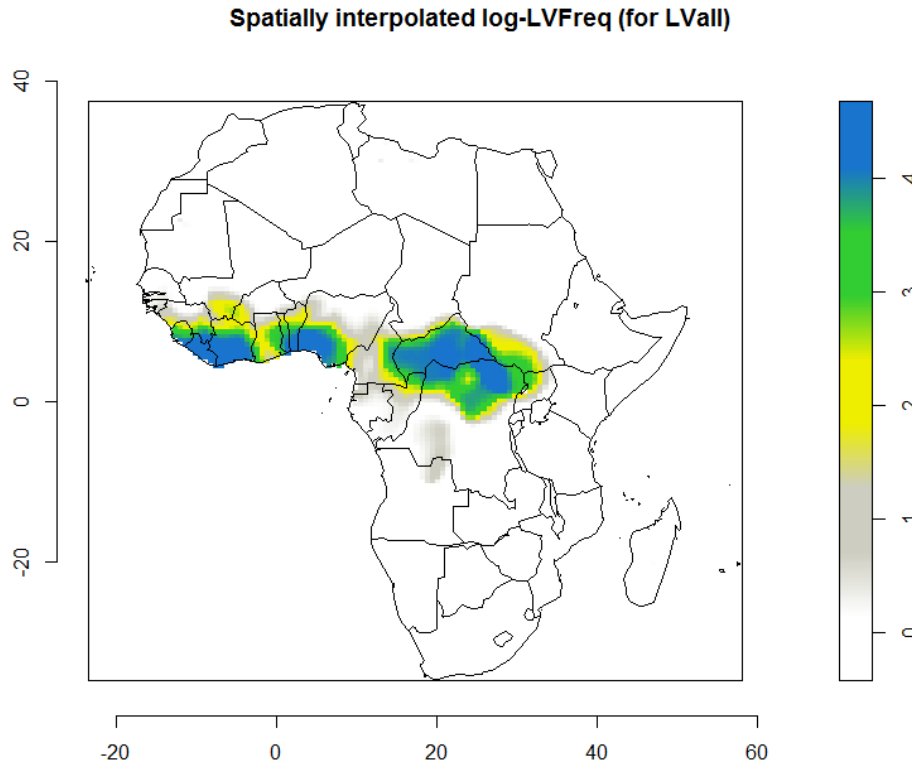
- There is a clear spatial structure in the data: cluster(s)
- The spatial structure of the data shows signs of cyclicity: 2 repeated clusters (noisy), 1 cluster with 2 “notches” (not noisy)

