THE MORPHOSYNTAX OF IMPERATIVE AGREEMENT IN ETHIOSEMITIC

Ruth Kramer
Georgetown University
rtk8@georgetown.edu

Workshop on Prefixes vs. Suffixes in Afroasiatic | March 11-12, 2022

1 INTRODUCTION[1]

In Amharic, subject agreement is discontinuous in certain verbal paradigms (Leslau 1995:300, Girma Halefom 1994: Ch. 5, and many others).

- Expressed by both a prefix and a suffix simultaneously, for certain kinds of subjects

(1) ti- säbr- i
2.S- break.IPFV- FSG.S[2]
'you (fem. sg.) break' (Leslau 1995:301)

  - NB: .S = subject agreement

Discontinuous agreement across languages has been the focus of considerable research (e.g., Noyer 1992, Halle 1997, Trommer 2003, Harbour 2007, 2008ab, Campbell 2012).

- Within Afroasiatic: Shlonsky 1989, Girma Halefom 1994, Banksira 2000, Tourabi 2002, Trommer 2008, Harbour 2008ab, Hewett 2020 many more and also this workshop!
- However, most of this work has focused on generating the discontinuity (vs. investigating anomalies) and on indicative verbs (vs. other moods)

Main puzzle for today: the agreement prefix "disappears" in imperative verbs in Amharic

- Argue for an analysis of this effect as a haplology operation
- Show how this approach ultimately furnishes evidence in favor of a Metathesis analysis of discontinuous agreement (Hewett 2020)

Throughout the talk, I adopt the framework of Distributed Morphology (Halle and Marantz 1993 and many, many others)

- Main relevant claim: morphological operations occur **after** the syntax on the PF branch

[1] For helpful discussion, many thanks to Jeff Punske, Paul Portner, Chris Reintges, Hannah Sande, Elizabeth Zsiga and audience members at NACAL 46, PLC 43 and the Workshop on Perspectives on Templatic Morphology. Giant thanks to Meriem Tikue for consulting on the Amharic.

[2] Gloss abbreviations follow the Leipzig Glossing Conventions except JUSS – jussive, .O – object marker, .S - subject agreement.

- These operations include:
    - Affixation and cliticization[3] = morphological attachment
    - Linearization of hierarchical structure
    - Exponence and allomorph selection = Vocabulary Insertion

Broader Implications
- Evidence for one of the (bewildering array of) options for analyzing discontinuous agr
- Investigating the properties of PF operations like haplology
- Better understanding of the nature and properties of Amharic imperatives

Road Map
- Background on Amharic verbal morphology (Section 2)
- Imperative data and haplology analysis (Section 3)
- Evidence from allomorphy supports the Metathesis analysis of discontinuous agr (Section 4)
- Further details about the haplology operation (Section 5)
- Conclusion (Section 6)

2 AMHARIC VERBAL MORPHOLOGY

Amharic verbal morphology can be formidable. This section introduces:
- 2.1 Subject agreement, focusing on discontinuous agreement
- 2.2 Clause structure

2.1 Subject Agreement

Most (if not all) main verbs and many auxiliaries in Amharic display subject agreement.
- Features used for agreement: person, number, gender (typical for Ethiosemitic; Meyer 2016)

(2) a. **Number Features** (Kramer 2016)
Singular: [-PL]
Plural: [+PL]

b. Gender Features (Kramer 2015)
Masculine: [-FEM]
Feminine: [+FEM]

(3) **Person Features** (see e.g., Halle 1997)
1st person: [+PARTICIPANT][+AUTHOR]
2nd person: [+PARTICIPANT][-AUTHOR]
3rd person: [-PARTICIPANT][-AUTHOR]

Imperfect verbs in Amharic have prefixal/discontinuous agreement.
- Cells with discontinuous agr are shaded

[3] Affixation and cliticization may also occur in the syntactic derivation as e.g., head movement.

Table 1: Amharic Simple Imperfect Subject Agr, *säbbärä* 'break' (Leslau 1995:301)

	Singular	**Plural**
1st pers	ɨ-säbr	ɨnnɨ-säbr
2nd pers	tɨ-säbr (m.)	tɨ-säbr-u
	tɨ-säbr-i (f.)	
3rd pers	yɨ-säbr (m.)	yɨ-säbr-u
	tɨ-säbr (f.)	

The Amharic imperfect agreement affixes are nearly identical in arrangement to some other Semitic languages.

- Modern Hebrew (Harbour 2008b:75), Egyptian Arabic (Halle 1997:437), etc.
- In particular, Harbour's 2008b analysis of Modern Hebrew works well for Amharic

Building on Harbour 2008b, the exponents (= Vocabulary Items) for prefixal/discontinuous agreement in Amharic are in (4).

Table 2: Amharic Imperfect Subject Agr Exponents

	Singular	**Plural**
1st pers	ɨ-	ɨnnɨ-
2nd pers	tɨ- (m.)	tɨ-…-u
	tɨ-…-i (f.)	
3rd pers	yɨ- (m.)	yɨ-…-u
	tɨ- (f.)	

(4) a. ɨ ↔ [+PARTICIPANT],[+AUTHOR],[-PL] = 1st person singular
b. ɨnnɨ ↔ [+PARTICIPANT],[+AUTHOR],[+PL] = 1st person plural
c. i ↔ [-PL][+FEM] / [+PARTICIPANT]/[-AUTHOR] = Fem sg in 2nd person context
d. tɨ ↔ [-PL][+FEM] / [-PARTICIPANT] = Fem sg in 3rd person context
e. tɨ ↔ [+PARTICIPANT],[-AUTHOR] = 2nd person

- Fem sing *tɨ-* and 2nd person *tɨ-* are accidentally homophonous (Harbour 2008b)

f. yɨ ↔ [-PARTICIPANT],[-AUTHOR] = 3rd person
g. u ↔ [+PL] = Plural

Overall: the Vocabulary Items for discontinuous agreement in Amharic are packaged similarly to the exponents of discontinuous agreement in other Semitic languages (that's a good thing!)

2.2 Amharic Clause Structure

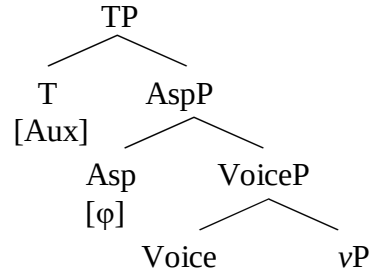
There has been a fair bit of research on Amharic clause structure (see e.g., Girma Halefom 1994, Girma Demeke 2003, Baye Yimam 2004, 2006, Baker 2012ab, Baker and Kramer 2014, Baker 2014, Kramer 2014, Mulusew Asratie Wondem 2014).

Key results:

- Subject agreement is on (high) Aspect (Girma Demeke 2003:45): imperfect vs perfect is the main conditioning factor for subject agreement[4]
- Auxiliaries, which mostly convey tense distinctions, are in T (see e.g., Goldenberg 1964, Girma Demeke 2003, Baye Yimam 2006, Meyer 2016)
- Voice morphology is retained in non-finite forms like infinitives and it is closer to the root than subject agreement (Leslau 1995:468): VoiceP is fairly low

Putting all of these observations together, we arrive at (5):

(5)



Also: the verbal complex and C are morphologically attached (Baker and Kramer 2014)

- In embedded clauses, the complementizer is prefixed/procliticized to the verbal stem.

(6) [I implore you…] ɨwnät-u-n **~~indi~~**-tt~~ɨ~~-nnaggär
truth-DEF-ACC **COMP**-2.S-tell.IPFV[5]
'I implore you to tell the truth.' (Leslau 1995:690)

- This attachment respects the Head Movement Constraint: C does not attach to the verbal stem if there is an overt Aux in T (Baker and Kramer 2014:158; Leslau 1995:318)

Summary of Background

- Amharic has prefixal/discontinuous subject agreement in imperfect verbs
- Vocabulary Items for prefixal/discontinuous agreement are similar to related languages: (4)
- The Amharic clause: subj agr in Asp, auxes in T, and C attaches to the verbal complex

3 IMPERATIVES: THE DISAPPEARING PREFIX

In Amharic imperatives, part of the discontinuous agreement goes missing.

- This section: develop a haplology analysis of this "disappearance"

3.1 Key Facts and the Puzzle

Imperatives are formed in Amharic by combining a consonantal root with special vowels/phonotactics used for "jussive" verbs (= jussive pattern, see e.g., Cohen 1970)

[4] I also follow Girma Demeke in assuming initially that agreement is not discontinuous in the syntax; see Section 4.
[5] The glossing is simplified here for clarity. The geminated consonant at the beginning of the verb is an instance of the *tä-* prefix; see Section 4.

