

How to become rich after the loss of a noun class system: The case of Baga Pukur (Atlantic)

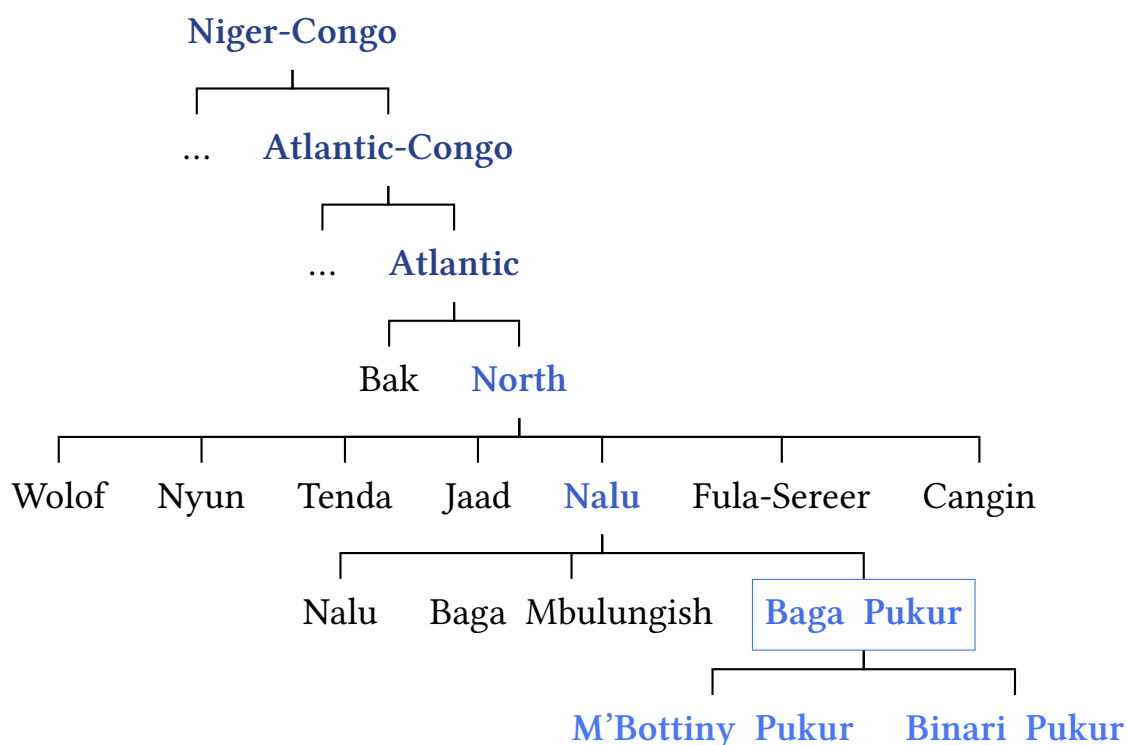
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0 Introduction

0.1 Metadata

Figure 1: Baga Pukur within Atlantic



- A few hundred speakers in 2 villages (= 2 dialects) of coastal Guinea
- Previously undescribed, critically endangered (status 7 ‘shifting’ on Lewis and Simons (2010)’s scale), bilingualism with Susu (Mande)

2 field trips, 3,5 months

1055 nominal lexemes collected (Binari + M’Bottiny), including:

600 with a PL form

Talk based on M'Bottiny data.

0.2 Phonological basics

- Tonal (but seemingly no role in inflection classes)
- Affix vowels undergo height and roundedness assimilations, and maybe also ATR harmony (unclear yet)
- No voicing contrast (all consonants transcribed as voiceless)

0.3 Inflectional basics

- No class/gender agreement → ~~noun-class-system~~
- Markers on nominals alternating between SG and PL → number markers:
 - ◇ Prefixes, suffixes, apophony, infixes?
 - ◇ 1 nominal form can feature up to 2 (SG) or 4 (PL) markers
 - ◇ Which number markers a noun features = phonologically unpredictable
→ Categorization into inflection classes and subclasses

