

Ordering multiple adnominal adjectives in Lingala

Justin Leung
University of Toronto

Montréal-Ottawa-Toronto-Hamilton Syntax Workshop 2022
Université du Québec à Montréal

April 22–23, 2022

Roadmap

- 1 Background on adjective ordering and research questions
- 2 Empirical data from Lingala
- 3 Discussion
- 4 Conclusion

Typology of adjective ordering

- Languages often have preference for rigid order of multiple adjectives
- Three commonly attested orders (excluding N-medial) (Cinque 2010, Panayidou 2013)

Typology of adjective ordering

■ Prenominal order:

quality > size > shape > colour > nationality > N

- (1) a. the big white bowl [English]
b. *the white big bowl

■ Postnominal order 1 (same as prenominal):

N > quality > size > shape > colour > nationality

- (2) cwpan mawr gwyrdd Sieineaidd [Welsh]
cup big green Chinese

■ Postnominal order 2 (mirror of prenominal):

N > nationality > colour > shape > size > quality

- (3) al-kitab al-aḥmar al-kabiir [Arabic]
the-book the-red the-big

Theoretical background

What gives rise to the adjective ordering restrictions?

- **syntactic hierarchy:** adjectives are merged in a particular order that is determined by the syntax (Scott 2002, Cinque 2010)

(4) Merge order: [... [A_{quality} [A_{size} [A_{shape} [A_{colour} [A_{nationality} NP]]]]]]]

- **semantic cline:** adjectives are merged based on their degree of subjectivity – less subjective, closer to the noun (Scontras et al. 2017, 2019)

Theoretical background

Disruption of the usual adjective order may be allowed in different semantic/syntactic contexts:

- emphasizing a contrast (Panayidou 2013, Flanagan 2014);
- making a difference in scope (Panayidou 2013);
- indirect modification (Cinque 2010).

Theoretical background

Two sources of modification (Cinque 2010)

Direct	Indirect
Nonrestrictive	Restrictive
Individual-level	Stage-level
Possible idiomatic interpretation	Literal interpretation only
Closer to N	Farther from N
Rigid ordering	Nonrigid ordering

Lingala and other Bantu languages

- Lingala is a Bantu language spoken in Democratic Republic of Congo
- Attributive adjectives in Lingala are **postnominal**, often with a connective **ja**, which is associated with a restrictive reading (Meeuwis 2020)
- Order of nominal modifiers in Lingala:
N > Dem > Num > A (Meeuwis 2020)
- Adjective ordering is reported to be relatively freer in other Bantu languages (Northern Sotho, Zulu) (Flanagan 2014, Tada 2017)

Research questions & hypotheses

How are multiple adnominal adjectives usually ordered?

Lingala would follow one of the two postnominal orders if Lingala has rigid ordering.

Can flexibility in adjective ordering be allowed?
If so, what licenses the possibility?

Contrast, scopal differences and/or indirect modification may allow flexibility in the ordering.

Data

- Consultant: **Adrienne Medjo**, a fluent speaker of Lingala
- Independent variables
 - **Semantic class**: quality, size, colour
 - **Context**: contrast, no contrast
- Methods
 - storyboard-assisted translation (production of two adjectives)
 - disambiguation (production of two/three adjectives)
 - felicity judgement (two adjectives)

Ordering of two adjectives: quality & size

- Both orders attested in production
- Both orders allowed in felicity judgement

- (5) *a-vand-aka* *na* ***ndaku*** *ja* ***kitoko*** *ja* ***mu-nene*** *na*
 3SG.ANIM-live-HAB NA house CONN beautiful CONN SG-big NA
- mbetu*** ***mu-nene*** *ja* ***kitoko***
 bed SG-big CONN beautiful

‘He lives in a beautiful big house with a comfortable big bed.’
 (storyboard)

- (6) a. ✓ ***mu-tu*** *ojo* *ja* ***mu-kuse*** *ja* ***kitoko***
 CL1-person DEM CONN SG-short CONN beautiful
- b. ✓ ***mu-tu*** *ojo* *ja* ***kitoko*** *ja* ***mu-kuse***
 CL1-person DEM CONN beautiful CONN SG-short
- ‘the handsome short person’ (felicity judgement)

Ordering of two adjectives: quality & colour

- Production: only N > colour > quality
- Both orders allowed in felicity judgement

- (7) **njau** **ja** **mwindu** **ja** **kitoko** a-ling-aka ko-tikal-a
cat CONN black CONN beautiful 3SG.ANIM-love-HAB INF-stay-FV
pembeni na je
close NA 3SG.ANIM

