

The morphological consequences of complementizer placement in Tigrinya*

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1 Introduction

This talk presents a case of **complementizer displacement in the head-final language Tigrinya**, in which the complementizer *kām=* appears to mark the verb and auxiliary it crosses morphologically:

- (1) *The complementizer kām= on verb or auxiliary, triggering zi- insertion and allomorphy:*
- a. ... kab geza wäts'ï?-a kām=z-äll-a ...
 from house leave.GER-3FS C=REL-AUX-3FS
 '...that she has left the house.' (Z3.5.26)
- b. ... kab geza kām=zi-wäts'ä?-ät z-äll-a ...
 from house C=REL-leave.PFV-3FS REL-AUX-3FS
 '...that she has left the house.' (Z3.5.24)

How can a complementizer move downward in a head-final cluster?

- ▷ I argue that complementizer placement reflects a **postsyntactic operation of Local Dislocation** (?), inverting the proclitic *kām=* with the closest prosodic word:

- (2) *Local Dislocation onto the closest verb/auxiliary:*
- [_o wäts'ï?-av] kām=[_o z-äll-a_{AUX}] kām=


Why does postsyntactic displacement have morphological reflexes?

- ▷ I posit a rule of **disassociated node insertion**, in the sense of ?, which copies the features of the complementizer *kām=* onto members of the verb cluster at PF:

- (3) *Rule of zi- insertion:*
 Copy the features of C_{kām=} onto a preceding V/Aux.

- ▷ Displacement of *kām=* tracks node copying, because of **the inserted node is preferentially adjacent to the copying trigger**, building on work on inversion in Tiwa (?).

*I am indebted to Hiriyom Habte, Zekaryas Solomon, Yordanos Tekle for sharing their language with me. My thanks to Athulya Aravind, Gioia Cacchioli, Imogen Davies, Tom Meadows, Danfeng Wu, and Michelle Yuan for discussion. Abbreviations used for Tigrinya: 1/2/3 = 1st/2nd/3rd person, ACC = accusative, AUX = auxiliary, C = complementizer, DEF = definite, F = feminine, GER = gerund, IMPF = imperfective, M = masculine, NEG = negative, O = object, P = plural, PASS = passive, PFV = perfective, PST = past, REL = relative, S = singular.

2 Complementizer lowering in Tigrinya

- ▷ Tigrinya is generally head-final, with verbs and auxiliaries appearing together in a **clause-final verb cluster**.
- ▷ But the complementizer *kām=* is a proclitic and appears before an auxiliary or verb, sometimes over an intervening auxiliary:

- (4) *The complementizer kām= appears on head-final verb or auxiliary:*
- a. ... [CP Ts'iga ti-därrif kām=z-ey=äll-a] ...
 Ts'iga 3FS-sing.IMPF C=REL-NEG=AUX-3FS
 '...that Ts'iga isn't singing.' (H2-3)
- b. ... [CP Ts'iga kām=ti-därrif z-ey=äll-a] ...
 Ts'iga C=3FS-sing.IMPF REL-NEG=AUX-3FS
 '...that Ts'iga isn't singing.' (H2-6)

⇒ I argue that *kām=* is a **proclitic that undergoes Local Dislocation in the postsyntactic component** (?), to attach before a prosodic word.

2.1 Verbs and auxiliaries are head-final

- ▷ Tigrinya is an Ethio-Semitic language spoken in Eritrea and Northern Ethiopia, with an estimated 10 million speakers.
- ▷ Data presented comes from three speakers originally from Asmara living in London. It was collected in two classes at Queen Mary (Spring 2021, Fall 2024), as well as elicitation sessions in 2021, 2023, and 2024.

Tigrinya is head-final

- ▷ Tigrinya is an SOV language, in which the verb is typically clause-final:

- (5) *Tigrinya is SOV:*
- a. ?it-i kälbi bun **yi-säti**.
 DEF-MS dog coffee 3MS-drink.IMPF
 'The dog drinks coffee.' (Z2-12)
- b. *?it-i kälbi **yi-säti** bun.
 DEF-MS dog 3MS-drink.IMPF coffee
 'The dog drinks coffee.' (Z2-13)

- ▷ A number of TAM combinations involve a verb and a single auxiliary (there may not be constructions with multiple auxiliaries, ?).

