

# RECONSTRUCTING INTERMEDIATE STAGES OF CHANGE IN VERBAL SYNTHESIS IN NIGER-CONGO

ELISABETH J. KERR / COMPARATIVE NIGER-CONGO WORKSHOP, CNRS-LLACAN, VILLEJUIF / 23<sup>RD</sup> MAY 2025

RQ

How should Niger-Congo verb forms be reconstructed?

# SYNCHRONIC VARIATION IN NIGER-CONGO

- (1) Mo      mú      ìwé      wá      fún      ẹ.  
I      take      book      come      give      you  
'I brought you a book.'

(Yoruba (Kwa); Hyman 2004:73)

- (2) Ke-tla-lo-ba-mo-kwal-êl-êl-a.  
SM.1SG-FUT-OM.11-OM.2-OM.1-write-APPL-APPL-FV  
'I will write it to them for him.'

(Tswana (Bantu); Cole, 1955:432, adapted)

# SYNCHRONIC VARIATION IN NIGER-CONGO

- Synchronic variation is indicative of change in the history of NC languages
- Debate regarding the **directionality of change**:
  - synthetic → analytic? (e.g. Hyman 2004, 2011a, 2017; Meeussen 1967 for Proto-Bantu as synthetic; Van de Velde & Idiatov 2025)
  - analytic → synthetic? (e.g. Güldemann 2011, 2022; Nurse 2007)
  - (cyclic processes of change; e.g. Schwegler 1990; Haspelmath 2018)

# SYNCHRONIC VARIATION IN NIGER-CONGO

- Debate regarding the **directionality of change**:

## (3) Synthetic predicate structure reconstructed for Proto-Bantu by Meeussen (1967)

Pre-initial+Subject+TAMP+Object+Verb root+Derivation/TAMP+TAMP+Post-final

(Meeussen, 1967:108-111, adapted)

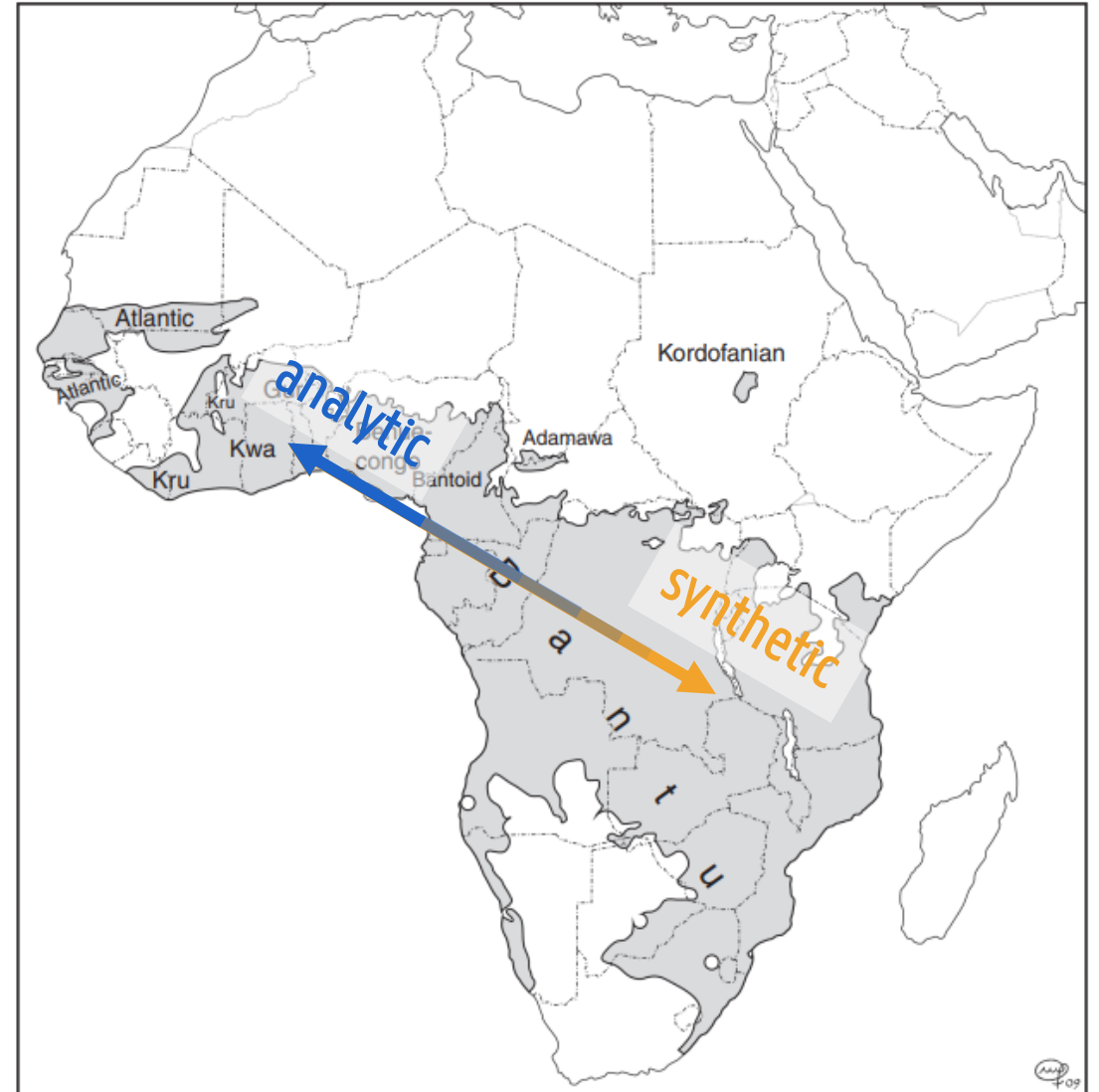
## (4) (Split) predicate structures reconstructed for Proto-Bantu by Güldemann (2022)

