1 Introduction

In West Circassian (or Adyghe; Northwest Caucasian), a morphologically ergative polysynthetic language, reflexives: (i) are expressed via an affix on the predicate (ii) are subject oriented

Contra to previous analyses of similar morphology cross-linguistically (Pesetsky 1995; Labelle 2008; Schäfer 2008; Sportiche 2014; Ahn 2015), this affix cannot be treated as the exponent of Voice₀, a de-transitivizing operator, or the morphological reflex of the external argument.

Main claim:

• The reflexive affix marks agreement with a bound anaphor.
• Subject orientation is ensured by licensing via Voiceᵣ, per Labelle (2008); Ahn (2015); cf. Sportiche’s (2014) HS head.
• Given the range of possible antecedents, Voiceᵣ does not introduce the antecedent, but selects for vP and triggers movement of the antecedent to Spec, VoiceP.
• The syntactic properties of Voiceᵣ limit the set of possible antecedents to the highest DP in the verbal theta-domain (vP).

Implications:

• Expansion of the typology of subject oriented anaphors.
• Support for Ahn’s (2015) locality-based account of subject orientation.
• Subject orientation is epiphenomenal to the locality conditions on reflexive licensing ⇒ subjecthood plays no role in defining distribution of anaphors.
• Voiceᵣ singles out the highest nominal in vP as the antecedent (≈ the deep subject). ⇒ reflexives cannot be used as a diagnostic for surface subjecthood (cf. Caponigro and Polinsky 2011:79).

Roadmap: 2 Background on clause structure; 3 Reflexive and reciprocal agreement; 4 Locality conditions on reflexive binding; 5 The syntax of reflexive Voiceᵣ; 6 Implications: subjecthood and syntactic ergativity; 7 Conclusion.

2 Background on West Circassian

Data: Unless otherwise indicated, from the Temirgoy dialect (the basis of the literary standard); collected by the author in the Khatazhukay rural settlement and Maykop (Republic of Adygea, Russia) in fall 2017 and summer 2018.

2.1 Polysynthesis

Agglutinating morphology, head marking, pro-drop, and free word order:

(1) s-a-q-f-ar-i-j-a-le-ne-w⁻a⁻w
   1SG.ABS- DIR- 2SG.IO+BEN- 3PL.IO+DAT- 3SG.ERG- CAUS- see -PST
   ‘He showed me to them for your sake.’ (Korotkova and Lander 2010:301)

2.2 Case and agreement

• Agreement morphology follows ergative pattern

(2) a. ABS(O)- APPL- ERG(A)- w⁻- a-de⁻- s⁻- s’⁻w
   2SG.ABS- 3PL.IO+COM- 1SG.ERG- bring.PST
   ‘I brought you with them’ (Rogava and Keraševa 1966:160)

b. ABS(S)- APPL-
   w⁻- q⁻- a-fe⁻- k⁻w⁻w
   2SG.ABS- DIR- 3PL.IO+BEN- go.PST
   ‘You went for them.’ (Rogava and Keraševa 1966:138)

• IO agreement is bundled with an applicative prefix, e.g. de- ‘COM’, fe- ‘BEN’
• Two core cases:
  -r (absolutive) = subject of intransitive verb, theme of transitive verb
  -m (oblique) = agents of transitive verbs and applied objects (+ possessors and complements of postpositions)

(3) a. m-o pšaše-r dax-ew Øqa-s⁻w-e
   this girl-ABS beautiful-ADV 3ABS-DIR-dance
   ‘This girl(S) dances well.’
3 Reflexive and reciprocal agreement

Reflexive and reciprocal binding is expressed morphologically via the replacement of one of the \( \phi \)-agreement prefixes with \( z \)- 'REFL.' or \( z(e) \)- 'REC'.

In West Circassian, reflexive and reciprocal morphology marks agreement with a syntactically active bound anaphor.

