Anaphora in Tenyidie

- Tenyidie is a Sino-Tibetan (Tibeto-Burman) language spoken by approx. 153,000 people in Nagaland in North-Eastern India (Ethnologue). It is also sometimes referred to as Angami.
- There is little grammatical description of the language, esp. regarding syntax (but see Giridhar 1980; Kevichüsa & Subbarao 1998; Kuolie 2006; Kevichüsa 2007).
- Tenyidie is an SOV, relatively strict head-final language.
- It is a strongly isolating language. TAM marking is on a particle following the verb.
- It is also an inflectionally-poor language, i.e. lacks regular subject or object agreement.

1. Anaphora in Tenyidie

- Despite generally lacking agreement, in local reflexivization contexts, we observe what looks like a φ-covarying object anaphor agreement marker near the verb:

2. Reflexive marking is φ-covarying:
   a. á Kévi (*á*) tshë bá  
      1SG Kevi (*1SG*) praise PROG  
      'I am praising Kevi.'
   b. á Kévi (*puó*) tshë bá  
      1SG Kevi (*3SG*) praise PROG  
      'I am praising Kevi.'

3. There is a growing body of work that seeks to subsume Condition A of Binding Theory (Chomsky 1981, 1993) under Agree (e.g. Reuland 2001, 2005, 2011; Fischer 2006; Heinat 2006, 2009; Kratzer 2009; Hicks 2009; Rooryck & Vanden Wyngaarden 2011; Sundaresan 2012; Antonenko 2018; Murugesan 2019). Tenyidie provides support for this view, since anaphors are the only controllers of φ-covarying agreement on the verb. We argue that this is a reflex of the mechanism of anaphoric binding mediated by a licensing head.

4. Object anaphor can be dropped:
   a. á tshë bá  
      1SG tshë praise PROG  
      'I am praising myself.'
   b. puó, puó-thuó, *(puó*) tshë bá  
      3SG 3SG SELF *(3SG*) PRAISE PROG  
      'He is praising himself.'
   c. nó, n-thuó, *(n*) tshë bá  
      2SG.SBJ 2SG SELF *(2SG.OBJ*) PRAISE PROG  
      'You are praising yourself.'
   d. ükô, ükô-thuó, *(ükô*) tshë bá  
      1PL 1PL SELF *(1PL*) PRAISE PROG  
      'We are praising ourselves.'
   e. hiékô hiékô-thuó, *(hiékô*) tshë bá  
      1PL EXCL 1PL EXCL SELF *(1PL.EXCL*) PRAISE PROG  
      'We (but not you) are praising ourselves.'

5. This marker does not seem to form a constituent with the anaphor:

- Adverbs can intervene between anaphor and object marker:
   a. á tshë bá  
      1SG tshë praise PROG  
      'I am praising myself at school.'
   b. á tshë bá  
      1SG tshë praise PROG  
      'I am praising myself at school.'
We have two potential analyses:

- **Agreement marker or doubled clitic?**

  - We have two potential analyses:

    (8) Agreement marker:
    
    \[
    \text{DP} \rightarrow \text{VP} \rightarrow \text{vP} \rightarrow \text{v'}
    \]
    
    Clitic doubling:
    
    \[
    \text{DP} \rightarrow \text{VP} \rightarrow \text{vP} \rightarrow \text{v'}
    \]

    - Distinguishing object agreement and clitic doubling is not always that straightforward (e.g. Bresnan & Mchombo 1998; Kallulli 2008; Preminger 2009; Riedel 2009; Nevins 2011; Baker 2012, 2016; Kramer 2014; Anagnostopoulou 2016; Baker & Kramer 2018; Yuan to appear)

- Consider object markers in Amharic, which are generally optional with certain DP objects (9a), but excluded with reflexive objects (9b) (Baker 2012; Kramer 2014; Baker & Kramer 2018).

  (9) **Object marker not possible with anaphor in Amharic** (Baker 2012:257f.):

    a. Lamma wifja-w-in j-aj(-aw)-al
      
      Lemma dog-DEF.M-ACC 3MSG.S-see.IPV(-3MSG.O)-AUX.3MSG.S
      
      ‘Lemma sees the dog.’
    
    b. Lamma ras-u-n goddal-α(*-w)
      
      Lemma REFL-his-ACC kill.PPV-3MSG.S(*-3MSG.O)
      
      ‘Lemma killed himself.’