- |    |                           |                           |                            |
|----|---------------------------|---------------------------|----------------------------|
| a. | i. [SBJ-STEM]             | ii. [OBJ-STEM]            | iii. [INF-STEM]            |
| b. | i. [SBJ-AUX] [Ø STEM]     | ii. [SBJ-AUX] [SBJ- STEM] | iii. [SBJ-AUX] [OBJ- STEM] |
|    | iv. [SBJ-AUX] [INF- STEM] |                           |                            |

(Güldemann 2022:392)

# SYNCHRONIC VARIATION IN NIGER-CONGO

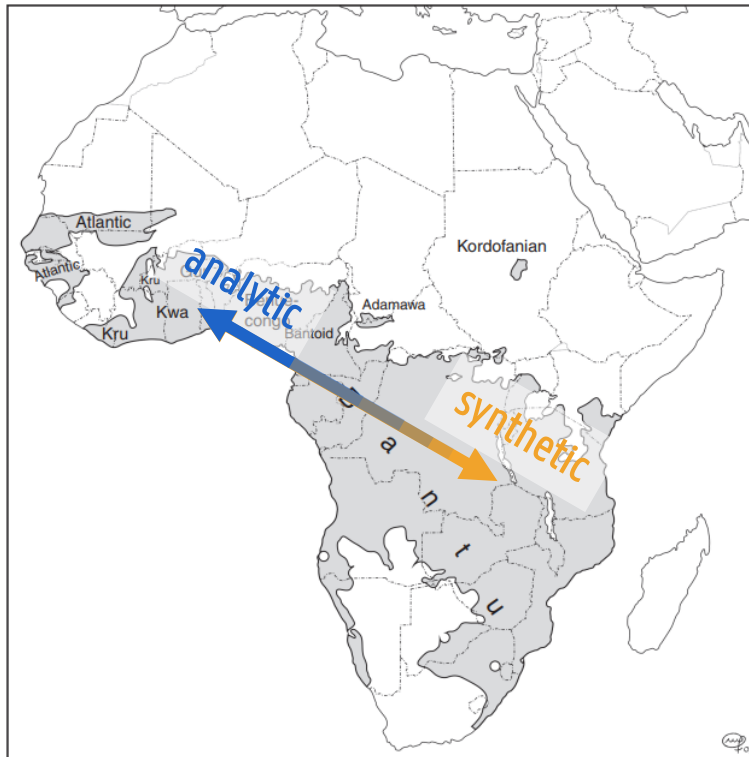
- Basic idea of a **geographical cline** between Kwa and Bantu with **drift** between the two (e.g. Hyman 2017; cf Schwegler 1990:174-178)



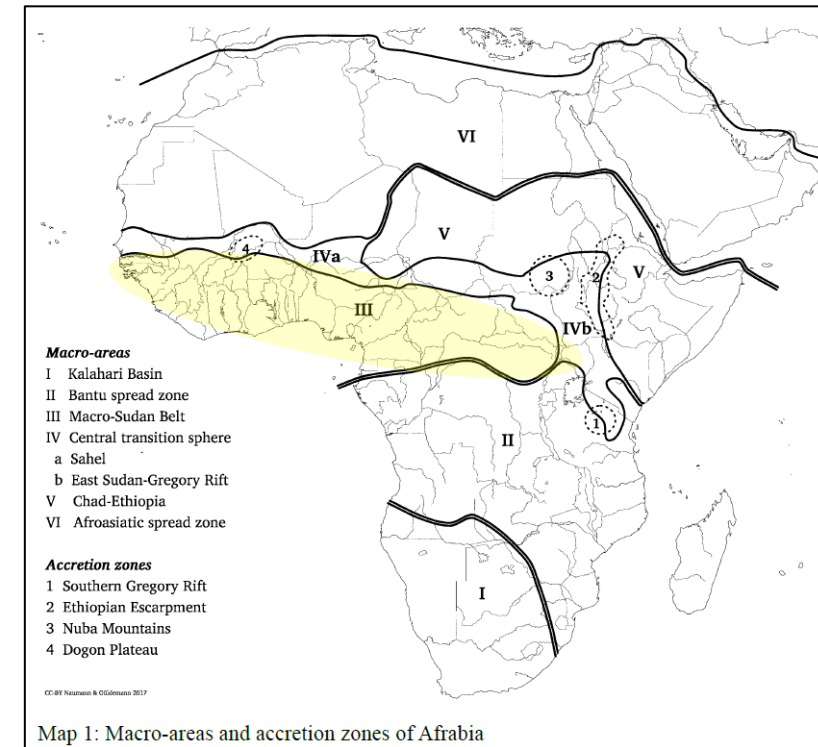
(Good 2017: 473)

# SYNCHRONIC VARIATION IN NIGER-CONGO

- (Possible) interaction between **genealogical relatedness** and **areal effects**



(Good 2017: 473, adapted)



Map 1: Macro-areas and accretion zones of Afrabia

(Güldemann 2018: 473, highlight added)

# TODAY

- **Background** to the study of morphosyntactic change
- **Definitional issues** affecting data format and interpretation
- **Case studies** of synchronically intermediate morphosyntactic profiles as potential snapshots into the past

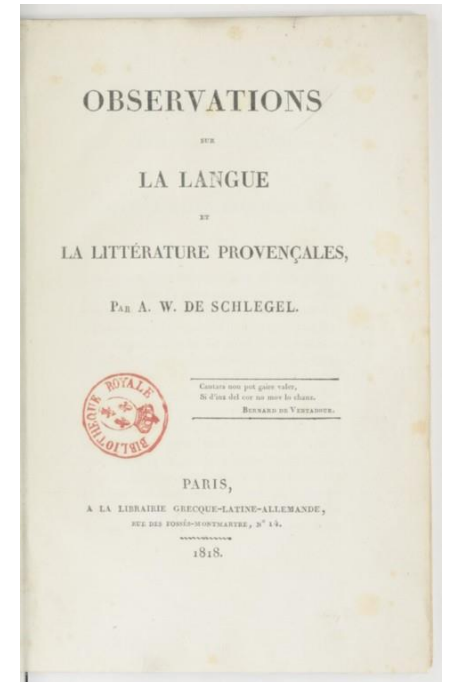


# THEORETICAL BACKGROUND

# MORPHOLOGICAL TYPOLOGY



- German philologist classification of languages into discrete types (von Schlegel 1808, von Schlegel 1818, von Humboldt 1822, 1836; Schwegler 1990):
  - Isolating/analytic
  - Agglutinating
  - Flexive
  - Incorporating/polysynthetic