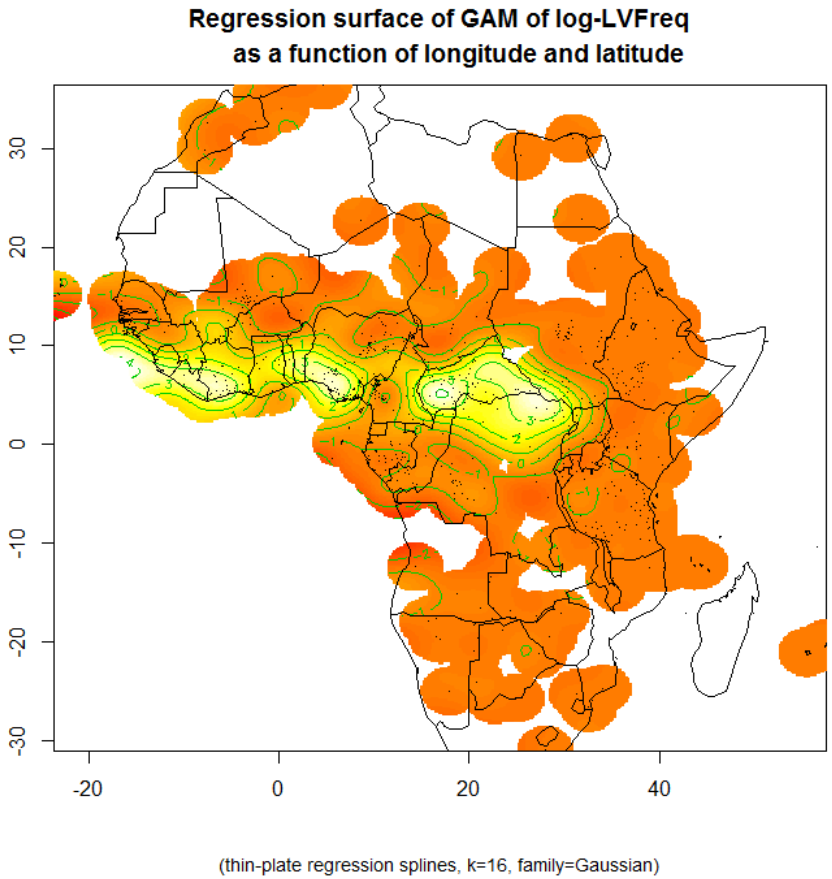
LABIAL-VELAR STOPS



- 2 major clusters
  - Coastal West Africa
  - Central Africa
- possibly, +1 less prominent cluster
  - SW Mali & SE Burkina-Faso
- 1 major spatial discontinuity
  - NE Nigeria & Cameroon
- 1 minor spatial discontinuity
  - Ghana

