Four types of plural markers in Northern sub-Saharan Africa

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1 Aims

- What I will do
  - Define four types of plural markers
  - Examine possible grammaticalization paths for these types of plural markers
  - Identify genealogical and areal patterns
- What I will not be focusing on
  - Suprasegmental plural marking (e.g. tone)
  - Non-concatenative plural marking (e.g. alternation) and infixation
  - Verbal plural marking and verbal plural agreement

2 Four types of plural markers

- I apply two core criteria to define the four types of plural markers I will ook at
  - Word-class selectivity
    - A plural marker that is word-class selective occurs only with nouns.
    - A plural marker that is not word-class selective also occurs with other word classes.
  - The presence of agreement
    - Agreement = There can be multiple markers of plurality in the noun phrase.
    - No agreement = the plural marker is the only marker of plurality in the noun phrase.

	Word-class selective	Not word-class selective
Agreement	Typical plural affix	Concordial plural 'word'
No agreement	Position-bound plural 'word'	Typical plural 'word'

- A few examples

(1) **Typical plural affix: noun form markers in Bantu languages**
Eton, Bantu (adapted from Van de Velde 2005: 121)

í-**mé**-bwád	**mé**=bôd	**mã̌**	**mé**-ꜛté	kwàn
aug-**pl(6)**-thin	**con.pl(6)**-person	**dem.pl(6)**	**pl(6)**-pres	ill

'These slender people are ill.'

(2) **Typical plural word: clitic in Ewe**
Ewe, Kwa (adapted from Ameka 1991: 45-46)

neném ɖeví	(baɖa	eve	má)	**wó**	(kóŋ)
such child	(bad	two	that)	**pl**	(very)

'(those very two bad) boys'

(3) **Position-bound plural word: plural marker in Baa**
Baa, 'Adamawa' (adapted from Möller Nwadigo & Lesage 2023: 10)

rí	*vâ-gyà*	*rà*	*zồ*	*rà*	*vàl*	*nɨ̄mwán*
pl	child-dog	attr	small	attr	male	five

'five small puppy dogs'

(4) **Concordial word: plural marker in Koyraboro**
Koyraboro, Songhay (adapted from Heath 1999: 102, 115)

maŋgoro	*kaan=ey*
mango	sweet=def.pl

'the sweet mangoes'

bor=ey	*w=ey*
person=def.pl	dem=pl

'These/those people'

- Possible consideration with position-bound plural words (ex. 3):
  - Is it a type of affix because it is word class selective? = 'non-concordial affix'
  - Is it a type of word because is the sole plural marker? = 'position-bound plural word'
  - Both conceptualizations are possible; I chose the second for now.

3 A few questions and hypotheses

- Are there genealogical or areal explanations for the patterns we find?
  - Typical affixal systems (with gender marking) are often inherited (e.g. Güldemann 2018b; cf. Stolz 2022)
  - Do typical words occur due to areal spread or areal pressures? (e.g. Dryer 2013; Güldemann 2018a)
  - Where do non-typical words fit in?
- How do these systems develop?
  - Scenario 1: rise of agreement: non-typical words as grammaticalization in progress
    - 1a Typical plural words → concordial plural words → plural affixes

            [N   ADJ   DEM]=pl
            N   ADJ=pl DEM=pl
            N-pl   ADJ-pl DEM-pl

    - 1b Position bound plural words → plural affixes

            pl-[N^head   N^modifier DEM]   (head + modifier)
            pl-[N]   pl-[N   DEM] (head + (head + modifier))
            pl-N   pl-N   DEM

  - Scenario 2: loss of agreement, 'position-bound plural words' as remnants
    - Plural affixes → position-bound plural words

            pl-N   pl-ADJ   pl-DEM
            pl-N   (pl-)ADJ   (pl-)DEM
            pl-N   ADJ   DEM

- o   Scenario 3: rise of typical and atypical plural words from 3pl pronouns
  - ▪   3pl pronouns → optional plural marking constructions → (optional) plural words

N	ADJ		(plural interpretation is possible)
N	ADJ	(3PL)	(plurality can be explicitly marked with a pronoun)
N	ADJ	PL	(PL marker no longer recognized as pronoun)

4   Genealogical perspectives

4.1   Mande

- All Mande languages I investigated show typical plural words: the plural marker comes at the end of the noun phrase, following any other nominal modifiers.

