Diagnosing phonological vs. suppletive allomorphy

Progressive STAMP morph formation in Lobi

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NELS 54 @ MIT, January 26 2024

Introduction: STAMP morphs

- **STAMP morphs**, an areal feature of languages on the Macro-Sudan Belt, are portmanteaux encoding **s**ubject features, **t**ense, **a**spect, **m**ood, and **p**olarity (Anderson, 2016)
- Previous formal & typological research (Felice 2022, Rolle 2022, Russell 2022, Garvin et al. ms., a.o.) show that STAMP morphs may be either suppletive or phonologically derivable
  - ➢ Based on paradigmatic regularity and decomposability
- Focusing on Lobi STAMP morphs, we argue for a suppletive analysis and against the simplifying assumption that phonological decomposability ⇒ phonological concatenation
- Novel evidence comes from STAMP copies at movement sites, where portmanteau formation interacts with chain reduction

Lobi Data

- Lobi is a Gur/Mabia language spoken in northeastern Côte d'Ivoire
  - SVO; analytic; obligatory overt subjects
- All data is contributed by co-author Hien (2022-23)

- At first glance, Lobi STAMP morphs look concatenative and derivable by means of regular phonological processes

(1) a. **mɪ** cár
1SG run
'I ran.'

b. **mɪ-n** cár
1SG-IPFV run
'I run.'

c. **m-a-n** cár
1SG-PROG-IPFV run
'I am running.'

- This does not hold for 3SG pronominal subjects, which surface with PROG auxiliary *na* instead (i.e. *á nan*, rather than **aan*)

(2) a. **á** cár
3SG run
'He/she ran.'

b. **á-n** cár
3SG-IPFV run
'He/she runs.'

c. **á** **na-n** cár
3SG PROG-IPFV run
'He/she is running.'

- Lexical DPs also obligatorily trigger *na* in present progressive

(3) a. bũdɪ **na-n** cár
mouse PROG-IPFV run
'A mouse is running.'

b. kɔ́kɔ́ **na-n** cár
monkey.PL PROG-IPFV run
'Monkeys are running.'

- Default & PROG STAMP paradigms in Lobi:

PERSON	1SG	2SG	3SG	1PL	2PL	3PL
DEFAULT/PST	mɪ	fɪ	á	sɪ	nɪ	wɔ́
PROG	man	fan	á nan	san	nan	wan

Against phonological analyses

- These analyses rely on regular phonological processes to concatenate individual underlying items exponed by corresponding STAMP features
- For example, a **representational analysis** may assume that [PROG] is consistently realized as *a* across the paradigm
- Independently motivated phonological mechanisms derive or block the co-realization of STAMP features
  - /n/-insertion: /á a-n/ '3SG PROG-IPFV' ⟶ [á nan]
  - vowel hiatus resolution: /mɪ a-n/ '1SG PROG-IPFV' ⟶ [man]
- Other possible phonological analyses:
  - **Constraint-based analysis**: via constraints indexed to the morphosyntactic domain of STAMP morphs (e.g. Tang & Hien, 2024)
  - **Hybrid morpho-phonological analysis**: via suppletive realization of [PROG] (as *na/a*) and phonological concatenation
- ➢ On these analyses, Vocabulary Insertion must first realize subject features as *mɪ* in order for phonology to derive PROG STAMP morphs like *man*

Novel argument: STAMP in raising construction

- Phonological analyses predict that there should be no STAMP portmanteaux without appropriate phonological content
- It is then useful to look at STAMP formation in movement contexts, where the spell-out of movement copies can be subject to chain reduction at PF (Chomsky 1995, Nunes 2004, a.o.)
- ➢ **Prediction**: Regular STAMP morphs should *not* be formed if the expected exponent is not present for phonological evaluation due to chain reduction
- In Lobi raising constructions, subjects must move out of nonfinite clauses (AspPs, Akolkar et al. 2023) and leave reduced pronominal copies at origin sites
  - Crucially, when a 1SG subject raises, it leaves behind a further reduced copy *ń*
  - However, [PROG] must still be co-realized on the reduced 1SG copy as *man* (4b)

(4) a. mɪ$_i$ tɛɛnǎ [**ń$_i$**/***mɪ$_i$** l'ʊɔ́r bíí]
1SG be.right 1SG cook soup
'It is right that I cook soup.'

b. mɪ$_i$ tɛɛnǎ [**m-a-n$_i$** l'ʊɔ́r bíí]
1SG be.right 1SG-PROG-IPFV cook soup
'It is right that I am cooking soup.'