# MORPHOLOGICAL TYPOLOGY

- The four types conflate 2 dimensions of variation (see e.g. Arkadiev 2020):
  - Number of grammatical morphemes per word

analytic/  
isolating

(poly)synthetic

- Manner of exponence

flexive/  
fusional

agglutinative

# MORPHOLOGICAL TYPOLOGY

- The four types conflate 2 dimensions of variation (see e.g. Arkadiev 2020):
  - Number of grammatical morphemes per word



- Manner of exponence



# MORPHOLOGICAL TYPOLOGY

- The four types conflate 2 dimensions of variation (see e.g. Arkadiev 2020)
- We need to talk about degree of syntheticity of *constructions*, not of *languages* (Ledgeway 2012:12-15, 2017)

# MORPHOLOGICAL TYPOLOGY

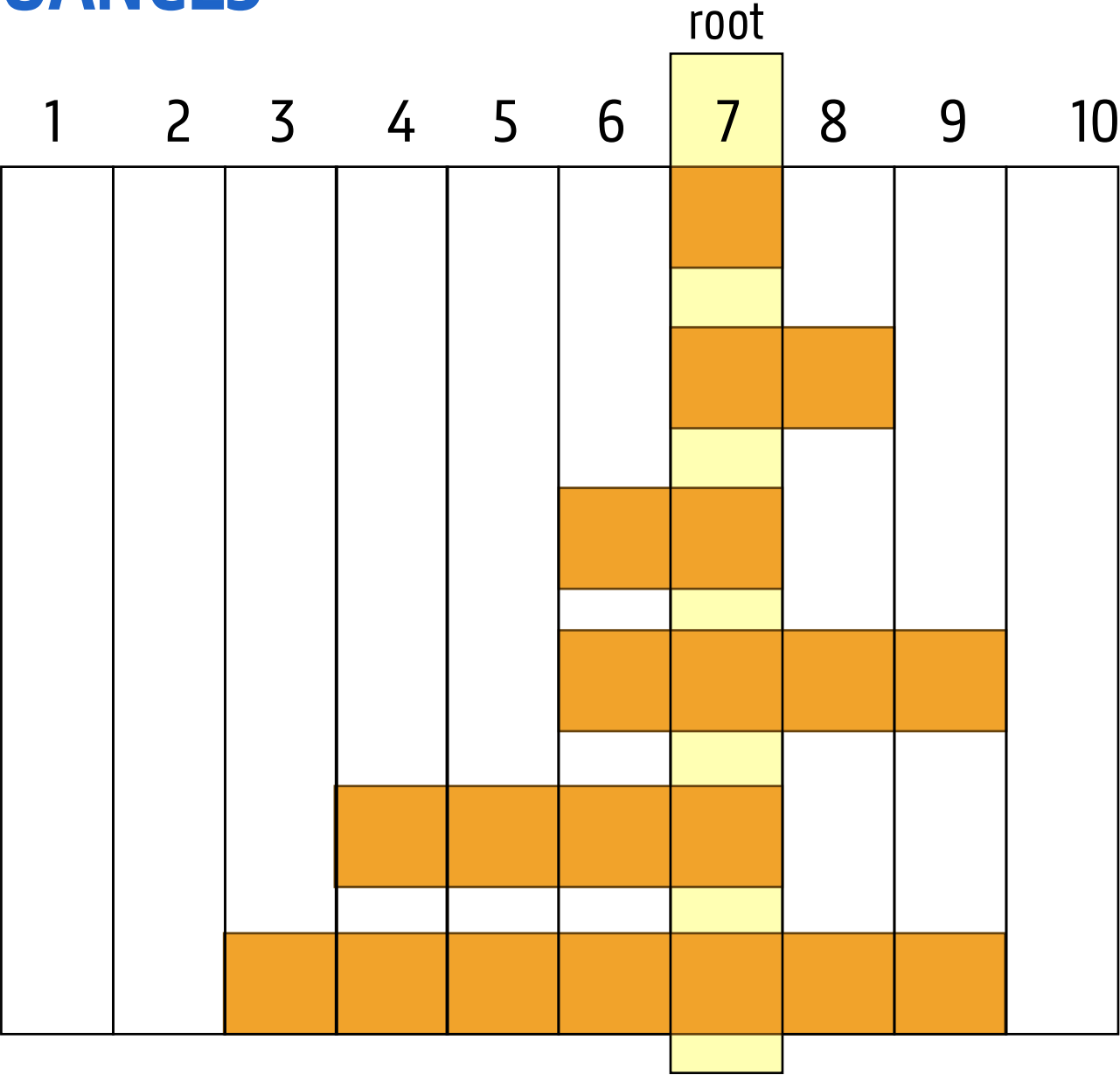
- Can we quantify degree of verbal synthesis?