Contrast with:
1. de-transitivizing reflexive/reciprocal morphology in e.g. Hebrew (Reinhart and Siloni 2005), Passamaquoddy, Japanese and Chichewa (Bruening 2004)
2. free-standing reflexive/reciprocal pronouns in e.g. English

3.1 The morphological position changes to reflect bound argument

(5) \( \text{ABS(S)} > \text{IO} \):

a. wo- \( z \- \) f- je- \( z' - \) \- \-n
2SG.ABS-REFL.IO- BEN- DAT- read -RE -PST
‘You studied for yourself.’

b. te \( \lambda e \) to- \( z'e- \) fe- \( z'' - \) \-n
we strong 1PL.ABS-RECO.IO- BEN- become -PST
‘We became strong for each other.’

\( 1 \) 'zer- for ergative DPs and causees of a transitive verb; \( z e \)- for all other arguments.

REFL: ERG > ABS

(6) \( z- \) \( \lambda e \)- e- s- \( s'e- \) \-n s-\( \lambda e \) -\( z't \)
REFL.ABS- 2PL.IO+DAT- 1SG.ERG- sell- MOD- 1SG.ERG-can-FUT
‘I could sell myself to you (there’s nothing else).’ (A salesperson joking about their store running out of goods.)

3.2 No valency reduction

Antecedent DP must carry case of non-anaphor argument:

(7) \( \text{ABS(S)} > \text{IO} \):

a. \( za- \) \( \lambda e \)- e- \( s'e- \) \-n s-\( \lambda e \) -\( z't \)
child-PL-ABS/-OBL
\( \lambda e \)- \( \lambda e \)- \-n \-x
3ABS- 3SG.IO- LOC- REFLE.IO- PRS- look-RE-PL
‘The children are looking at each other.’

b. \( za- \) \( \lambda e \)- e- \( s'e- \) \-n \-x
child-PL-ABS/-OBL
\( \lambda e \)- \( \lambda e \)- \-n \-x
3ABS- REC.IO- DAT- look-RE-PL
‘The children are looking at each other.’

REFL

(8) \( \text{ERG} > \text{IO} \):

a. \( \lambda e- \) \( \lambda e \)- e- \( s'e- \) \-n \-n
man-old-OBL
3SG.PRS-poss-hat
3ABS- REFLE.IO- LOC- put.on -PST
‘The old man put his hat on himself.’ (R&K1966:267)

b. \( (.) \) \( a-x \)-me\( (ERG) \)
za- \( \lambda e \)- \( z \- \) e- \( p \lambda e - \) \-x
that-PL-OBL
direct-ADV
3ABS- 3SG.IO- DAT- 3PL.ERG- tell -RE-IPF -PST
‘They certainly told the whole truth to each other.’ (R&K1966:274)

Rec

REFL: ERG > ABS

(9) s-ja-\( p \lambda e \)-e- \( \lambda e \)-e- \( f e p \- \) \-n
1SG.PR-poss-girl-PL-OBL/*ABS
REFL.ABS- 3PL.ERG- dress -PST
‘My daughters dressed themselves.’

Rec
Anaphor is usually null, but may be expressed overtly:

(10) ˇs’ak"e-m(ERG)  jež’(IO) tovarα-r
salesperson-OBL self product-ABS
Ø- ze- r- jo- ˇs’ e -ˇz’ -ˇr
3ABS- REF1.IO- DAT- 3SG.ERG- sell-RE-PST
‘The salesperson sold the product to herself.’

(11) [ zo-m zα-r ](IO) ˇs”α- qo- ze- de- ˇs”e -ˇz” -ˇt -a
one-OBL one-ABS 2PL.ABS- DIR- REC.IO- COM- dance-RE-FUT-Q
‘Will you(pl) dance with each other?’

Summary:
Reflexive and reciprocal morphemes track agreement with a syntactically active anaphoric pronoun.
⇒ Their position within the verbal form can be used to diagnose the syntactic position of the bound pronoun.