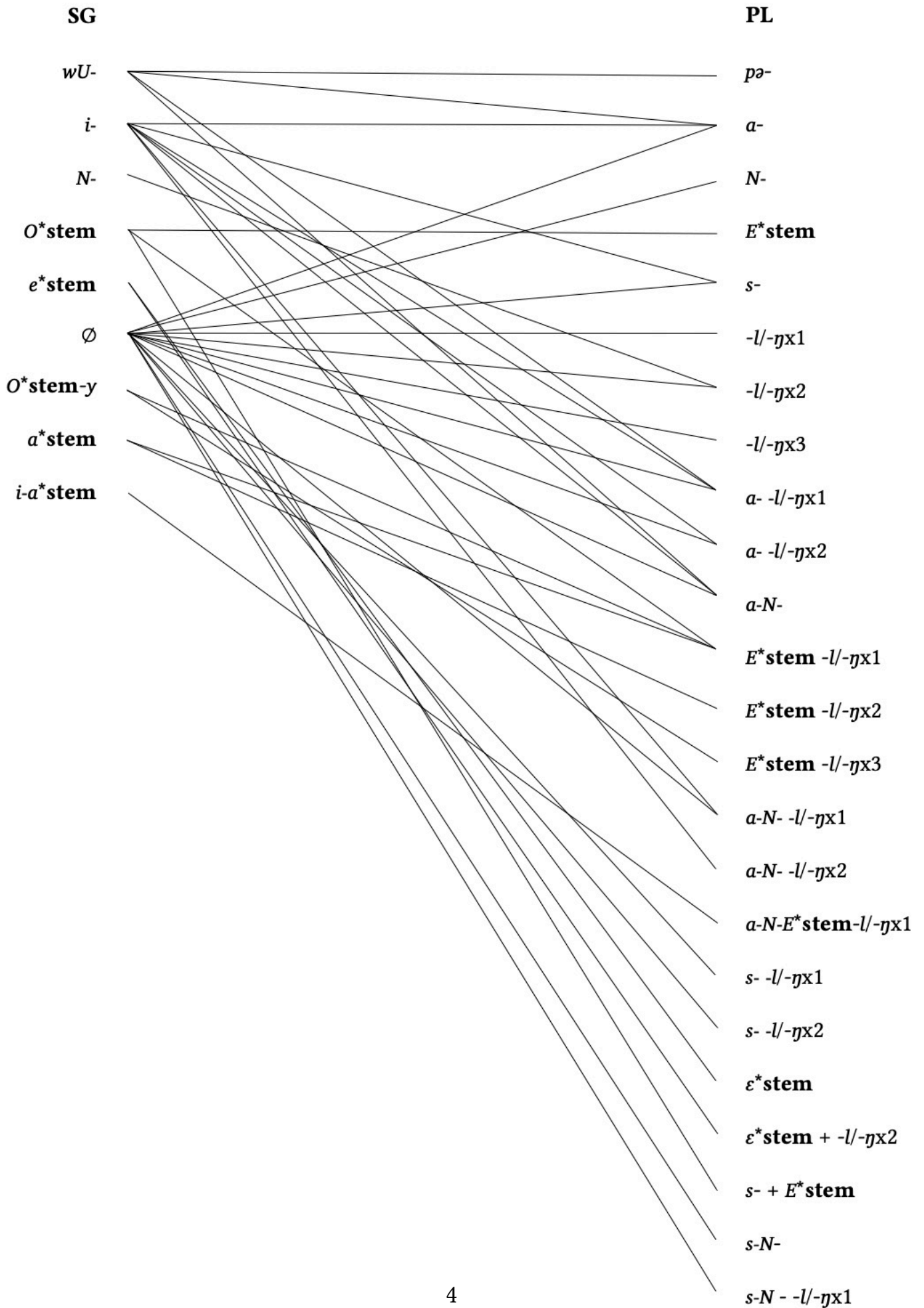
1 The noun inflection class system of Baga Pukur

1.1 Marker inventory

Table 1: Inflection class markers (excluding hapaxes)

Number	Marker	Example	Translation
SG	<i>wU-</i>	<i>wō-pákà</i>	Baga
	<i>I-</i>	<i>í-sù</i>	leg
	<i>N-</i>	<i>ntéŋk</i>	settlement
	O-stem	<i>cóŋ</i>	kernel
	e-stem	<i>yê</i>	<i>parkia biglobosa</i>
	a-stem	<i>ánà</i>	cow
	<i>-y</i> <i>∅-</i>	<i>āpó-y</i> <i>ŋáp</i>	house hen
PL	<i>pə-</i>	<i>pā-kísì</i>	women
	<i>a-</i>	<i>á-pò</i>	mosquitos
	<i>N-</i>	<i>á-n-pànd</i>	eyelashes
	E-stem	<i>céŋ</i>	kernels
	<i>ε-stem</i>	<i>yê</i>	<i>parkiae biglobosae</i>
	<i>s(ə)-</i>	<i>sā-lá</i>	stones
	<i>-l/-ŋ</i>	<i>é-n-fî-l</i>	goats