**Table 3.** Greenberg's Indices for Selected Languages

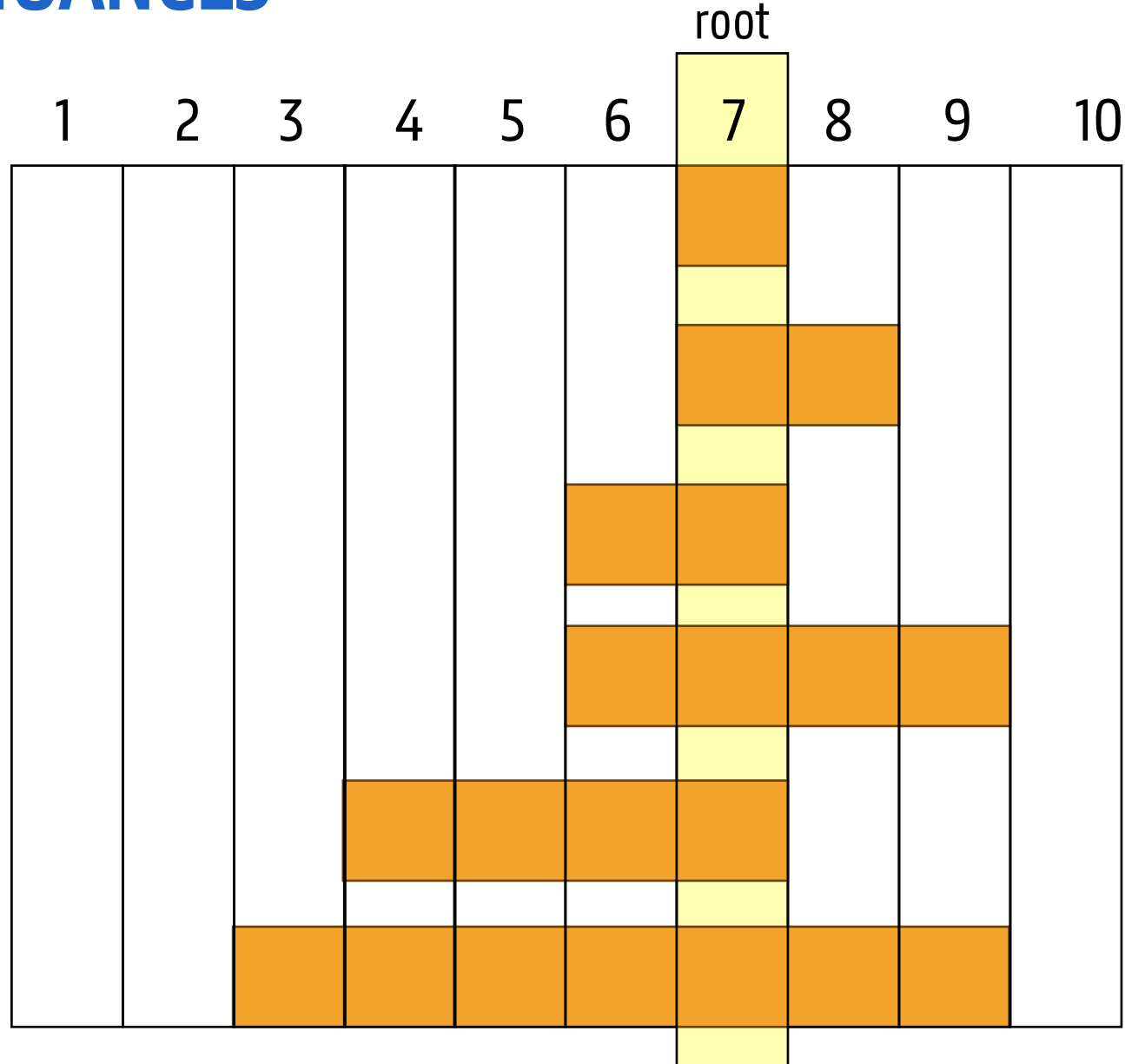
	Sanskrit	Old English	Persian	English	Yakut	Swahili	Vietnamese	Eskimo
Synthesis	2.59	2.12	1.52	1.68	2.17	2.55	1.06	3.72
Agglutination	0.09	0.11	0.34	0.30	0.51	0.67	n/a	0.03
Compounding	1.13	1.00	1.03	1.00	1.02	1.00	1.07	1.00
Derivation	0.62	0.20	0.10	0.15	0.35	0.07	0.00	1.25
Inflection	0.84	0.90	0.39	0.53	0.82	0.80	0.00	1.75
Prefixing	0.16	0.06	0.01	0.04	0.00	1.16	0.00	0.00
Suffixing	1.18	1.03	0.49	0.64	1.15	0.41	0.00	2.72

Table 1. Greenberg (1960)'s quantificational indices for verbal synthesis (Arkadiev 2020:1807).

# SOME NUANCES



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- Quantifying span of verb as measure of degree of synthesis does not capture differences in prefixal vs suffixal direction of expansion from the root



# SOME NUANCES

- Verbs show **asymmetries** in the relationship between the root and prefixal vs suffixal material (Hyman 2008; cf Bantu **macrostem** (e.g. Myers 1987, 1995), **prosodic trough** (Hyman 1998))
- Narrowing the RQ: specific focus on the existence/absence of a wordhood boundary between inflection (INFL) and the verb stem (V)  
(vs e.g. constraints on number of verbal extensions; boundedness of inflectional elements to each other)

# DEFINITIONAL ISSUES

# SOME BACKGROUND ASSUMPTIONS

1. Language is **hierarchical**
2. **Words** exist
3. We **can identify words** through linguistic analysis

# ORTHOGRAPHIC WORDHOOD

# ORTHOGRAPHIC WORDHOOD

- The notion of syntheticity relies on the notion of 'word'
- **Phonological word/P-word** vs **(morpho)syntactic word/grammatical word**
- **=/= orthographic word**

# ORTHOGRAPHIC WORDHOOD

- Our interpretation of wordhood often relies on **orthographic wordhood** demarcations
- These are known to be affected by arbitrary factors e.g. French/Anglophone research orientation (Nurse 2008:169-170; Anderson 2016:524-5 fn4)

“The phrase ‘have a tendency to [express inflection analytically]’ is used advisedly, partly because [North-western Bantu/non-Bantu NC languages] don’t all behave in the same way, partly because **it is necessary to distinguish morphological analysis from writing conventions. Francophone countries in West Africa have a strong francographic convention to write as separate words what would be written as one word in the anglographic tradition. [...]**”.

