Optionally obligatory object marking in Tigrinya

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1 Background on Tigrinya

1.1 Ethnographic

- **Classification.** Tigrinya is an Ethio-Semitic language in the Afro-Asiatic branch. It is closely related to Tigré and Amharic and more distantly to Arabic and Hebrew.

- **Population.** There are approximately 7 million speakers world-wide. Tigrinya is not currently endangered.

- **Distribution.** Tigrinya is spoken predominantly in central highland Eritrea and the Tigray region of Northern Ethiopia on the Horn of Africa. Large immigrant populations exist world-wide.

1.2 Basic Verbal Morphosyntax

- **Nonconcatenative Root Morphology.** Tri-consonantal roots with a base meaning acquire their category and TAM information through transfixed vowel templates

  (1) *Gerundive verb form*

  \[ \text{sabir-u} \quad \text{GER.breach-S.3MS} \]

  ‘It broke.’

  (2) *Perfect verb form*

  \[ \text{sabar-} \quad \text{PRF.breach-S.3MS} \]

  ‘It had broken.’

- **Agglutinating Synthetic Morphology.** Verbs commonly carry morphology marking finiteness, valency alternations, and agreement with the subject, objects, and applied arguments.

  (3) Yonas n-\@t-a t'irmuz sabir-u-wa

  Yonas N-that-FS bottle \quad \text{GER.breach-S.3MS-O.3FS}

  ‘Yonas broke the bottle.’

  (Nazareth 2011:56, (55a))

  (4) \@t-a t'irmuz ta-sabir-a

  that-FS bottle \quad \text{DT-GER.breach-S.3FS}

  ‘The bottle broke.’

  (Nazareth 2011:56, (55b))

- **Basic Word Order.** The default word order is SOV with a strongly head final verbal domain.

- **Prepositions.** Adpositions precede their nominal complements.

  (5) \@t-i m\@nhr n-\@t-a mat\@shaf biro tsilif-u-wa

  that-MS teacher N-that-FS book \quad \text{by-pen} \quad \text{GER.write-S.3MS-O.3FS}

  ‘The teacher wrote the book with a pen.’

  (adapted from Nazareth 2011:187, (189a))

- **Nominative-Accusative Alignment.** Subjects of transitive and intransitive predicates are morphologically aligned.
1.3 Differential Object Marking

- **The Prefix N.** Object DPs may surface with the prefix [n(i)-], identified as case in recent literature on Tigrinya (Weldeyesus 2004, Nazareth 2007, 2011, Kievit & Kievit 2009).

  (6) ?it-i sabaj n-ot-a dadbabe tsihif-u-wa
      that-MS man N-that-FS letter GER.write-S.3MS-O.3FS
      ‘The man wrote the letter.’

- **Differential Object Marker (DOM).** N is descriptively a differential object marker (e.g., Aissen 2003). It obligatorily appears on definite DPs, including definite descriptions, proper names, pronouns.

- **DOM Indefinites.** N on quantified DPs provides a specific (i.e., epistemically familiar) interpretation.

  (7) ni-hado sabaj ki-higiz-ɔ-ni hətít-ɔ-jo
      N-one.M man INFIN-IMPRF.help-S.3MS-O.1S PREF.ask-S.1S-O.3MS
      ‘I asked a certain man to help me.’ (adapted from Nazareth 2007:9, (4a))

  N cannot appear on a bare nominal Theme regardless of the interpretation.

  (8) * ?it-i sabaj ni-dadbabe tsihif-u-wa
      that-MS man N-letter GER.write-S.3MS-O.3FS
      ‘The man wrote a (certain) letter.’

- **DOM and Object Shift.** Object with DOM undergo Object Shift.

  (9) ?it-i sabaj [ n-ot-a dadbabe ]1 ts1èif-u-wa
      that-MS man N-that-FS letter Monday write-GER.S.3MS-O.3FS
      ‘The man wrote the letter on Monday.’

1.4 Verbal Object Marking

- **Cross-referencing with Object Marking (OM).** Objects of transitive predicates with DOM are obligatorily cross-referenced by OM.

  (10) a. ?it-i sabaj n-ot-a dadbabe tsihif-u-wa
       that-MS man N-that-FS letter GER.write-S.3MS-O.3FS
       ‘The man wrote the letter.’

  b. * ?it-i sabaj n-ot-a dadbabe tsihif-ɔ
       that-MS man N-that-FS letter GER.write-S.3MS
       ‘The man wrote the letter.’