Figure 2: Pairing of singular and plural markers



1.2 Inflection classes

1.2.1 *wU*- SG class: human

Includes almost all nouns denoting human beings not characterized by a relationship.

- Paired with *p(ə)*- PL class:
 - ★ exclusive to *wU*- SG class
 - ★ morphologically determined: associated with derivation

Examples:

SG	PL	Meaning
<i>wū-kónà</i>	<i>pū-kónà</i>	person from <i>ó-kónà</i>
<i>wō-ηκόηκòη</i>	<i>pō-ηκόηκòη</i>	person from <i>ηκόηκòη</i>
<i>wō-kā-fánc áfànc</i>	<i>pā-kā-fánc áfànc</i>	farmer (= person who farms)
<i>wū-kú-sì</i>	<i>pī-kí-sì</i>	woman (= person defined by being female)
<i>wó:-màñ</i>	<i>pé:-màñ</i>	other person (= HUM-DEM)
<i>wū-fó</i>	<i>pū-fó</i>	circumcised person

- Paired with *a*- PL class:
 - ★ non-exclusive to *wU*- SG class
 - ★ not associated with derivation

Examples:

SG	PL	Meaning
<i>wō-pákà</i>	<i>ā-pákà</i>	Baga
<i>wū-cík</i>	<i>ē-cík</i>	stranger
<i>wú-pìlìm</i>	<i>é-pìlìm</i>	white person
<i>wú-wòy</i>	<i>ó-wòy</i>	old person

- Combined with *N*- PL marker
 - ★ non-exclusive to *wU*- SG class
 - ★ not associated with derivation
 - ★ might be associated with age specification

Examples:

SG	PL	Meaning
<i>wó-tàmb</i>	<i>á-n-tàmb</i>	young man
<i>wú-tèm</i>	<i>é-n-tèm</i>	old person

1.2.2 *s(ə)*- PL class: roundish

• Paired with \emptyset SG class:

- ★ very large number of items
- ★ semantics = 1) roundish; 2) manufactured
- ★ also combines with *-l / -ŋ* (x1, x2) PL markers
- ★ Examples:

SG	PL	Meaning
<i>lá</i>	<i>sā-lá</i>	stone
<i>cîr</i>	<i>sî-cîr</i>	eye
<i>lúmà</i>	<i>sū-lúmà-l</i>	shirt
<i>lánt</i>	<i>sá-lànt-àl-àŋ</i>	hole

◇ combined with *a-* + *N-* PL markers

- partly morphologically determined: associated with derived nouns, primary or derived adjectives (long, short, big, large, red, white, black, snake, heat, food)
- also associated with seemingly non-derived items (breast, bone, head, head-carrying piece of fabric, place, road, building plot, tree, traditional mask, friend, Sitemu, sp. fish, stem, iron, thing)
→ semantics= roundish, other?
- Examples:

SG	PL	Meaning
<i>kō-wūlák-àŋ</i>	<i>s-ā-n-kā-wūlák-àŋ</i>	snake
<i>n-cóm-àŋ</i>	<i>s-á-n-cōm-àŋ</i>	red
<i>fítpìt</i>	<i>s-ē-n-fítpìt</i>	long
<i>kâp</i>	<i>s-á-n-kâp</i>	head

• Paired with *I-* SG class (long /thin)

- ★ very restricted number of items
- ★ semantics = roundish + long / thin?

Examples :

SG	PL	Meaning
<i>ī-nún</i>	<i>sū-nún</i>	rope
<i>é-lèŋ</i>	<i>sá-lèŋ</i>	lip
<i>é-nòp</i>	<i>só-nòp</i>	ear

1.2.3 **a-** PL class

- Paired with **I-** SG class:
 - ★ the largest superclass
 - ★ contains: tiny items; surfacy items; curvy items; long items (esp. associated with rounded stem vowels)
 - ★ combines with **-l / -ŋ** x1 PL marker: associated with tiny / long items → adds ‘sharp’ feature?
 - ★ combines with **-l / -ŋ** x2 PL marker → adds ‘big / dangerous’ feature? (cf. **-l / -ŋ** x2 class)
 - ★ combines with **-N-** PL marker → among other items, associated with all curvy items.