(Nurse 2008:169)

# ORTHOGRAPHIC WORDHOOD

(5) **Ke-tla-lo-ba-mo-kwal-êl-êl-a.**  
SM.1SG-FUT-OM.11-OM.2-OM.1-write-APPL-APPL-FV  
'I will write it to them for him.'

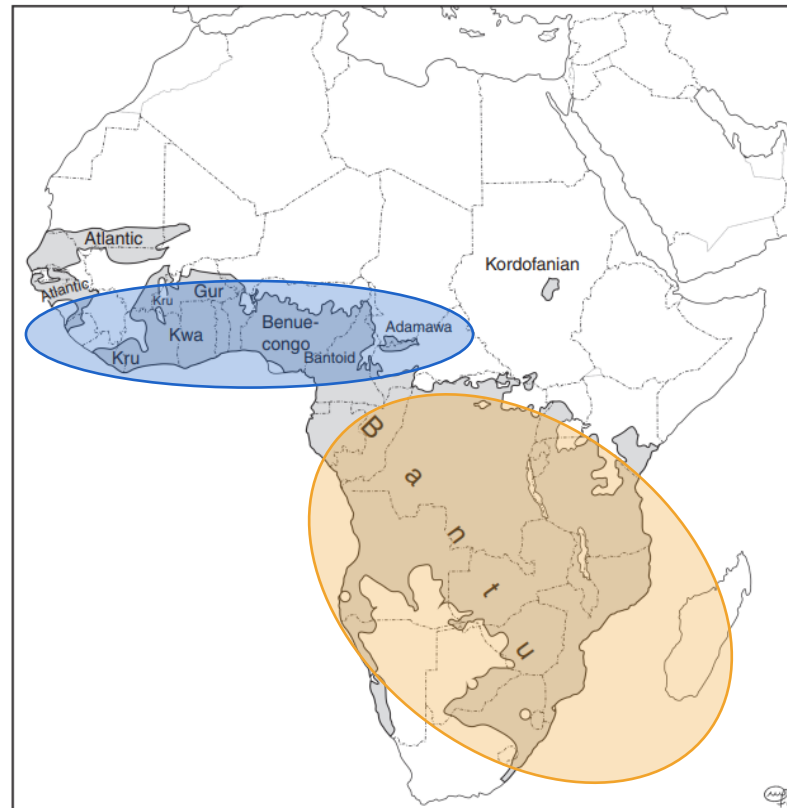
(Tswana (Bantu); Cole, 1955:432, adapted)

(5') **Ke      tla      lo      ba      mo      kwal      êl      êl      a.**  
SM.1SG    FUT      OM.11    OM.2    OM.1    write    APPL    APPL    FV  
'I will write it to them for him.'

(pseudo-Tswana)

# ORTHOGRAPHIC WORDHOOD

- Orthographic wordhood often used as proxy to linguistic wordhood:
  - comparative work (e.g. Güldemann 2022:389: “important caveat”)





# ORTHOGRAPHIC WORDHOOD

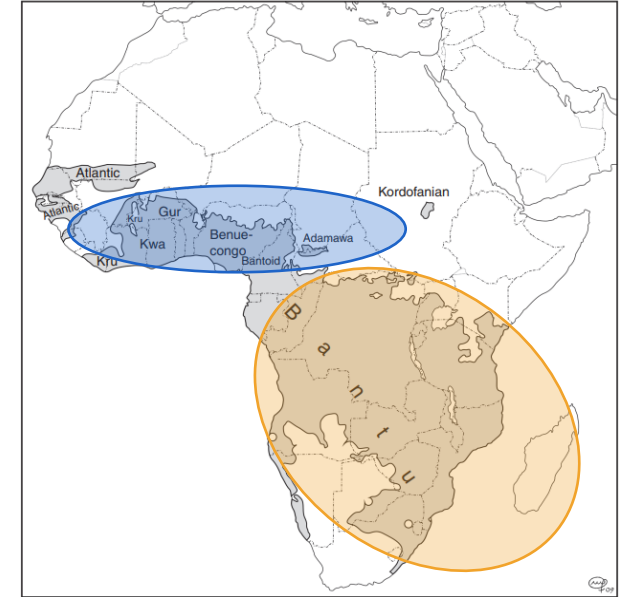
- Orthographic wordhood often used as proxy to linguistic wordhood:
  - typological work (e.g. Grambank; Lesage & Hübler 2017)



# ORTHOGRAPHIC WORDHOOD

- Orthographic wordhood often used as proxy to linguistic wordhood:
  - comparative work (e.g. Güldemann 2022:389)
  - typological work (e.g. Grambank; Lesage & Hübler 2017)

→ These can bias picture of the degree of synthesis and interpretation of the role of genealogical vs areal relations



# 'STAMP MORPH'

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- Term coined by Anderson (2012, 2015, 2016)

## (6) **STAMP morph**

“portmanteau subject-tense-aspect-mood-polarity morphs exhibiting functional and formal properties of both pronominals and auxiliary verbs” (Anderson 2016:513)

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## (6) STAMP morph

“**portmanteau** subject-tense-aspect-mood-polarity morphs exhibiting **functional and formal properties of both pronominals and auxiliary verbs**” (Anderson 2016:513)

→ Bipartite definition:

- (i) **Fusional morphology**
- (ii) **Separation from the verb**

# 'STAMP MORPH'

(7) a.      $\tilde{e}^2$       $gyi^{32}$ .  
         1.PST     come  
         'I have come.'

      b.      $ma^2$       $gyi^{32}$ .  
         1.NPST     come  
         'I am coming.'