▷ Auxiliaries are also head-final and **so appear after the verb**:

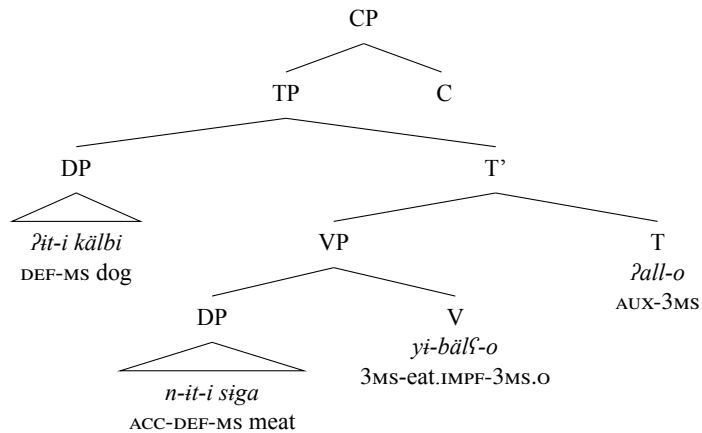
(6) *Auxiliaries are head-final and appear after the verb:*

- a. Ts'iga ti-därrif **neyr-a**.
 Ts'iga 3FS-sing.IPFV AUX.PST-3FS
 'Ts'aiga was singing.' (ZA-4)
- b. ... [CP kab geza wäts'i?-a **käm=z-äll-a**] ...
 from house leave.GER-3FS C=REL-AUX-3FS
 '...that she has left the house.' (Z3.5.26)

▷ The verb and auxiliary form something like a **head-final verb cluster**, as in some Germanic languages, since nothing intervenes in such clusters.

▷ I adopt a **head-final syntax for Tigrinya**, with the verb sitting in V (or Asp) and the auxiliary in T. The example in (6a) then has a structure like (7):

(7) *A head-final syntax for Tigrinya:*



2.2 The complementizer *käm=* is a proclitic

▷ The complementizer *käm=* marks embedded declarative clauses. In the most typical pattern, ***käm=* attaches before the final verb or auxiliary**:

(8) *Complementizer *käm=* on final verb or auxiliary:*

- a. Yosäf [CP Ts'iga timali **käm=zi-däraf-ät**] habir-u.
 Yosef Ts'aiga yesterday C=REL-sing.PFV-3FS say.GER-3MS
 'Yosef said that Ts'aiga sang yesterday.' (Z2.A.13)
- b. ... [CP kab geza wäts'i?-a **käm=z-äll-a**] ...
 from house leave.GER-3FS C=REL-AUX-3FS
 '...that she has left the house.' (Z3.5.26)

▷ Also, in some verb+auxiliary combinations (see more below), only attachment to the final auxiliary is possible. In the future, **only the auxiliary is an eligible host**, and not the verb:

(9) *In future, only auxiliary hosts *käm=*:*

- a. ... [CP Ts'iga metshaf **ki-t-gäzi?** **käm=zi-kon-ät**] ...
 Ts'iga book PURP-3FS-buy.IMPF C=REL-AUX-3FS
 '...that Ts'iga will buy a book.' (Y3-7)
- b. *... [CP Ts'iga metshaf **käm=ki-t-gäzi?** **zi-kon-ät**] ...
 Ts'iga book C=PURP-3FS-buy.IMPF REL-AUX-3FS
 '...that Ts'iga will buy a book.' (Y3-9)

▷ Other verb+auxiliary combinations show variation, but ***käm=* to can attach to the auxiliary in all combinations**.

⇒ **Proposal:** The complementizer *käm=* originates at the right edge and is **underlyingly head-final also**. Displacement operations ensure it is placed before the closest verb/auxiliary.

2.3 Procliticization to the verb across auxiliary

What displacement operations achieve complementizer placement?

Key observation: Cliticization of *käm=* can be **non-local**. In clauses containing a verb and auxiliary, the complementizer *käm=* may sometimes attach to the verb *across an auxiliary*.