Objects of transitive predicates without DOM cannot be cross-referenced by OM.

(11) a. * ?it-i sabaj dadbabe tsihif-u-wa
       that-MS man letter GER.write-S.3MS-O.3FS
       ‘The man wrote a letter.’

b. ?it-i sabaj dadbabe tsihif-ɔ
       that-MS man letter GER.write-S.3MS
       ‘The man wrote a letter.’
• **Uniqueness.** Only one object per clause can be cross-referenced by OM, regardless of order.

(12) a. * ?it-i ꜙw al n-øt-a dabdabe n-øt-i waði hib-a-ta-to
    that-FS girl N-that-FS letter N-that-MS boy give-GER-S.3FS-O.3FS-O.3MS
    ‘The girl gave the boy the letter.’

b. * ?it-i ꜙw al n-øt-a dabdabe n-øt-i waði hib-a-to-ta
    that-FS girl N-that-FS letter N-that-MS boy give-GER-S.3FS-O.3MS-O.3FS
    ‘The girl gave the boy the letter.’

• **Restricted Affixation.** The OM morpheme is realized only on the verb and cannot be realized on auxiliaries.

(13) a. ?it-i sab?aj n-øt-a dabdabe tsifi-u-wa ?al-o
    that-MS man-s N-that-FS letter write-GER-S.3MS-O.3FS Aux-S.3MS
    ‘The man has written the letter.’

    that-MS man-s N-that-FS letter write-GER-S.3MS-O.3MS Aux-S.3MS-O.3FS
    ‘The man has written the letter.’

• **Agreement.** OM is the obligatory realization of the AGREE relationship established between a verbal functional head $\mu^0$ that probes for a DP and triggers Object Shift (e.g., Chomsky 2001).

(14) a. ?it-i sab?aj [ n-øt-a dabdabe ]¹ somuj x₁ tsifi-u-wa
    that-MS man N-that-FS letter Monday write-GER-S.3MS-O.3FS
    ‘The man wrote the letter on Monday.’

b. IP
   DP
   AG
   ??iti sabaj
   that man
   vP
   $x_{AG}$
   vP
   $\mu^0$
   $\phi : AG$
   tsifiwuwa
   wrote
   DP
   TH
   nata dabdabe
   that letter
   VP
   $\mu^0$
   $\phi : TH$
   -wa
   AdvP
   somuj
   Monday
   $x_{TH}$
   vP
   tshf

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2 Setting up the Puzzle

2.1 The Issue: (A)symmetrical Objects

- **Bantu (A)symmetricality.** Bantu languages famously come in two flavors on the basis of the behavior of objects in ditransitive constructions (e.g., Bresnan & Moshi 1990, van der Wal 2018).

- **Asymmetrical Object Languages.** Only the Goal/Recipient argument of ditransitive predicates can surface as an OM on the verb.

  (15) *Swahili asymmetry* object marking
  a. A-li-m-pa kitabu  
     S.1-PAST-O.1-give 7.book  
     ‘She gave him a book.’
  b. *A-li-ki-pa Juma  
     S.1-PAST-O.7-give 1.Juma  
     ‘She gave it to Juma.’ (van der Wal 2018:123, (18))

- **Symmetrical Object Languages.** Either of the internal arguments of ditransitive predicates can surface as an OM on the verb.

  (16) *KiLuguru symmetry* object marking
  a. Chibua ko-w-eng’a iwana ipfitabu  
     ‘Chibua is giving children books.’
  b. Chibua ko-pf-eng’a iwana ipfitabu  
     ‘Chibua is giving children books.’ (van der Wal 2018:122, (15))

2.2 The Empirical Domain: Tigrinya Ditransitives

- **Apparent Symmetry in Tigrinya.** When the conditions for OM are met by both arguments, either the Goal or Theme can be cross-referenced by OM.

- **Cross-referenced Goal.** OM is able to cross-reference the **Goal** of lexically ditransitive predicates.

  (17) *?i-t-a gʷal n-ət-a dəbdabe n-ət-i wədi hib-a-to*  
       that-FS girl N-that-FS letter N-that-MS boy GER.give-S.3FS-O.3MS  
       ‘The girl gave the letter to the boy.’