(Wobé (Kru); Hofer & Link 1973/1980, via Anderson 2016:26)

# 'STAMP MORPH'

- Differences in operationalisation of the term 'STAMP morph'
  - Anderson (2012, 2015, 2016)
  - Garvin et al. (2021)
  - Rolle (2022)
- Variation in part due to conflation of analytic/synthetic and flexive/agglutinative dimensions in original definition

# 'STAMP MORPH'

- Definition used affects interpretation of areal patterning

**“This refined proposal for assessing areality of STAMP marking, of course, has **the potential to show a lack of areal clustering within the Macro-Sudan Belt**, which would warrant rejecting STAMPs as a defining feature of this macro-area”**

(Rolle 2022:174, emphasis added)



# 'STAMP MORPH'

- Definition used affects interpretation of areal patterning

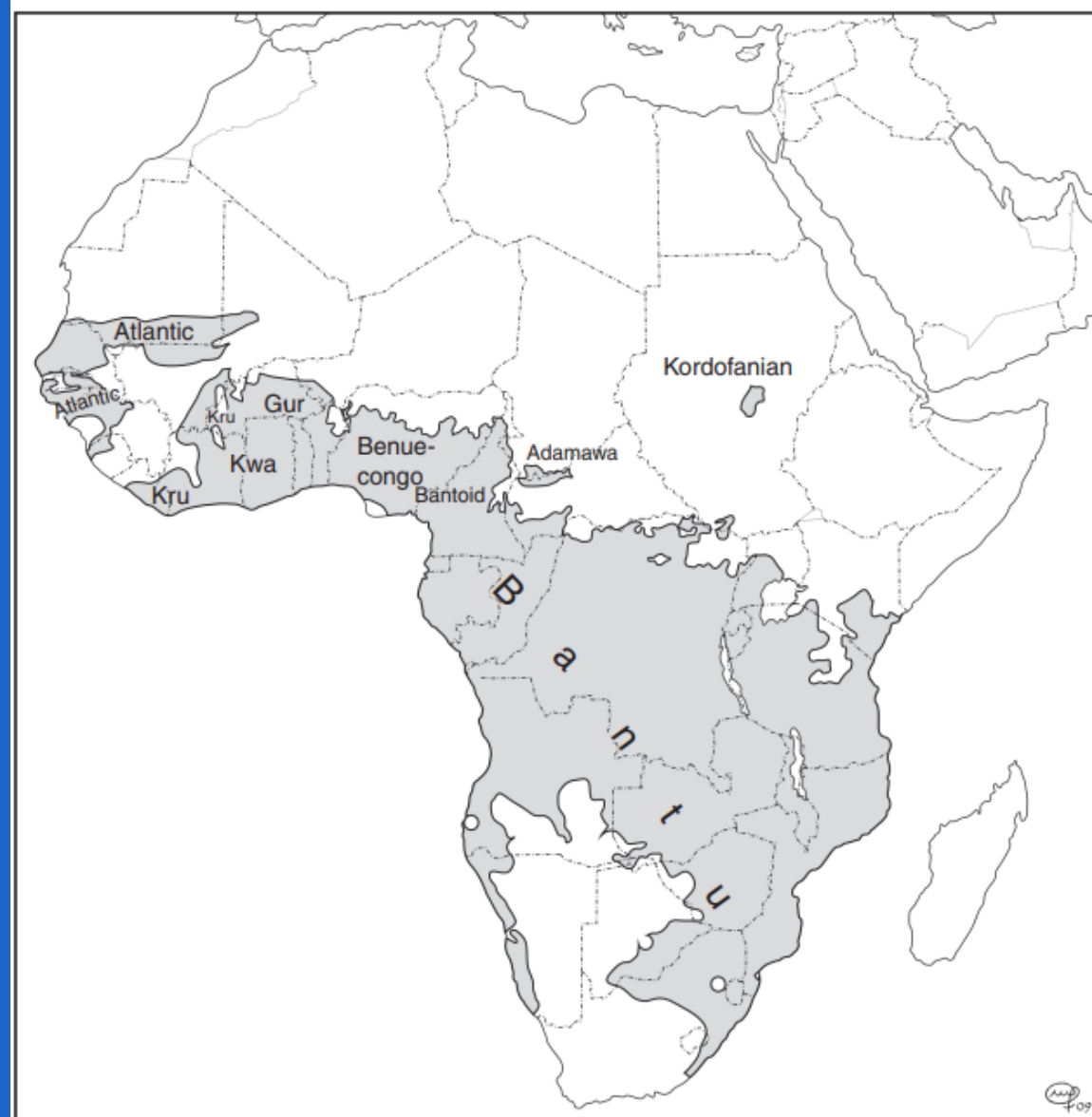
“Güldemann (2022: 395) points out that subject indexes hardly ever attach directly to the stem in Benue-Congo languages outside of Bantu, where they are often integrated into a so-called STAMP cluster (or “morph”). This, however, is not a difference between Bantu and the rest of Benue-Congo, as subject indexes typically precede a TAM marker or auxiliary in the Bantu languages, rather than directly the stem of the main verb. **The main difference is that STAMP clusters show a greater degree of fusion**, generally suggestive of older morphology (i.e. older combinations of specific forms).”

(Van de Velde & Idiatov 2025:190-191, emph. added)

