1 Introduction

The broad question: What are subjects syntactically?
The narrow questions: What does it mean to be a subject in a syntactically ergative language? And what is the role of subjecthood in anaphor binding?

Many languages display varying degrees of syntactic ergativity, i.e., syntactic operations that treat absolutive-marked nominals (intransitive subjects and direct objects) as structurally prominent (= subject-like) (Bittner and Hale 1996; Coon et al. 2014; Polinsky 2017). In a syntactically ergative language, these positions may be occupied by distinct arguments across several positions (see e.g. Harley 1995; Bobaljik and Jonas 1996; McCloskey 1997).

In West Circassian (or Adyghe; Northwest Caucasian), restrictions on parasitic gap licensing provide evidence for a high absolutive analysis of syntactic ergativity (Ershova 2018b), per Bittner and Hale (1996), Manning (1996), Baker (1997), Coon et al. (2014), Yuan (2018), a.o. + functionalist and descriptive work on West Circassian suggests special, subject-like status for absolutive (Lander 2009; Letuchiy 2010).

The puzzle: In these languages, some operations still single out the highest argument in the argument hierarchy (S/A), i.e. follow a syntactically accusative pattern.

Case study – West Circassian anaphors:

• reflexives follow a syntactically accusative pattern: the ergative DP binds the absolutive DP (Letuchiy 2010; Caponigro and Polinsky 2011; Lander and Testelets 2017)
• reciprocals follow a syntactically ergative pattern: the absolutive DP binds the ergative DP (Letuchiy 2010)

In a transitive verb (ERG-ABS), reflexive and reciprocal prefixes replace φ-agreement morphemes of opposite arguments.

\[
\begin{align*}
\text{Theme(ABS)} & \rightarrow \text{Agent(ERG)} \\
\text{REFL.ABS} & \rightarrow \text{1PL.ERG} \rightarrow \\
\text{ABS} & \rightarrow \text{REFL} \\
\text{ERG} & \rightarrow \text{REC}
\end{align*}
\]

(1)

Glosses: ABSolute; ADVerbal; BENefactive; CAUSative; COMitative; DATive; DIRECTive; ERGATIVE; FUTURE; IO=indirect object; IPF=imperfect; LOCative; MODal future; NEGation; OBLique; PL=plural; POSSessive; POTential; PR=possessor; PRS=present tense; PST=past tense; REFlactive; RECiprocal; REFlEXive; SG=singular; TRANSlocative.

The solution:

• In a syntactically ergative language, the high position of the absolute argument is derived via A-movement to Spec,TP. – In West Circassian, this high position is confirmed by the behavior of reciprocals.
• Both reflexives and reciprocals are standard anaphors that must be bound by a higher argument in the A-domain (TP).
• Due to an additional condition on reflexive licensing, the set of possible antecedents for reflexives is reduced to the highest argument in the Ω-domain (sP).

Implications:

Syntactic ergativity:

• The analysis provides support for the idea that syntactic ergativity is derived, as proposed e.g. by Bittner and Hale (1996); Manning (1996); Baker (1997); Aldridge (2008); Coon et al. (2014); Yuan (2018).
• Through discussion of an unusual diagnostic for syntactic ergativity (reciprocal binding), I show that syntactic ergativity must be derived via A-movement.

⇒ the absolutive DP occupies the highest A-position in the clause (≈ surface subject)

Anaphors and subjecthood:

• West Circassian reflexives fall into a typologically common class of anaphors: local subject oriented reflexives – their presence is conditioned by VoiceREFL (Labelle 2008; Ahn 2015; Bhatia and Poole 2016).
• As a syntactically ergative language, West Circassian presents novel evidence that “local subject orientation” is due to conditions on locality, and not subjecthood per se.

⇒ subjecthood is not relevant for anaphor binding, i.e. “subject” is not a primitive.

Subjecthood properties (= properties associated with structural prominence) can be dispersed across several positions (see e.g. Harley 1995; Bobaljik and Jonas 1996; McCluskey 1997). In a syntactically ergative language, these positions may be occupied by distinct arguments (e.g. absolutive and ergative), rendering conflicting results for diagnostics of structural prominence.