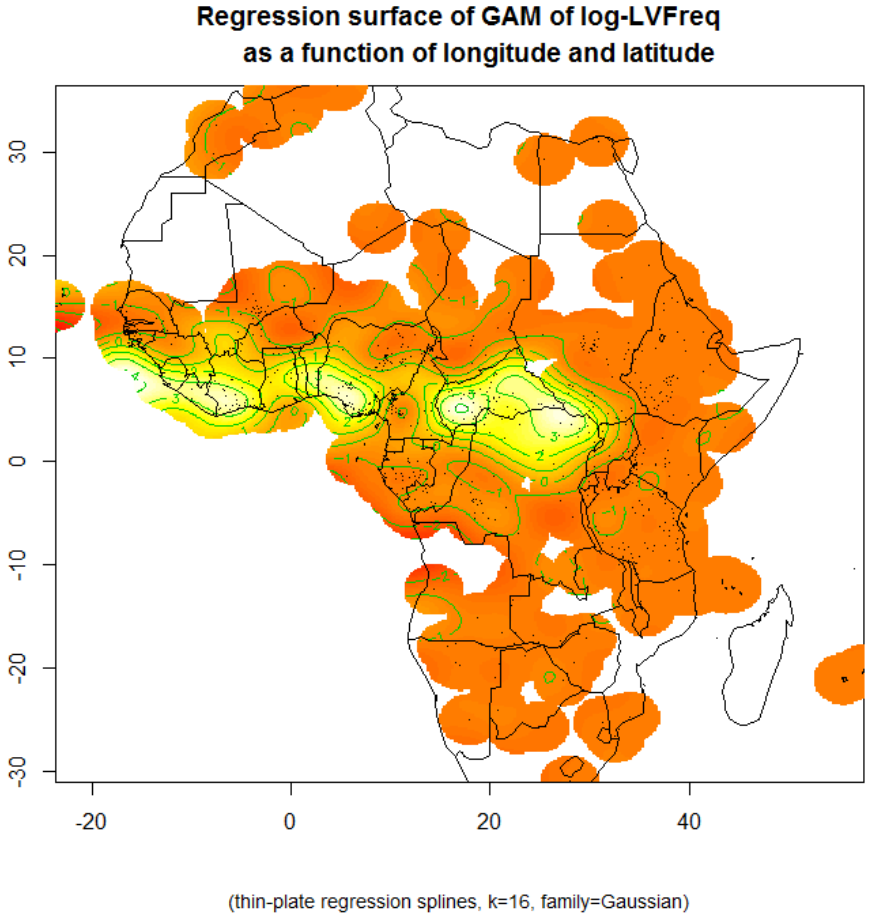
LABIAL-VELAR STOPS



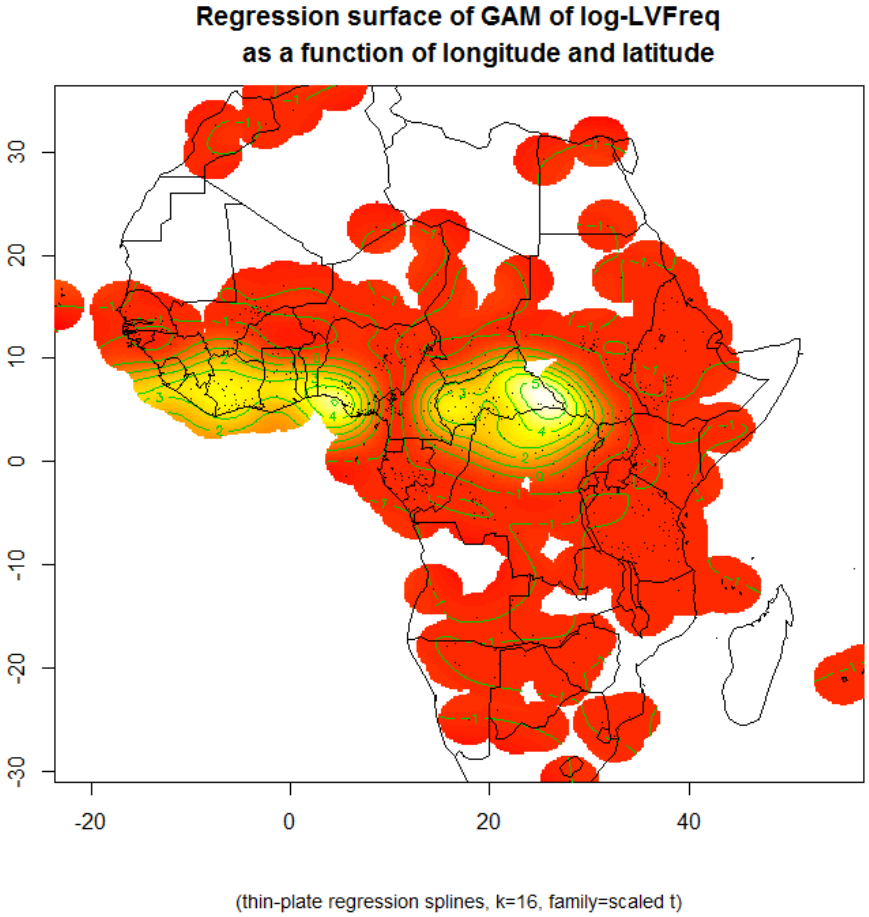


(thin-plate regression splines, k=16, family=Gaussian)