- Jussive verbs = hortatives ("let me…"), deontic modality in questions ("should I")

(7) mäskot-u-n li-sbär **Jussive**
window-DEF-ACC 1SG.S-break.JUSS
'Let me break the window / Should I break the window?'[6] [M3719,4]

(8) mäskot-u-n sıbär! **Imperative**
window-DEF-ACC break.IMP
'Break the window!' [M3719,2a]

Subject agreement in imperatives is indicated by suffixes:

(9) a. mäskot-u-n sıbär-∅! **Addressee is Masc Sing**
window-DEF-ACC break.IMP-**MSG.S**
'Break the window!' [M3719,2a]

b. mäskot-u-n sıbär-**i**! **Addressee is Fem Sing**
window-DEF-ACC break.IMP-**FSG**.S
'Break the window!' [M3719,2b]

c. mäskot-u-n sıbär-**u**! **Addressee is Plural**
window-DEF-ACC break.IMP-**PL.S**
'Break the window!' [M3719,2c]

These suffixes are identical to the subject agreement on imperfect verbs from Section 2.

Table 3: Imperative vs. Imperfect 2nd Pers Agreement for *säbbärä* 'break' (Leslau 1995)

	Sg		**Pl**
	M	**F**	
Imperative	sıbär-∅	sıbär-**i**	sıbär-**u**
Imperfect	tı-säbr-∅	tı-säbr-**i**	tı-säbr-**u**

But, the 2nd person subj agr prefix *tı-* is ungrammatical in imperatives:

(10) a. *mäskot-u-n tı-sbär-∅!
window-DEF-ACC 2.S-break.IMP-MSG.S
Intended: 'Break the window!' [M3719,3a]

b. *mäskot-u-n tı-sbär-i!
window-DEF-ACC 2.S-break.IMP-FSG.S
Intended: 'Break the window!' [M3719,3b]

[6] Rising intonation is necessary for the second interpretation.

c. *mäskot-u-n ti-sbär-u!
window-DEF-ACC 2.S-break.IMP-PL.S
Intended: 'Break the window!' [M3719,3c]

- …even if the imperative has an overt 2nd person subject.

(11) antä mäskot-u-n (*ti-)si-bär-∅!
you.MSG window-DEF-ACC (*2.S-)break.IMP-MSG.S
'You break the window!' [M3719,5ab]

Imperatives cross-linguistically tend to have less inflection and/or be truncated (see e.g., Zanuttini 2008:189, Zhang 1990:151, van der Wurff 2007:41-42)

- Disappearance of a 2nd person marker attested at least in Semitic/Afroasiatic (Hebrew: Bat-El 2002, Standard Arabic: Soltan 2007; see also Faust and Berrebi to appear) and in Warlpiri (Hale 1973)

But the morphology of imperatives is an underdeveloped area of inquiry (van der Wurff 2007), especially compared to the syntax/semantics of imperatives

- This talk: flesh out the why and how of Amharic imperative truncation/reduction from a morphological perspective

3.2 A False Start: Missing Morpheme as Subject Clitic

Cross-linguistically, imperatives often have null subjects (see e.g., Zhang 1990, Zanuttini 2008).

- False Start: perhaps in Amharic, agreement prefixes **are** subjects, so the 2nd person prefix is null in imperatives for the same reason that subjects are null in imperatives generally.
- This analysis is suggested in Girma Halefom 1994 (Chapter 5).

But it is unlikely that agreement prefixes are subjects (= serve as the external argument, are DPs) because they co-occur with overt subjects (even the imperative; (11)).

(12) a. **igziabiher yi**-m-mäsgän! **Jussive**
God 3.S-PASS-praise.JUSS
'May God be praised!' (Leslau 1995:350)

b. **yä-gäbäre-w mist** ihil **ti**-säbässib näbbär **Imperfect**
of-farmer-DEF wife grain 3FSG.S-gather.IPFV AUX
'The farmer's wife was gathering grain.' (Leslau 1995:316)

Could the agreement prefixes actually be subject clitics, doubling the DP subject? Unlikely.

- Object markers in Amharic are doubled object clitics (Kramer 2014):
  - Their distribution is clitic-like (semantically-conditioned, triggers emphasis)
  - No default form (e.g., 3rd masc sg), simply absent if conditions for use not met
  - Morphologically invariable wrt verbal categories (aspect, mood, tense, etc.)
  - Formally resemble determiners/D elements along multiple dimensions
- Amharic subject prefixes behave quite differently.

- Obligatory in all contexts except the imperative (and no information structure effects)

(13) *mäskot-u-n sɨbär **Jussive**
window-DEF-ACC break.JUSS
Intended: 'Let me break the window. / Should I break the window?' [M3719,4]

- Overt default form: 3rd person masculine singular

(14) **yɨ**-zänb **yɨ**-mäsl-all
3.S-rain.IPFV 3.s-seem.IPFV-AUX.3MSG.S
'It seems that it will rain.' (Leslau 1995:307)

- Variable depending on verbal categories: 1st sg jussive/imperfect allomorphy

(15) a. **ɨ**-säbr b. **lɨ**-sbär
1SG.S-break.IPFV 1SG.S-break.JUSS
'I break' 'Let me break'

- Do not resemble any kind of determiner/D element

(16) a. Subject prefixes: *ɨ, lɨ-, ɨnnɨ-, tɨ-, yɨ-*
b. D elements
i. Determiners: ***-u, -wa***
ii. Object clitics: *-ñ, -h/-ʃ,* ***-u****, -at, -n, -atʃtʃɨhu, -atʃtʃäw*
ii. Possessive pronouns: *ñ, -h/-ʃ,* ***-u, -wa****, -atʃtʃɨn, -atʃtʃɨhu, -atʃtʃäw*

So, I will set this analysis aside.

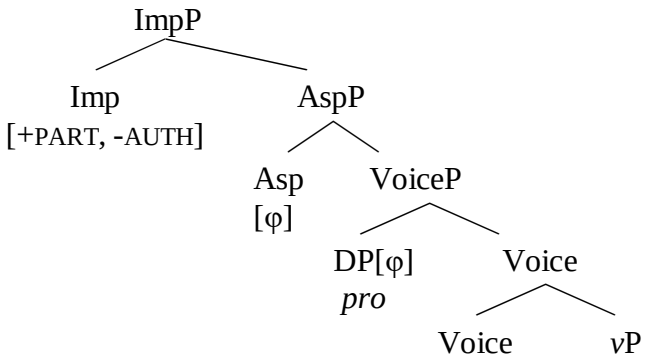
3.3 More Promising: Featural Haplology

In many syntactic/semantic approaches to imperatives, the head which carries imperative meaning has second-person features that license the null subject in some way.
- Jensen 2003, Soltan 2007, Zanuttini 2008, Zanuttini, Pak and Portner 2012, Isac 2015

Intuition: if the imperative head has second person features, the 2nd person prefix might be deleted due to (what I will call) **featural haplology**.
- Featural haplology = the grammar disallows two instances of the same morphosyntactic feature in a domain, even though those two instances may not be phonologically identical
- Cf. Hale 1973:326-327 on haplology in Warlpiri imperatives, Nevins 2012, Neeleman and van de Koot 2017, Salzmann 2019:fn.21 on haplology conditioned by features

To flesh out this intuition, we need a more specific understanding of the syntax of imperatives
- There is a functional head in the C domain which carries the imperative meaning = Imp (see e.g., Rivero and Terzi 1995, Han 1999, van der Wurff 2007:20-21, Norris 2016)
  - This head has 2nd person features and licenses the null subject
- Syntax of imperatives in Amharic:

(17)



From the bottom upwards:

- 2nd person DP *pro* introduced in Spec,VoiceP
- Aspect and DP *pro* agree in phi features
- No TP: no auxiliaries in imperatives in Amharic[7]
- Imp head in C domain has 2nd person features

In typical Amharic clauses (Section 2), the functional heads on the verbal spine (including the C domain) conglomerate into a single complex head

- In the resulting complex head, the complementizer immediately precedes the agr prefix

(18) [I implore you…] ɨwnät-u-n **~~ind~~ɨ-tt~~i~~**-nnaggär
truth-DEF-ACC **COMP-2.S**-tell.IPFV[8]
'I implore you to tell the truth.' (Leslau 1995:690)

- Assuming that imperatives have the same kind of structure, this would mean that, during PF, Imp (= C) and Asp[φ] are in the same complex head and linearly adjacent
- Bear in mind: the prefix expresses 2nd person features ((4))

So, combining well-known facts about imperative syntax across languages with basic facts about Amharic morphosyntax result sets us up well for featural haplology

- Imp with 2nd person features is likely adjacent to Asp with 2nd person features in an Amharic imperative

<u>The details</u>: only the agreement prefix (not the suffix) is linearly adjacent to an element in the C domain:

(19) [Let's propose that our students] addis-u-n tɨmhɨrt bet **~~ind~~-i-g^{w}äbäññ-u**
[Let's propose that our students] new-DEF-ACC learning house **C-3.S-visit.IPFV-PL**
'Let's propose that our students visit the new school.' (Leslau 1995:690)

[7] This was tested with respect to grammars (no obvious examples of imperatives with auxiliaries) and in elicitation. Imperatives across languages have been analyzed as lacking TP (van der Wurff 2007:21).