- **Cross-referenced Theme.** OM is able to cross-reference the **Theme** of lexically ditransitive predicates.

  (18) *?i-t-i gʷal n-ət-a dəbdabe n-ət-i wədi hib-a-ta*  
       that-FS girl N-that-FS letter N-that-MS boy GER.give-S.3FS-O.3FS  
       ‘The girl gave the boy the letter.’

- **Superficially Symmetrical.** With respect to the distribution of OM Tigrinya superficially behaves like a symmetrical object language.
2.3 The Puzzle: Unexpected Optionality in Ditransitives

- **Optional Object Marking of Ditransitive Goal.** When only the conditions for cross-referencing the **Goal** with OM are met, it is *optionally* cross-referenced by OM.

  (19) a. ?it-a gw'al n-ot-i wodi dabdabe hib-a-to
  
  that-FS girl N-that-MS boy letter GER.give-S.3FS-O.3MS
  
  ‘The girl gave the boy a letter.’

  b. ?it-a gw'al n-ot-i wodi dabdabe hib-a
  
  that-FS girl N-that-MS boy letter GER.give-S.3FS
  
  ‘The girl gave a letter to the boy.’

- **Obligatory Object Marking of Ditransitive Theme.** When only the conditions for cross-referencing the **Theme** with OM are met, it is *obligatorily* cross-referenced by OM.

  (20) a. ?it-i gw'al n-ot-a dabdabe n-wodi hib-a-ta
  
  that-FS girl N-that-FS letter N-boy GER.give-S.3FS-O.3FS
  
  ‘The girl gave the letter to a boy.’

  b. * ?it-i gw'al n-ot-a dabdabe n-wodi hib-a
  
  that-FS girl N-that-FS letter N-boy GER.give-S.3FS
  
  ‘The girl gave the letter to the boy.’

**The Question.** Why does otherwise obligatory OM become optional on Goals in lexical ditransitive constructions?

2.4 The Idea: Masked Asymmetry

- **Tigrinya is Asymmetric.** The apparent optionality betrays the availability of two asymmetric ditransitive frames.

- **The Status of the Goal.** The goal varies across the two argument structures as a direct or indirect argument.

- **OM is Obligatory.** $\mu^0$ obligatorily probes and realizes the $\phi$-features of the highest *direct* argument.

**The Answer.** Obligatory OM cross-references the Goal as a function of the “choice” between the two ditransitive frames.

3 Hidden Argument Structure Alternations

3.1 Asymmetric Ditransitive Frames

- **Multiple Ns.** The two ditransitive frames are masked by a surface ambiguity of the N-marker.

  - **Differential Object Marker.** The N-marker is DOM on direct arguments ($N_K$).

  - **Preposition.** The N-marker is a preposition introducing indirect arguments ($N_P$).
• **Double-Object Construction.** The verb embeds a small clause with possessive semantics (Green 1974, Kayne 1984, Beck & Johnson 2004).

(21) \[
\begin{array}{c}
\text{vP} \\
\text{DP}_{\text{AG}} \\
\mu P \\
\mu P \\
\text{VP} \\
\text{HAVEP} \\
\text{DP}_{\text{GL}} \\
\text{DP}_{\text{TH}} \\
\text{HAVE}
\end{array}
\]

– \(N\)-marking is DOM \((N_K)\) on the Goal and Theme.

– The Goal and Theme arguments are both direct arguments.

– The Goal, as the highest direct argument, is probed first by \(\mu\).

– The Goal is cross-referenced by OM.

• **PP-Object Construction.** The verb takes the DP-Theme and PP-Goal as arguments (Miyagawa & Tsujioka 2004).

(22) \[
\begin{array}{c}
\text{vP} \\
\text{DP}_{\text{AG}} \\
\mu P \\
\mu P \\
\text{VP} \\
\text{PP} \\
\text{V0} \\
\text{P}^{\text{PDP}} \\
\text{DP}_{\text{GL}} \\
\text{DP}_{\text{TH}} \\
\text{V0}
\end{array}
\]

– \(N\)-marking is a preposition \((N_P)\) on the Goal and DOM \((N_K)\) on the Theme.

– The Goal is an indirect argument and the Theme is a direct argument.