4 Locality conditions on reflexive binding

Main generalization:
Reflexives are local subject oriented, i.e. may only be bound by a deep, non-derived subject = the highest argument within vP.

Local subject oriented reflexives are cross-linguistically common: e.g. se/si in French and Italian (Rizzi 1986; Labelle 2008; Sportiche 2014, a.o.); -koL in Kannada (Lidz 1996, 2001); see also Ahn (2015) and references therein.

Building on Ahn (2015), local subject oriented reflexives must be licensed by VoiceR; cf. Sportiche’s (2014) projection HS.

VoiceR selects for vP and attracts two arguments to its specifier:

• the highest DP in vP → local subject orientation
• the reflexive pronoun → syntactically active anaphor

Semantically, VoiceR imposes co-identity on the two arguments in its specifiers.

Contrast with reciprocals, which are general anaphors bound by a c-commanding antecedent within the A-domain (TP).

Generalization #1: Reflexive binding possibilities in three-place predicate:

a. [vP DP(ERG) ... [AppP DP(IO) ... [vP REF1(ABS) ...
   antecedent *antecedent
b. [vP DP(ERG) ... [AppP REF1(IO) ... [vP DP(ABS) ...
   antecedent *antecedent
Cf. reciprocals can be bound by an ABS theme in three-place predicate:

\[ \text{IO > ABS} \]

\[ \text{ABS > IO} \]

Transitive three-place predicate: \( \text{ERG > IO} \) for both reflexives and reciprocals.

\[ \text{REFL: ERG > IO} \]

Demoted ergative agent still binds reflexives:

\[ \text{REFL: IO(ERG) > ABS} \]
Cf. reciprocals show same binding pattern:

\[(22)\]

\[
\begin{align*}
a. & \quad \text{ABS(S)-} \quad \text{IO-} \\
& \quad \text{da} \quad \text{ABS} \quad \text{ze} \quad \text{tje} \quad \text{k*owe} \quad \text{-} \quad \text{-} \\
& \quad \text{what} \quad \text{2PL.ABS-} \quad \text{RSN-} \quad \text{REC.IO-} \quad \text{LOC-} \quad \text{yell} \\
& \quad \text{-RE-PRS-ABS}
\end{align*}
\]

\[
\begin{align*}
b. & \quad \text{ze} \quad \text{ABS} \quad \text{tje} \quad \text{k*owe} \quad \text{-} \\
& \quad \text{what} \quad \text{REC.ABS-} \quad \text{RSN-} \quad \text{2PL.IO-} \quad \text{LOC-} \quad \text{yell} \\
& \quad \text{-RE-PRS-ABS}
\end{align*}
\]

‘Why are you yelling at each other?’

\[
\text{REC:ABS}>\text{IO} > \text{ABS}
\]

**Summary of distribution:**

- Reflexive ze- is local subject oriented – can only be bound by highest DP in vP.
- Reciprocal ze(re)- is not local subject oriented – can be bound by any c-commanding DP in TP.

**Implications:**

- Reflexive binding is established via vP without reference to the full clause structure ⇒ reflexives cannot be used as a diagnostic for surface subjecthood.
- In previous literature on local subject oriented anaphors, the antecedent must be both the deep and surface subject (see e.g. discussion in Ahn 2015:200-217).
- West Circassian shows that the antecedent need not be the surface subject – e.g. a demoted ergative agent, – confirming an implicit prediction of Ahn’s (2015) analysis.

**5 The syntax of Voice**

**The analysis:** Reflexive binding is mediated via VoiceR, per Ahn [2015].

**Desiderata:**

1. Local subject orientation.
2. The presence of a syntactically active bound pronoun; cf. analysis of French se as the external argument (Pesetsky 1995) or Voice0 (Labelle 2008).
3. Productivity: not limited to naturally reflexive verbs, like Russian -sja (Schäfer 2008), or to intrinsically transitive verbs, like French se (Sportiche 2014).

