The Emergence of a Numeral Classifier System in Ngəmba (Eastern Grassfields)

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Ngəmba Language Context

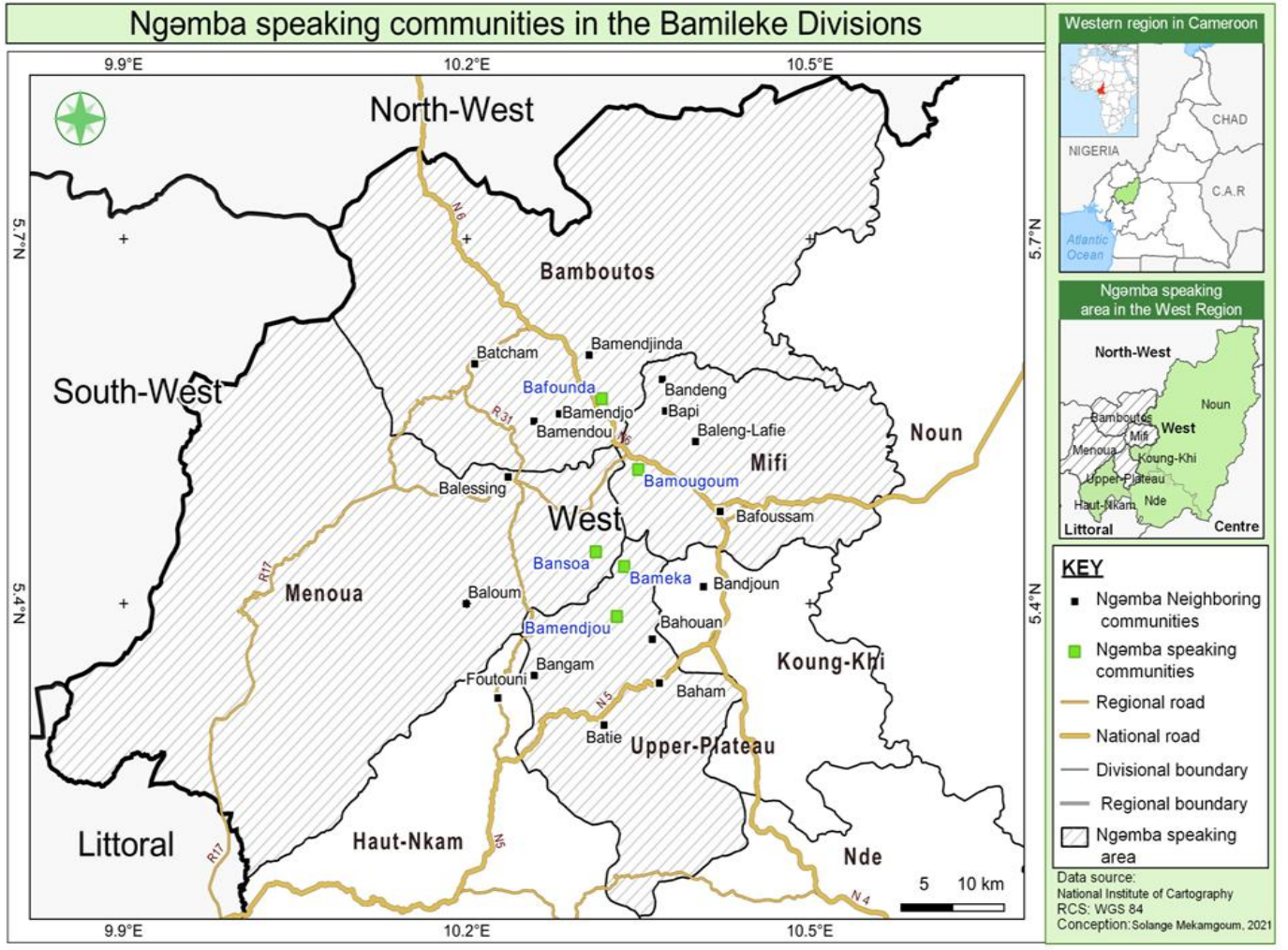
Ghɔmálá? Cluster|Bamileke|Eastern Grassfields, Cameroon

Location: Ngəmba is spoken in the Western Region of Cameroon by about 500,000 speakers (Bamendjou, Bameka, Bansoa, Bamougoum and Bafounda)

Classification: Part of the Bamileke subgroup of Eastern Grassfields Bantu (Southern Bantoid, Niger Congo): ISO 639-3 code bbj; Glottolog : ngem1253

Transition dialect between Eastern and Western Bamileke languages (Watters 2003)

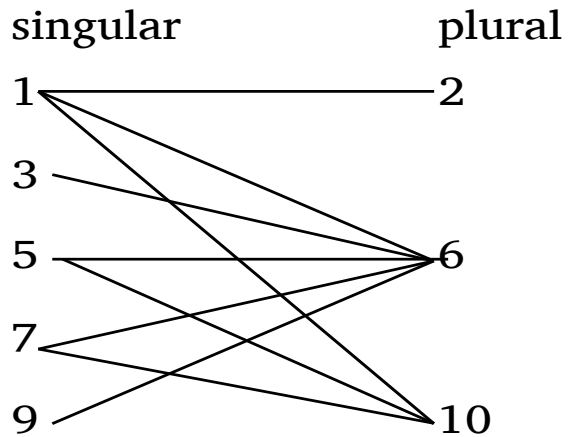
Relevance: Shows both **a reduced noun class** system and an emergent **numeral classifier system**.