[8] The glossing is simplified here for clarity. The geminated consonant at the beginning of the verb is an instance of the *tä-* prefix; see Section 4.

Therefore, I will state the haplology operation over a linearized string (not a syntactic structure), as in (20):

(20) **Featural Haplology: 2nd Person**

$[A_1$	*	$A_2]_{C0}$	→	$[A_1]$
[+PART]		[+PART]		[+PART]
[-AUTH]		[-AUTH]		[-AUTH]

"Where two terminal nodes A_1 and A_2 are both contained within a complex head C^0,, A_1 immediately precedes A_2, and both A_1 and A_2 have [+PART][-AUTH], delete A_2."
[NB: C may = A_1 or A_2]

Imperative example (after agreement has become discontinuous):

(21)

[Imp	*	Asp	*	Voice + *v* + √	*	Asp]$_{Imp}$	→	(20)
[+PART]		[+PART]				[+FEM]		
[-AUTH]		[-AUTH]				[-PL]		

[Imp	*	Voice + *v* +	√	*	Asp]$_{Imp}$	→	*sɨbär-i* 'Break! (fem. sg.)'
[+PART]					[+FEM]		
[-AUTH]					[-PL]		
∅		sɨbär			-i		

Remainder of the section: provide supporting evidence for the haplology analysis in (20)

- Specific details of haplology as a morphological operation and how discontinuous agreement is generated = Sections 4 and 5

3.4 Additional Evidence in Favor of a Haplology Analysis

Evidence 1: It Makes Correct Predictions

Featural haplology ((20)) requires that A_1 immediately precede A_2.

(22) Prediction: if any Vocabulary Item intervenes between Imp and the agreement prefix, then haplology will not occur and the prefix will surface.

(22) is borne out in negative imperatives (Alemayehu Haile 1991)

- In Amharic, negative marking follows complementizers but precedes the agreement prefix

(23) mɨnɨmm gize lä-wäladʒ-otʃtʃ-ɨh ʃäkɨm **ɨndämm- a- tti- hon** täsfa all-äññ
no time to-parent-PL-your burden **COMP- NEG- 2.S- be.IPFV** hope have-1SG.S
'I hope that you will never be a burden to your parents.' (Leslau 1995:693)

- So, NegP is below the C domain but above Asp, and thus it likely intervenes between Imp and Asp.

- Prediction: the agreement prefix *ti-* is grammatical in negative imperatives → correct!

(24) a. a-tti-sbär-∅
NEG-2.S-break.IMP-MSG.S
'Don't break (masc sg.)!'
(Leslau 1995:349, 353)[9]

b. a-tti-sbär-i
NEG-2.S-break.IMP-FSG.S
'Don't break (fem sg.)!'

c. a-tti-sbär-u
NEG-2.S-break.IMP-PL.S
'Don't break (plural)!'

Does **<u>any</u>** extra verb-initial material cause the prefix to appear? No.
- The extra material must intervene between Imp and Asp, as per (22).
- Consider the prefix *as-*, which is a causative marker:

(25) mäs'haf-u-n bizu gize **<u>as</u>**-ayyä-hu-t
book-DEF-ACC several time **<u>CAUS</u>**-see.PFV-1SG.S-3MSG.O
'I showed him the book several times.' (Leslau 1995:127)

- I assume either that the projection encoding causation is below Voice or that a causative feature is bundled with Voice (see e.g., Pylkkänen 2008, Legate 2014)
- Either way, according to (5), the head with causative features that is realized by *as-* will not intervene between Imp and Asp (it's below Asp)
- Prediction = imperatives with causative *as-* will not have agreement prefixes → correct!

(26) iski mättawäk'iya wäräk'ät-ih-in **<u>as</u>**-ayyä-ññ
please identification paper-your-ACC **<u>CAUS</u>**-see.IMP-1SG.O
'Please show me your identification card!' (Leslau 1995:168)

Overall, the haplology analysis makes correct predictions about the distribution of the agreement prefix in imperatives.

<u>Evidence 2: Polite Imperatives</u>
Polite imperatives have 3rd plural subject agreement, including an agreement prefix.

(27) a. yi-hid-u
3.S-go.IMP-PL.S
'Go, please!'
(Leslau 1995:351)

b. yi-gb-u
3.S-enter.IMP-PL.S
'Enter, please!'
[M3719, 10]

c. yi-bl-u
3.S-eat.IMP-PL.S
'Eat, please!'
[M3719, 10]

This is predicted by the haplology analysis under fairly basic assumptions.
- With one caveat: I set aside number.
- It is common for polite pronouns to trigger plural agr, but controversial how to analyze this (see e.g., Wechsler 2011, Despić 2017, Puškar-Gallien 2019)
- Agreement suffixes also are attested in regular imperatives anyway

[9] The prefix here is *tti-* (not *ti-*) because agreement prefixes always geminate when they co-occur with negation. See Leslau 1995:303,348-349.

Analysis of Polite Agreement: Person Features

- In the syntax, the *pro* in a polite imperative (minimally) has the following features:

(28) [+PARTICIPANT], [-AUTHOR], [POLITE]

  - Amharic in fact has an overt 2nd person polite pronoun: *ɨsswo* 'you (pol.)'
  - Addressee in a polite imperative = (null) 2nd person, polite pronoun

- At PF, assume Asp with the feature [POLITE] undergoes Impoverishment for person.
  - Specifically, the feature [+PARTICIPANT] is deleted and then the unmarked value ([-]) is inserted
  - See similar operations in e.g., Noyer 1998, Harbour 2003, Calabrese 2011, Arregi and Nevins 2012, 2018

(29) **Impoverishment of Polite 2nd Person Subject Agreement**

[+PARTICIPANT]	→	**[-PARTICIPANT]**
[-AUTHOR]		[-AUTHOR]
[POLITE]		[POLITE]

  - Plausible generally: Impoverishment is often triggered by markedness (Nevins 2011)
  - Plausible for Amharic: 2nd person polite pronouns trigger 3rd person agreement in many paradigms (e.g., perfect, imperfect, gerund)
  - NB: the person features on Asp are now identical to 3rd person

- All that remains to be said is that (29) Polite Impoverishment precedes (20) Featural Haplology, and then the facts are generated correctly.

(30) **After Polite Impoverishment**

[Imp	*	Asp	*	Voice + *v* + √	*	Asp]$_{Imp}$	=	*yɨ-hid-u* 'Please, go!'
[+PART]		[-PART]				[+PL]		
[-AUTH]		[-AUTH]						
∅		yɨ-		hid		-u		

- Since the Imp head and the agreement prefix are not both [+PART][-AUTH], featural haplology (= (20)) cannot occur.
- In other words, (29) bleeds (20).

Overall, a haplology approach predicts that polite imperatives will have overt prefixes.

- Assuming that the person feature is Impoverished on Asp, which is independently necessary to explain Amharic agreement patterns with polite 2nd person pronouns

<u>Evidence 3: We Already Need Haplology</u>

There are other phenomena in Amharic subject to featural haplology operations similar to (20).

- Haplology seems to be a common kind of operation in Amharic; nothing new to be seen here

Example (Kramer 2014): when a determiner and an object marker attach to the same stem underlyingly, only the object marker surfaces = haplology due to both having a [D] feature

- See Section 5 for the details
- See also Kramer (2009, 2010) for two further examples

3.5 Summary/Conclusions

Why does the agreement prefix disappear in imperatives?

- Due to featural haplology because the Imp head and the agreement prefix both have 2nd person features (independently needed!)

What evidence is there for this analysis?

- Successful prediction of the distribution of the prefix in negative and causative imperatives
- Successful analysis of polite imperatives
- Featural haplology independently attested

4 THE TIMING OF HAPLOLOGY: EVIDENCE FOR METATHESIS

Many details remain to be fleshed out about the haplology operation:

- When exactly does it happen? (I assumed at/after linearization, but mostly for convenience)
- How exactly does it happen? (Could another PF operation be used for this, like Obliteration?)
- What features are targeted? (One? Two? Specific to particular features or general?)
- Is it properly restricted? (Does it overgenerate?)