# 'STAMP MORPH'

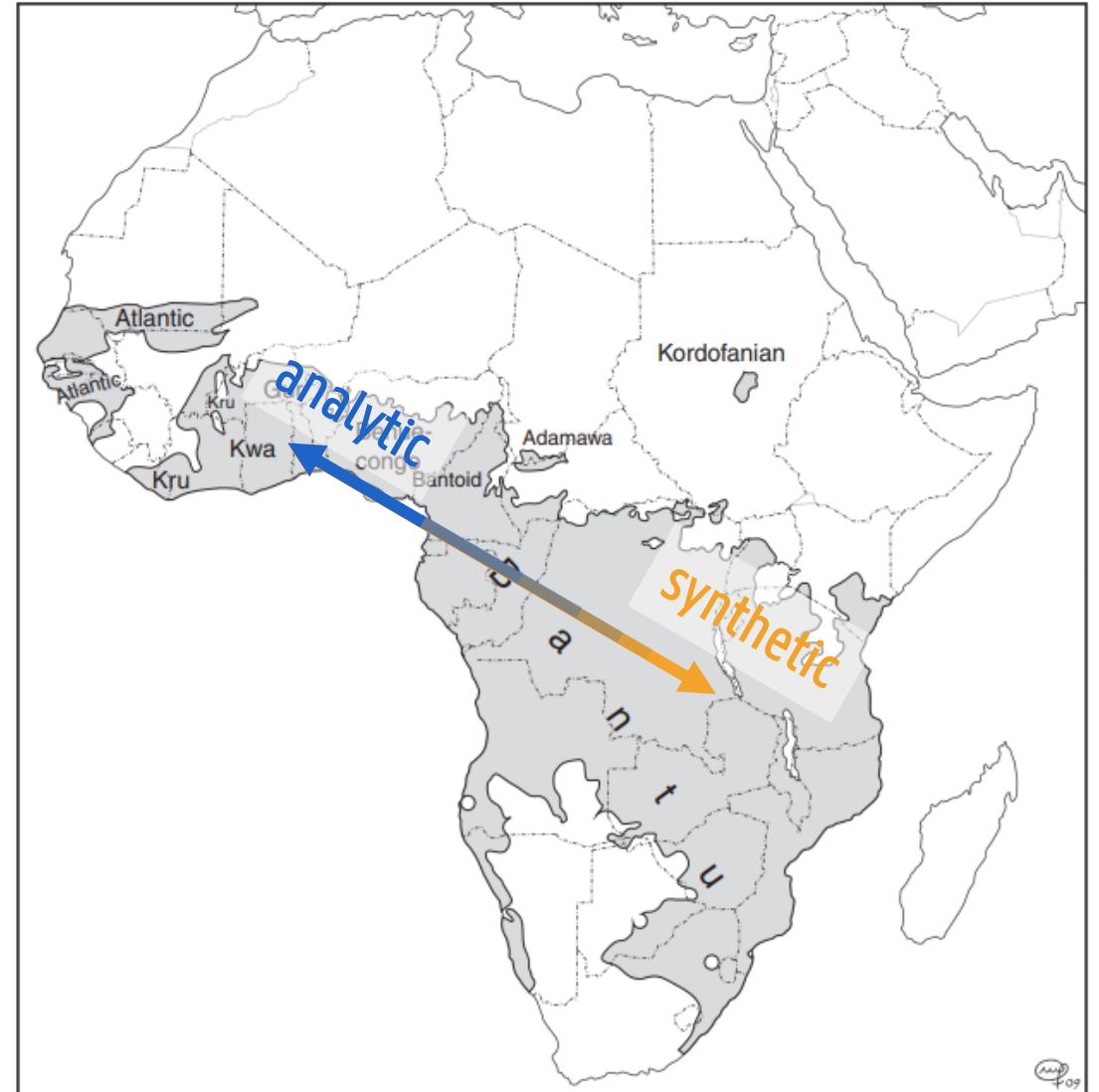
- Definition used affects interpretation of areal patterning
- My proposal: retain conservative definition of 'STAMP morph' as involving fusional morphology (single morph); use agnostic term e.g. 'auxiliary cluster', 'auxiliary complex', 'STAMP complex' otherwise

# NWB/BANTOID CASE STUDIES




## NWB/BANTOID AS INTERMEDIATE

- Northwestern Bantu/Bantoid verbal constructions as **intermediate** between Kwa and Narrow Bantu constructions
- Potential use of their synchronic variation as a means of understanding change undergone within NC
- (Requirement to rule out arbitrary orthographic wordhood differences)



# MBAM CASE STUDIES

- Current **FWO project** (Oct 2024 – Sep 2027, Ghent University): case study of morphosyntactic change in the **Mbam<sup>1</sup> subgroup** of NWB
- Investigation of **phonological wordhood** versus **(morpho)syntactic wordhood**

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## Modelling Bantu Analytic Morphosyntax (MBAM): The Mbam languages as a case study in morphosyntactic change

ABSTRACT PEOPLE

Over time and space, languages can change fundamentally in their structure (morphosyntax). A key example of such variation is the change between analytic and synthetic morphosyntax. Such variation is clearly visible within Niger-Congo, the world's largest language phylum. On the synthetic side, the Bantu family is particularly well-known in theoretical linguistics for its complex verb forms. Bantu's closest relatives within Niger-Congo's Benue-Congo branch, on the other hand, show much more analytic morphosyntax, expressing in multiple words what many Bantu languages typically express using a single verb form. While it is clear that morphosyntactic change has taken place within the Niger-Congo phylum, it is still debated in what direction(s) this change occurred and how such change can be captured in formal models. This debate within Niger-Congo studies reflects a more general question about variation and directionality of morphosyntactic change cross-linguistically. This project will contribute to this theoretical debate about the mechanisms of analytic ↔ synthetic morphosyntactic change by using a case study of the Mbam languages of Cameroon, a group of closely-related Bantu languages with an intermediary morphosyntactic profile. By developing a model to capture the synchronic and diachronic variation in the degree of analyticity of the Mbam languages, the results will contribute to the fields of historical linguistics, theoretical syntax, and African languages.

**Start - End**  
2024 - 2027 (ongoing)

**Type**  
Postdoc research

**URL**  
<https://research.ugent.be/web/result/project/7b47c340-4444-11ef-a576-b5e1ca19233..>

**Department(s)**  
Department of Languages and Cultures

**Research group(s)**  
BantUGent - UGent Centre for Bantu Studies, Dialing - Diachronic and Diatopic Linguistics, G4 - Ghent Generative Grammar Group

# METHODOLOGY

- **In-situ fieldwork** in Mbam-et-Inoubou, Cameroon
  - Fieldwork #1: Feb – Apr 2025 (2.5 months)