Roadmap: Background on clause structure and anaphor expression; Reciprocals and syntactic ergativity; Locality conditions on reflexive binding; Conclusion.

1See Guijfoyle et al. 1992 for similar proposal on Austronesian mixed-pivot systems.
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) during two trips in fall 2017 and summer 2018.

2.1 Polysynthesis

- complex words with agglutinating prefixal and suffixal morphology:

(2) \(\text{wɔrɔzerezhapọxẹwọk^\text{er}ejɛ^\text{a}j}^\text{er}e\text{e}^\text{m}\text{a}n\text{er}\)

\(\text{wọ-}\ qọ-\ zere-\ ọsha-\ po-\ ra-\ z-\ he-\ wọk^\text{er}ejε^\text{c}^\text{e}^\text{f}-\ ọ^\text{e}^\text{r}\)

2SG.ABS- DIR- FACT- head- LOC- TRANS- 1SG.ERG- CAUS- fall -go.out -RE

- free word order:

(4) a. \([\text{mo}\ ọjẹ\text{ale}-\text{m}(10)]\) zariere \([\text{ọjẹ}\text{-xep}\text{-e}]\) (ABS) jewe\x\n
this boy-OBL sometimes 3SG.PR-brother-PL-OBL 3ABS.PL+3SG.IO.hit

b. \([\text{ọjẹ}\text{-xep}\text{-e}]\) (ABS) zariere \([\text{mo}\ ọjẹ\text{ale}-\text{m}(10)]\) jewe\x

3SG.PR-brother-PL-ABS sometimes this boy-OBL 3ABS.PL+3SG.IO.hit

‘His\(_{3}\) brothers sometimes hit this boy\(_{1}\),’

2.2 Case and agreement

- Agreement morphology follows ergative pattern

(5) a. \(\text{ABS(O)}\text{- APPL-} \text{ERG(A)}\text{-} \text{a-de-} \text{s-} \text{ŋ}^\text{a}^\text{r}\)

1SG.ABS- 3PL.IO+COM- 1SG.ERG- bring.PST

‘I brought you with them.’ (Rogava and Keraševa 1966:160)

b. \(\text{ABS(S)}\text{- APPL-} \text{wọ-} \text{q-} \text{a-fe-} \text{k^a^r}\)

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. \(\text{de-} \text{’COM’, fe- ‘BEN’}\)

- Two core cases:

\(\text{-r (absolute)}= \text{subject of intransitive verb}\) (6a), theme of transitive verb (6b),

\(\text{-m (oblique)}= \text{agents of transitive verbs}\) (6b), applied objects (6c), possessors (6d),

- complements of postpositions (6e)

(6) a. \(\text{mo} \ pšaše-r \ dax-\hat{e}w \ Œ-\qa-\text{ṣ}^\text{e}\text{e}\text{r}\text{e}\text{w}\text{g}\)

this girl-ABS beautiful-ADV 3ABS-DIR-dance

‘This girl\(_{3}\) dances well.’

b. \(\text{sabj-xe-m} \ ha-xe-r \ Œ-\qa-\text{a-λε}^\text{e}\text{w}^\text{a}^\text{r}\)

child-PL-OBL(=ERG) dog-PL-ABS

3ABS-DIR-3PL.ERG-see-PST

‘The children\(_{3}\) saw the dogs\(_{3}\).’

c. \(\text{zę-g}^\text{a}^\text{m}\)

\(\text{sa-}\qa-\text{Ọ-s^a}^\text{ṣ}^\text{a}^\text{r}\)

wedding-OBL(=1O) 1SG.ABS-DIR-3SG.IO-Loc-dance-PST-NEG

‘I didn’t dance at the wedding.’

d. \(\text{mo} \ s^\text{w}^\text{a}^\text{z}^\text{a}-\text{m}\)

\(\text{Ọ-}j\text{o-pšaše}\text{e}\)

this woman-OBL(=POSS) 3SG.PR-POSS-girl

‘this woman’s daughter’

e. \(\text{mo} \ s^\text{w}^\text{a}^\text{z}^\text{a}-\text{m}\)

\(\text{jurej}\)

this woman-OBL(=PP) for

‘for this woman’
In a polysynthetic language like West Circassian, syntactic analysis requires establishing correlations between complex morphological forms and syntactic structure.