Remainder of the talk: flesh out some of those details (Section 4 for when, Section 5 for the rest)

- Key assumption: discontinuous agreement is generated at PF, not in the syntax (e.g., by separate projections for different phi-features; Shlonsky 1989, Martinović 2019)
- TBD whether this line of research will bear on distinguishing between syntactic vs PF approaches to discontinuous agreement

(Rest of) Section 4: The timing of haplology

- Certain kinds of allomorphy provide evidence that the haplology operation precedes Vocabulary Insertion
- This result is difficult to reconcile with Linearization approach to discontinuous agreement (Harbour 2008a), but compatible with Metathesis approach (Hewett 2020)
- Overall, the haplology approach to Amharic imperatives provides evidence in favor of the Metathesis analysis of discontinuous agreement

4.1 Allomorphy in Imperatives

Focus: two lexical items

(31) a. Voice prefix: *tä-*
b. Root for the verb *mät't'a* 'come:' √MT'

The Gist

- Both of these lexical items have allomorphs that are sensitive to the presence of a prefix.
- In the imperative, both of these lexical items are realized by the "no-prefix" allomorph.
- Assuming that allomorph selection is accomplished via Vocabulary Insertion, the agr prefix in imperatives must be deleted (i.e., haplology occurs) before Vocabulary Insertion.
- This subsection: walk through the facts that support this argument
- (Inspiration: Arregi and Nevins 2012, Hewett 2020)

Voice prefix *tä-*

- This prefix reduces valence/detransitivizes, leading to passive, anticausative, and/or reflexive interpretations (see e.g., Bender and Hailu Fulass 1978, Mengistu Amberber 2002)
- I assume it is a Voice head, and gloss it as INTR 'intransitiv(izer)':

(32) a. tʃ'ämmärä-∅
add.PFV-3MSG.S
'He added (something)'

b. **tä**-tʃ'ämmärä-∅
INTR-add.PFV-3MSG.S
'It was added.' (Leslau 1995:462)

(33) bärr-u **tä**-käffätä-∅
door-DEF INTR-open.PFV-3MSG.S
'The door opened/was opened.' (Amberber 2002:15)

- This Voice prefix has two allomorphs:
  - *tä-*, the elsewhere form: (32)b, (33)
  - Partial reduplication (i.e., gemination) of the initial consonant of the verb stem

(34) yi-**f**-fälläg **3rd Person Agr Prefix**
3.s-INTR-want.IPFV
'he is sought/wanted' (Leslau 1995:468)

  - Not conditioned by the properties of the initial consonant (Leslau 1995:468)
  - Instead, occurs only in the context of certain prefixes, incl agreement

(35) ti-**f**-fälläg **2nd Person Agr Prefix**
2.s-INTR-want.IPFV
'you (masc sg.) are sought/wanted'

(36) mä-**f**-fäläg **Verbal Noun Prefix**
INF-INTR-want
'to be wanted/sought' (Leslau 1995:468)

  - *tä-* surfaces when the verb stem has no (other) prefix: ((32)b, (33))
  - ...or there is a different prefix/proclitic on the verb stem preceding *tä-*:

(37) ɨsk-ahun and-atʃtʃäw-ɨmm al-**tä**-mälläs-u **Neg Prefix**
up.to-now some-them-PCLE NEG-**INTR**-return.PFV-3PL
'None of them has yet come back.' (Leslau 1995:123)

(38) yä-**tä**-säbässäbä-∅-w hɨzb **Complementizer**
COMP-**INTR** -gather.PFV-3MSG.S-DEF people
'the people who were gathered' (Leslau 1995:433)

I assume that allomorph selection for Voice[INTR] is determined by Vocabulary Insertion:[10]

(39) **Vocabulary Items for Voice[INTR]**
a. [Voice],[INTR] ↔ RED / Asp __
Inf __
b. [Voice],[INTR] ↔ *tä-*

Key Question: which allomorph is used in imperatives?

Recall: Voice is below Asp = Voice does not intervene between Imp and Asp
- Therefore, imperatives with Voice[INTR] are predicted to lack an agreement prefix
- In other words, haplology is predicted to occur in imperatives with Voice[INTR]

This allows us to precisely determine the timing of haplology and Vocabulary Insertion:
- If haplology occurs before Vocabulary Insertion, predict that (39)b is inserted
- If haplology occurs after Vocabulary Insertion, predict that (39)a is inserted

In fact, (39)b *tä-* is inserted:

(40) **tä**-fäläg-∅
INTR-want.IMP-MSG.S
'Be sought/wanted!' (Leslau 1995:468)

(41) bä-kokakola **tä**-dässät-u
via-Cocacola INTR -enjoy-PL.S
'Enjoy Cocacola!' (Bezza Tesfaw Ayalew 2006:92)

Since the "prefix-less" allomorph *tä-* is found in imperatives, haplology of the agreement prefix occurs **before** Vocabulary Insertion

[10] Broselow (1984) proposes a phonological analysis of this allomorphy. In the current framework, it would be something like the following: a reduplicative Vocabulary Item is always inserted at Voice[INTR], but surfaces as *tä-* as a last resort when a geminate is not permitted due to phonotactic restrictions, e.g., word-initially. However, Amharic allows for (arguably) epenthetic vowels before otherwise word-initial geminates (e.g., *ɨssu* 'he'), and it is unclear why this would not also be available in the imperative. Moreover, a geminate would have to be deemed illicit after negation and after complementizers to force the insertion of *tä-*, but geminates are licit after both in other contexts. Finally, this analysis would not explain why the inserted epenthetic vowel is [ä] rather than the typical [ɨ].

The root for *mät't'a*

The verb *mät't'a* 'come' mostly behaves like a typical verb of its class:

(42) a. mät't'a-∅ b. yɨ-mät'-u c. yɨ-mt'a
come.PFV-3MSG.S 3.s-come.IPFV-PL.s 3.s-come.JUSS
'He came.' '…(that) they come' 'Let him come!'
(Leslau 1995:509, 516)

However, it has a suppletive form in the imperative:

Table 4: *mät't'a* in the Imperative

	Attested Form	**Predicted Form**[11]
Masculine singular	na-∅	*(ɨ)mt'a-∅
Feminine singular	näy	*(ɨ)mt'-i
Plural	n-u	*(ɨ)mt'-u

- I assume this is root allomorphy: the root normally realized as /mt'/ is realized as /n/ in an imperative context
  - Plausible for masculine singular and plural (*ɨ* in predicted form is epenthetic)
  - More complex for the feminine singular (should be **ñ* due to palatalization…)

The suppletive root allomorphy has an even more limited distribution in imperative contexts. **Not** used for:

- Negative imperatives

(43) a-ttɨ-**mt'a**-∅
NEG-2-come.IMP-M.SG
'Don't come!' (Kane 1990:348)

- Polite imperatives

(44) a. yɨ-**mt'**-u b. *yɨ-n-u
3-come.IMP-PL 3-come.IMP-PL
'Please come!' Intended: 'Please come!' [M3719, 11]

- Causative imperatives

(45) kot-e-n a-**mt'a**-∅-ll-ɨññ
coat-my-ACC CAUS-come.IMP-MSG.S-DAT-1SG.O
'Bring my coat to me!' (Leslau 1995:354)

[11] This is the older attested form in the masculine singular, according to Kane 1990 (Vol. 1, p. 348). The feminine singular and plural forms are educated guesses based on the phonotactics of the verb stem and the fact that agreement suffixes replace the final vowel of verbs of this type generally in the imperative (Leslau 1995:509).

In (43)-(45), some Vocabulary Item intervenes between the left edge of the root and the left edge of the verbal complex as a whole.

- What is at the left edge of an imperative verb in particular that could condition this allomorphy when we do see it? The Imperative head (see (17), (21))!
- Generalization: the root for *mät't'a* and the Imperative head must be linearly adjacent in order for the suppletive form of the root to be inserted

(46) **Vocabulary Items for √542 'come'**

a. √542 ↔ n / Imp __

b. √542 ↔ mt'

Like other imperatives, the suppletive forms of *mät't'a* lack agreement prefixes (Table 4)

- In other words, haplology occurs in Table 4

This allows us to precisely determine the timing of haplology and Vocabulary Insertion:

- If haplology occurs before Vocabulary Insertion, predict that (46)a is inserted (i.e., root and Imp are adjacent at Vocabulary Insertion)
- If haplology occurs after Vocabulary Insertion, predict that (46)b is inserted (i.e., root and Imp are **not** adjacent at Vocabulary Insertion)

Result: (46)a is inserted (Table 4) and thus haplology occurs before Vocabulary Insertion

The Same Conclusion: reached across these two unrelated cases of allomorphy

- When allomorph selection depends on the absence of an agreement prefix, the allomorph which appears in imperatives is the one selected when an agreement prefix is absent
- Therefore, the agreement prefix must be 'absented' before Vocabulary Insertion, i.e., haplology occurs first

Next section: implications of this result for the analysis of discontinuous agreement!