(5)   **Typical plural word in Kakabe, Western Mande**
Kakabe, Western Mande (adapted from Vydrina 2017: 97)
mángó   wúléɲɛ̀   =nù
mango   red   PL
'red mangoes'

(6)   **Typical plural word in Dan, Eastern Mande**
Dan, Eastern Mande (adapted from Doneux 1968: 41)
mɛ̀   và   nû
man   large   PL
'large men'

Classification	Language	Type	Order	Option	Form
Eastern Mande	Busa	Typical word	N PL	Yes	nɔ¯
Eastern Mande	Dan	Typical word	N PL	Yes	nû
Eastern Mande	Mann	Typical word	N PL	Yes	vɔ̀ nì
Western Mande	Western Maninkakan	Typical word	N PL	Yes	lu
Western Mande	Kakabe	Typical word	N PL	?	nu
Western Mande	Vai	Typical word	N PL	?	nu
Western Mande	Susu	Typical word	N PL	?	jè
Western Mande	Dzùùngoo	Typical word	N PL	?	ꞎì, rèè

- Observations
  - o   If we only look at this data, it seems to be possible to hypothesize a Proto-Mande plural word, °*nu*, with some innovations.
  - o   There have been suggestions that this plural marker °*nu* goes back to 3pl (non-subject) pronouns (Westermann 1947; Brauner 1974; cf. Vydrin 2016).
- Genealogical vs. areal explanation
  - o   Is the plural word inherited?
  - o   Is the 'construction' inherited (cf. Susu and Dzùùngoo, which have the same construction but a different marker)

- Grammaticalization paths
  - Construction: 'use 3pl pronoun to explicitly reinforce plural'
  - Grammaticalizes in some languages → loses its 3pl pronoun meaning
  - Remains productive in some languages → retains its 3pl pronoun meaning
  - 3pl pronoun changes before the construction is grammaticalized
- Conclusions for Mande
  - The picture in Mande looks uniform.
  - The 3pl pronoun plural construction could eplain why the constructions are the same in all languages while the forms are different in some languages. The plural markers grammaticalized at different points in time.

4.2 Chadic

- Chadic features all four types of plural markers

(7) **Saya has an affix *sə*, and plural demonstratives that agree with it**
Saya, East Chadic (adapted from Caron 2001: 7-8)

gaam-sə	*gja*	*gəǵi*
head-PL	DIST:PL	DIST:PL

'those heads'

(8) **Mwaghavul has a plural word *mo*, that derives from 3pl pronouns**
Mwaghavul, West Chadic (adapted from Frajzyngier 1993: 160)

jirap	*ɗe*	*wuraŋ*	*mo*
girls	REL	tall	PL

'tall girls'

(9) **Zulgo-Gemzek has a concordial word, *gà*, which is optionally repeated in the NP**
Zulgo-Gemzek, Biu-Mandara (adapted from Haller 1989: 10, cited in Frajzyngier 1997: 213)

gà	*bàbà*	*(gà)*	*mendzíkwir*
PL	large	(PL)	chicken

'large chickens'

(10) **Guruntum-Mbaaru has a position-bound plural word, *zi***
Guruntum-Mbaaru, West Chadic (adapted from Haruna 2003: 45)

gaŋ 'stick'	→ *zi gaŋ* 'sticks'
wăal 'farm'	→ *zi wăal* 'farms'
dù 'horse'	→ *zi dù* 'horses'
pədì 'tree	→ *zi pədì* 'trees'

Types of plural markers in Chadic languages				
Classification	Language	Type of plural marker	Order	Forms
Biu-Mandara	Mofu-Gudur	Concordial word	N PL	hay
Biu-Mandara	Tera	Concordial word	N PL	kú
Biu-Mandara	Zulgo-Gemzek	Concordial word	PL N	gà
Masa	Masana	Concordial word	N PL	gáy, nà
East Chadic	Saya	Affix	PL N PL	ké, sə
East Chadic	Lele	Position-bound word	N PL	e, wè
West Chadic	Guruntum-Mbaaru	Position-bound word	PL N	zí
West Chadic	Ngas	Typical word	N PL	mwa
West Chadic	Mwaghavul	Typical word	N PL	mó
West Chadic	Hausa	Concordial word + Affix	PL N PL	su, unaa, ai, ooCii, uu