**VoiceR selects for vP and attracts two arguments to its specifier:**

- the highest DP in vP ⇒ local subject orientation
- the reflexive pronoun ⇒ syntactically active anaphor

Semantically, VoiceR imposes co-identity on the two arguments.

**Implementation:**

- Structure-building (movement-triggering) probe features per Heck and Müller [2007]; Müller [2010]: [+F+]
- Per Georgi and Müller [2010]; Müller [2010]; Martinovic [2015], probe features are hierarchically ordered, e.g.: [+F] ≫ [+G+]
- In a hierarchical feature ordering, only the leftmost/highest unchecked feature is visible for syntactic operations.
- Locality conditions on movement (Chomsky 1995 a.o.): A probe with feature [+F+] must attract the highest goal in its c-command domain with the matching feature [F] or [+F+].
- All probe and licensee features must be checked.

**The two components of reflexive syntax:**

\[(23)\]

\[
\text{Reflexive VoiceR:} \quad [\text{+D} \gg \text{+REFL}]
\]

\[(24)\]

\[
\text{Syntactically active reflexive pronoun:} \quad [\text{D}; \text{+REFL}]
\]
**Deriving local subject orientation:** only the highest DP in vP can be an antecedent per locality conditions on movement.

(25)

\[
\begin{array}{c}
\text{Voice' } \\
\text{[} *\text{D} * \text{REFL*} ] \rightarrow vP \\
\cdots \\
\text{DP[D]} \\
\text{DP[D]} \\
\end{array}
\]

⇒ subject orientation is reduced to locality conditions on movement.

**Ensuring c-command between antecedent and reflexive before movement:**

the antecedent DP must c-command the anaphor to satisfy ordered feature checking.

Otherwise, [∗REFL•] on Voice_{REFL} remains unchecked.

(26)

\[
\begin{array}{c}
\ast \text{ VoiceP } \\
\text{DP[D] } \rightarrow [ +\text{REFL+} ] \\
\text{Voice_{ERG} } \\
\text{[ +REFL• ]} \rightarrow vP \\
\cdots \\
\text{DP(D)} \\
\end{array}
\]

**Ensuring co-occurrence of Voice_{ERG} and reflexive pronoun,** i.e. that the reflexive is local subject oriented: both [∗REFL•] on Voice_{ERG} and [+REFL+] on the reflexive pronoun must be checked.

⇒ a reflexive pronoun without Voice_{ERG} is ungrammatical:

(27)

\[
\begin{array}{c}
\ast \text{ TP } \\
\text{T} \\
\text{vP } \\
\text{DP[D] } \rightarrow [ +\text{REFL+} ] \\
\end{array}
\]

**Sample derivations:**

(28) **Three-place predicate (ERG-IO-ABS):** ERG > ABS; *IO >ABS:

1. DP(ERG) moves to check [∗D•] on Voice_{ERG}.
2. DP(ABS) moves (tucks in) to check [∗REFL•] on Voice_{ERG} and [+REFL+] on DP(ABS).
(29) **Transitive with ‘demoted’ agent:** IO > ABS; *ABS > IO:

1. DP(IO) moves to check [+DP] on Voice\(_r\).
2. DP(ABS) moves to check [+REFL•] on Voice\(_r\) and [+REFL+] on DP(ABS).

(30) **Unergative w/applied object:** ABS(S) > IO; *IO > ABS(S):

1. DP(ABS) moves to check [+DP] on Voice\(_r\).
2. DP(IO) moves to check [+REFL•] on Voice\(_r\) and [+REFL+] on DP(IO).

**Summary:**

- The distribution of reflexives is conditioned by Voice\(_r\), which merges immediately above vP, reducing possible antecedents to the **highest DP in vP**.
- Locality conditions on Voice\(_r\) predict that reflexives must be bound by the highest nominal in vP, but that nominal need not be a surface subject.
  - See Appendix [A](#) for further evidence.