4.2 Evidence for Autonomous Fission

I will compare two PF-based approaches to the generation of discontinuous agreement:

- Harbour 2008a, aka Linearization approach (Itamar's talk: morphological approach)
- Hewett 2020, aka Metathesis approach (Itamar's talk: morphotactic approach)

The conclusion of Section 4.1 allows us to distinguish them:

- Haplology before VI is difficult to model in the Linearization approach
- Haplology before VI is easy to implement in the Metathesis approach

This section: sketch an analysis of Amharic imperatives in each approach

Linearization Approach to Discontinuous Agreement (Harbour 2008a)

What causes discontinuous agreement?

- Phi feature bundles have hierarchical structure (Harley 1994, Harley and Ritter 2002)

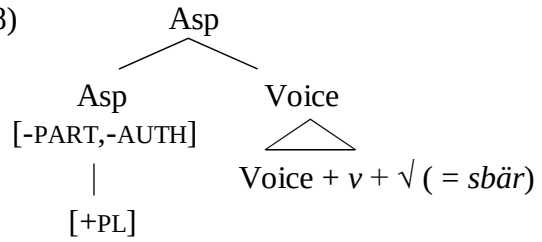
- Langs with discontinuous agr have Vocabulary Items that realize part of the structure
- Constraints on linearization lead these partially-realizing Vocabulary Items to be linearized flanking a stem

- Illustration with an Amharic jussive verb:

(47) yɨ-sbär-u
3.S-break.JUSS-PL.S
'Let them break!' (Leslau 1995:348)

- The hierarchical structure of phi features: Person > Number, Gender

(48)



(49) **Vocabulary Items Potentially Insertable at Asp (= (4))**

a. ɨ ↔ [+PARTICIPANT],[+AUTHOR],[-PL] = 1st person singular
b. ɨnnɨ ↔ [+PARTICIPANT],[+AUTHOR],[+PL] = 1st person plural
c. i ↔ [-PL][+FEM] / [+PARTICIPANT]/[-AUTHOR] = Fem sg in 2nd person context
d. tɨ ↔ [-PL][+FEM] / [-PARTICIPANT] = Fem sg in 3rd person context
e. tɨ ↔ [+PARTICIPANT],[-AUTHOR] = 2nd person
f. yɨ ↔ [-PARTICIPANT],[-AUTHOR] = 3rd person
g. u ↔ [+PL] = Plural

- No single VI matches all the features on Asp, but (49)f is inserted at the person node and (49)g can be inserted at the number node, resulting in (50)
- NB: Linearization and Vocabulary Insertion occur at the same time

(50) [yɨ * sbär]
|
u

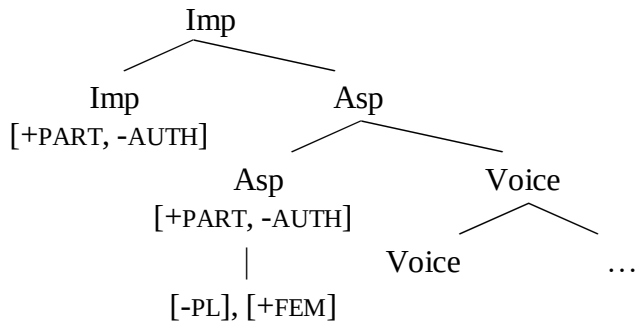
- But (50) is not fully linear. How to complete the linearization?
  - *yɨ-* dominates *–u* and thus must precede *–u* (**u-yɨ-sɨbär*)
  - Must preserve that *yɨ-* immediately precedes *sɨbär* (**yɨ-u-sɨbär*)

(51) Solution: Flanking
yɨ-sbär-u
3.s-break.JUSS-PL.S
'Let them break!'

Back to imperatives: consider the fem sing imperative in (52), complex head in (53)

(52) mäskot-u-n sɨbär-**i**!
window-DEF-ACC break.IMP-**FSG**.S
'Break the window!' [M3719,2b]

(53)



Next step: Vocabulary Insertion and Linearization occur at the same time

(54) [tɨ - sɨbär]
|
i

But recall: haplology must occur before Vocabulary Insertion (Section 4.1).

This leads to a problem. If haplology operates on (53), either:
- The whole Asp node must be deleted = no suffixal agreement, contrary to fact
- A non-constituent of Asp (topmost node alone) must be deleted, contrary to previous constraints on deletion within feature hierarchies (i.e., delinking; see e.g., Harley 1994)

What if the person features (topmost node) were separated from the number/gender features (bottom node) before haplology?
- In the Linearization approach, multiple Vocabulary Items are inserted at a single node, and then are linearized flanking the verb due to constraints on linearization: (51)
- Therefore, if we go down this road, we would reach a paradox: the "flanking" must occur after Vocabulary Insertion, but before haplology
- There can be no such operation since haplology precedes VI (all operations that occur after Vocabulary Insertion necessarily also occur after haplology)

How to move forward? Let's take another tack, and explore the Metathesis approach to generating discontinuous agreement at PF (Hewett 2020).

Metathesis Approach to Discontinuous Agreement (Hewett 2020)

What causes discontinuous agreement? This analysis has many steps, but simplifying:
- Step 1: A constraint on phi feature co-occurrence triggers the DM operation Fission at Asp: essentially separates [person] from [gender, number]

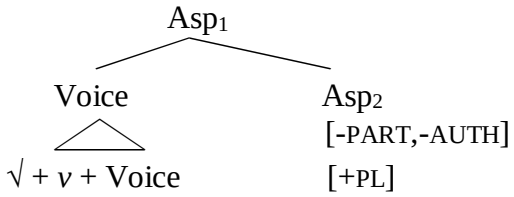
- Step 2: At least one Asp node must be initial in the complex head Asp, so there is an operation of Metathesis that switches the positions of one of the Asp nodes and the rest of verbal complex (Harris and Halle 2005, Arregi and Nevins 2018)
- Metathesis effectively separates the two Asp nodes created by Fission so that they flank the verbal complex

Illustration with a jussive verb:

(55) yi-sbär-u
3.S-break.JUSS-PL.S
'Let them break!' (Leslau 1995:348)

- NB: the Metathesis approach requires a left-branching structure for the complex head

(56)

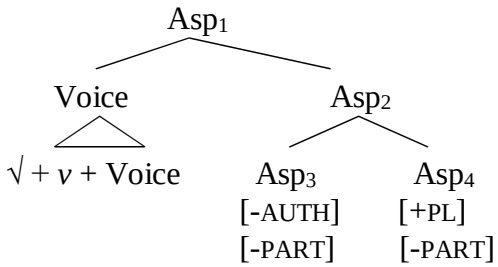


There is a morphotactic constraint that prevents phi feature bundles from containing [-AUTHOR] and a number feature (holds across Semitic; Hewitt 2020:11):

(57) **Morphotactic Constraint: Non-Author**
*[-AUTHOR],[αPL]

In (56), Asp_2 violates (57), so Fission is performed as a repair.

(58) **Fission, applied to (56)**



- Features not targeted by (57) are present in both fissioned nodes = [-PART] in (58)

Next, Linearization occurs (details not crucial!):
- NB: Fission imposes linearization on the fissioned nodes according to a feature hierarchy such that $Asp_3 * Asp_4$

(59) $[\sqrt{} + v + \text{Voice} * Asp_3 * Asp_4]_{Asp}$

At this point, a morphotactic constraint comes into play: an imperfective Asp node must be initial within imperf Asp^{0max} (holds across Semitic, sometimes based on T[-PAST]; Hewett 2020:17)

(60) **Morphotactic Constraint: Asp Initiality**
Terminal Asp[IPFV] is initial within Asp^{0max}

- I assume Amharic jussives/imperatives are built on Asp[IPFV]
- This constraint is satisfied if one Asp node is initial

(59) violates (60), so Metathesis is performed as a repair.