Examples:

SG	PL	Meaning
<i>í-sù</i>	<i>ó-sù</i>	leg
<i>è-sáp</i>	<i>à-nsáp-àl</i>	vegetal/fish thorn
<i>é-pò</i>	<i>á-pò</i>	mosquito
<i>ē-lálàŋ</i>	<i>ā-nkálàŋ</i>	shrimp

- Paired with **∅-** SG class:
 - ★ always combined with **-l / -ŋ** (x1, x2) PL marker (no specific or clear semantic motivation)
 - ★ can combine with **N-** PL marker (no specific or clear semantic motivation)

Examples:

SG	PL	Meaning
<i>nsó</i>	<i>ā-nsó-l-òŋ</i>	frog
<i>pâtl</i>	<i>á-n-pàtl</i>	elder brother

1.2.4 **N-** SG class: attached to a surface?

- Exclusively paired with **-l/-ŋ** x2 PL class
- Very restricted number of items. Unique occurrences:

SG	PL	Meaning
<i>n-tênk</i>	<i>ténk-āl-èη</i>	settlement
<i>n-tát</i>	<i>tát-l-àη</i>	tail
<i>n-tí</i>	<i>tí-l-ìη</i>	tree
<i>n-tôη</i>	<i>tóη-àl-òη</i>	nose

1.2.5 -l / -η x2 PL class paired with Ø- SG class: big / dangerous / taboo

- contains: big or dangerous animals (boa, another type of big snake, whale, shark, panther, elephant, porcupine fish etc.), taboo and fragile body parts (female genitalia, pubis, anus, eye, neck), large items (bed, palm tree, kapok tree), items associated with injury (fire, sword, wound) or that should not be consumed (wine)
- in combination with other PL classes, sometimes seems to keep semantic motivation.

Examples:

SG	PL	Meaning
<i>sên</i>	<i>sém-áη-àl</i>	kapok tree
<i>mút</i>	<i>mút-l-òη</i>	fire

1.2.6 cU- class: glottonyms

Only with a limited number of glottonyms:

SG	PL	Meaning
<i>cō-mánínkà</i>		Mandinka language
<i>cū-kólənc</i>		Baga Mbulungish language
<i>cū-fútà</i>		Pular language
<i>cū-núnù</i>		Nalu language
<i>cū-yǒlfél</i>		Wolof language

1.2.7 E-stem PL class paired with O-stem SG class: ungrown?

- ★ combines with -l / -η (x1) PL marker for some items
- ★ combines with s- PL marker for some items

SG	PL	Meaning
<i>cóŋ</i>	<i>céŋ</i>	kernel
<i>yót</i>	<i>yét</i>	teenage girl
<i>yól</i>	<i>sí-yèl</i>	coal
<i>ōyú</i>	<i>ēyí-l</i>	fiddler crab
<i>t-úŋ-àŋ</i>	<i>s-éŋ-èl</i>	small

1.2.8 *ɛ*-stem PL class: no specific or clear semantic motivation

- paired with *a*-stem SG class:
 - ★ combines with *-l / -ŋ* (*x1, x2, x3*) PL
 - ★ combines with a *-y* SG suffix for some items

SG	PL	Meaning
<i>ánà</i>	<i>énè-l</i>	cow
<i>ŋâ</i>	<i>ŋé-l-àŋ</i>	back
<i>āp^wá-y</i>	<i>ēpé-l(-áŋàl)</i>	house
<i>áwà-y</i>	<i>éwè-l</i>	mouse
<i>ŋf^wá-y</i>	<i>ē-ŋfé-l(-àŋ)</i>	swamp fish

- paired with *e*-stem SG class:

SG	PL	Meaning
<i>yê</i>	<i>yê</i>	<i>parkia biglobosa</i>

1.2.9 *-l / -ŋ x1* PL class: no specific or clear semantic motivation

Examples:

SG	PL	Meaning
<i>ápòt</i>	<i>ápòt-l</i>	dog
<i>ácòŋ</i>	<i>ácòŋ-àl</i>	bat
<i>ílíp</i>	<i>ílíp-àl</i>	porcupine

1.2.10 *-l / -ŋ* x3 PL class: no specific or clear semantic motivation

SG	PL	Meaning
<i>npô</i>	<i>npó-l-ōŋ-ùl</i>	oil
<i>àsó</i>	<i>àsó-l-óŋ-àl</i>	water
<i>yó:</i>	<i>yó:l-óŋ-òl</i>	forest (2)
<i>ācēlfé</i>	<i>ācēlfé-l-áŋ-àl</i>	knife

1.2.11 Hapactic classes

SG	PL	Meaning
<i>nsûk</i>	<i>áàtl</i>	palm tree (old form)
<i>ē:lín</i>	<i>ē:l < ik > ín</i>	fish
<i>fál</i>	<i>fál-àm</i>	child
<i>ākɔc</i>	<i>ā < n > kóc-èl</i>	bird

2 The origins: traces of a Northern Atlantic noun class system

Background:

- ★ Almost all other Atlantic languages have a noun class system (= noun inflection classes correlated to agreement patterns). Usually rich, with an average of 17 classes.
- ★ Even the 4 exceptions – Jaad (Tenda), Ndut, Palor & Saafen (Cangin) exhibit markers on articles that are very close to class agreement markers (Creissels 2015: 14 50-51).
- ★ Closely related Baga Mbulungish has 14 noun classes (Golovko 2015), Nalu only 4 (Pozdniakov n.d.: 58) → noun inflection class system of Baga Pukur = result of advanced stage of decline of noun classes started before the Nalu split?

2.1 Structural features consistent with Atlantic noun class systems

- Presence of overt markers on nouns (cf. Creissels (2015: 38))
- Multiple correspondences between SG and PL classes (cf. Creissels (2015: 27))
- Semantically motivated classes (to varying degree), esp. 2 salient human classes (cf. Creissels (2015: 44))

2.2 Traces of Northern Atlantic initial consonant alternations (typically related to the noun class system)

Northern Atlantic initial consonant alternations = the initial consonant of radicals alternates in phonological feature (voicing, plosivity, nasality, etc.), usually in addition to a more typically morphological class marker. Consonants typically feature 3 degrees of alternation. Each noun class is associated with one degree of alternation. Function = additional marking of number oppositions; create semantically motivated groups of classes (animate vs. dimensional vs. others). (Pozdniakov n.d.: 60-62)

Figure 3: Reconstruction of consonant alternations in Proto-Northern-Atlantic (Pozdniakov n.d.: 61)

degré	*sourdes						*sonores				
III	p	t	c	k	kw	q	mb	nd	nj	ng	ngw
II	p	t	c	k	kw	q	b	d	j	g	gw
I	f	r	s	h,x	xw	x	w	l	y	y	yw

- **Baga Pukur inflection class marker *N-* could be related to III degree:**
 - ◇ Combines with practically all other PL-marking morphemes.
 - ◇ Also exists in the singular. As a SG marker AND as part of the root in high number of lexemes.
 - ◇ Northern Atlantic III degree associated with dimensional classes. In Pukur, maybe some traces of dimensional value (cf. human class: age/size specification?), but problem: no productive derivational value of classes (no diminutives or augmentatives).
- **Hypothesis: /f/ = phonologization of I degree of alternation (vs. p II/III):**
 - ◇ Occurs almost only in root-initial position. Very rare in verbs.
 - ◇ Trace in /fítpìt/ [fírít] ‘long’ = reduplication of /pit/ (lenition-blocking only occurs in intensive adverbs and reduplicative adjectives: interpreted as expressivity marker)
- Trace of alternation /s/ I vs. /c/ II/III in: wò-sòmá ‘Susu person’ vs. sū-cōmá ‘Susu language’ < sūl cōmá (‘language of Susu’)

Maybe also in glottonym class prefix cu-: < sūl ‘language’ + II/III degree of initial consonant?

*No productive consonant alternations in Baga Mbulungish, but probably also traces.