Nou class	Noun Prefix	Agr.		Example	Gloss
1	ø-	w-	L	*ø-sɔ́k*	'pepper'
	mɛ(N)\mʉ́(N)-			*mɛn-dʉ̀(n)*	'adult'
				mɛ́-mbàŋà	'male teen'
				mɛ̀-nà	'young animal'
				mʉ́-mma	'sibling'
				mʉ́m-pù?	'knife'
				mʉ́-səŋ	'bird'
	mà-			*mà-ŋkkhʉ́*	'kid'
				mà-ghàp	'concubine'
	N-			*n-dúm*	'male/husband'
				ŋ-gʉ̀(n)	'guest'
				mbɔ́ŋ	'poor person'
	m-/ŋ-			*m-ɛ́(n)*	'child'
				ŋ-è(n)	'person'
	nà-			*nà-zhìn*	'the (way of) walking'
2	pà-	p-	H	*pà-ŋkkhʉ́*	'kids'
	pɔ́-			*pɔ́-mbàŋà*	'male teens/young adults'
				pɔ́-mámma	
				pɔ-màlʉ̀	'siblings'
				p-ɔ́(m)	'adults'
				p-ɔ̀(m)	'children'
					'people'

Noun class	Noun prefix	Agr.		Example	GLoss
3	ø-	w-	H	*ø-mbàŋá*	'pot'
				ø-ssó	'face'
5	nà-	ts-	H	*nə-tsə́k*	'eye'
6	mà-	m-	H	*mə-nə́k*	'eyes'
	m-			*m-bbó*	'hands'
	N-/ø-?			*?-ŋgwáŋ*	'salt'
7	ø-	zh-	H	*ø-lhúm*	'tongue'
				ø-ŋkhyɑ́	'wood'
9	ø-	zh-	L	*ø-ntú?*	'cup'
				ø-pɛ̀(n)	'hatred'
10	ø/(mà -)	ts-	H	*ø-mbbvɔ́*	'dogs'
				(mà)/ø -tstsó	'things'

(1) Eight noun classes



(2) gender chart

Numeral Classifiers: A Typological overview

Classifier form: [Numeral + CL + Noun]

Definition and global presence

- **Definition:** Numeral classifiers are grammatical morphemes used in certain languages between numerals and nouns to categorize the noun based on semantic features such as shape, animacy, or function.

- **Global Presence:** Prominent in East and Southeast Asian languages; also found in parts of Africa, Mesoamerica, and the Pacific.

(3) Mandarin Chinese

(a) sān běn shū
three CLF book
'Three books'

(b) *san* *zhī* *gǒu*
three CLF dog
'Three dogs'