6 **Implications: subjeckthood and syntactic ergativity**

Reflexives must be bound within VoiceP ⇒ reflexive binding is only sensitive to structural prominence within vP, not the full clause.

**Implications:**

- Reflexive binding is not a reliable subjeckthood diagnostic in West Circassian; cf. Caponigro and Polinsky (2011:79).
- This explains mismatches in directionality of binding between reflexives and reciprocals.

**Reflexives vs reciprocals:** in a transitive verb (ERG-ABS), reflexive and reciprocal pre-fixes replace φ-agreement morphemes of opposite arguments.

(31) **Theme(ABS)- Agent(ERG)-**

<table>
<thead>
<tr>
<th>Theme(ABS)-</th>
<th>Agent(ERG)-</th>
</tr>
</thead>
<tbody>
<tr>
<td>8(^{w})(-ø)</td>
<td>t-</td>
</tr>
<tr>
<td>2PL-ABS-</td>
<td>1PL-ERG-</td>
</tr>
<tr>
<td>1PL-ABS-</td>
<td>REC-ERG-</td>
</tr>
<tr>
<td>te-</td>
<td>zere-</td>
</tr>
<tr>
<td>1PL-ABS-</td>
<td>REC-ERG-</td>
</tr>
</tbody>
</table>

The reciprocal morpheme zere- is agreement with an anaphor in the ergative position – antecedent triggers absolutive agreement and must be absolutive case-marked:

(32) もさぼaj- xe-r\(^{w}\)m(ABS) rec(ERG) オ- tje- zere- いえ -f e -2\(^{w}\)ø- -k e - x this child-PL-ABS/-OBL 3ABS- LOC- REC-ERG- CAUS- fall -RE -PST -PL

‘These children made each other fall over.’

**Explanation:** The absolutive theme undergoes movement to Spec,TP, c-commanding the ergative agent.
Reflexives in West Circassian: Ingredients of Subject Orientation
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Previous proposals for high absolutive: Bittner and Hale (1996); Manning (1996); Baker (1997); Aldridge (2008); Coon et al. (2014); Yuan (2018).

Proposed clause structure for a transitive (ERG-ABS) verb:

(33)

\[ TP \]  
\[ DP(ABS) \]  
\[ T' vP \]  
\[ DP(ERG) \]  
\[ v' VP \]  
\[ V <DP(ABS)> \]

Other support for high ABS: conditions on parasitic gap licensing (Ershova 2018, 2019).

7 Conclusion

Reflexive morphology in West Circassian:

- expresses agreement with a syntactically active bound anaphor
- is licensed by specialized \( \text{Voice}_R \)
- syntactic properties of \( \text{Voice}_R \) limit set of possible antecedents for reflexives to the highest nominal in \( vP \)

The antecedent for reflexes:

- is not constrained in terms of theta-role (need not be an external argument)
- is not limited to a particular structural position (e.g. Spec,\( vP \) or Spec,ApplP)
- does not need to correspond to the surface subject in Spec,TP

Broader implications:

- Conditions on local subject orientation makes no reference to subjectionhood, confirming the idea that subjectionhood is not a primitive (see e.g. Harley 1995, Bobaljik and Jonas 1996, McCloskey 1997).

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Appendix A Further predictions of \( \text{Voice}_R \) analysis

Prediction: Any nominal may serve as an antecedent for a reflexive, as long as it is the highest nominal in \( vP \).

Confirmed by:

- synthetic causative constructions
- unaccusative verbs with applied objects

A.1 Antecedents in synthetic causatives

Prediction: In a synthetic causative construction, with recursive embedding of \( vP \)'s, both the causer and causee can be an antecedent, depending on which \( vP \) is selected by \( \text{Voice}_R \).