- The genealogical perspective
  - Chadic languages seem to have evolved multiple solutions to pluralization.
  - The diversity of plural markers suggests numerous independent innovations rather than a single reconstructed marker or grammaticalized construction for Proto-Chadic.
- Grammaticalization paths: dual source constructions
  - Most markers are likely derived from 3pl pronouns or demonstratives: for example, °ga(y) and its reflexes, °m(o)a in Ngas & Mwaghavul (cf. Frajzyngier 1997).
  - Source construction 1, similar to the Mande scenario above:
    - This structure likely evolved from plural demonstratives or 3pl pronouns that could be placed after the noun phrase to emphasize plurality – potentially as a noun phrase in apposition (or perhaps originally from a focus or topicalization construction)

          [N ADJ], [3PL/PL.DEM] V
          e.g. example (8) from Mwaghavul
          [jirap   ɗe   wuraŋ], [mo]   V
          [girls   REL   tall],   [they] V …
          'the tall girls, they (did X)'

    - After repeated use, the 'deictic' value of these 3PL pronouns and demonstratives bleached, and they were interpreted as plural markers – often retaining a definiteness meaning.
    - Afterwards, the pronoun/demonstrative could be replaced, and the plural marker remains, showing hints of its etymology.
  - Source construction 2: pre-nominal 3pl markers, as in Guruntum-Mbaaru.
    - Possibly from clauses where a (non-subject) pronoun can be followed by a noun, also in apposition, e.g. think of English 'I collected them, the sticks'. I found no examples of this in the grammars.
    - This construction might have grammaticalized so that the pronoun could also occur in pre-nominal position in subject function. Examples of this exist in hausa:

(11) **Hausa 'concordial plural word' construction with *sú* 'they'**
Hausa, West Chadic (adapted from Jaggar 2001: 331)
sú   ɗàlìbânnan   bà   sù   san   àbîn   da   sukè̀   yî
they   student:PL   neg   they   know   issue that   they.IPFV   do
'Those students don't know what they're doing.'

- After repeated use, the 'deictic' value of these 3PL pronouns and demonstratives bleached, and they were interpreted as plural markers – often retaining a definiteness meaning.
  - Afterwards, the pronoun/demonstrative could be replaced, and the plural marker remains, showing hints of its etymology.
- Optionally concordial plural words are tricky to understand. Are they incipient agreement systems? (Mofu-Gudur, Tera, Zulgo-Gemzek)? They seem to be subtypes of
  - Grammaticalization so pronoun/demonstrative meaning is lost
  - Optionally repeated → incipient interpretation as affix, e.g. Mofu-Gudur, Tera, Zulgo-Gemzek (?)
  - No clear examples of how actual affixes end up participating in an agreement system; in any case, it's not as straightforward as a marker being 'repeated'.

4.3 Benue-Kwa

- Benue-Kwa shows typical affixes, typical words, and position-bound words

(12) **The typical affix *kɔ* in Tuwuli is part of a noun class system**
Tuwuli, Ka-Togo, Kwa (Harley 2005: 109)
kɔ-pã   *kɔ-tɔnyade*   *a*
PL-cutlass   PL-first   the
'The first cutlass'

(13) **The typical plural word *ẓ̀ì* in Nupe**
Nupe, Nupoid, Benue-Congo (Banfield & MacIntyre 1915: 21)
kpàtì   wǫ̀ncíṇkó=ẓ̀ì
box   big=PL
'big boxes'

(14) **Jukun Takum has a position-bound plural word *ba* on some animate nouns and no agreement**
Jukun Takum, Jukunoid, Benue-Congo (Shimizu 1980: 124)
bá-kyùkyú   [PL-ancestor]   'ancestors'
bá-wunù   [PL-man]   'men'
ba-yondo   [PL-first.wife]   'first wives'

Classification	Language	Type of plural marker	Order	Forms
BC:Bantu	Eton	Affix	PL N	gender markers
BC:Bantu	S-C Koongo	Affix	PL N	gender markers
BC:Edoid	Esan	Affix?	PL N	íbhàè + prefixes
BC:Yoruboid	Yoruba	Position-bound word?	PL N PL	àwǫn
BC:Igboid	Igbo	Typical word	N PL	gà
BC:Nupoid	Nupe	Typical word	N PL	ẓ̀ì
BC:Ogonoid	Khana	Typical word	PL N	píá
BC:Jukunoid	Kutep	Position-bound word	PL N	a, i
BC:Jukunoid	Jukun Takum	Position-bound word	PL N	ba
BC:Kainji	Cicipu	Affix? (check)	PL N	gender markers
BC:Kainji	C'lela	Affix? (check)		gender markers
BC:Ukaan	Ukaan	Affix? (check)	PL N	gender markers