‘The beautiful black cat loves to stay close to him.’ (storyboard)

- (8) a. ✓ **mbwa** ojo ja **pembe** ja **mabe**
dog DEM CONN white CONN bad
- b. ✓ **mbwa** ojo ja **mabe** ja **pembe**
dog DEM CONN bad CONN white
- ‘the ugly white dog’ (felicity judgement)

Ordering of two adjectives: size & colour

- Production: only **N** > **size** > **colour**
- Both orders allowed in felicity judgement

- (9) **li-tonge** ja **mu-ke** ja **mwindu**
CL5-basket CONN SG-small CONN black

‘small black basket’ (disambiguation)

- (10) a. ✓ **kopo** ojo ja **mu-nene** ja **bu3**
cup DEM CONN SG-big CONN red

- b. ✓ **kopo** ojo ja **bu3** ja **mu-nene**
cup DEM CONN red CONN SG-big

‘the big red cup’ (felicity judgement)

Ordering of two adjectives: Summary

Semantic classes	Production	Felicity judgment
quality and size	both orders	both orders
quality and colour	colour > quality	both orders
size and colour	size > colour	both orders

Ordering of three adjectives

- Robust attestation of one order in production (disambiguation): **N** > **size** > **colour** > **quality**

- (11) **ma-ki** ja **mu-nene** ja **mwindu** ja **malamu**
CL6-egg CONN SG-big CONN black CONN good
'good big black egg'
- (12) **lutu** ja **mu-ke** ja **gbi** ja **malamu**
spoon CONN SG-small CONN grey CONN good
'good small grey spoon'
- (13) **livb** ojo ja **mu-nene** ja **mwindu** ja **mabe**
book DEM CONN SG-big CONN black CONN bad
e-zang-a foto
3SG.INANIM-miss-PRS picture
'the bad big black book without pictures'

Unexpected preferred order

■ Preferred order in production:

N > **size** > **colour** > **quality**

■ Inconsistent with attested rigid orders

■ Reviewer suggested that this is still derivable with partial NP movement and pied-piping (cf. Cinque 2005)

(14) $[[_{FP} NP [AP_{size} [AP_{colour} t_{NP}]]] [AP_{quality} t_{FP}]]$

■ However, if we consider the position of Dem *oyo* ‘this’ and Num *moko* ‘one’, this would be a solution that is still possible but quite marked

(15) $[NP [Dem/Num \dots [[_{FP} t_{NP} [AP_{size} [AP_{colour} t_{NP}]]] [AP_{quality} t_{FP}]]]]$

■ It would also not be able to explain the flexibility of ordering since a rigid merge order is assumed to only occur with direct modification

Flexibility and scope

- Felicity judgement: flexible ordering for two adjectives
- The consultant's comments suggest scopal differences with different orders, corresponding to adjective proximity to the noun

(16) a. *mbisi moko ja mu-nene ja buz*
fish one CONN SG-big CONN red
'big fish that is red' (I want a big fish, a red one preferably.)

b. *mbisi moko ja buz ja mu-nene*
fish one CONN red CONN SG-big
'red fish that is big' (I want a red fish, a big one preferably.)

Flexibility due to indirect modification

- Flexibility may be attributable to the connective *ja*, which reflects indirect modification (Cinque 2010)
 - Indirect = stage-level, direct = individual-level:
ma-ki ja malamu = CL6-egg CONN good ‘good egg’ vs.
#ma-ki malamu = CL6-egg good ‘good-tempered egg’
 - Indirect = literal, direct = idiomatic:
ndeke ja mwindu = bird CONN black ‘black bird’ vs.
ndeke mwindu = bird black ‘someone who brings bad news’
 - Indirect = farther from N, direct = closer to N:
*mbisi (ja) buz *(ja) mu-nene* = fish CONN red CONN SG-big
‘big red fish’
 - Indirect = restrictive; direct = nonrestrictive:
ja is associated with restrictive (Meeuwis 2020)

Default order derives from communicative usefulness

- Preferred order: N > size > colour > quality
- Discrepancy between the preferred and expected orders may be attributed to the adjectives' usefulness to the speaker in reference resolution (Scontras et al. 2019): more useful adjectives are closer to the noun
- The speaker's inventory of basic/native colour terms in Lingala is quite small (Talía Tahtadjian, p.c.); this may indicate that colour is less communicatively useful (cf. Kemp et al. 2018)