▷ All three speakers I've consulted readily accept some examples in which ***käm=* attaches to the verb across an auxiliary**, though not always in the same combinations.

▷ All three speakers permit both cliticization to the verb and to the auxiliary with the present tense auxiliary *ʔall-*. The auxiliary combines with the imperfective stem in the present progressive, and the complementizer can appear on either verb or auxiliary (10a–b):

(10) *Present progressive permits complementizer on verb or auxiliary:*

- a. ... [CP Ts'aiga **z-ey=ti-därrif** **käm=z-äll-a**] ...
 Ts'aiga REL-NEG=3FS-sing.IMPF C=REL-AUX-3FS
 '...that Ts'aiga is not singing.' (Z3.6.33; H2-2; Y2-20)
- b. ... [CP Ts'aiga **käm=z-ey=ti-därrif** **z-äll-a**] ...
 Ts'aiga C=REL-NEG=3FS-sing.IMPF REL-AUX-3FS
 '...that Ts'aiga is not singing.' (Z3.5.1; H2-3; Y3-22)

▷ The auxiliary *ʔall-* also combines with the perfective stem to form the present perfect, and ***käm=* can attach to the perfective verb** (11a–b):

(11) *Present perfect permits the complementizer *käm=* on verb or auxiliary:*

- a. ... [CP kab geza **wäts'i?-a** **käm=z-äll-a**] ...
 from house leave.GER-3FS C=REL-AUX-3FS
 '...that she has left the house.' (Z3.5.26; H2-29; Y2-31)

b. ... [CP kab geza **käm=zi-wäts'ä?-ät z-äll-a**] ...
 from house C=REL-leave.PFV-3FS REL-AUX-3FS
 '...that she has left the house.' (Z3.5.24; H2-28; Y2-24)

- ▷ Two speakers also accept cliticization to the verb in the past progressive, which involves the past tense auxiliary *neyr-*, though non-local cliticization in the past perfect appears degraded.
- ▷ In some examples, the presence of the negative clitic *ʔay=* on the same host appears to have an ameliorating effect.

2.4 A postsyntactic analysis

How do we capture non-local cliticization of *käm=*?

- ▷ Whether underlyingly head-initial or head-final, the distribution of *käm=* is **difficult to capture using purely syntactic mechanisms**:
 - Head movement to a prefixal C should only allow *käm=* to surface on the highest verb/auxiliary.
 - Syntactic lowering (??), should also respect minimality (as well as the ban on excorporation).

Proposal: The complementizer *käm=* undergoes an **operation of Local Dislocation** (?) in a postsyntactic component.

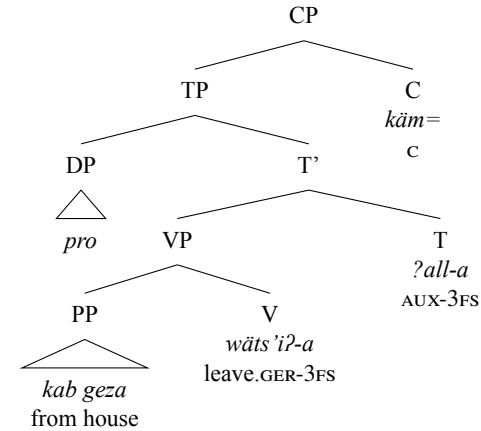
- ▷ Morphemes may be associated with **subcategorization requirements** that can be resolved in a morphological component.
- ▷ The complementizer *käm=* comes with a **prosodic subcategorization requirement** (??), requiring a prosodic word to the right (i.e. it is a proclitic):

(12) *Lexical entry for käm=:*
 Form: *käm=*
 SubCat: ___-[_ω ...]