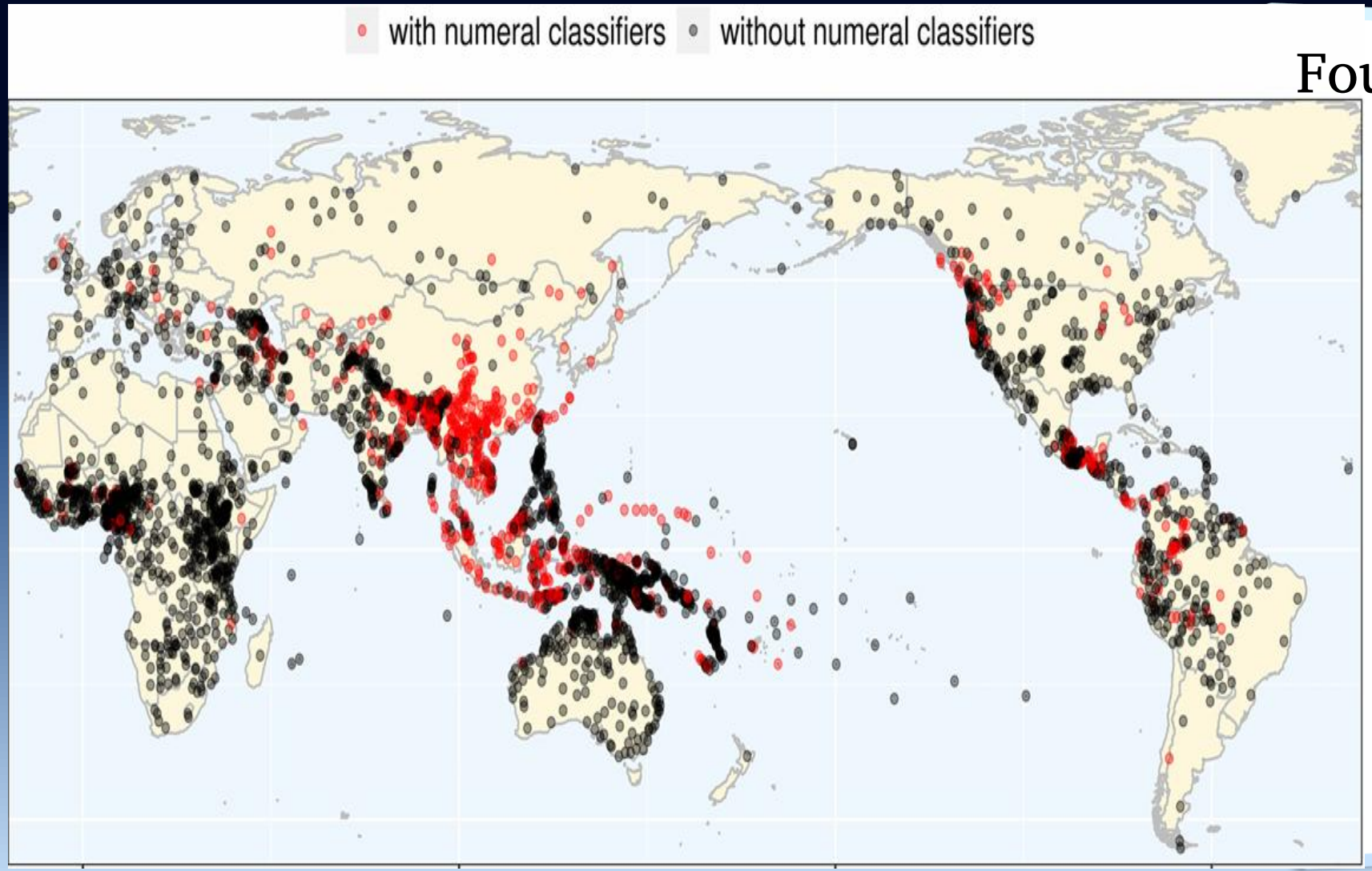
<u>běn</u>: classifier for bound items: books, notebooks, magazines (shape and function)

<u>zhī</u>: Classifier for animals, body parts that come in pairs (hand, eye) and select paired objects (one of pairs of gloves or socks, etc.)

(4) Fongbe (Gbe cluster, Kwa, Niger-Congo)

tán *dé* *nú* *aɖɛ*
three CLF spoon soup
'three spoonfuls of soup' (Lefebvre & Brousseau 2002)

Geographical Spread of Numeral Classifiers



The spatial distribution of numeral classifier languages
(Her, One-Soon, Hammarström, Harald and Allassonnière-Tang, Marc 2022: 158)

Found in:

- East Asia (Mandarin, Japanese)
- Southeast Asia (Thai, Burmese)
- Mesoamerica (Mayan, Otomanguean)
- Africa (Fongbe, some Bantu & Grassfields Bantu)

Functions of Numeral Classifiers

- **Categorization**: Semantic grouping (e.g., animate vs. inanimate, shape, texture, size)
- **Individuation**: Turning mass nouns into countable entities
- **Redundancy/Clarity**: Reinforces noun properties
- May signal **grammatical change or restructuring** (Bantu)

African Perspectives on Numeral Classifiers:

- **Emergence: Noted in Niger-Congo languages, sometimes coexisting with noun class systems (e.g. Tivoid, Grassfields) or replace it.**
- **Development: Often originate from nouns denoting body parts, containers or natural elements or demonstratives**
- **Semantic domains: animacy, shape, size, material**
- **Typological Significance: Reflects grammatical evolution and contact-induced change**

"Classifier systems in African languages are often underreported and can emerge in systems already shaped by noun class distinctions."
(NuClaBa Blog, 2023)

Why Classifier Emergence Matters in Ngəmba

Mechanisms Behind Classifier Emergence

- **Lexical Origins:** Classifiers often evolve from nouns denoting body parts, tools, or natural objects (Aikhenvald 2000).
- **Semantic Bleaching:** Source nouns lose specific meanings and generalize into grammatical markers.
- **Syntactic Tightening:** Classifiers increasingly bond with numerals, forming inseparable units

(5) *mbaŋ* (kernel) → Small, round, compact units
(6) *ŋgɔ̀m* (grain) → Small discrete particles

Ngəmba shows two concurrent systems:

- Traditional gender/noun classes (structurally inherited)
- Emerging numeral classifier system (functionally emergent)
- Typologically rare configuration
- Raises questions about grammatical reorganization

Tracking Classifier Emergence in Ngəmba

- Loss of Syntactic Autonomy: Classifiers cannot occur independently; they must accompany numerals.
- Neutralization of Number Distinction: Classifiers lose plural marking despite plural reference
- Loss of Concordial Agreement: Former agreement features are lost in classifier contexts
- Morphological erosion
- General exclusion of the modifier

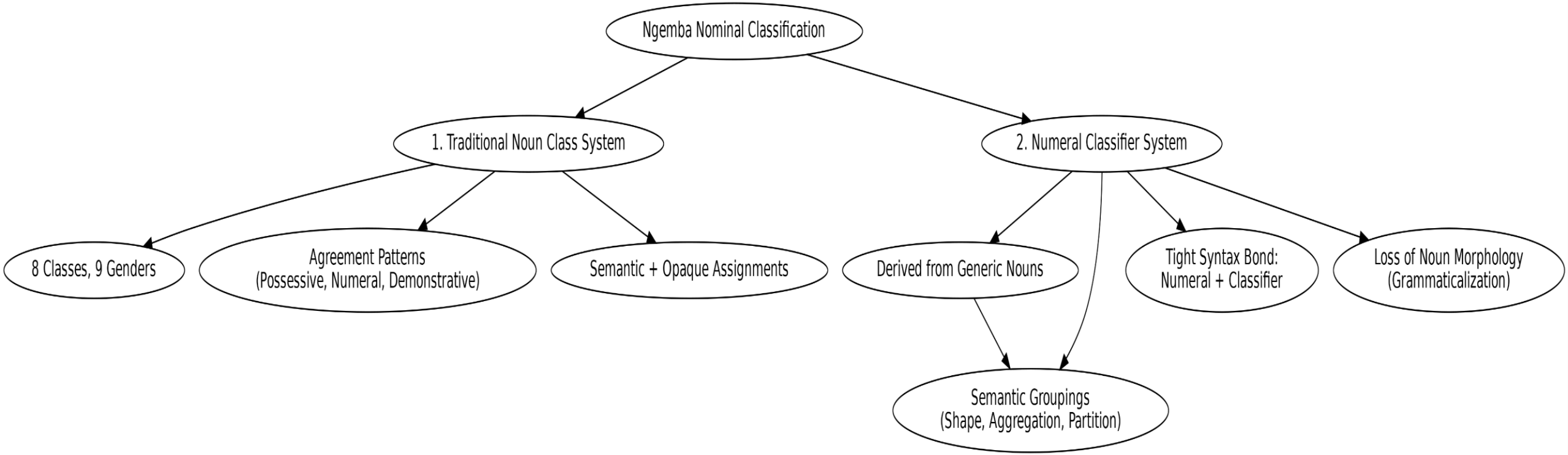
(7) **class 7/6 (singular vs. Plural)**

(a) ***thwó***	(b) ***mà-tthwó*** *mím-ppa*
ø-head(7)	MÀ-head(6) MÍM-two(6NUM)
'head'	'Two heads'

(8) *tthwó* as numeral classifier

shû	***tthwó***	*ppa*	*w-op*
Ø-cabbage(1)	CLF < HEAD two		W-3PL(1)
'Their two cabbages'			

(9) Structure of Nominal Classification in Ngəmba



Basic Characteristics of Ngəmba Numeral classifiers

Partial Coverage
Classifiers apply to about 393 specific nouns only, not the entire lexicon.

Shape and Aggregation
Classifiers group items by salient features: shape, partition, or aggregation.

Morphosyntactic Bonding
Classifiers and numerals form a tight syntactic unit, excluding the noun.

[Numeral + (MOD) + classifier] + noun **Noun + [classifier + numeral]**

(10) *tà?* *fə́fɔ́k* *tthwó* *shû*
one white head cabbage
'One white cabbage'

(11) *fə́fɔ́k* *shû* ***tthwó*** *ppa* *w-op*
white Ø-cabbage(1) CLF < HEAD two W-3PL(1)
'Their two white cabbages'

(12) ***tà?*** ***tthwó*** *shû*
one head cabbage
'One white cabbage'

(13) *shû* *tthwó* ****fə́fɔ́k*** ***ppa*** *wop*
cabbage CLF < HEAD white two 3PL
'*Their two white cabbages'