    Baker & Kramer (2018) analyze this as the result of a Condition B violation induced by the clitic:

  (10) **Object agreement with anaphor in Burushaski** (Willson 1996:3.18):

    a. Hilés-e dasin mu-yeëts-imi
      
      boy-ERG girl.ABS 3SG.OBJ-see-3MSG.SBJ.PST
      
      ‘The boy saw the girl’
    
    b. Khín dasin-e mu-khár e-sqan-umo
      
      DEM.F.PROX girl-ERG 3SG.SELF.Y.ABS 3Y.OBJ-kill-3SG.SBJ.PST
      
      ‘This girl killed herself.’

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    - The object marker in Tenyidie patterns more like object agreement than clitic doubling.
    
    - NB: There are further potential diagnostics that point towards agreement, e.g. Minimality restriction with ditransitives (sec. 3.4), lack of WCO with rightward movement in (7a).

  **Puzzle:** Why do we only find object agreement with anaphors?
2 Analysis: Mediated Agree

Claim: Object agreement is a reflex of binding mediated by $v$

- We assume that reflexive anaphors are featurally-deficient (e.g. Reuland 2005; Heinit 2006; Rooryck & Vanden Wyngaard 2011; also cf. Kratzer 2009).

(12) **Featural deficiency of anaphors:**
Anaphors enter the derivation with unvalued $\varphi$-features.

(13) $[VP \text{ antecedent}[\varphi\theta], v' \ [VP \text{ anaphor}[\varphi\square]]]$

- What is the syntactic relation between antecedent and anaphor? Following Heinit (2006, 2009), we argue that the binding relation is mediated by another functional head.

- Nominals must be licensed by a functional head even in caseless languages (e.g. Sheehan & van der Wal 2018), i.e. abstract Case (Vergnaud 1977/2008; Chomsky 1980, 1981; Lasnik 1992).

- Following Pesetsky (2013:73) we refer to this as *Vergnaud licensing* ($V$-licensing).

(14) $[VP \ y_{\text{CASE}} \ [VP \ V \ DP_{\text{[uCASE]}]}]]$

We propose the following condition, in which licensing of a goal with unvalued features leads to copying and sharing of that feature on the licensing head:

(15) **Feature-sharing condition:**
If a head $H$ $V$-licenses a goal $G$ with an unvalued feature $F$, then $F$ is shared on $H$.

$[HP_{\text{CASE}} \ldots \ \ [G_{\text{uCASE}, F_{\square}}] \ldots ] \Rightarrow [HP_{\text{CASE}}, F_{\square}] \ldots [G_{\text{uCASE}, F_{\square}}] \ldots ]$

- The feature on $H$ is copied onto the licensing head and its value is shared (Frampton & Gutmann 2006; Pesetsky & Torrego 2001, 2007).

We also assume a distinction between internal and external Case (Murashige 1992; Müller 2009):

(17) $\bar{a}_i \ \bar{a}$-thuó *($\bar{a}$-)tshē bā
1SG 1SG SELF *1SG-raise PROG
'I am praising myself.'

**Pronoun VIS:**
$\varphi_{1SG, \text{CASE:EXT}} \leftrightarrow \bar{a}$

- *Consequence I*: Agreement without $\varphi$-probes. $\varphi$-features involved in binding are transmitted by independent processes: (i) feature sharing under licensing, (ii) feature valuation under selection.

- *Consequence II*: If reflexive anaphors are the only DPs with unvalued features, then feature sharing (and therefore object agreement) will only arise when the DP is an anaphor.

**Alternative?**
Could we not assume that we have a special Voice head for local (subject-oriented) reflexivization contexts (i.e. Reflexive Voice; e.g. Ahn 2015):

(18) $\text{VoiceP}$

**Voice**

*Consequence*: This would be the only head in the language that bears a $\varphi$-probe.
3 Licensing and agreement

- A challenge for this alternative comes from the following emergent generalization:

  Licensing-agreement correlation:
The head that V-licenses an anaphor shows $\varphi$-covarying agreement with it.

- Evidence from this comes from a variety of contexts:
  - Transitive verb in local reflexivization contexts
  - ECM-verb in indirect causatives
  - Noun with DP-internal anaphors
  - $\nu$ in ditransitives/SVCs
  - postpositions

  In each context, $\varphi$-covarying agreement is found on the licensing head.

3.1 Control and ECM

(19) Control:
á $\langle$PRO dzô krié $\rangle$ nyô bâ
1SG water drink want PRO
'I want to drink water.'

- We also have the kind of indirect causative familiar from many languages (e.g. Ritter & Rosen 1993; Folli & Harley 2013; ?).

(20) ECM in indirect causative:
a. á n bûnû dzô krié nyô bâ
1SG.SBJ 2SG.OBJ let water drink want PRO
'I want you to drink water.'
b. á á-thuô *(á)-bûnû dzô krié (*á)-nyô bâ
1SG.SBJ 1SG-SELF *(1SG)-let water drink *(1SG)-want PRO
'I want myself to drink water.'