2.3 Relation of Baga Pukur inflection class markers to (Proto-)Atlantic class markers

- ◇ Human PL prefix *pə-* could be related to Proto-Atlantic **bɛ-* (Niger-Congo class **1*: plural human) reconstructed by Pozdniakov (n.d.: 76)
 - ◇ Prefix for languages *cu-* related to Nalu *ci-* (same semantics) (Seidel 2013: 25).
 - ◇ Maybe *s(ə)-* ‘roundish’ class PL prefix could be related to Proto-Atlantic class **si* (Niger-Congo class **10*: plural animals) reconstructed by Pozdniakov (n.d.: 76), but historical comparison needed to know if Baga Pukur /s/ can be related to Proto-Atlantic **s*
- Difficulty to relate other inflection classes to Proto-Atlantic noun classes is not a valid counter-argument: very divergent family, with large-scale internal borrowings (Segeer and Pozdniakov forthcoming), doubts on its unity as a family (Creissels 2015: 7-8), very diverse noun class systems, + other problems shared by other Niger-Congo branches → very difficult to reconstruct Proto-Atlantic noun class system, still work-in-progress (Pozdniakov n.d.: 59-60)

2.4 Towards the origins of the PL suffix *-l* / *-ŋ*:

- Shared by closely related Baga Mbulungish (Golovko 2015), where it combines both with unprefixes nouns (*SG* = \emptyset -*stem*, *PL* = \emptyset -*stem-PL*) and plural class prefixes (*SG* = *CL.SG-stem*, *PL* = *CL.PL-stem-PL*), but does not appear as an agreement marker.
- Other probable cognates in Northern Atlantic:
 - In Nyun group (Northern Atlantic): PL / associative suffix *-Vŋ* in Guñaamolo Nyun (Bao Diop 2015: 395, 399), Djifanghor Nyun (Quint 2015: 425-227), Gújááhár Nyun (Goudiaby 2016) and Gubëeher Nyun (Cobbinah 2013)
 - Pozdniakov (n.d.: 79-82) related them, along with other morphemes in Wolof, Limba, Sua & **plural suffixes of Baga Mbulungish**, to a Proto-Atlantic associative / collective suffix connected to Niger-Congo 2A class (‘personal plurals’).
 - In Tenda-Jaad group: Postposed **definite articles**: *-ɔl*, *-ɛl*, *-aŋ*, *-ɔŋ*, *-ɛŋ*, *-iŋ* (among others) in Basari (Perrin 2015: 507 513-514); postposed **demonstratives** in *CL-ŋ* in biafada (Bassène n.d.: 561)
- Allomorphy *ŋ* / *-l* in Baga Pukur and Baga Mbulungish → possibly mix of historically different morphemes (innovation in Nalu branch)

- Arguments in favour of **determinative** origin (possibly in addition to PL / associative origin) :
 - It reduplicates (cf. Vaan (2015))
 - Many nominal stems end in *-Vl* or *-Vη* (even reduplicated), e.g. *é-pòηkàlòη* PL *ó-m-pòηkàlòη* ‘eyebrow’ → hyp. of lexicalization. Historically disconnected from number, or reinterpretation? Also in Djifanghor Nyun (Quint 2015: 427).
 - Idiosyncratic value in the lexeme ‘house’? According to speaker YTB (2019): *ēpé-l* ‘houses’ = “when you can’t see them” vs. *ēpé-l-áη-àl* = “when you see them”

3 Is it live or is it dead?

Is this inflection class system a dead fossil of a former noun class system (a frozen noun class system simply disconnected from any agreement patterns), or has it evolved after the loss of agreement and does it continue to evolve?

3.1 Signs of decline

Apart from loss of agreement patterns:

- **Massive erosion of derivational function of class markers**, e.g. loss of diminutive and augmentative derivation, typical of Atlantic noun class systems (Creissels 2015: 30)
- **Probably a few frozen class markers**, such as SG *a-* (e.g. *ánà* ‘cow’ < Pular *nagge*), very frequent on nouns but no longer commutable with a PL marker, but still commutable on placenames to derive katoikonyms, e.g. *ó-kónà* ‘sp. neighborhood of M’Bottiny’ (with prefix /a-/ → *wū-kónà* ‘inhabitant of Kona’)
- **Simplification of consonant alternation system** (ternary > binary distinction), + probable lexicalization of many *N-*

! Noun classes have declined in Nalu languages through reduction (and disappearance) of class agreement patterns, but NOT of nominal class marking (at least in Baga Mbulungish and Baga Pukur). **Opposite situation in other Atlantic languages which have lost noun classes (Creissels 2015: 49-50).** !