Conclusion

- This study is the first attempt (to my knowledge) at describing adjective ordering in Lingala
- Flexibility in adjective ordering is due to indirect modification (Cinque 2010), but the preferred order may reflect the communicative usefulness of the adjectives (Scontras et al. 2019)

Further lines of research

- Consulting more speakers would clarify whether the patterns are idiosyncratic to the consultant (due to her language background)
- Exploring other semantic classes of adjectives would give a clearer picture of the patterns
- Systematic elicitation of judgements on use/omission of the connective *ja* would give more insight as to how modifiers are introduced into the DP

References I

-  Cinque, Guglielmo. 2005. Deriving Greenberg's Universal 20 and its exceptions. *Linguistic Inquiry* 36(3). 315–332.
-  Cinque, Guglielmo. 2010. *The syntax of adjectives: A comparative study*. Cambridge, MA: MIT Press.
-  Flanagan, Paul James. 2014. *A cross-linguistic investigation of the order of attributive adjectives*. Edge Hill University Doctoral Thesis.
-  Kemp, Charles, Yang Xu & Terry Regier. 2018. Semantic typology and efficient communication. *Annual Review of Linguistics* 4(1). 109–128.
-  Meeuwis, Michael. 2020. *A grammatical overview of Lingála*. Revised and extended edn. (LINCOM Studies in African Linguistics 81). München: LINCOM.
-  Panayidou, Fryni. 2013. *(In)flexibility in adjective ordering*. Queen Mary University of London Doctoral Dissertation.

References II



Scontras, Gregory, Judith Degen & Noah D. Goodman. 2017. Subjectivity predicts adjective ordering preferences. *Open Mind* 1(1). 53–66.



Scontras, Gregory, Judith Degen & Noah D. Goodman. 2019. On the grammatical source of adjective ordering preferences. *Semantics and Pragmatics* 12(7). 1–21.



Scott, Gary-John. 2002. Stacked adjectival modification and the structure of nominal phrases. In Guglielmo Cinque (ed.), *Functional structure in DP and IP*, vol. 1 (The Cartography of Syntactic Structures), 91–120. Oxford: Oxford University Press.



Tada, Haruka. 2017. NP internal adjective order in Zulu. *ICU Working Papers in Linguistics* 1. 22–30.

Merci mingi to...

- my consultant **Adrienne Medjo**
- Field Methods (Winter 2021) professor **Suzi Lima**
- my colleagues in Field Methods, especially my group members **Laurestine Bradford** and **Christopher Legerme**
- audience at previous iterations of this presentation (Field Methods and UofT Welcome Workshop 2021)
- MOTH organizers and reviewers
- and **you** for listening!

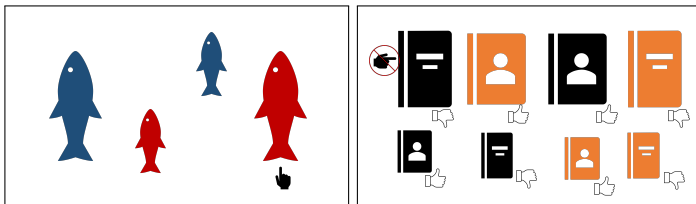
Storyboard-assisted translation task

- Targeted translation of sentences with nouns modified by two adjectives embedded within an overarching story
- Translation chosen over retelling because of likelihood of omitting modifiers
- Visual stimuli (designed in Storyboard That) provided context (no contrast only)



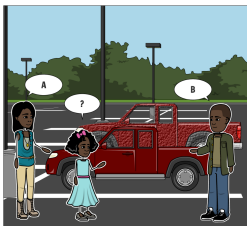
Disambiguation task

- Framed as a trip to the market, where the consultant asks the owner for an item at the market
- Visual stimuli designed in Microsoft PowerPoint
 - Each item displayed is unique in its settings of the two/three properties
 - Target can only be uniquely identified with both/all three adjectives
- Avoid cross-linguistic effects in translation



Felicity judgement task

- Elicit choice of felicitous order(s) in different contexts
- Framed within a story where a family of three go to different places: daughter asks a question, each parent gives one of two choices
- Visual stimuli (designed in Storyboard That) provided context (contrast and no contrast)



Abbreviations

3	third person
ANIM	animate
CL	noun class
CONN	connective
DEM	demonstrative
FV	final vowel

HAB	habitual
INANIM	inanimate
INF	infinitive
PRS	present
SG	singular