LABIAL-VELAR STOPS

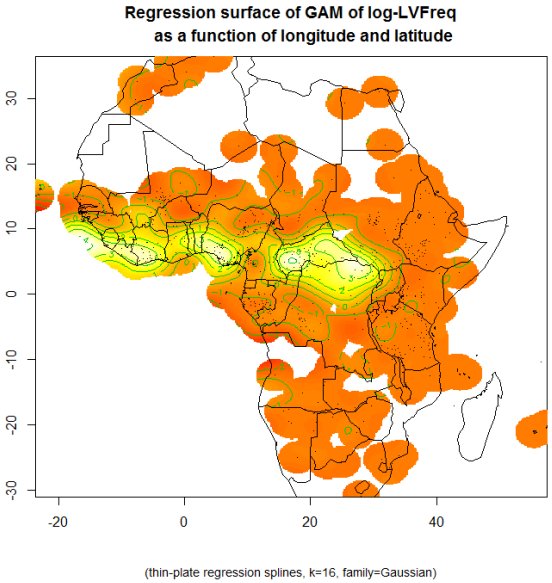


edf = 114.2, p < 2e-16, Deviance explained = 82.5%, AIC = 2656



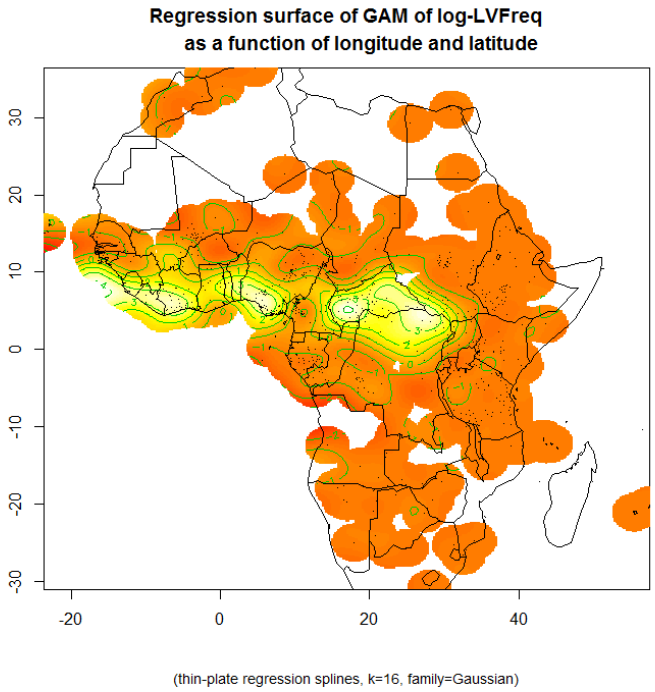
edf = 140, p < 2e-16, Deviance explained = 75.2%, AIC = 1342

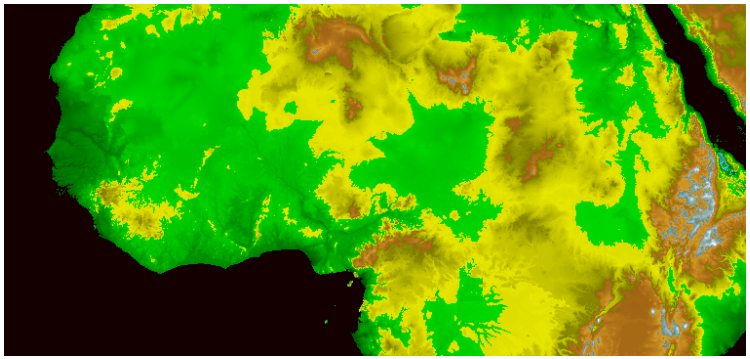
LABIAL-VELAR STOPS



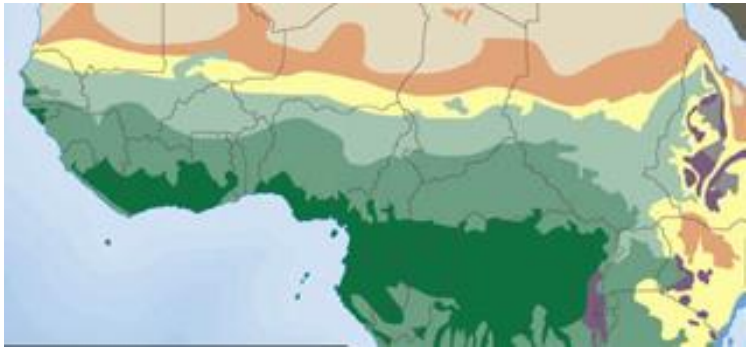
- Geographically, the 3 major zones of high LVFreq (and the possible minor zone) appear to be **refuge zones** delimited by natural barriers (sea, forest, mountain ranges) (especially in the W part)
- Ghana discontinuity ≈ Dahomey forest gap
- NE Nigeria & Cameroon discontinuity ≈ Adamawa Plateau, Cameroon mountains