Typology of Classifiers

Ngəmba numeral classifiers fall into two principal semantic categories:

sortal classifiers

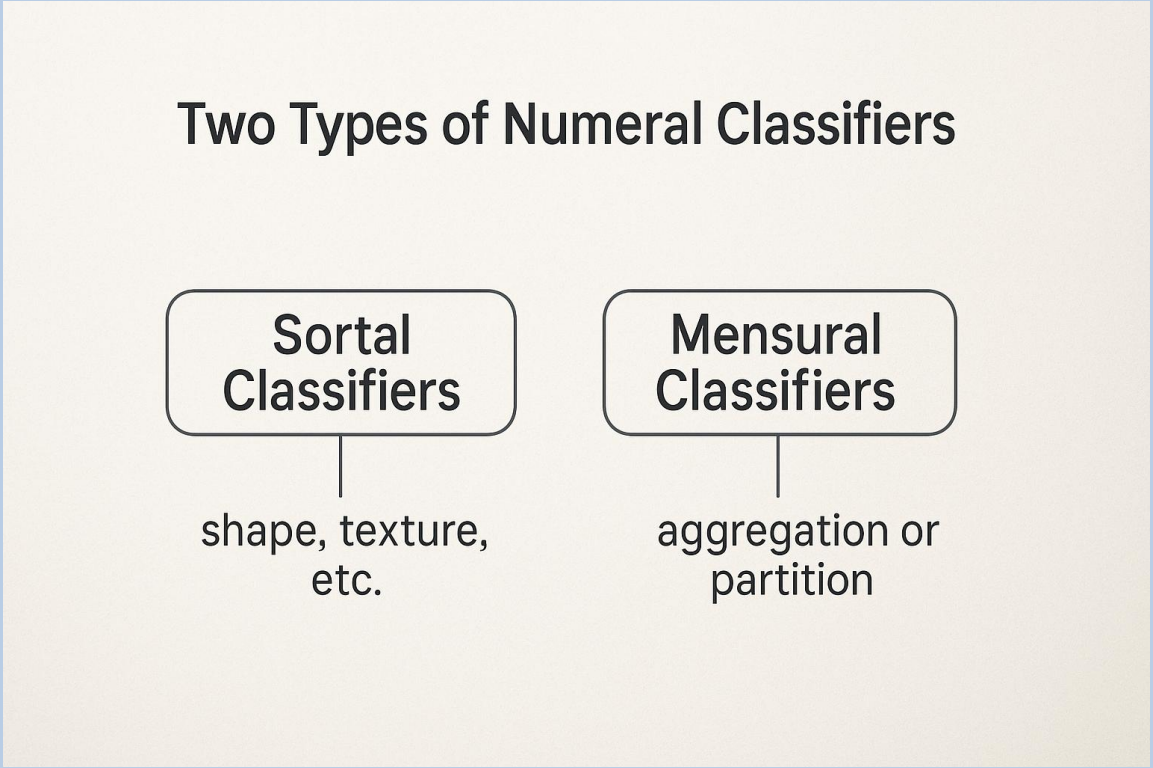
mensural classifiers

Aggregation

partition

This typological distinction mirrors cognitive strategies for categorising objects based on their perceived properties or their quantification modes

This phenomenon is observed in many classifier systems worldwide (Aikhenvald, 2000; Gil, 2013)



Sortal classifiers: overview

Typical semantic bases for sortal classifiers in Ngəmba include:

- **(15) Shape**: round (*mbaŋ* 'kernel'), oblong (*ndɔ́ŋ* 'horn'), flexible and elongated (*njáŋ* 'string')
- **(16) Texture**: soft, rough, or patchy surfaces (*pǎp* 'stain')
- **(17) Relative size**: larger objects often use different classifiers than smaller ones (***tǎm* 'roundish tuber' for big root vegetables vs. *tthwó* 'roundish sizable item'**)

(14) Examples and semantic fields

Classifier	Gloss	Semantic Field	Typical Referents	Notes
mbaŋ	'kernel'	Small, round, compact units	Seeds, nuts, small fruits, individual people	Extended metaphorical use for individuation
ndɔ́ŋ	'horn, whistle'	Oblong forms	Okra pods, groundnut pods, ampoules	Often associated with natural oblong shape
njáŋ	'string'	Long, thin, flexible items	Teeth, wooden sticks, strands of grass, words	Abstract extension to language (strings of words)
ŋgɔ̀m	'grain'	Small discrete particles	Rice grains, small insects, metaphorical grains (e.g., wisdom)	Common in agricultural contexts
ŋgʉ́t	'offshoot, handle'	Protruding/branched shapes	Mushrooms, splashes, farts	Strong metaphorical extension
pǎp	'stain, patch'	Flat, soft surfaces	Leaves, iron sheets, textile patches	Emphasizes flat shape
tǎ	'well, borehole'	Deep, round entities	Avocados, coconuts, tomatoes	Volumetric emphasis
tthwó	'head'	Large, spherical forms	Cabbages, pineapples, human feces	Emphasizes prototypical 'head' shape
cwɔ̀ʔɔ̀	'grains of paradise'	Encapsulated units	Entire ears of maize	Cultural salience of maize
sáʔ	'needle'	Pointed, thin entities	Tick larvae, needles	Fine pointedness
tǿ	'calabash'	Hollow spherical forms	Squashes, pumpkins, calabashes	Traditional domestic items
nɔ̀ʔ	'buckled shape'	elongated, round, volumetric and whole	Bananas, plantains, potatoes, yams, cassava tubers	Volume-shape prototype
ntɛ̀	'string'	Thin flexible threads	Threads, cords, lianas	High flexibility emphasized
tǎm	'roundish tuber'	Dense, heavy, round masses	Taro roots, yams, potatoes	Size and weight emphasized