- We assume an underlying head-final structure with extraposition of the most embedded VP:

(21) Short extraposition of VP:
á $\langle$TP PRO $\langle$TP n $\rangle$ bûnû $\rangle$ krié
1SG.SBJ let water drink
'I want you to drink water.'

- Assumption: PRO provides the features for the anaphor. Two options:
  - PRO matches its $\varphi$-features under Agree with its controller (cf. Landau 2000; Sigurðsson 2008; Ussery 2008; Reed 2014).
  - Alternatively, one could adopt the Movement Theory of Control (Hornstein 1999; Boeckx & Hornstein 2004; Boeckx et al. 2010).

3.2 DP-internal anaphors

(22) Anaphoric internal argument triggers agreement on noun:
a. á $\langle$DP á-thuô, *(á)-mhirhi $\rangle$ puo
1SG.SBJ 1SG-SELF *(1SG)-picture INDEF see
'I saw a picture of myself.'
b. nó₁ [DP n-thuó₁ *(ñ-)mhirhi puo ] yú  
   2SG.SBJ  2SG-SELF *(2SG-.)picture INDEF see  
   ‘You saw a picture of yourself.’

Kevi [DP á₁ á-thuó₁ *(á-)vie-mhirhi ü ] yú  
   1SG 1SG-SELF *(1SG-.)POSS-picture DEF see  
   ‘Kevi saw my picture of myself.’

3.3 PP-internal anaphors

- Agreement is also found on postpositions that license an anaphoric object:

  (28)  
  a. á [pp Kevi lá₁ ] màh chá bá  
      1SG Kevi for food cook PROG  
      ‘I am cooking food for Kevi.’
  b. á₁ [pp á-thuó₁ *(á-)lā ] màh chá bá  
      1SG 1SG-SELF *(1SG-.)for food cook PROG  
      ‘I am cooking food for myself.’

- We assume that a PRO inside the PP can act as a binder:\(^1\)

3.4 Ditransitives

- Ditransitives provide further support for the view that licensing and binding are connected.
- The canonical ditransitive in Tenyidie is given in (30).

(30) Double object constructions have neutral DO-IO order:

  a. á letter-ü kévi pékë fá  
     1SG letter-DEF Kevi show PERF  
     ‘I showed the letter to Kevi.’
  b. *á kévi letter-ü pékë fá  
     1SG Kevi letter-DEF show PERF  
     ‘I showed the letter to Kevi.’

\(^1\) This is supported by familiar Condition B exemptions inside PPs in English, such as (i) (Chomsky 1986).

(i) John, put the book down [pp PRO] next to him,

We assume that double object constructions in Tenyidie have a left-branching structure, with the IO higher than the DO in a rightward specifier of ApplP:

\[(\text{ApplP} \ [\text{Appl'} \ [\text{vP DO V}] \ \text{Appl}] \ \text{IO}]\]

This is supported by the fact that the IO takes scope over the DO.\(^2\)

\[\text{Frozen scope in ditransitives:} \quad \text{á} \quad [\text{DP ball puo}] \ [\text{DP nhicu-jo puopuo kecö}] \ \text{TSO fá} \quad \text{ISG ball indefinite child-DIM every PRT give PERF} \quad \text{I gave a ball to every child.} \quad (\forall \exists, \exists \forall)\]

\[\text{(35) a.} \quad \text{vP} \quad \text{ApplP} \quad \text{Appl'} \quad \text{DO} \quad \text{V} \quad \text{Appl} \quad \text{IO} \quad \text{v}\]

\[\text{Assumption:} \quad \text{Tenyidie has the abstract licensing relations in (35b) (see e.g. Georgala et al. 2008; Adger & Harbour 2007:24; Holmberg et al. 2019).}
\]

\[\text{b.} \quad \text{vP} \quad \text{ApplP} \quad \text{Appl'} \quad \text{DO} \quad \text{V} \quad \text{Appl} \quad \text{IO} \quad \text{v}\]

\[\text{Recall that the anaphor needs } \varphi \text{-features from its antecedent, mediated by the licensing head.}
\]

\[\text{Since } \text{v licenses the IO, it creates the necessary feature sharing dependency required to transfer the } \varphi \text{-features to the antecedent:}
\]

\[\text{(36) a.} \quad \text{á} \quad \text{letter-ú} \quad \text{á-thuó} \quad \text{á-péké} \quad \text{fá} \quad \text{ISG letter-DEF ISG-SELF ISG-show PERF} \quad \text{I showed the letter to myself.}
\]