Kwa:Lagoon?	Avikam	Typical word	N PL	ɔ̃
Kwa:Potou-Akanic	Anufo	Typical word	N PL	m
Kwa:Gbe	Ewe	Typical word	N PL	wó
Kwa:Ga-Dangme	Ga	Affix? (check)	N PL	ì, jĩ̀
Kwa:Ka-Togo	Tuwuli	Affix	PL N	gender markers
Kwa:Na-Togo	Sekpele	Affix? (check)	PL N	gender markers

- Genealogical and areal perspectives
  - It is generally agreed that the affixal systems are inherited from earlier stages of Niger-Congo (e.g. Good 2012; De Wolf 1971). Potentially, the affixal systems go back to earlier classifier systems, i.e. plural words, which became concordial plural words; or position-bound words which became typical affixes (e.g. Güldemann & Fiedler 2022).
  - Typical plural words and nonconcordial plural affixes are clearly not reconstructible.
    - With the possible exception of markers that are remnants of an affixal system, e.g. Jukun Takum and Kutep.
  - Several languages show 3pl pronouns as sources for typical plural words and nonconcordial affixes. Which means that these languages may have had a similar 'flexible' plural marking system to the one hypothesized for Chadic and for Mande (and, e.g. for Dogon by Zuk 2024).
- This means that, likely
  - Some Benue-Kwa languages inherited an agreement system.
  - Others lost the agreement system, likely at least in part due to contact (cf. Good 2012).
  - Most of these other languages fell back on an optional plural marking system like the ones suggested for Chadic above, recruiting 3pl pronouns to do the job.
  - Some of these other languages might be developing new incipient agreement systems (e.g. Yoruba)

5 Areal perspectives

- Interim conclusions
  - Affixal plural markers are often inherited, especially if they're part of noun class systems.
  - Typical plural words seem to arise from productive constructions where pronouns optionally function as plural markers.
  - Position-bound plural words may represent
    - Independent grammaticalizations of pronouns (e.g. in Chadic, Yoruba)
    - Remnants of older noun class systems (e.g. in Jukunoid)

  - Concordial words may be seen as a subtype of any of the other plural words, with (optional) repetition.

- Are there any areal patterns?
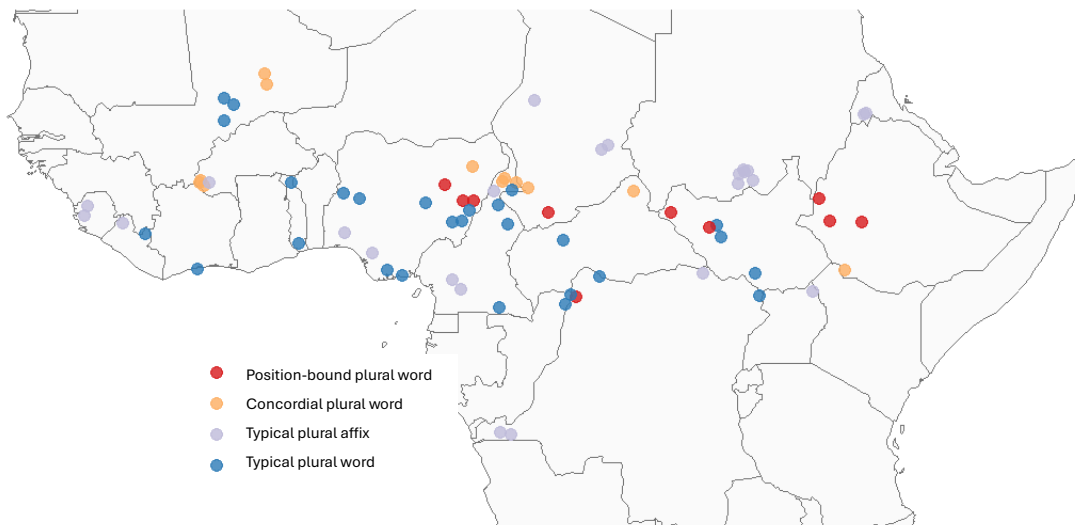
- Generalizations
  - Widespread markers: typical affixes and typical words are common across the sample and do not show strong areal clustering.
  - Concordial words are relatively rare, but they also don't cluster in any particular area. It's quite possible that the instances on the map are independent innovations.
  - Position-bound words seem to exhibit a clearer areal pattern, around central Africa.
- Potentially related areal features in Central Africa?
  - Particular word order patterns: dependency reversal (e.g. Van de Velde 2012; Idiatov & Van de Velde 2015)
  - Note: position-bound plural words often occur in the opposite order as (other) nominal modififers, especially e.g. demonstratives, from which plural words are thought to derive in e.g. Chadic languages.