Sortal classifiers categorize nouns based on **inherent physical properties**, especially

- shape, configuration, material cohesion, flexibility, and size.
- They are typically used with **highly countable, discrete entities**, particularly natural objects like seeds, sticks, fruits, leaves, and tubers

Classifier	Gloss	Semantic Field	Typical Referents	Notes
Ncwaŋ	'assemblage, hand'	Natural groupings of attached items	Hands of plantains, cobwebs, nests	Emphasizes natural connectedness
nàkǎʔ	'pile, heap'	Amassed, stacked items	Firewood, textiles, clothing, soil	Visual massiveness; loose aggregation
nàpǔʔ	'package, bundle'	Tied or wrapped units	Koki parcels, fufu balls, market packages	Human-imposed packaging
tǔʔ	'tuft, bump'	Compact, rounded masses	Tufts of hair, bundles of grass, small soap bars	Internal cohesion
ttshœ̀	'bunch'	Natural cluster of fruits	Bunches of bananas, palm fruits	Focus on natural fruit growth patterns
mbàʔ	'bundle'	Tied bundles of flexible items	Firewood bundles, cloth packages	Aggregation emphasized
ŋgɛ̀	'pod'	Encapsulated seed masses	Kola nut pods, cacao pods	Enclosure important
càŋá	'cluster'	Groupings with branching structure	Ears of corn, avocado clusters	Stalk-based organization

(18) Examples and semantic fields

Mensural classifiers: overview

Mensural classifiers in Ngəmba specialize in **quantifying entities that are not easily countable individually**.

Instead of referring to the inherent shape or structure of a single object (as sortal classifiers do), mensural classifiers **impose an external unit of measurement** onto aggregates, masses, or otherwise diffuse collections of material.

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- Mensural classifiers **most frequently occur with food items, agricultural products, and natural groupings**, domains that are culturally significant for daily life and economy.

- Mensural classifiers reveal that categorization in Ngəmba is not just a matter of shape perception but also **pragmatic quantification**: how many? how much? in what **natural or conventional unit**?

Illustration with *mbaŋ, tœ̌m, kʰʉ̀m*

(19a) *mbaŋ ŋwɛ̌ pɛ́ mbaŋ nákkhwa náŋ mbáŋá*
gather.IMP taro CLF < KERNEL four put pot
'Gather four (small) taros and put them in the pot!'

(19b) ***mə-mbǎŋ*** *nè* *màsáŋá*
6-kernel on Corn.fufu
'The corn fufu is lumpy.'

(20a) *tœ̌m ŋwɛ̌ pɛ́ tœ̌m nákkhwa náŋ mbáŋá*
gather.IMP taro CLF < KERNEL four put pot
'Gather four taros and put them in the pot!'

(20b) *mɔ̀ʔ* ***mə-tœ̌m*** *pɛ́* *ˈzhúm*
other 6-kernel taro get.dried
'Some taro roots have dried out.'

(21a) *kʰʉ̀m á ˈttsɔ́ másáŋá m-ʉ́ kʰʉ̀m nàvàʔá*
3SG eat 6.fufu 6-2PL.POSS CLF.COMPACT.PIECE nine
'S/he has eaten nine hard fufu portions of yours.'

(21b) ***mə-mkʰʉ̌m*** *mbǎp* *ˈwúʔ*
6-COMPACT.PIECE meat be.big
'The pieces of meat are big.'

Parameters of nominal decategorization

The pathway from full-fledged nouns to numeral classification category occurs through patterns of nominal decategorization (Kiessling 2017/18)

	source noun	classifier
Syntactic autonomy	+	+/-
Number distinction	+	-
Trigger of gender agreement	+	-
Accepts modifiers	+	+/-
Morphological erosion	-	+/-

(22) Parameters of nominal decategorization in Ngəmba classifier items (Mekamgoum & Kiessling 2024)

(23)

mə́	*ˈlă*	***tso***	***nddzɔ́***	***tà?***	*ndɔ́ŋ*
1SG	cook	African.plum	CS.eat	one	CLF < KERNEL

'I cooked plums and ate one.'