LABIAL-VELAR STOPS

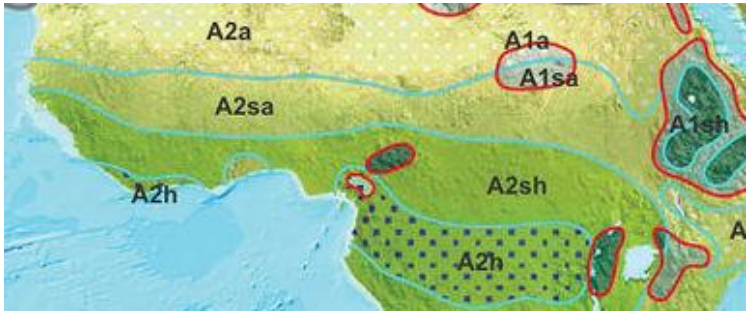




Topography

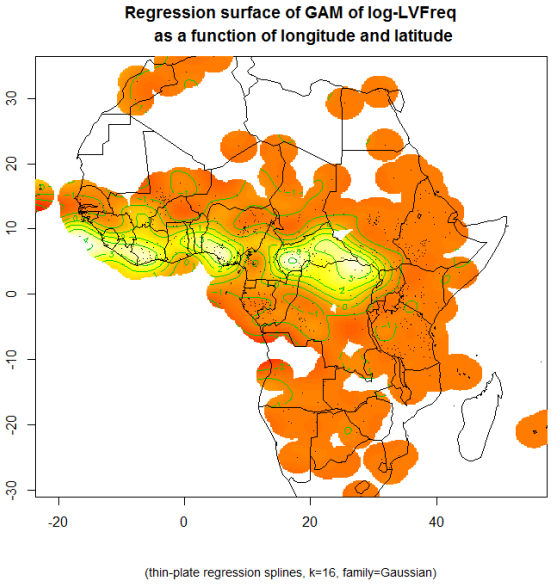


Vegetation



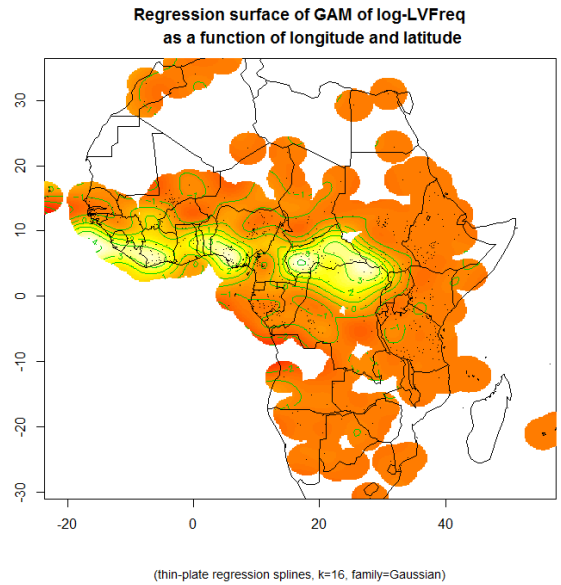
Climate zones

LABIAL-VELAR STOPS



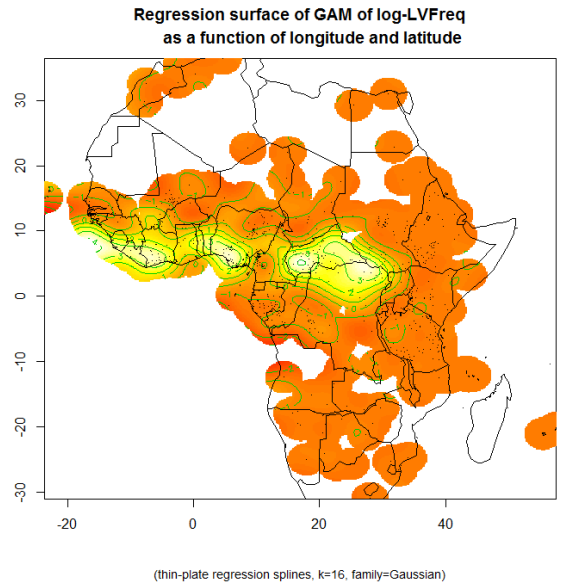
- "hotbeds" → older presence of LV (and ultimately SI-accent)
- Given the refuge zone nature of the "hotbeds", they are probably "hotbeds" not so much for spread but for **retention** of the feature LV/SI-accent present in the original population

LABIAL-VELAR STOPS



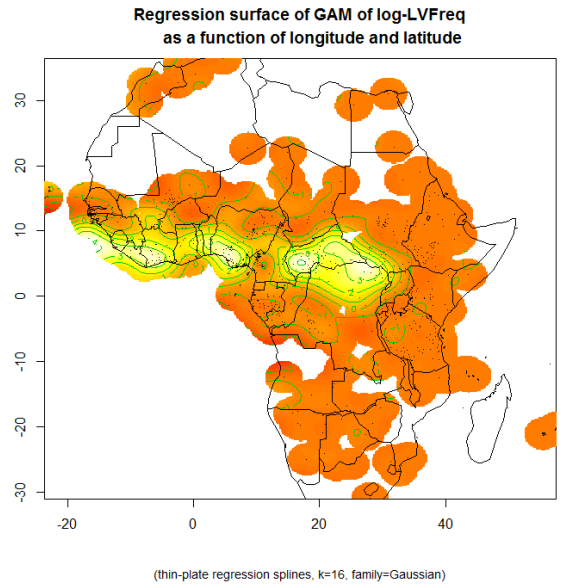
- Genetic build-up of hotbeds & their outskirts is diverse:
  - W: mostly Niger-Congo, except the extreme W
  - E: Gbaya, Ubangian, parts of Central Sudanic
- Linguistically, the original LV/SI-accent-population may be almost any of these (unlikely Niger-Congo or Central Sudanic) or none
- Hotbeds as refuge zones & retention:
  - hotbeds ‖ language shift
  - outskirts ‖ change in language contact situations