- ▷ The underlying abstract syntax is head-final and is **blind** to morphological wellformedness requirement in lexical entries (it doesn't see (12)). Syntax generates a strict head-final clause:

(13) *Complementizer on verb in present perfect:*
 ... [CP kab geza **käm=zi-wäts'ä?-ät z-äll-a**] ...
 from house C=REL-leave.PFV-3FS REL-AUX-3FS
 '...that she has left the house.' (Z3.5.24)

(14) *Narrow syntactic structure for (13):*



- ▷ There is a postsyntactic component in which various rules of word formation can apply, including rules of displacement (??).
- ▷ I adopt ?'s (?) Local Dislocation, which can invert adjacent elements:

(15) *Local Dislocation onto the closest verb/auxiliary:*
 [_ω wäts'ä?-a_V] **käm=**[_ω z-äll-a_{Aux}] käm=
 ↑

(? also propose a morphological rule of Lowering that operates prior to Vocabulary Insertion, but this rule runs into the same problem as lowering in the syntax: Lowering should only target the *hierarchically closest* head.)

Why can Local Dislocation be non-local?

- ▷ The verb and auxiliary act as **independent prosodic words**: both can be clitic hosts and have their own prefixes and suffixes.
- ▷ The verb then in principle also provides a **suitable target** for Local Dislocation, if the operation can apply multiple times:

(16) *Local Dislocation onto the verb+auxiliary complex:*
käm=[_ω zi-wäts'ä?-ät_V] käm= [_ω z-äll-a_{Aux}] käm=
 ↑

(I return below to the question of exactly why Local Dislocation shouldn't *necessarily* be local too.)

3 Morphological effects of the complementizer *kām=*

Cliticization of *kām=* has **two morphological consequences** (17a–b): i) insertion of the *zi-* prefix onto verbs and auxiliaries, and ii) an associated allomorphy pattern in perfective stems.

(17) *The complementizer *kām=* appears on head-final verb or auxiliary:*

a. ... kab geza *kām=zi-wäts'ä?-ät* *z-äll-a* ...
 from house C=REL-leave.PFV-3FS REL-AUX-3FS
 ‘...that she has left the house.’ (Z3.5.24)

b. ... kab geza wäts'i?-a *kām=z-äll-a* ...
 from house leave.GER-3FS C=REL-AUX-3FS
 ‘...that she has left the house.’ (Z3.5.26)

How can postsyntactic displacement have morphological consequences?

- ▷ I propose a **rule of feature copying at PF**, which *precedes* displacement and may iterate in the verb cluster, as in ?'s (?) treatment of Germanic parasitic morphology.
- ▷ Building on ?'s (?) work on affix inversion in Tiwa, I propose that the *zi-* prefix comes with a requirement that it be preceded by a complementizer in the cluster.

3.1 Insertion of the prefix *zi-*

- ▷ The complementizer *kām=* **usually requires the presence of the prefix *zi-***, which also marks relative clauses (?):

(18) Yosäf [_{CP} Ts'aiga timali *kām=zi-däraf-ät*] habir-u.
 Yosef Ts'aiga yesterday C=REL-sing.PFV-3FS say.GER-3MS
 ‘Yosef said that Ts'aiga sang yesterday.’ (Z2.A.13)

- ▷ The *zi-* prefix is a separate morpheme, because it occurs independently. In addition, Tigrinya avoids sequence of light prefixes, and so *zi-* may be absent if *kām=* attaches to a prefixed base:

(19) *The prefix *zi-* is absent before CV prefixes:*

a. ... [_{CP} Yosäf ikubat säb *kām=tä-ts'äli?*] ...
 Yosef crowd people C=3FS-hate.IMPF
 ‘...that Yosef hates crowds.’ (Z3.4.6)

b. ... [_{CP} ?it-i häts'an *kām=tä-wälid-u*] ...
 DEF-MS baby C=PASS-give.birth.GER-3MS
 ‘...that the baby was born.’ (Z3.6.28)

The *zi-* prefix as node insertion

- ▷ In DM, one morpheme imposing vacuous morphological marking on another has been treated via the operation of **disassociated node insertion** (?).
- ▷ Node insertion may proceed by **feature copying**, copying the features of a head X onto a head Y, where these can be expounded as a separate morpheme (??).
- ▷ I propose to treat the insertion of relative clause morphology as the outcome of a **rule of node insertion**, triggered by the complementizer *kām=*:¹

(20) *Rule of *zi-* insertion:*

Copy the features of C_{kām=} onto a preceding V/Aux.