Morphological erosion

- **Loss of Nominal Prefixes:** Classifier forms lose earlier noun class prefixes (e.g., mə- mbaŋ 'kernels').
- **Number Neutralization:** Singular and plural distinctions are neutralized in classifier forms.
- **Fixed Classifier Forms:** Formerly inflected nouns stabilize into invariable classifier shapes.

Syntactic Reorganization: Classifier-Numeral Tightness

- **Numeral & Classifier Compounds:** Classifiers and numerals now form inseparable grammatical units.
- **Exclusion of Noun:** The noun is optional or absent in classifier constructions.
- **Noun Optionality**: Classifiers can appear with or without a head noun.
- **Exclusion of modifier from numeral phrase, except for *tá?* 'one'**

From full-fledged noun to numeral classifier (1)

1. Noun (lexical)

At the top, the process starts with a full **lexical noun**

(24) **(a) mbaŋ ~mə-mbaŋ** 'kernel(s)'
(b) njáŋ~mənjáŋ 'string(s)'
(c) nàghǎʔ~mà-ghǎʔ 'peel(s)').

These are:

- Fully referential
- Marked for number
- Able to stand alone

(25) ***mà-ghǎʔ*** ***tthwúu*** *n-dú*
6-tiny.peel head.3SG.PREP CS-be.full
'There is a lot of dead skin on his/her head.'

2. Classifier Use Emerges

The noun begins to be **used alongside numerals** to classify referents. Over time:

- It appears more frequently in numeral phrases
- It loses ability to appear independently

(26) *ssœ̌* *tàʔ* *(nà)ghǎʔ* *mbap* *n-cwí* *mà* *pfét*
detach.fiber one CLF.MEAGRE.PORTION meat CS-give.to.me1SG eat
'Take out one fiber of meat and give it to me so that I eat it!'

From full-fledged noun to numeral classifier (2)

3. Nominal Decategorization

This stage reflects **loss of nominal features**:

- No plural morphology
- No agreement marking
- Cannot be modified or used referentially

(24)

lɔ́ktă	*sŏp*	*sá?*	*njáŋ*	*ntɔ̀ghɔ́*	*nə̀l*	*i*
doctor	prick	needle	CLF < STICK	six	on	O3SG

'The doctor gave him/her six injections.'

4. Grammatical Classifier

The form stabilizes as a **true classifier**:

- Obligatory with numerals (in many systems)
  Syntactically bonded to numeral
- No longer analyzed as a full noun

(25)

pé	*kə̀nccyə̌*	*à*	*nɔ̀?*	*ppa*	*ná*	*ŋ-ke*	*mɛn*	*ă*
take	banana	1SG.POSS	CLF.BUCKLED	two	with	CS-feed	child	PROX

'Take two bananas of mine and feed this child with them.'

Typological and Comparative Insights

- Classifier systems in African languages have historically been underrepresented in typological literature. Some African systems (Ogoni) exhibit **broad lexical coverage**, rivaling better-known Asian systems in depth and complexity.

- This underscores the importance of documenting transitional systems like that of Ngəmba, which provide insight into the **origins and paths of classifier emergence**.

- Ngəmba occupies an intermediate typological position:
  - Noun class governance remains active
  - Classifier system is emergent but not applicable across the entire lexicon