LABIAL-VELAR STOPS

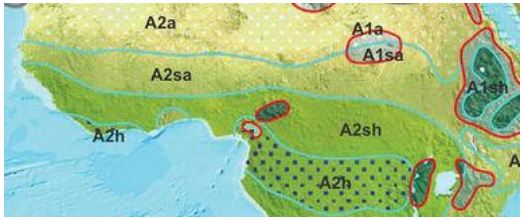


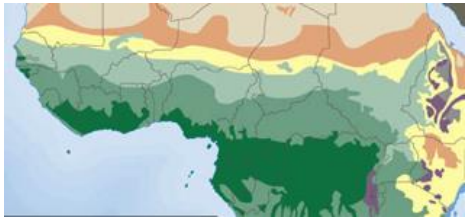
- Bantoid & Adamawa appear to have arrived in the area relatively recently
- Bantoid may have passed it & then re-entered or just entered late
- The spread of Bantoid must have been also rather quick without much language shift involved (except in the N of Congos)
- This model also supports the "East-out-of-West" hypothesis of the E Bantu emergence with the E Bantu break-off point somewhere south of the rainforest

LABIAL-VELAR STOPS



- The ecology of the E refuge zone suggests that the original LV/SI-accent population was not associated with the rainforest but rather with deciduous forest / woodland savannah (of a non-mountainous area) & A2sh climate zone.