- The details of the Metathesis operation would take us too far afield (see Harris and Halle 2005, Arregi and Nevins 2018, Hewett 2020)
- For our purposes, Metathesis comprises a handful of steps:

(61) **Simplified Metathesis, Applied to the Jussive** (based on Hewett 2020:17, (41))
a. Identify a string in a particular domain: $[\sqrt{}\ v\ Voice\ Asp_3]_{Asp0max}$
b. Identify two subparts of the string:
i. $[\sqrt{}\ v\ Voice]$
ii. $[Asp_3]$
c. Metathesize the subparts

(62) **Metathesis, applied to (59)**
$[Asp_3 * \sqrt{} + v + Voice * Asp_4]_{Asp0max}$
[-AUTH] [-PART]
[-PART] [+PL]

Vocabulary Insertion occurs next, generating the attested string:

(63) **Vocabulary Items Potentially Insertable at Asp (= (4))**
a. i̇ ↔ [+PARTICIPANT],[+AUTHOR],[-PL] = 1st person singular
b. i̇nni̇ ↔ [+PARTICIPANT],[+AUTHOR],[+PL] = 1st person plural
c. i ↔ [-PL][+FEM] / [+PARTICIPANT]/[-AUTHOR] = Fem sg in 2nd person context
d. ti̇ ↔ [-PL][+FEM] / [-PARTICIPANT] = Fem sg in 3rd person context
e. ti̇ ↔ [+PARTICIPANT],[-AUTHOR] = 2nd person
f. yi̇ ↔ [-PARTICIPANT],[-AUTHOR] = 3rd person
g. u ↔ [+PL] = Plural

(64) yi̇- sɨbär- u
Asp_3 Voice-*v*-√ Asp_4
'Let them break!' (Leslau 1995:348)

Let's return to imperatives:

(65) mäskot-u-n sɨbär-**i**!
window-DEF-ACC break.IMP-**FSG**.S
'Break the window!' [M3719,2b]

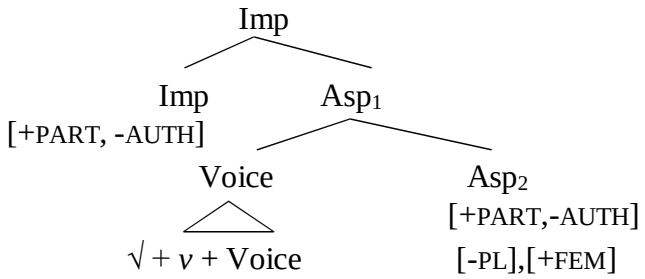
In order for a Metathesis approach to get off the ground, we must assume:

- The root raises to Asp (this must occur in general across Semitic in the Metathesis approach)
- Imp lowers to Asp (plausible for Amharic because prefixal/proclitic C elements are always leftmost in the verbal complex)

The necessary structure is shown already assembled in (66).

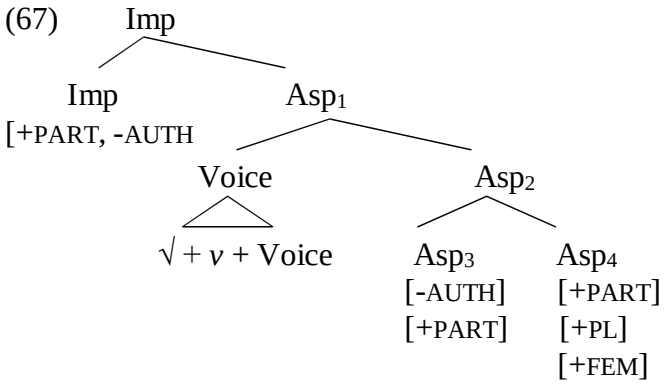
- See Harizanov and Gribanova 2018 on building a complex head postsyntactically through both raising and lowering

(66)



In (66), Asp_2 violates (57) Non-Author Constraint, so Fission is performed as a repair.

(67)



The structure is then linearized as in (68):

(68) $[[Imp * [\sqrt{} + v + Voice * Asp_3 * Asp_4]_{Asp0max}]$

Part of (68) violates (60) (repeated below as (69)), so Metathesis is performed as a repair.

(69) **Morphotactic Constraint: Asp Initiality**
Terminal Asp[IPFV] is initial within Asp^{0max}

- NB: (60)/(69) applies within Asp^{0max}, so Imp is not affected

(70) [Imp * Asp_3 * √ + *v* + Voice * Asp_4]$_{Asp0max}$
[-AUTH] [-AUTH] [+PART]
[+PART] [+PART] [-PL], [+FEM]

At this point, two nodes with second person features are linearly adjacent, and haplology applies:

(71) **Featural Haplology: 2nd Person**
[A_1 * A_2]$_{C0}$ → [A_1]
[+PART] [+PART] [+PART]
[-AUTH] [-AUTH] [-AUTH]

(72) [Imp * √ + *v* + Voice * Asp_4]$_{Asp0max}$
[-AUTH] [+PART]
[+PART] [-PL], [+FEM]

Last but not least, Vocabulary Insertion!

- No need to specify context for insertion/secondary exponence for (73)c

(73) **Vocabulary Items Potentially Insertable at Asp (= (4))**

a. i ↔ [+PARTICIPANT],[+AUTHOR],[-PL]	= 1st person singular
b. inni ↔ [+PARTICIPANT],[+AUTHOR],[+PL]	= 1st person plural
c. i ↔ [-PL][+FEM] [+PARTICIPANT]	**= Fem sg in 2nd person context**
d. ti ↔ [-PL][+FEM] / [-PARTICIPANT]	= Fem sg in 3rd person context
e. ti ↔ [+PARTICIPANT],[-AUTHOR]	= 2nd person
f. yi ↔ [-PARTICIPANT],[-AUTHOR]	= 3rd person
g. u ↔ [+PL]	= Plural

(74) sibär- i
√+*v*+Voice-Asp_4
'Break (f. sg.)!'

Overall: The Metathesis approach is compatible with haplology preceding Vocabulary Insertion

- Independent evidence that Metathesis occurs before Vocabulary Insertion (Hewett 2020)
- Metathesis "moves" the person marker away from the rest of the agreement and in the process creates a sequence that triggers haplology
- So it is easy to 'slot in' haplology after Metathesis and before Vocabulary Insertion

(75) Order of Operations at PF in Metathesis Approach[12]
Head Mvmnt > Fission > Linearization > Metathesis > Haplology > Vocabulary Insertion

- In contrast, the Linearization approach requires Vocabulary Insertion to occur first in order to motivate 'flanking,' and this is hard to reconcile with the requirement that haplology (which just targets the prefix) occurs before Vocabulary Insertion

[12] Polite Impoverishment (Section 3) presumably occurs sometime after Head Movement and before Haplology.

Upshot: Amharic imperative prefix haplology provides support for the Metathesis approach to discontinuous agreement

5 HAPLOLOGY IN AMHARIC BEYOND IMPERATIVES

This Section:

- Connect the haplology operation in imperatives to other haplology effects in Amharic → ramifications for the theory of morphological constraints/operations
- Explore the consequences of the haplology operation for other complex heads in Amharic → ramifications for the morphosyntax of object markers
- More speculative / sketchy!

5.1 Featural Haplology across Amharic

Recall the haplology operation:

(76) **Featural Haplology: 2nd Person**

$[A_1$	*	$A_2]_{C0}$	→	$[A_1]$
[+PART]		[+PART]		[+PART]
[-AUTH]		[-AUTH]		[-AUTH]

"Where two terminal nodes A_1 and A_2 are both contained within a complex head C^0,, A_1 immediately precedes A_2, and both A_1 and A_2 have [+PART][-AUTH], delete A_2."

[NB: C may = A_1 or A_2]

This operation is too specific to apply to other instances of haplology in Amharic because they do not involve 2nd person features.

- Example (Kramer 2014): when a determiner and an object marker attach to the same stem underlyingly, only the object marker surfaces = haplology
  - When a DP is definite and contains a relative clause, the definite determiner attaches to the verb within the relative clause (see Kramer 2010 on how that happens):

(77) [lɨbs yä-särräk'-ä-**w**] lɨdʒ
clothes COMP-steal-3MSG.S-**DEF** child
'the child who stole the clothes' (Leslau 1995:86)

- However, if the verb in the relative clause has an object marker, there is no determiner.

(78) [wäre-w-ɨn yä-näggär-**at**] lɨdʒ
news-DEF-ACC COMP-tell.3MSG.S-**3FSG.O** child
'the child who told her the news' (Leslau 1995:85)

- Analysis (Kramer 2014)
  - The determiner attaches to the relative clause verb post-syntactically (Kramer 2010)
  - Both the determiner and object marker have the same category: D (Kramer 2014)

(79) [Verb * D-Object-Marker * D-Determiner]

- This triggers featural haplology, and the determiner is deleted.
- No 2nd person features involved!

However, note that the same element deletes across both kinds of haplology: the linearly 2nd one.