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

Contrast with:

(i) de-transitivizing reflexive/reciprocal morphology in e.g. Hebrew (Reinhart and Siloni 2005), Passamaquoddy, Japanese and Chichewa (Bruening 2004)

(ii) free-standing reflexive/reciprocal pronouns in e.g. English

\[ ze(\text{refl}) \] for ergative DPs and causees of a transitive verb; \text{ze-} for all other arguments.

2.3 Reflexive and reciprocal agreement

Anaphor binding is expressed morphologically via the replacement of one of the φ-agreement prefixes with \( \text{z}e(\text{refl}) \) or \( \text{ze(\text{rec})} \).

\[ 2 \text{PL.ABS-} \text{IPL.ERG-} \text{see} \quad \text{PST} \]

\[ \text{We saw you(pl).} \]

\[ \text{We saw ourselves.} \]

\[ \text{You studied for yourself.} \]

\[ \text{We became strong for each other.} \]

\[ \text{We gave it to ourselves.} \]

\[ \text{They enjoyed themselves with each other (lit. made each other rejoice) [at the weddings].} \]

2.3.1 The morphological position changes to reflect bound argument

\[ \text{ABS(S)} > \text{IO} \]

\[ \text{You gave this girl a book.} \]

\[ \text{You gave this child.} \]

\[ \text{We gave it to ourselves.} \]

\[ \text{I could sell myself to you (there’s nothing else).} \]

\[ \text{They enjoyed themselves with each other (lit. made each other rejoice) [at the weddings].} \]

\[ \text{Adyghe corpus: } \text{http://adyghe.web-corpora.net/index_en.html} \]
2.3.2 No valency reduction

Antecedent DP must carry case of non-anaphor argument:

(12) **ABS**(S) > **IO**:

a. sabaj-xe-rl#m(ABS)
   refl(IO)
   řt^wǝnoxe-m
   child-PL-ABS*/OBL
   Œ- Œ- š'ó- z- e- p̠h- ř'ó-x
   3ABS- 3SG.IO-LOC-REFL.IO-PR-look-RE-PL.
   'The children are looking at themselves in the mirror.'

b. sabaj-xe-rl#m(ABS)
   refl(IO) Œ- z- e- p̠h- ř'ó-x
   child-PL-ABS*/OBL
   3ABS- REC.IO-DAT-look-RE-PL
   'The children are looking at each other.'

(13) **REFL**: **ERG** > **ABS** | **REC**: **ABS** > **ERG**:

a. s-jo-pšaxe-xe-m#r(ERG)
   refl(ABS) z- a- fepa- ř
   1SG.PR-POSS-girl-PL-OBL*/ABS
   REFL-ABS- 3PL.ERG- dress-PST
   'My daughters dressed themselves.'

b. mɔ sabaj-xe-rl#m(ABS)
   refl(ERG)
   child-PL-ABS*/OBL
   Œ- tje- zere- ne- fe- ř'ó-ne- x
   3ABS- LOC-REC.ERG-CAUS-fall-RE-PST-PL
   'These children made each other fall over.'