(34) a. \( \text{§}^{\circ} \text{a} \text{ ze- s- e- λειν}^{\circ} \text{e'z-ře} \text{ good \ REFL,ABS- 1SG,ERG- PRS- see -RE} \)

‘I love (lit. see good in) myself.’ [Baseline: ERG > ABS]

b. \( \text{§}^{\circ} \text{a} \text{ zo- s- e- b- ne- λειν}^{\circ} \text{e-ř} \text{ good \ REFL,ABS- 1SG,IO- DAT- 2SG,ERG- CAUS- see -PST} \)

‘You, made me, love myself/yourself.’ [CAUS: ERG > ABS | IO > ABS]
(35) **Causative: ERG(UNCAUSER) > ABS – VoiceREFL selects for vP1**

A transparent example: ją- 'LOC' + ?e 'be' = ją-?e 'have'

a. zo- s- ją- ?e -ż' zepot
   REFL.ABS- 1SG.IO- LOC- be -RE always

b. so- z- ją- ?e -ż' zepot
   1SG.ABS- REFL.IO- LOC- be -RE always

'I always have myself'

(36) **Causative: IO(UNCAUSER) > ABS – VoiceREFL selects for vP2**

(37) A transparent example: ści- 'LOC' + w"'apšē '??' = ści-w"'apšē 'forget'

a. zo- s- ści- w"'apšē -ż' -b
   REFL.ABS- 1SG.IO- LOC- forget -RE -PST

b. so- z- ści- w"'apšē -ż' -b
   1SG.ABS- REFL.IO- LOC- forget -RE -PST

'I forgot about myself (e.g. when serving food).'

A.2 **Unaccusative verbs with applied object**

**Prediction:** In an unaccusative verb with a high applicative, the applied object can bind a reflexive in absolute theme position.

Two structures available for applicative unaccusatives:

a. [vP [AppP DP(IO) ... [vP REFL(Abs) ... IO > ABS

  √ antecedent

b. [vP DP(Abs) ... [AppP REFL(IO) ... vP ... ABS > IO

  √ antecedent

Unaccusative verbs do not productively combine with high applicatives – only possible for a small set of so-called ‘inverse’ predicates.

(38) A lexicalized example: ści- 'LOC' + w"'apšē '??' = ści-w"'apšē 'forget'

a. zo- s- ści- w"'apšē -ż' -b
   REFL.ABS- 1SG.IO- LOC- forget -RE -PST

b. so- z- ści- w"'apšē -ż' -b
   1SG.ABS- REFL.IO- LOC- forget -RE -PST

'I forgot about myself (e.g. when serving food).'
(39) **Unaccusative w/ applied object:** IO > ABS

\[
\begin{array}{c}
\text{DP(IO)} \\
\text{VoiceP} \\
\text{pro} \\
\text{DP(ABS)} \\
\text{Voice'} \\
\text{Voice'} \\
\end{array}
\]

Cf. reciprocals allow only ABS > IO\(^1\)

(40) a. t– ze– šả– ū⁰pšé– ľz– ū
   1PL.ABS- REC.IO- LOC- forget -RE- PST
   REC.ABS- 1PL.IO- LOC- forget -RE- PST

‘You(pl) forgot about each other.’

ABS>IO|*IO>ABS

References

Ahn, Byron. 2015. Giving reflexivity a voice: Twin reflexives in English. PhD diss, UCLA.


Harley, Heidi. 1995. Subjects, events and licensing. PhD diss, MIT.


\[\](39) Unaccusative w/ applied object: IO > ABS Equations DPs with (unaccented) base are not presentable with a reflexive.

\[\](40) a. t– ze– šả– ū⁰pšé– ľz– ū
   1PL.ABS- REC.IO- LOC- forget -RE- PST
   REC.ABS- 1PL.IO- LOC- forget -RE- PST

‘You(pl) forgot about each other.’

\[\]ABS>IO|*IO>ABS

\[\]Cf. reciprocals allow only ABS > IO\(^1\)

\[\]Contra Arkadiev et al. [2009] (64); Letuchiy [2010] (342); a possible source of confusion may be in homophony of reflexive and reciprocal markers in prevocalic environments. See Ershova [2019] for detailed discussion.