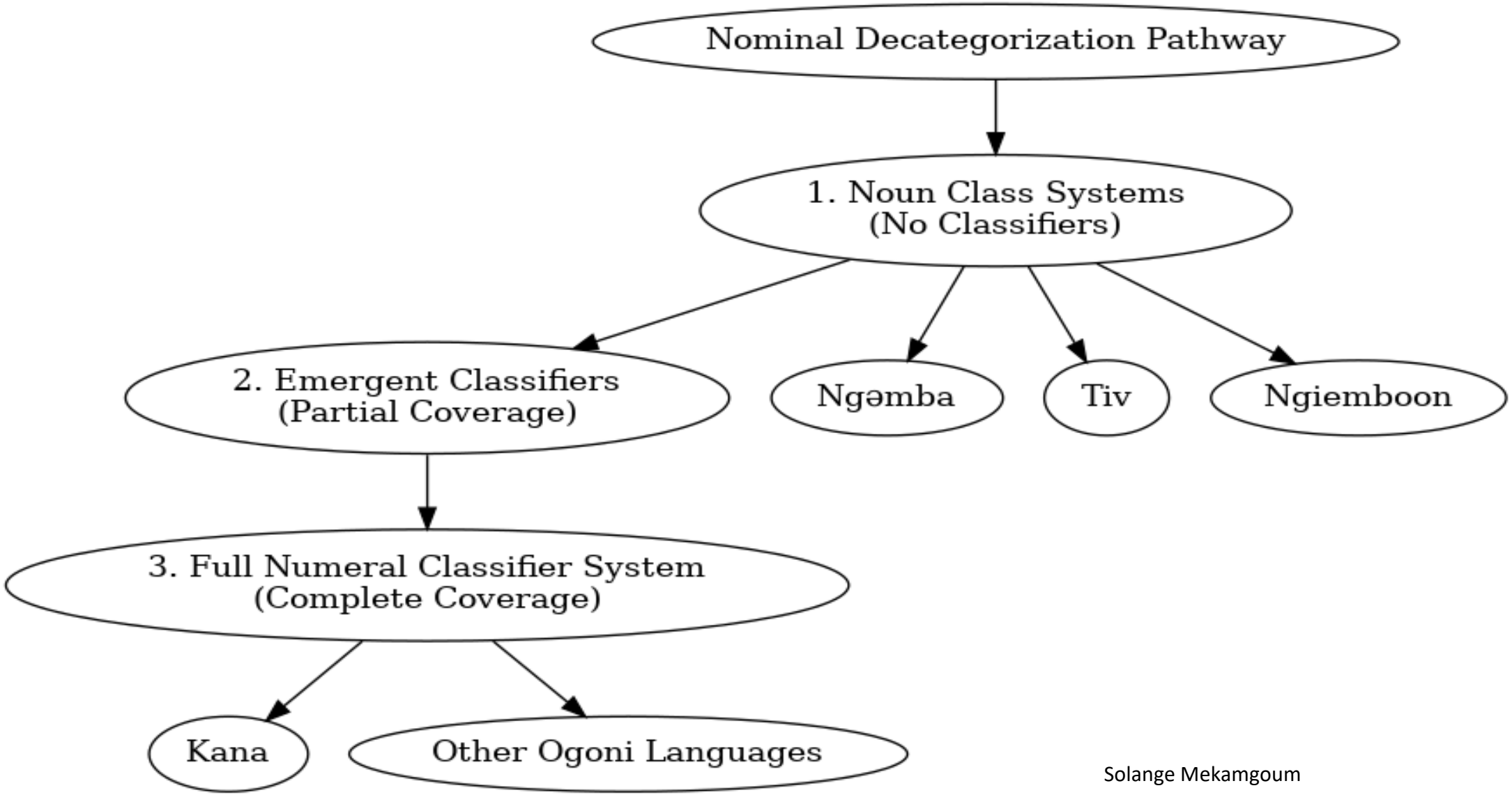
- Cognitive motivations:
  - Shape-volume-size based individuation
  - Culturally salient groupings (agriculture)
- Comparison:
  - **Bangou**: tighter integration; advanced classifier development
  - **Bamoun**: weaker classifier use; noun class system more dominant

Typological Position

Ngəmba occupies a **typologically intermediate position** on the continuum between full noun class languages (e.g., Zulu) and full classifier languages (e.g., Mandarin, Thai):

Typological Feature	Noun Class Languages	Ngəmba	Classifier Languages
Grammatical concord	Strong	Present	Absent
Classifier obligatory	No	Lexically conditioned	Yes
Classifier concord	N/A	Absent	Absent
Semantic basis	Arbitrary/grammatical	Transparent	Transparent
Word order	Flexible	Fixed [NUM-CLF] (singular) [CLF-NUM] (plural)	Fixed (NUM-CLF-N)

Summary of Grammaticalization pathway



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Theoretical Implications

Ngəmba and Classifier Evolution

Classifier Emergence
Demonstrates cross-linguistic pathways of noun-to-classifier grammaticalization.

Decategorization Model
Confirms gradual erosion of nominal features in classifier evolution.

African Linguistic Typology
Shows that classifier systems can co-emerge with reduced gender systems.

Conclusion and Discussion

The Emergence of Numeral Classifiers in Ngəmba

Summary
Ngəmba shows full cycle from lexical nouns to grammaticalized classifiers.

Theoretical Contribution
Reinforces decategorization and grammaticalization models in typology.

Future Research
Comparative studies across Grassfields languages needed.

“I offer you one big *ndọn* of appreciation – solid, straight, and full!”

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Linguistic Evolution Insights

The numeral classifier system in Ngəmba reveals significant insights into the evolution of language ove

Noun Classes and Classifiers

Examining the relationship between noun classes and classifiers enhances our

Complexities of Bantu Languages

Understanding numeral classifiers enriches our knowledge of the complexities and

Backup: Additional Classifier Forms in Ngəmba

Lexical Sources and Semantic Functions

mbaŋ

From mə-mbaŋ (‘kernels’) → Sortal classifier for small, round objects.

ŋgɔ̀m

From mə-ŋgɔ̀m (‘grains’) → Classifier for granular substances.

njáŋ

From mə-njáŋ (‘stick’) → Classifier for long, thin objects.

ncwaŋ

From mə-ncwaŋ (‘bundle’) → Classifier for aggregates or partitions.