(15) **Prenominal position-bound plural word in Baa; demonstratives follow the noun**
Baa, 'Adamawa' (adapted from Möller Nwadigo & Lesage 2023: 10)

rí	*vâ-gyà*	*rà*	*zồ*	*rà*	*vàl*	*nǐm̄wán*
pl	child-dog	attr	small	attr	male	five

'five small puppy dogs'

  - Hypothesis: position-bound plural words are the syntactic head of the noun phrase. The reanalysis of "3PL + N" as "PL + N" is facilitated by analogy with dependency reversal constructions.

Order aligns with other modifiers ●   ● Order mirrors other modifiers
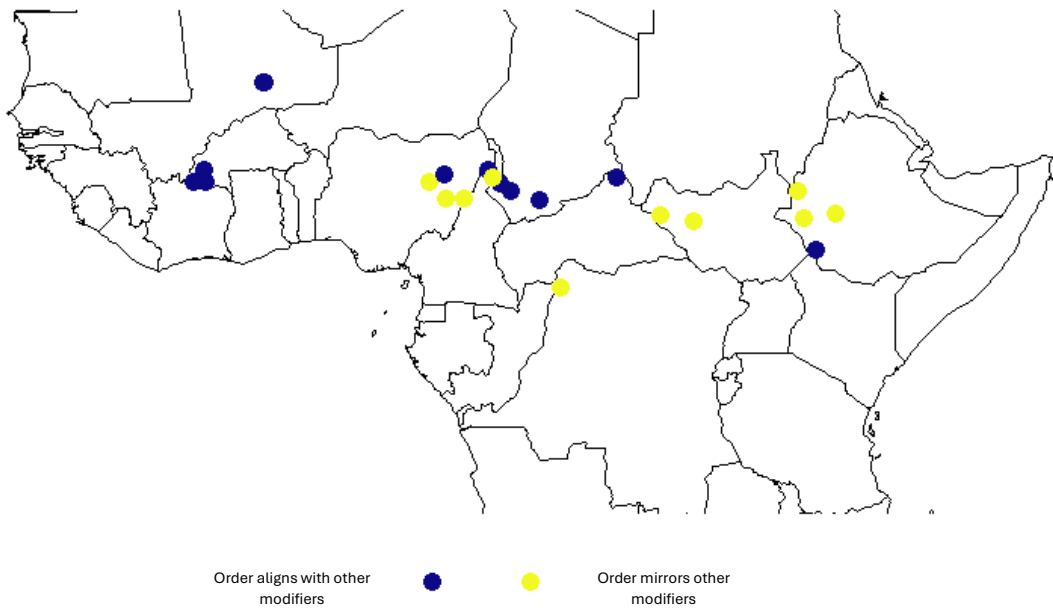
6 Discussion/conclusion

- Genealogy
  - o Affixal systems resembling noun class systems can be traced back with some confidence.
  - o There is some potential to reconstruct a marker and/or construction to Mande.
- Independent 'drift'
  - o Languages that do not have noun class systems or affixal systems had or have some productive means of recruiting 3pl pronouns when they need(ed) to express plurality, by means of plural words.
  - o Languages that lost their noun class systems also developed such constructions. These strategies need not be inspired by other languages in the area.
  - o Often, these constructions lead to the grammaticalization of 3pl pronouns as plural marker, and as 3pl pronouns change, the plural markers may retain their similarity to earlier 3pl pronouns.
- None of the languages show a clear example of full grammaticalization of plural word systems into full-fledged agreement systems. This remains one of the scenarios for the rise of agreement systems, however.
- Areal perspectives
  - o Plural words do not constitute a unified areal feature. They seem to be part of fallback strategies in languages without agreement systems.
  - o The loss of noun class systems seems to be an areal trend that encouraged the rise of plural words. These plural word strategies could have been inspired by existing systems in the area, e.g. those in Mande and in Chadic, but this is not necessarily what happened. In any case, the systems seem to be aligned with those.
  - o Position-bound plural words appear geographically distinctive and may be connected to (the same factors influencing) dependency reversal in Central Africa.