3.2 Allomorphy of the perfective stem

- ▷ Displacement of the complementizer *kām=* is also leads associated with an allomorphy pattern in perfective stems and the past tense auxiliary *neyr-*.
- ▷ An innovation of Tigrinya is that the **historical “gerund” stem typically expresses perfective**, displacing the perfective stem in simple independent clauses.²

(21) *Gerund stem express past perfective in independent clauses:*

a. ?it-i kälbi n-it-i siga **bäliṣ-uw-o**.
 DEF-MS dog ACC-DEF-MS meat eat.GER-3MS-3MS.O
 ‘The dog ate the meat.’ (Z5–8)

b. ?it-i kälbi apti midri **däk'is-u**.
 DEF-MS dog on floor sleep.GER-3MS
 ‘The dog slept on the floor.’ (Z5–9)

- ▷ The gerund and perfective are distinguished by vocalic melody and **agreement suffixes**.³

(22) **Table 1. Agreement suffixes for gerund and perfective (? :42).**

	Gerund	Perfective
1SG	säbir-ä	säbär-ku
3FS	säbir-a	säbär-ät
3MS	säbir-u	säbär-ä
3FP	säbir-än	säbär-a
3MP	säbir-om	säbär-u

¹I treat *zi-* as an elsewhere form for C-related features, which is also serve as a spell out of the feature [REL] (see ? for the distribution of the *zi-* prefix in relative clauses.)

²? refers to the gerund and perfective as the simple perfective and historical perfective, respectively, while ? uses the terms old suffix conjugation and new suffix conjugation.

³I treat suffix allomorphy as an instance of non-local allomorphy (see ?), triggered by [NEG] or [SUB]. An alternative that captures the relationship between the stem and its suffixes more directly is to posit an operation of feature insertion (?), triggered in embedded clauses and in the presence of negation. This rule would change the featural content of the stem and the feature would then govern allomorphy in the suffixes.

- ▷ The **perfective stem allomorph** appears when the verb hosts the *kām=*, so that the choice of verb or auxiliary as host correlates with the choice of gerund/perfective stem and suffixes:

(23) *The complementizer determines allomorphy of the perfective:*

- a. ... kab geza kām=zi-wäts'ä?-ät z-äll-a ...
 from house C=REL-leave.PFV-3FS REL-AUX-3FS
 '...that she has left the house.' (Z3.5.24)
- b. ... kab geza wäts'i?-a kām=z-äll-a ...
 from house leave.GER-3FS C=REL-AUX-3FS
 '...that she has left the house.' (Z3.5.26)

⇒ This allomorphy pattern can be attributed to the **presence of the copied complementizer features**, since the *zi-* prefix triggers the same allomorphy in relative clauses.

3.3 Allomorphy and *zi-* insertion in verb clusters

- ▷ When *kām=* undergoes non-local displacement, ***zi-* insertion overapplies**: both the verb and auxiliary receive the prefix. We see this pattern with the present tense auxiliary *zäll-* (24a–b):

(24) *Zi- prefix on verb and auxiliary in present perfect:*

- a. ... [CP kab geza wäts'i?-a kām=z-äll-a] ...
 from house leave.GER-3FS C=REL-AUX-3FS
 '...that she has left the house.' (Z3.5.26; H2–29; Y2–31)
- b. ... [CP kab geza kām=zi-wäts'ä?-ät z-äll-a] ...
 from house C=REL-leave.PFV-3FS REL-AUX-3FS
 '...that she has left the house.' (Z3.5.24; H2–28; Y2–24)

- ▷ For the two speakers that accept non-local cliticization with past tense *neyr-*, overapplication applies also, with allomorphy in the past tense auxiliary also:

(25) *Zi- prefix on verb and auxiliary in past progressive:*

- a. ... [CP Ts'iga kab geza ti-wätsi? kām=zi-näbär-ät] ...
 Ts'iga from house 3FS-leave.IMPF C=REL-AUX.PST-3FS
 '...that Ts'iga was leaving the house.' (Y3–23; H1–35)
- b. ... [CP Ts'iga kab geza kām=ti-wätsi? zi-näbär-ät] ...
 Ts'iga from house C=3FS-leave.IMPF REL-AUX.PST-3FS
 '...that Ts'iga was leaving the house.' (Y3–24; H1–34)

(Recall that *zi-* insertion is independently blocked on prefixed hosts, like the verb in (25b).)