– The Theme, as the highest direct argument, is probed by \(\mu\).

– The Theme is cross-referenced by OM.

### 3.2 Predicting OM Patterns

• **Apparent Optionality of the Goal.** Whether the Goal is cross-referenced by OM is a function of the underlying argument structure.

(23) a. ?it-a \(g^{\text{al}}@t\-i\) \(w@\text{di}d@bd\text{abe}hib-a\text{-to}\) \(\text{that-FS girl N-that-MS boy letter \text{GER.give-S.3FS-O.3MS}}\) ‘The girl gave the boy a letter.’

b. ?it-a \(g^{\text{al}}@t\-i\) \(w@\text{di}d@bd\text{abe}hib-a\) \(\text{that-FS girl N-that-MS boy letter \text{GER.give-S.3FS}}\) ‘The girl gave a letter to the boy.’
- Cross-referencing the Goal. The Goal is the highest direct argument in the double-object frame and will be probed by $\mu^0$.

(24) a. ʔit-a ɡʷal b-ot-i wādi dābdabe hib-a-tu
   that-FS girl Nₚ-that-MS boy letter GER.give-S.3FS-O.3MS
   ‘The girl gave the boy a letter.’

b. \[
\begin{array}{c}
\text{DP}_{AG} \\
\downarrow vP \\
\mu P \\
\downarrow \mu P \\
\text{VP} \\
\downarrow [\phi : \text{GL}] \\
\text{HAVEP} \\
\downarrow \text{DP}_{TL} \\
\downarrow \text{HAVE} \\
\end{array}
\]

c. \[
\begin{array}{c}
\text{DP}_{AG} \\
\downarrow vP \\
\mu P \\
\downarrow \mu P \\
\text{VP} \\
\downarrow [\phi : \text{GL}] \\
\text{HAVEP} \\
\end{array}
\]

- Not Cross-referencing the Goal. The Goal is an indirect argument in the PP-object frame and will not be probed by $\mu^0$.

(25) a. ʔit-a ɡʷal b-ot-i wādi dābdabe hib-a
   that-FS girl Nₚ-that-MS boy letter GER.give-S.3FS
   ‘The girl gave a letter to the boy.’

b. \[
\begin{array}{c}
\text{DP}_{AG} \\
\downarrow vP \\
\mu P \\
\downarrow \mu P \\
\text{VP} \\
\downarrow [\phi : ] \\
\text{PP} \\
\downarrow \text{DP}_{TL} \\
\end{array}
\]
• **Obligation of the Theme.** The Theme can only be cross-referenced in the PP-object configuration, in which case it will always be the highest direct argument.

(26) a. ʔit-i gʷ al n-ət-a dabdbe n-wədi hib-a-ṭa
    that-FS girl N-that-FS letter N-boy GER.give-S.3FS-O.3FS
    ‘The girl gave the letter to a boy.’

b. *ʔit-i gʷ al n-ət-a dabdbe n-wədi hib-a
    that-FS girl N-that-FS letter N-boy GER.give-S.3FS
    ‘The girl gave the letter to a boy.’

---

`Cross-referencing the Theme.** The Theme is the highest direct argument in the PP-object frame and will be probed by $μ^0$.

(27) a. ʔit-i gʷ al n-ət-a dabdbe n-wədi hib-a-ṭa
    that-FS girl N₉—that-FS letter N₇-boy GER.give-S.3FS-O.3FS
    ‘The girl gave the letter to a boy.’

b. $\nu P$

```
DPₐG
  $\mu P$
  $\nu ^0$
  $\mu P$
  VP
  PP
  N₇ DPₐG
```

c. $\nu P$

```
DPₐG
  $\mu P$
  $\nu ^0$
  [φ : TH]
  N₉-VP
  PP
  VP
  N₇ DPₐG
```

---

`Not Cross-referencing the Goal.** OM is obligatory realized on $μ^0$ when possible.

(28) *ʔit-i gʷ al n-ət-a dabdbe n-wədi hib-a
    that-FS girl N₉—that-FS letter N₇-boy GER.give-S.3FS
    ‘The girl gave the letter to a boy.’

---

• **Optionality between the Goal and the Theme.** Which argument is cross-referenced by OM is a function of the underlying argument structure.