\[\text{b.} \quad \text{á} \quad \text{á-thuó} \quad \text{Kévi} \quad \text{á-péké} \quad \text{fá} \quad \text{ISG ISG-SELF Kevi ISG-show PERF} \quad \text{I showed myself to Kevi.}
\]

\[\text{We assume parametric variation regarding whether Appl licenses DO or IO (35).}
\]

\[\text{Frozen scope could result from the assumption of ApplP, following Bruening (2001, 2010). Note that other diagnostics such as binding (Barss & Lasnik 1986) are not applicable. For example, binding of DO by IO fails due to a general constraint against backward anaphora in the language.}\]
3.5 Dative alternation

- There is another frame for ditransitives where the IO precedes the DO. Reversing the order of DO and IO requires ki-marking of the IO (e.g. Kevichüsa 2007; Subbärao 2012:21f.):

- Now the DO can be a reflexive anaphor if the IO is moved out of the way:

- We analyze the marker ki- as a postposition that V-licenses the IO. This PP must undergo a step of short scrambling out of the VP (cf. DOM-marking). 

Due to unvalued features on the anaphor, the derivation crashes. This accounts for why (37) is ungrammatical.

(37) *á i-thuó, keví (á-)pékî fô

iSG iSG-self Kevi iSG-show PERF

'I showed myself to Kevi.'

• (38) IO-DO order requires ki-marking:

  a. á letter-û keví pékî fô
  
iSG letter-DEF Kevi show PERF

  'I showed the letter to Kevi.'

  b. á keví-ki, letter-û, pékî fô
  
iSG Kevi-ki letter-DEF show PERF

  'I showed Kevi the letter.'

• (39) á keví-ki, letter-û, pékî fô

iSG Kevi-ki letter-DEF show PERF

'I showed Kevi the letter.'

(40) Reflexive DO possible if IO is scrambled:

á keví-ki, á-thuó, pékî fô

iSG Kevi-ki iSG-self show PERF

'I showed myself to Kevi.'

\[ \forall \exists \exists \forall \]

In this structure, c-command relations do not change and neither do the scope relations:

(i) Dative shift does not change scope relations:

á [PP nhicu-jo puopuo keći ki] [DP ball puo ] poko fô

iSG child-DIM every PRT KI ball INDEF give PERF

'I gave every child a ball.'
Since the IO is licensed by \( ki \)-, \( \nu \) now licenses the DO and creating the feature-sharing relation necessary to transfer the \( \varphi \)-features from the antecedent under selection:

\[
\begin{array}{c}
\text{DO}_{\text{refl}}
\end{array}
\]

The ungrammatical example in (34b) (repeated as (42a)) becomes acceptable if the DO undergoes string-vacuous scrambling (with concomitant \( ki \)-marking):

\[
\begin{array}{c}
\text{feature sharing}
\end{array}
\]

3.6 Binding by the indirect object

Since ApP selects the IO, it should be able to transfer its features to a DO anaphor.

This is only possible if it scrambles, though (44b).

The problem with (44a) is that violates a rather strict constraint on backward anaphora in the language, i.e. an element referentially dependent on an R-expression cannot precede it (see Sulemana 2019:18 for discussion of a similar constraint in Buli).
- Scrambling the IO results in a surface string that does not violate this constraint.
- Underlyingly, we have the structure in (46), where

(46)

\[
\begin{array}{c}
\text{EA} \\
\text{ApplP} \\
\text{VP} \\
\text{Appl} \\
\text{DO_{refl}} \\
\text{V}
\end{array}
\]

\[
\begin{array}{c}
\text{\textcolor{red}{\varphi}} \\
\text{\textcolor{red}{\varphi}} \\
\text{\textcolor{red}{\varphi}} \\
\text{\textcolor{red}{\varphi}} \\
\text{\textcolor{red}{\varphi}} \\
\text{\textcolor{red}{\varphi}}
\end{array}
\]

- Assumption: The PP shell can be adjoined late as the result of scrambling.
- NB: This is similar to certain analyses of Differential Object Marking, e.g. triggered by Distinctness (Richards 2010) or Dependent Case (e.g. Baker & Vinokurova 2010; Baker 2015).

**Conclusions:**
- There is a close link between licensing and anaphora in Tenyidie.
- The pattern of exceptional object agreement can be analyzed as a reflex of syntactic binding, mediated by a licensing head.
- This provides support for a syntactic theory of anaphoric binding, involving \textcolor{red}{\varphi}-feature exchange under Agree (contra Preminger 2019).

**References**


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