3.4 Parasitic morphology in verb clusters

How can we explain multiple instances of morphological marking?

- ▷ A similar kind of “parasitic” morphology occurs in Germanic (?), in which **participial or infinitival morphology can be copied onto adjacent verbs**:

(26) *Spreading of participial morphology in Frisian and Norwegian:*

- a. Hy soe it dien wollen ha .
 he would it do.PART want.PART have.INF
 'He would have liked to do it.' (? :1058)
- b. Jeg hadde villet lest boka .
 I had want.PART read.PART book
 'I would have liked to read the book.' (? :201)

- ▷ ? develops a view of **parasitic morphology as feature copying at PF**, of the same type I employed to model insertion of the *zi-* prefix.
- ▷ I model the spreading of the *zi-* prefix as **iterative feature copying**, as in ?, optionally applying throughout the cluster.⁴

Why does *zi-* insertion restrict cliticization of *kām=*?

Suggestion: The extent of copying *restricts* the choice of clitic host.

- ▷ ? document instances of inversion/doubling in Tiwa that occur **to create adjacency between an allomorphy trigger and its target**.⁵
- ▷ In Tiwa, the past tense suffix *-m* conditions the **1SG agreement allomorph -âng**. When the focus suffix *-lô* intervenes, inversion or doubling occurs:

- (27) 'I did not go.'
- a. lí-ya-m-lô-âng → lí-ya-m-lô-m-âng
 go-NEG-PST-FOC-PST-1SG
- b. lí-ya-m-lô-âng → lí-ya-lô-m-âng
 go-NEG-FOC-PST-1SG

⇒ Inversion/doubling ensures that **the allomorphy trigger remains adjacent to its target**.

Idea: The same pressure may explain the Tigrinya pattern, if a copied node is also preferentially adjacent to its trigger, the complementizer *kām=*.

⁴? develops an alternative approach to parasitic morphology, in which it is the result of Agree relations for inflectional features (see also ? and ?). Such an approach could in principle be made to be compatible with my account also.

⁵An alternative is to appeal to locality. If there is variation in whether there is a locality boundary separating the verb from C, then we could model variation in copying and cliticization in terms of variation in domains. In this view, both feature copying and cliticization would obligatorily precede leftward as far as possible.

How does the desire for adjacency lead to inversion?

- ▷ For Tiwa, ? propose that the suffix *-âng* comes with a **subcategorization requirement**, which requires that it is preceded by *-m* (this condition is separate from the allomorphy rule itself). This subcategorization requirement drives postsyntactic displacement.
- ▷ I propose that the morph *zi-* comes with a **requirement that it is preceded by a complementizer**:

(28) *Lexical entry for zi-*
Form: *zi-*
SubCat: [C ...]

- ▷ This requirement must be *violable*, since, in relative clauses, there is no overt complementizer.
- ▷ In clusters, this requirement must be violated for either the verb or auxiliary.⁶ I propose that being preceded by the complementizer *at a distance* is preferable to not being preceded by the complementizer at all.⁷

⇒ **Result:** if feature copying applies to both verb and auxiliary, cliticization of *kām=* to the verb is the *preferred option*.

Concluding remarks

- ▷ Tigrinya provides novel evidence for **postsyntactic displacement**, from non-local cliticization of the complementizer *kām=* in a head-final verb and auxiliary sequence.
- ▷ I proposed to treat the morphological consequences of cliticization of *kām=* in terms of **parasitic morphology**, more commonly found in verb clusters (??).
- ▷ I suggested that the extent of morphological copying may restrict the choice of clitic host, by means of a condition associated with the copied node (?).

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⁶Unlike in Tiwa, doubling must be blocked as an option in Tigrinya.

⁷The most obvious way to implement these preferences is in an Optimality-theoretic calculus, along the lines of ?.