(80) a. [Verb * D-Object-Marker * ~~**D-Determiner**~~]

b. [Imp * ~~**Asp**~~ * Verb …]
[-AUTH] ~~**[-AUTH]**~~
[+PART] ~~**[+PART]**~~

This is also true for the other kinds of haplology in Amharic! (Kramer 2009, 2010, Baker and Kramer 2014)

To capture this commonality, I propose generalizing the haplology operation in (76)

- Specifically, generalizing it so that it is no longer specific to particular features:

(81) **Featural Haplology: General**

$[A_1 \quad * \quad A_2]_{C0} \rightarrow \quad [A_1]$
[xF] [xF]

"Where two terminal nodes A_1 and A_2 are contained within a complex head C^0,, A_1 immediately precedes A_2, and A_1 and A_2 have the feature F with value x, delete A_2."
[NB: C may = A_1 or A_2]

- This is likely a kind of Obliteration, a postsyntactic operation that deletes an entire terminal node (Calabrese 2011, Arregi and Nevins 2012, Martinović 2017, Kouneli 2021)
- Obliteration has previously been used to capture morphological dissimilation and haplology and it has been independently posited to occur before Vocabulary Insertion

But: not all instances of the same feature (and value) undergo haplology in Amharic.

- For example, there are double plural nouns, where each plural marker has a [+PL] feature at PF (Kramer 2016)[13]

(82) k'al-at-otʃtʃ
word-PL-PL
'words' (Kramer 2016:530)

So, in addition to (81), we need feature-specific markedness constraints.

- Example for 2nd person in (83)

[13] Nouns can also have two suffixes where each expresses a feminine gender feature: a feminine suffix and the feminine form of the definite marker.

(83) **Morphotactic Constraint on 2nd Person Features**

☒ [+PART] * [+PART]
[-AUTH] [-AUTH]

- These constraints would trigger the operation in (81), à la Arregi and Nevins 2012, Hewett 2020
- (NB: I'm ignoring the fact that person is comprised of two features, which will require some finagling of (81))

However, there is still work to be done restricting this:

- Must ensure that (81) (and not some other operation) is used to repair a violation of (83)
- Must ensure (81) is **not** used to repair violations of other morphotactic constraints, like (57), the one that triggers Fission in the Metathesis approach

In Arregi and Nevins 2012 and Hewett 2020, this kind of restriction is accomplished by having the operations be specific to particular features

- But this would miss the generalization that the haplology operation applies in the same way (delete A_2) across features in Amharic

Upshot: featural haplology in Amharic is unified in that it always deletes the second element, but it is variable in terms of what feature cannot be repeated

- Capturable using Obliteration and morphotactic constraints
- But future work will hopefully explore how to restrict this analysis properly

5.2 2nd Person Beyond Imperatives

Consider the morphotactic constraint that triggers haplology:

(84) **Morphotactic Constraint on 2nd Person Features**

☒ [+PART] * [+PART]
[-AUTH] [-AUTH]

Does this constraint hold in other contexts of 2nd person agreement in Amharic?

At first, it seems difficult to tell.

- In compound verbs, agreement markers are not adjacent – they alternate with verbal heads:

(85) t~~i~~-säbr-i-yall-äʃ
2.S-break.IPFV-2FSG.S-AUX-2FSG.S
'you (f.sg.) break, will break' (Leslau 1995:342)

- There is only one object marker per verbal complex: no clitic clusters (Kramer 2018)

But there is one relevant context: a verb with two 2nd person arguments:

(86) ayy-äʃ-atʃtʃɨhu
see.PFV-2FSG.S-2PL.O
'You (fem sg.) saw you all'

(87) ayy-atʃtʃɨhu-ʃ
see.PFV-2PL.S-2FSG.S
'You all saw you (fem sg.).'

If these forms are grammatical (elicitation is ongoing), they flout (84).

A possible solution: there is a node that intervenes between the subject agreement and the object marker in general, so they are not actually adjacent in (86) and (87).

- Perhaps a phonologically null accusative case marker on the object marker?
- Evidence for this hypothesis
    - Object markers are (arguably) marked for other cases in Amharic, and the case marker intervenes between subject agreement and the object marker

(88) ɨnnat-ɨh s'ägur-h-ɨn abät't'är-ätʃtʃɨ-**lli**-h
mother-your hair-your-ACC comb.PFV-3FS.S-**DAT**-2MSG.O
'Did your mother comb your hair (for you)?' (Leslau 1995:426)

- Object markers are overtly marked for accusative case in other Ethiosemitic languages, e.g., Chaha (Banksira 2000: Ch.9)

Table 5: 3rd Person Object Markers in Chaha (light form; Banksira 2000:262)

	Accusative	Dative/Benefactive	Malefactive/ Locative/Instrumental
3msg	-**n**-U[14]	-r-əU	-β-əU
3fsg	-**n**-a	-r-a	-β-a
3mpl	-**n**-o	-r-o	-β-o
3fpl	-**n**-əma	-r-əma	-β-əma

Future work: further investigating his hypothesis, ramifications for morphosyntax of object marking in Amharic

6 CONCLUSION

The agreement prefix in Amharic imperatives "disappears."

- This is due to haplology: the 2nd person Imp and the 2nd person agr prefix are adjacent (evidence: intervention effects, polite imperatives, independently attested haplology)
- The haplology operation that deletes the prefix must occur before Vocabulary Insertion (evidence from allomorphy that is sensitive to absence of an agr prefix)
- This provides support for the Metathesis analysis of discontinuous agreement (Hewett 2020)

[14] The capital U represents a labialization feature. See Banksira 2000:262, fn.1

- There are also some interesting (currently being explored!) ramifications for how haplology operations are stated and potentially also for the analysis of object markers in Amharic

Broader Implications

- Understanding PF and discontinuous agreement: nature of haplology operations at PF, timing of operations at PF, the creation of discontinuous agreement
- Understanding imperatives: fleshing out intuitions about the connection between imperatives (inherently-person-marked) and lack of verbal person-marking (van der Wurff 2007:42)
    - Augmenting the modest literature on the morphology of imperatives (see e.g., Harris 1998, Norris 2016)
- A pathway to analyzing similar phenomena in other languages?
    - Modern Standard Arabic: Soltan 2007 (syntactic approach)
    - Hebrew: Bat-El 2002 (phonological approach), Faust and Berrebi to appear

REFERENCES

Alemayehu Haile. 1991. The morphological structure of the imperative stem in Amharic. *The Ethiopian Journal of Education* 12. 61-76.

Mengistu Amberber. 2002. *Verb Classes and Transitivity in Amharic*. Münich: Lincom.

Arregi, Karlos and Andrew Nevins. 2012. *Morphotactics: Basque Auxiliaries and the Structure of Spellout*. New York: Springer.

Arregi, Karlos and Andrew Nevins. 2018. Beware Occam's syntactic razor: morphotactic analysis and Spanish mesoclisis. *Linguistic Inquiry* 49. 625-683.

Baker, Mark C. 2012a. On the relationship of object agreement and accusative case: evidence from Amharic. *Linguistic Inquiry* 43. 255-274.

Baker, Mark C. 2012b. "Obliqueness" as a component of argument structure in Amharic. In Maria Cristina Cuervo and Yves Roberge, eds. *The End of Argument Structure?* Bingley: Emerald . 43-74.

Baker, Mark and Ruth Kramer. 2014. Rethinking Amharic prepositions as case markers inserted at PF. *Lingua* 145. 141-172.

Banksira, Degif Petros. 2000. *Sound Mutations: The Morphophonology of Chaha.* Amsterdam: Benjamins.

Bat-El, Outi. 2002. True truncation in Colloquial Hebrew imperatives. *Language* 651-683.

Baye Yimam. 1997. The verb to have in Amharic. In K. Fukui, E. Kurimoto, and M. Shigeta, eds., *Ethiopia in Broader Perspective.* Volume I. 12-17. Kyoto: Shocked.

Baye Yimam. 2004. Agreement phenomena in Amharic. In V. Böll, ed. *Studia Aethiopica.* Wiesbaden: Harrassowitz. 319-336.

Baye Yimam. 2006. The interaction of tense, aspect and agreement in Amharic syntax. In John Mugane et al., eds., *Proceedings of ACAL 35*. Somerville: Cascadilla Press. 193-202.

Bender, M. Lionel and Hailu Fulass. 1978. *Amharic Verbal Morphology.* East Lansing, MI: African Studies Center, Michigan State University.

Bezza Tesfaw Ayalew. 2006. *Amharic Learners' Reference Grammar.* Madison, Wisconsin: National African Language Resource Center.

Broselow, Ellen. 1984. Default consonants in Amharic morphology. In M. Speas and R. Sproat, eds., *MIT Working Papers in Linguistics*: 15-32.