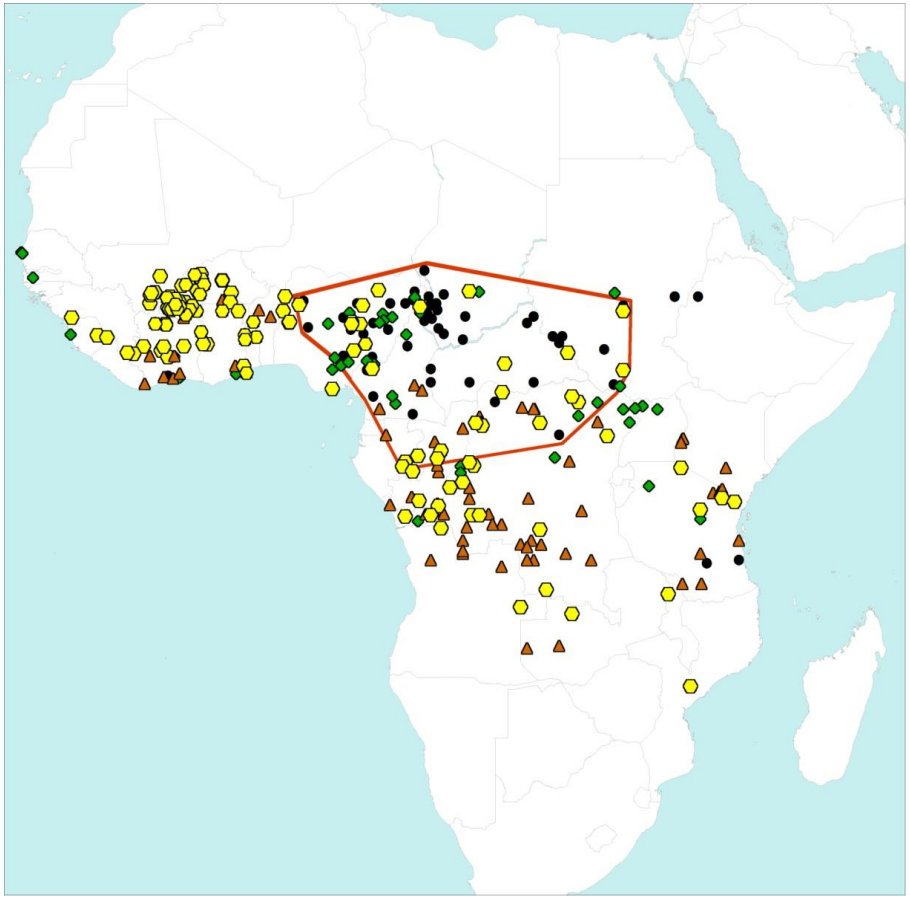


- The split of the original LV/SI-accent population is likely to have occurred somewhere in Central Nigeria, probably as a result of the break-up of the Benue-Congo populations arrived from the N, which then mostly spread W-wards.

Clause-final negatives

CLAUSE-FINAL NEGATIVES

- CFNegs are **typologically unusual** (cf. Dryer 2009)
- CFNegs are typical for a **large area in Northern sub-Saharan Africa**



Map 1. African languages with a CFNeg at least in some constructions (yellow diamonds ⬡ and some of the black circles ●) (Idiatov 2010)

▭ The core area of VO&VNeg languages ●, with the Neg typically being also CF, according to Dryer (2009)

CFNegs: DISTINCTIVE TRAITS

- Associated with **multiple negative exponence** (double, sometimes triple and even quadruple)
- Often **morphosyntactically deficient** as compared to the more canonical grammatical markers in being optional or lacking in some types of clauses as conditioned by their:
  - TAM value
  - main/subordinate status
  - information structure and associated speech act type
  - text genre
- Diachronically rather **unstable**
- Relatively **easy borrowable**, unlike negators in other parts of the world but like discourse markers, focus particles and phasal adverbs (cf. Matras 2009)

CFNegs: PREVIOUS ACCOUNTS

- For **Dryer (2009)**, Negs are CF because they are somehow **"pragmatic"** rather than "semantic"

> "One factor that may be relevant is that negative morphemes, though they are traditionally viewed as being semantic rather than pragmatic, since they (allegedly) simply change the truth value of the proposition expressed by the clause, are perhaps bettered viewed as indicating a particular kind of speech act, one of denying."
>
> (Dryer 2009:339)

- **How** can we **operationalize** the distinction between pragmatic and semantic Negs?
- **Why** the Negs are pragmatic in this area and **not elsewhere**?
- **How** does this **relate** to the observerd **peculiarities** of the CFNegs?

CFNegs: PREVIOUS ACCOUNTS

- For **Beyer (2009)**, double negation is due to the "**inherent focal nature of negation**"

  "The common basis for the double negation-marking structure thus seems to be a relation between negation and some kind of emphasis on the negated assertion [...] intrinsic in negative statements". Given "the inherent focal nature of negation [...] these second elements are likely to be grammaticalized from a focus marker, an assertion marker or some kind of reinforcer"

  (Beyer 2009:217-8)

  - **Multiple negative exponence** is **only a part** of a larger bundle of interrelated features
  - **Why** given the inherent focal nature of negation, multiple negative exponence is so prominent **exactly in this area** of the world?

    Miestamo (2005:209-10): in fact "not so many languages [...] that show reflections of this functional need [to reinforce negation] in their SN [= Standard Negation] constructions or paradigms, and [...] thus [having] A/Emph asymmetry".

CFNegs: A DIACHRONIC ACCOUNT

- Why **clause-final**?

  ☞ They go back to clause-final markers.

- Why they develop so **frequently in this area**?

  - What do the CF markers actually do?
  - What can their relation be to the expression of negation?

CFNegs: A DIACHRONIC ACCOUNT

- In the languages of NSSA, **CF markers** are prominently present and tend to form a **grammatical category** whose core function is the expression of **intersubjective meanings**.
- the grammatical category of intersubjective CF markers = a **conventiona-lization** of a particular **conversational strategy**:

> **Express your awareness of and engagement with the addressee's attitudes and beliefs when your assertive authority may be at stake!**

- Combined with the fact that **negation** is one of those situations when "the **speaker's assertive authority** is at stake and a special effort is needed to win over the hearer's confidence" (cf. Matras 2007:67; Miestamo 2005:209), the **use of intersubjective CF** markers is bound to be **frequent with negation** in these languages.
- Frequency ⇒ **conventionalization**

CFNegs: A DIACHRONIC ACCOUNT

- This explanation accounts naturally for the **distinctive traits** of CFNegs in NSSA
- It develops a plausible **diachronic scenario** for the **emergence and spread** of this feature

Possessee-like qualifiers

POSSESSEE-LIKE QUALIFIERS

In many central African languages some, most or all property concepts are construed exactly as possessees in possessive constructions, which is crosslinguistically (very) rare.