(29) a. ʔit-a gʷ al n-ət-a dabdbe n-ət-i wədi hib-a-to
    that-FS girl N-that-FS letter N-that-MS boy GER.give-S.3FS-O.3MS
    ‘The girl gave the letter to the boy.’

b. *ʔit-i gʷ al n-ət-a dabdbe n-ət-i wədi hib-a-ṭa
    that-FS girl N-that-FS letter N-that-MS boy GER.give-S.3FS-O.3FS
    ‘The girl gave the boy the letter.’
- **Cross-referencing the Goal.** The Goal is the highest direct argument in the double-object construction and will be probed first by $\mu^0$.

(30) a. \textit{that-}\textit{girl-}\textit{letter-}\textit{boy-} \\
    that-\textit{FS girl N$_K$-that-\textit{FS letter N$_K$-that-\textit{MS boy GER.give-S.3FS-O.3MS}} \\
    ‘The girl gave the letter to the boy.’

b. 

c. 

- **Cross-referencing the Theme.** The Theme is the highest direct argument in the PP-object construction and will be probed by $\mu^0$.

(31) a. \textit{that-}\textit{girl-}\textit{letter-}\textit{boy-} \\
    that-\textit{FS girl N$_K$-that-\textit{FS letter N$_p$-that-\textit{MS boy GER.give-S.3FS-O.3FS}} \\
    ‘The girl gave the boy the letter.’

b. 

c. 


4  Structure Sensitive Predictions

- **Asymmetries Predicted.** This analysis correctly predicts interpretive and structural asymmetries that correlate with the observed OM pattern.

```
(32)  vP
     /   \
    DP_{AG}  vP
         /   \
        μP  v^0
            /   \
           μP
             /     \
            V^0  [φ : GL]
               /     \
              HAVEP

(33)  vP
     /   \
    DP_{AG}  vP
         /   \
        μP  v^0
            /   \
           μP
             /     \
            V^0  [φ : TH]
               /     \
              V
```

4.1  Goal-Marking Gates Theme-Marking

- **A Prediction.** The Theme cannot be N-marked and cross-referenced by OM unless the Goal is N-marked.

- **Demoting the Goal.** N-marking the Goal ensures it can be generated as an indirect PP argument.

```
(34) a.  ?it-i  g^α al n-ot-a  dabdabe n-ot-i  wədi hib-a-ta
     that-FS girl  N_K-that-FS letter  N_P-that-MS boy  GER.give-S.3FS-O.3FS
     ‘The girl gave the boy the letter.’

b.  * ?it-a  g^α al n-ot-a  dabdabe wədi hib-a-ta
     that-FS girl  N_K-that-FS letter  boy  GER.give-S.3FS-O.3FS
     ‘The girl gave a boy the letter.’
```

4.2  Goal Specificity

- **A Prediction.** Only a Goal that is not cross-referenced by OM can be either definite or indefinite.

- **P^0 and Non-specificity.** A Goal that is not cross-referenced by OM is N-marked by a preposition, which does not enforce definiteness/specificity constraints.

```
(35) a.  ?it-a  g^α al n-ot-i  wədi dabdabe hib-a
     that-FS girl  N_P-that-MS boy  letter  GER.give-S.3FS
     ‘The girl gave a letter to the boy.’

b.  ?it-a  g^α al ni-wədi dabdabe hib-a
     that-FS girl  N_P-boy letter  GER.give-S.3FS
     ‘The girl gave a letter to a boy.’
```
• **DOM and Definiteness.** A Goal that is cross-referenced by OM is necessarily N-marked with DOM, which enforces definiteness/specificity constraints.

(36) a. ?it-a ꙰w al ꙰-at-i ꙰-id dabdabe hib-a-to
that-FS girl N-k-that-MS boy letter GER.give-S.3FS-O.3MS
‘The girl gave the boy a letter.’
b. * ?it-a ꙰w al ni-wādi dabdabe hib-a-to
that-FS girl N-k-boy letter GER.give-S.3FS-O.3MS
‘The girl gave a (certain) boy a letter.’

4.3 The CAUSE-HAVE Interpretation

• **Interpretive Asymmetry.** The English double-object constructions has a possessive component to its meaning that is not necessarily found in the PP-object construction (Green 1974, Beck & Johnson 2004).