- **4 languages:**

Tunen

Nyokon

Nomaandé

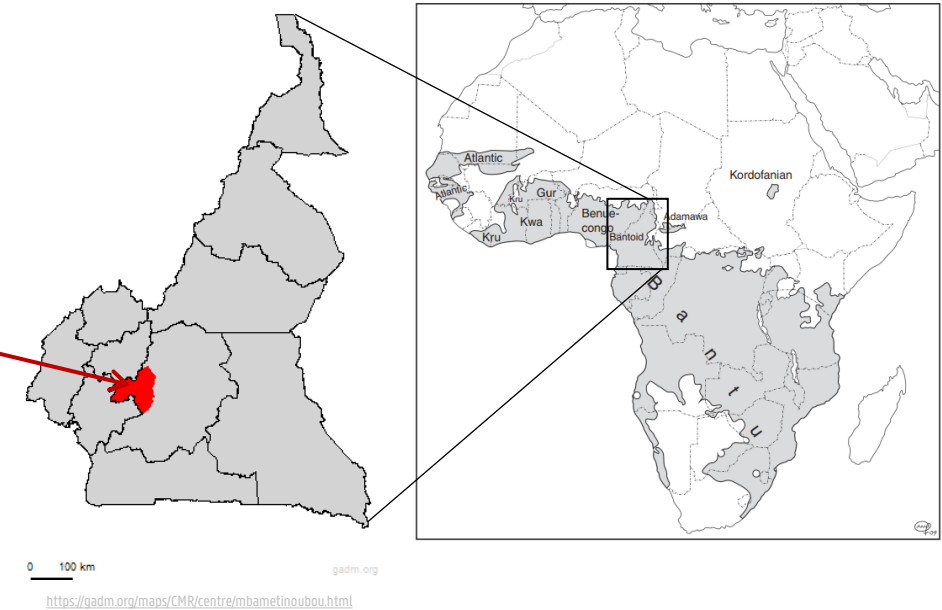
Atomb (Tuotomb/Boneck)

A44 [tvu]

A45 [nvo]

A46 [lem]

A461 [ttf]



# METHODOLOGY

- **Phonological and syntactic wordhood tests**
- E.g. vowel harmony, tonal downstep; syntactic interruptability, fragments (free forms/independent occurrences)

# WHY MBAM?

(8) Context: Your friend asks what happened at church. (thetic)

mɔ́tát a ná imbónu ye fəkin né Yésəs ɔ Yerúsalem nəŋɔnak.

/mɔ-táta a ná ε-mbónu ye fəkinə né Yésəs ɔ Yerúsalem nəŋɔn-aka/  
S Aux O V

1-pastor SM.1 PST2 9-news ASSOC.9 5.entrance ASSOC.5 Jesus PREP Jerusalem tell-DUR

'Le pasteur a raconté des nouvelles de l'entrée de Jésus à Jerusalem'.

'The pastor told the news of Jesus' entrance into Jerusalem.'

(Tunen [tvu]; Kerr 2024a:225)

- Syntactic interruptability (INFL-**O**-V) indicates word boundary
- Mbam languages all allow some kind of interruption of INFL and V, to varying extents (Mous 2005, 2014; Kerr 2024a,b, fieldnotes)



# PHONOLOGICAL VS SYNTACTIC WORDHOOD

- Q: Does phonological wordhood match syntactic wordhood in the Mbam languages?
- Phonological wordhood tests: vowel harmony; tone spread; tonal downstep, etc.
- Other (potentially) relevant phonological properties: final vowel loss; maximality restrictions; stem-initial prominence

# MBAM PRELIMINARY RESULTS

- Mismatches between phonological and syntactic wordhood
- Domains identified by phonological wordhood tests are larger than those identified by syntactic wordhood tests
- This goes against the idea of phonological change driving syntactic reanalysis

# OTHER FACTORS TO BE INVESTIGATED

- **Stem-initial prominence** (Idiatov & Van de Velde 2016; Hyman et al. 2019) and **maximality restrictions** as characteristic of phonology of NWB/Bantoid languages
- SIP and maximality restrictions seem to **vary in strength** within NWB/Bantoid, and not in the way that would match a smooth cline from Kwa to Bantoid (e.g. stronger phonological restrictions in West-Coastal Bantu than in Mbam – see e.g. Ellington 1997; Hyman & Inkelas 1997; Hyman 2011 on Tiene [tii] (B81) maximality restrictions, Bostoen & Pacchiarotti 2024 on Ngwi [nlo] (B861) final vowel loss)

# CONCLUSION

# CONCLUSION

- RQ: how should we reconstruct Niger-Congo verb forms?
- General pattern is clear; specifics are not - partly due to an exaggerated binary distribution caused by orthographic wordhood & definitional differences affecting interpretation of areal distribution
- Use of phonological and syntactic wordhood tests for NWB/Bantoid as case studies
- Preliminary results for Mbam subgroup suggest that phonological wordhood changes did not precede/drive syntactic ones
- Comparison of NWB/Bantoid languages suggests more complexity than a smooth cline of variation between Kwa and Bantoid

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# THANK YOU!

Acknowledgements:

Research Foundation – Flanders (FWO)

All Mbam consultants:

**Tunen:** Patient BATAL BATANGKEN, Paul BEYACK, Edmond BILOUNGLOUNG BIKOK, Emmanuel ENGANAYAT, Georges ESSOMO ALAIN, Angel Blandine ENGANDINE, Pierre MOLEL, Emmanuel MONNOLENA, Jean Bertrard MOUIKI, Augustine ONGBABOULE, Jeanne ONGMOLALEBA;

**Nyokon:** Samuel APOUA AMBANG, René ATCHOM, Emmanuel BIASSI, Samuel EWANE, Luc INGUEA, André Jules KIARI, Joseph MOUATANG, Pierre NYAMSI;

**Nomaandé:** Marc BALAN, Roger EBOUM ENOCKA, Roger ENOME, Miriam ENGENGUELE OKOBALEMB;

**Atomb:** Alphonse ALESSANGON BELIAS, Justine ASSEN, Marie Chantal ASSEN ABONG, Eugenie BOSSAL BOYA, Gilbert PALEMAGNA KOROT, MOTEKA MBOM.



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