Calabrese, Andrea. 2011. Investigations on markedness, syncretism and zero exponence in morphology. *Morphology* 21. 283-325.
Campbell, Amy. 2012. The morphosyntax of discontinuous exponence. Doctoral dissertation, University of California, Berkeley.
Cohen, Marcel. 1970. *Traité de Langue Amharique.* 2nd ed. Paris: Institut d'Ethnologie.
Despić, Miloje. 2017. Investigations on mixed agreement: polite plurals, hybrid nouns and coordinate structures. *Morphology* 27. 253-310.
Faust, Noam and Si Berrebi. To appear. To the future and back: new aspects of Modern Hebrew imperative truncation. *Radical.*
Girma A. Demeke. 2003. The clausal syntax of Ethio-Semitic. Doctoral dissertation, University of Tromsø.
Girma Halefom. 1994. The syntax of functional categories: a study of Amharic. Doctoral dissertation, University of Quebec at Montreal.
Goldenberg, Gideon. 1964. On the Amharic tense system. *Journal of Semitic* 9. 47-49.
Hale, Kenneth. 1973. Person marking in Walbiri. In Stephen R. Anderson and Paul Kiparsky, eds. *A Festschrift for Morris Halle.* New York: Holt, Rinehart and Winston. 308-344.
Halle, Morris. 1997. Distributed morphology: impoverishment and fission. In Benjamin Bruening, et al., eds., *MIT Working Papers in Linguistics 30: Papers at the Interface.* Cambridge: MITWPL. 425-449.
Halle, Morris and Alec Marantz. 1993. Distributed morphology and the pieces of inflection. In Ken Hale and Samuel Jay Keyser, eds. *The View from Building 20*. Cambridge: MIT Press. 111-176.
Han, Chung-hye. 1999. Cross-linguistic variation in the compatibility of negation and imperatives. *Proceedings of the 17th West Coast Conference on Formal Linguistics* (WCCFL 17). CSLI, Stanford, 265-279
Harbour, Daniel. 2007. Against PersonP. *Syntax* 10. 223-242.
Harbour, Daniel. 2008a. Discontinuous agreement and the syntax-morphology interface. In Daniel Harbour, David Adger, and Susana Béjar, eds. *Phi Theory*. Oxford: OUP. 185-220.
Harbour, Daniel. 2008b. On homophony and methodology in morphology. *Morphology* 18. 75-92.
Harizanov, Boris and Vera Gribanova. 2018. Whither head movement. *Natural Language and Linguistic Theory.* https://doi.org/10.1007/s11049-018-9420-5
Harley, Heidi. 1994. Hug a tree: Deriving the morphosyntactic feature hierarchy. In Andrew Carnie and Heidi Harley, eds., *MIT Working Papers in Linguistics 21.* 289-320.
Harley, Heidi and Elizabeth Ritter. 2002. Person and number in pronouns: a feature-geometric analysis. *Language* 78. 482-526.
Harris, James. 1998. Spanish imperatives: syntax meets morphology. *Journal of Linguistics* 34. 27-52.
Harris, James and Morris Halle. 2005. Unexpected plural inflections in Spanish: reduplication and metathesis. *Linguistic Inquiry* 36. 195-222
Isac, Daniela. 2015. *The Morphosyntax of Imperatives.* Oxford: OUP.
Jensen, Britta. 2003. Syntax and semantics of imperative subjects. *Nordlyd* 31. 150-164.
Kane, Thomas Leiper. 1990. *Amharic-English Dictionary.* Wiesbaden: Harrassowitz.
Kouneli, Maria. 2021. Number-based noun classification: the view from Kipsigis. *Natural Language and Linguistic Theory* 39. 1195-1251.

Kramer, Ruth. 2009. Definite markers, phi-features, and agreement: a morphosyntactic investigation of the Amharic DP. Doctoral dissertation, UC Santa Cruz.
Kramer, Ruth. 2010. The Amharic definite marker and the syntax-morphology interface. *Syntax* 13. 196-240.
Kramer, Ruth. 2014. Clitic doubling or object agreement: the view from Amharic. *Natural Language and Linguistic Theory* 32. 593-634.
Kramer, Ruth. 2015. *The Morphosyntax of Gender.* Oxford Studies in Theoretical Linguistics 58. Oxford: Oxford University Press.
Kramer, Ruth. 2016. A split analysis of plurality: evidence from Amharic. *Linguistic Inquiry* 47. 527-559.
Legate, Julie Anne. 2014. *Voice and* v*: Lessons from Acehnese*. Cambridge, MA: MIT Press.
Leslau, Wolf. 1995. *Reference Grammar of Amharic.* Wiesbaden: Harrassowitz.
Martinović, Martina. 2017. Wolof wh-movement at the syntax-morphology interface. *Natural Language and Linguistic Theory* 35. 205-256.
Martinović, Martina. 2019. Interleaving Syntax and Postsyntax: Spellout before Syntactic Movement. *Syntax* 22:4. 378-418.
Meyer, Ronny. 2016. Tense and aspect in Ethiosemitic languages. In Lutz Edzard, ed. *The Morpho-Syntactic Encoding of Tense and Aspect in Semitic Languages.* Wiesbaden: Harrassowitz. 159-239.
Mulusew Asratie Wondem. 2014. The syntax of non-verbal predication in Amharic and Ge'ez. Doctoral dissertation, Universiteit Utrecht.
Neeleman, Ad and Hans van de Koot. 2017. Syntactic haplology. In Martin Everaert and Henk V. van Riemsdijk, eds. *The Wiley Blackwell Companion to Syntax*. 2nd ed. London: Wiley. 4377-4407.
Nevins, Andrew. 2011. Marked targets versus marked triggers and impoverishment of the dual. *Linguistic Inquiry* 42. 413-444.
Nevins, Andrew. 2012. Haplological dissimilation at distinct stages of exponence. In Jochen Trommer, ed. *The Morphology and Phonology of Exponence.* Oxford: OUP. 84-116.
Norris, Mark. 2016. Unifying subject agreement across clause types in Estonian. *Finno-Ugric Languages and Linguistics* 5. 3-37.
Noyer, Rolf. 1992. Features, positions, and affixes in autonomous morphological structure. Doctoral dissertation, MIT.
Noyer, Rolf. 1998. Impoverishment theory and morphosyntactic markedness. In Steven G. LaPointe et al., eds. *Morphology and its Relation to Phonology and Syntax.* Stanford, CA: CSLI. 264-285.
Puškar-Gallien, Zorica. 2019. Resolving polite conflicts in predicate agreement. *Glossa* 4. 1-25.
Pylkkänen, Liina. 2008. *Introducing Arguments.* Cambridge: MIT Press.
Rivero, Maria-Luisa and Arhonto Terzi. 1995. Imperatives, V-Movement and logical mood. *Journal of Linguistics* 31. 301-332.
Salzmann, Martin. 2019. Displaced morphology in German verb clusters: an argument for post-syntactic morphology. *Journal of Comparative Germanic Linguistics* 22. 1-53.
Shlonsky, Ur. 1989. The hierarchical representation of subject verb agreement. Ms., Haifa University.
Soltan, Usama. 2007. On formal feature licensing in minimalism: aspects of Standard Arabic morphosyntax. Doctoral dissertation, University of Maryland, College Park.

Tourabi, Abderrezzak. 2000. Arabic subject-verb agreement affixes: morphology, specification and spell-out. *MIT Working Papers in Linguistics* 42. 329-356.
Trommer, Jochen. 2003. The interaction of syntax and morphology in affix order. *Yearbook of Morphology* 2002. 283-324.
Trommer, Jochen. 2008. A feature-geometric approach to Amharic verb classes. In Asaf Bachrach and Andrew Nevins, eds. *Inflectional Identity*. Oxford: OUP. 206-236.
Wechsler, Stephen. 2011. Mixed agreement, the person feature, and the index/concord distinction. *Natural Language and Linguistic Theory* 29. 999-1031.
van der Wurff, Wim. 2007. Imperative clauses in generative grammar: an introduction. In Wim van der Wurff, ed. *Imperative Clauses in Generative Grammar.* Amsterdam: Benjamins. 1-94.
Zanuttini, Rafaella. 2008. Encoding the addressee in the syntax: Evidence from English imperative subjects. *Natural Language and Linguistic Theory* 26. 185-218.
Zanuttini, Rafaella, Miok Pak, and Paul Portner. 2012. A syntactic analysis of interpretive restrictions on imperative, promissive, and exhortative subjects. *Natural Language and Linguistic Theory* 30. 1231-1274.
Zhang, Shi. 1990. The status of imperatives in theories of language. Doctoral dissertation, U. of Arizona.