3.2 Signs of life after /during the loss of class agreement patterns

In noun class languages, the diversity of nominal class affixes can be higher than that of agreement patterns (with several inflection classes being associated with one agreement pattern).

→ However complex the Baga Pukur noun inflection class system might be (c.f. SG – PL pairings on p.4), it could theoretically have been correlated with agreement patterns.

However, arguments in favor of complexification after / during the loss of class agreement:

- A few SG / PL markers are absent from other Atlantic languages: all apophonic alternations (+ combined with with other markers!), double reduplication of PL *-l/-ŋ*. + several atypical hapactic classes (suffix *-m*, infix, etc.)
- Many item belong to two or more different PL classes because of alternative PL markers (probably not inherited)
- Much of the remaining complexity of the system is only shared by Baga Mbulungish:
 - ◇ SG suffix *-y* only exists as a PL suffix in Baga Mbulungish. Normally, class markers are prefixes in Atlantic (1 exception : Fula, c.f. Creissels (2015: 20-21)).
 - ◇ Reduplication of PL *-l/-ŋ* has only been found in Baga Mbulungish.

Reminder: noun classes in decline in Nalu branch: Nalu – 4 classes, Baga Pukur – 0, even Baga Mbulungish – 14 has fewer than Atlantic average.

→ Complexification of inflection class system (Baga Mbulungish, Baga Pukur) correlated with decrease of noun classes?

3.3 Signs of current life

- Some classes are clearly associated with transparent, probably productive derivation: human classes SG *wU-* / PL *pə-*; PL *s-a-N-*
- Ongoing inflection class shifts that are semantically motivated and multidirectional:

Table 2: Ongoing reclassifications

SG	Old PL	New PL	Meaning	Reclassification
<i>ī-nún</i>	<i>sū-nún</i>	<i>ō-nún</i>	rope	ROUNDISH → LONG
<i>n-tí</i>	<i>tí-l-ìŋ</i>	<i>sē-ntí-l-ìŋ</i>	tree	ATT. TO SURFACE → ROUNDISH
<i>pót</i>	<i>sū-pót-òl</i>	<i>pót-òl</i>	pot	ROUNDISH → -lx1
<i>nsúk</i>	<i>áàrl</i>	<i>nsúk-ūl-òŋ</i>	palm tree	suppletion → BIG/DANGEROUS
<i>āp^wá-y</i>	<i>ēpé-l</i>	<i>ēpé-l-áŋ-àl</i>	house	<i>E</i> -stem + -lx1 → <i>E</i> -stem + -lx3
<i>nfó-y</i>	<i>ē-nfé-l(-àŋ)</i>	<i>nfó-y-l-àŋ</i>	swamp fish	<i>E</i> -stem → BIG/DANGEROUS

→ A few classes probably in decline because atypical & rare (ATTACHED TO SURFACE, GLOTTONYMS), and non-concatenative: suppletion, *E*-stem, probably others.

→ But seemingly semantically motivated shifts both to and from ROUNDISH class evince undergoing ‘healthy’ restructuring (in addition to less ‘healthy’ shifts involving decline of some classes)

4 Conclusions

- Strong evidence that Baga Pukur noun inflection class system < Northern Atlantic noun class system.
- Signs of decline, but also signs of health: system that continues to undergo “healthy” evolutions
- However, any signs of “healthy” restructuring to be put into perspective:
 - ◇ Baga Pukur no longer passed on to younger generations.
 - ◇ Some time since **new loanwords have stopped being integrated into Baga Pukur phonological and morphological system** (more akin to code-mixing than to borrowing).

→ Probably no class can be considered ‘productive’ to this day.

→ Lively noun inflection class system ‘shot dead’ by language shift rather than progressively expired from old age

- Questions:
 - ◇ Did the inflection class system become more complex after the loss of noun classes (i.e. agreement patterns)? Maybe more accurately *while* losing noun classes. Need Nalu grammatical data.
 - ◇ Why a decline of agreement patterns, not of nominal class marking?

- ◇ Why a decline of derivation through class alternation? Correlated with loss of agreement patterns?
- ◇ Unique situation within Atlantic: complete loss of class agreement patterns, but preservation of overt class marker alternations on nouns.
→ Hence development into a lively inflection class system?

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