- Since phonological analyses operate on appropriate exponents like *mɪ*, it is unclear how *man* is derived when *mɪ* cannot be spelled-out in that position
- The fact that phonologically reduced movement copies exhibit the same STAMP allomorphy shows that STAMP formation relies on only morphological triggers, not phonological material

Select References: **Akolkar**, S., S. C. **Hien** & K. F. **Liu**. 2023. Two ways of licensing subjects in Lobi: Evidence from switch reference & *wh*/focus fronting. **Anderson**, G. 2016. STAMP morphs in the Macro-Sudan Belt. **Felice**, L. 2022. Spanning and linear adjacency in Gã portmanteaux. **Garvin**, K., A. **Macknick**, K. **Russell** & H. **Sande**. ms. A typology of STAMP morphs in the Macro-Sudan Belt. **Nunes**, J. 2004. Linearization of chains and Sideward Movement. **Rolle**, N. 2022. Unpacking portmanteaux: non-linear morphology in the Ebira STAMP system. **Russell**, K. 2022. A unified account of grammatical tone and length in Gã. **Sichel**, I. & M. **Toosarvandani**. 2023. The featural life of nominals. **Tang**, C. & S. C. **Hien**. 2024. STAMP morphs in Lobi: A purely phonological analysis.

★ A Fusion-based DM analysis ★

Recall the two cases of allomorphy:
1. Co-realization of subject features and [PROG] for non-3SG pronominal subjects
2. Realization of [PROG] as *na* with 3SG pronominal and lexical subjects

- On a Distributed Morphology analysis (Halle & Marantz, 1993):
  - Fusion (occurring post-Linearization and pre-VI, à la Felice 2022) applies at PF to realize linearly adjacent features on one terminal (Embick, 2015)
- To capture both cases of allomorphy, we assume the following:
  - A privative feature geometry where third-person is underspecified for person, and 3SG is further underspecified for number (Harley & Ritter 2002, Béjar 2003)
  - Pronominal and lexical DPs share the feature [δ], but only pronominals are specified for [π] (Sichel & Toosarvandani, 2023)

Featural representation of Lobi DPs

a. 1SG: [δ,π,PART,SPKR] ↔ mɪ
b. 2SG: [δ,π,PART] ↔ fɪ
c. 3SG: [δ,π] ↔ á
d. 1PL: [δ,π,PART,SPKR,PL] ↔ sɪ
e. 2PL: [δ,π,PART,PL] ↔ nɪ
f. 3PL: [δ,π,PL] ↔ wɔ́
g. SG lexical DPs: [δ] ↔ bũdɪ ...
h. PL lexical DPs: [δ,PL] ↔ kɔ́kɔ́ ...

- The allomorphy is captured with two Fusion rules combining [PROG] with [π,PL] and [π,PART] to target only non-3SG pronominal subjects

PROG STAMP formation: Fusion rules

a. D[π,PART]^Asp[PROG] ⟶ [π,PART,PROG]
b. D[π,PL]^Asp[PROG] ⟶ [π,PL,PROG]

- Suppletive PROG STAMP morphs result from VI targeting Fused bundles
  - When Fusion fails to apply, *na* is inserted as [PROG] at a separate node

PROG STAMP formation: VI rules

a. [π,PART,SPKR,PROG] ↔ man
b. [π,PART,PROG] ↔ fan
c. [π,PART,SPKR,PL,PROG] ↔ san
d. [π,PART,PL,PROG] ↔ nan
e. [π,PL,PROG] ↔ wan
f. [PROG] ↔ na

Conclusion

- Apparently decomposable portmanteaux do not necessarily lend themselves to straightforward phonological analyses
- It is important to leverage syntactic evidence to elucidate morpho-phonological patterns
  - ➢ Future investigations into STAMP portmanteaux should pay attention to their distribution and surface forms in a variety of syntactic environments

nré hínã fʊɔ́r! Thank you!
We are grateful to Hannah Sande, Peter Jenks, Katie Russell, Giovanni Roversi, and audience members at UC Berkeley for helpful discussion and feedback!