(37) English PP-object construction
a. Sam sent the letters to Kim.
b. Sam sent the letters to Minneapolis.

(38) English double-object construction
a. Sam sent Kim the letters.
b. # Sam sent Minneapolis the letters.

• **A Prediction.** If the OM pattern betrays the proposed asymmetrical ditransitive constructions, an inanimate Goal cross-referenced by OM should be infelicitous.

• **CAUSE-HAVE in Tigrinya.** Inanimate Goals that are cross-referenced by OM lead to infelicity.

(39) a. ?it-a ꙰w al ꙰-ʔasmǝruption dabdabe sōd-id-a
that-FS girl N-p-Asmara letter GER.send-S.3FS
‘The girl sent a letter to Asmara.’ (No OM; PP-object frame)
b. # ?it-a ꙰w al ꙰-ʔasmǝruption dabdabe sōd-id-a-ta
that-FS girl N-k-Asmara letter GER.send-S.3FS-O.3FS
Literally: ‘The girl sent Asmara a letter.’ (Goal OM; Double-object frame)

(40) a. ?it-a ꙰w al ꙰-at-on dabdabe ꙰-ʔasmǝruption sōd-id-a-ton
that-FS girl N-k-that-FP letter N-p-Asmara GER.send-S.3FS-O.3FP
‘The girl sent the letters to Asmara.’ (Theme OM; PP-object frame)
b. # ?it-a ꙰w al ꙰-at-on dabdabe ꙰-ʔasmǝruption sōd-id-a-ta
that-FS girl N-k-that-FP letter N-k-Asmara GER.send-S.3FS-O.3FS
Literally: ‘The girl sent Asmara the letter.’ (Goal OM; Double-object frame)

• **HAVEP.** The asymmetry can be understood as an effect of the semantic contribution of the small clause headed by HAVE⁰ in the double-object frame of both languages.
4.4 Condition A

- **Binding Asymmetry.** The Goal c-commands the Theme in the English double-object construction, but not in the PP-object construction (Barss & Lasnik 1986).

(41) a. Tom gave Sue₁ the pictures of herself₁.
   b. *Tom gave the pictures of herself₁ to Sue₁.

- **A Prediction.** If the OM pattern betrays the proposed asymmetrical ditransitive constructions, the Goal will not c-command the Theme when the Theme is cross-referenced by OM.

- **Condition A as a Function of OM.** The Goal fails to bind the Theme when the Theme is cross-referenced by OM, giving rise to Condition A effects.

(42) *?it-a ǧ̌n-al ni-kefi₁ n-āt-ān naj [gazaʔ riʔisu₁] siʔilt-at hib-a-ton
   that-FS girl ŇK-Keffy.M ŇK-that-FP of self-3MS picture-P GER.give-S.3FS-O.3FP
   *‘The girl gave the pictures of himself₁ to Keffy₁.’

(43) ?it-a ǧ̌n-nil-kefi₁ n-āt-ān naj [gazaʔ riʔisu₁] siʔilt-at hib-a-lo
   that-FS girl ŇK-Keffy.M ŇK-that-FP of self-3MS picture-P GER.give-S.3FS-O.3MS

‘The girl gave Keffy₁ the pictures of himself₁.’

5 Conclusion

- **Tigrinya is Asymmetrical.** Tigrinya is an asymmetrical object language, despite superficial appearances.

- **A Masked Ambiguity.** The two ditransitive frames below are masked by the surface ambiguity between an DOM and a P₀.

(44) \[
\begin{array}{c}
\text{DP}_{AG} \\
\mu P \\
\text{VP} \\
\text{HAVEP} \\
\text{DP}_{GL} \\
\end{array}
\]

(45) \[
\begin{array}{c}
\text{DP}_{AG} \\
\mu P \\
\text{VP} \\
\text{HAVEP} \\
\text{DP}_{TH} \\
\end{array}
\]

- **Obligatory OM.** OM is uniformly obligatory across the language.
References


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Glosses

| 1 | 1st person | N_K | differential object marker |
| 3 | 3rd person | N_P | preposition |
| DT | detransitivizer | O | object marker |
| F | feminine | P | plural |
| GER | gerundive | PRF | perfect |
| IMPRF | imperfective | S | subject marker |
| M | masculine | S | singular |
| N | N-marker |