N.B.

Not to be confounded with expressive binominal constructions such as *a whopper of a car*.

Not to be confounded with constructions in which property concepts are construed as possessors, e.g. *a thing of beauty*.

(1) Basaa (N-W Bantu, Cameroon; Hyman 2003)

a. lì-wándá lí = kíŋɛ̂
5-friend V.GEN = chief
'the friend of the chief'

b. lì-kéŋgɛ́ lí = m-ût
5-clever V.GEN = 1-person
'a clever person'

c. mà-kéŋgɛ́ má = 6-ôt
6-clever VI.GEN = 2-persons
'clever people'

POSSESSEE-LIKE QUALIFIERS

Possessee-like qualifiers are found in a multitude of very diverse constructions.

Three examples showing this diversity:

Hausa (head plus dependent marked qualifiers).

Zande (qualifiers treated as possessees in equi-deletion)

Kwakum (adjectives derived by means of a possessive pronoun)

Hausa

(2) kàaká-an yáaròo
grandfather-LK.MS boy[MS]
'the boy's grandfather'

(3) rìigáa fár-áa
gown[FS] white-FS
'white gown'

Hausa

(4) a. fár-á-r rìigáa
white-FS-LK.FS gown[FS]
'white gown'

b. fár-i-n zánèè
white-MS-LK.MS cloth[MS]
'white cloth'

Zande (DRCongo; Raymond Boyd 1987, ms.)

(5) mēmē nyā
bone animal
'The bone of an animal'

(6) gà gbíá ˧kúmbá
GEN chief man
'the chief's man'

Zande (DRCongo; Raymond Boyd 1987, ms.)

(7) pàràngá ˧kúmbá
young man
'a boy'

Zande (DRCongo; Raymond Boyd 1987, ms.)

(8) a. gbāngā ngūà´ nāà gūrū ngūà
long tree with short tree
'the long stick and the short stick'

b. gbāngā ngūă nāà gūrū hé
long tree with short 3SG.INAN.POSS
'the long stick and the short one'

Zande (DRCongo; Raymond Boyd 1987, ms.)

(9) a. fụ̀à bòrǒ wà fụ̀à ángó té
track person like track dog NEG
'A person's track is not like a dog's track.'

b. fụ̀à bòrǒ wà gà ángó té
track person like GEN dog NEG
'A person's track is not like a dog's.'

Zande (DRCongo; Raymond Boyd 1987, ms.)

(10) a. gbīnzà kúmbá wà gbīnzà dḗ té
old man like old woman NEG
'An old man is not like an old woman.'

b. gbīnzà kúmbá wà gà dḗ té
old man like GEN woman NEG
'Old men and women are not the same.'

Kwakum (Bantu, Cameroon)

(11) a. páá myáʃ̌ì
good 3-voice
'a beautiful voice'

b. ngúmbà kɔ̂ndù
entire 3-month
'an entire month'

Kwakum (Bantu, Cameroon)

Most qualifiers are derived from nouns or verbs by means of the suffix *–áàwɛ̀* (Belliard 2005: 91).

(12) càláàwɛ̀ ‘fast, sharp’ < cál ‘speed’
ɟòmáàwɛ̀ ‘dry’ < ɟómó ‘to dry’

-áàwɛ̀ is not analysable synchronically, but diachronically it is almost certainly a possessive form, consisting of the connective relator *áà* and a third person singular pronoun.

What is the origin of this phenomenon (i) and how did it spread (ii)?

(i) Current hypothesis: origin in Gbaya languages. In Gbaya, the majority of qualifiers are relational nouns derived from verbs. Qualifying constructions are structurally identical to Action Nominal Constructions.

(ii) Spread of a constructional metaphor: treat modified nouns as the possessors of their properties.

The end