Note: reciprocal marker is not a de-transitiver – the antecedent DP is not always absolutive

(14) **ERG** > **IO**:

a. (...) a-xe-me(ERG)
   zanč'-ew
   rec(IO)
   that-PL-PL.OBL
   direct-ADV
   zewaže(ABS) Œ- ze- r- a- ř'ete- ř'ó- ř'ó-ne
   all
   3ABS- REC.IO-DAT- 3PL.ERG- tell-RE-IPF-PST
   'They certainly told the whole truth to each other.' (R&K1966:274)

b. ř'ɔ-ža-m(ERG)
   refl(IO)
   man-old-OBL
   Œ- ř'ɔ- š'ɔ- řa- ř
   3ABS- REFL.IO-LOC-put.on-PST
   'The old man put his hat on himself.' (R&K1966:267)

Anaphor is usually null, but may be expressed overtly:

(15) ř'ak'w-e-m(ERG) řež'(IO)
   tovar-œ
   salesperson-OBL
   self
   product-ABS
   Œ- ze- r- jo- ř'œ- ř'ó- ř
   3ABS- REFL.IO-DAT- 3SG.ERG-sell-RE-PST
   'The salesperson sold the product to herself.'

(16) čař-xe-rl(ABS) [ža-m ža-r ](ERG) Œ- zere- wɔč'ó- ř'ó
   person-PL-ABS one-OBL one-ABS
   3ABS- REC.ERG- kill -RE
   'People kill each other.'

Note: the order of case-marking on ża m ža r is idiosyncratic and does not depend on argument frame – same order of case-marking for **ABS** > **IO**

(17) [ža-m ža-r ](IO) řš'æ- qœ- ze- ře- ř'œ- ř'ó- ř'ó-t- 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.

2.4 Syntactic ergativity

The functionalist intuition:

Lander (2009): absolutive (S/O) pattern together to the exclusion of A in relative clause formation (i) relativization of ABS is morphologically unmarked; (ii) restrictions on position of internal head; (iii) restrictions on possessor extraction.

Letuchiy (2010): absolutive (S/O) is ‘privileged’ in being inaccessible for argument structure alternations; reciprocal binding follows a syntactically ergative pattern.

This might be an indication that this is an elliptical or appositive structure, rather than a true reciprocal pronoun.
Syntactic evidence:

Ershova (2018b): restrictions on parasitic gap licensing provide evidence for absolutive c-commanding clausemate DPs – for structural syntactic ergativity.

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

(18)  
\[
\text{TP} \quad \text{DP(ABS)} \quad \text{T'} \quad \text{DP(ERG)} \quad \text{v'} \quad \text{v} \quad \text{VP} \quad \text{V} \\
\text{<DP(ABS)>> V}
\]

Components of the analysis:

- DP_{ABS} is merged in various positions based on theta-role, but moves to Spec,TP for licensing.
- DP_{ERG} and DP_{IO} are licensed in-situ.
- details in Appendix A

Previous proposals for high absolutive: Bittner and Hale (1996); Manning (1996); Baker (1997); Aldridge (2008); Coon et al. (2014); Yuan (2018).

3 Reciprocals and syntactic ergativity

Main claim: Reciprocal binding patterns provide evidence for structural syntactic ergativity, i.e. for A-movement of the absolutive DP to a position c-commanding other arguments.

In contexts not involving absolutive themes, reciprocal binding follows vP-internal c-command relations:

We built houses for each other.'  

Intended: 'We built houses for each other.'

c. [TP ... [vP DP(ERG)] ... [AppP REC(IO) ...]  
*IO>ERG

(20) a. te lešo to- ze- fe- ű-êm- 0-3ABS- REC.IO- BEN- become -PST  
We became strong for each other.'

b. *te lešo ze- t- fe- ű-êm- 0-3ABS- 1PL.IO- BEN- become -PST  
Intended: 'We became strong for each other.'

c. [TP DP(ABS) ... [vP <DP(ABS)> ... [AppP REC(1O) ...]  
*IO>ABS

A structure with high absolutive correctly predicts that an absolutive theme binds an ergative agent or applied object:

(21) a. Theme(ABS)- Agent(ERG)-  
te- zere- lešo- 0-3ABS- REC.ERG- see -PST  
We saw each other.

b. [TP DP(ABS) ... [vP REC(1O) ... [vP DP(ABS) ...]  
ABS>ERG

(22) a. Theme(ABS)- IO- Agent(ERG)-  
to- ze- f- ū- 0-3ABS- REC.IO- BEN- 3SG.ERG- bring -PST  
'S/he brought us together (lit. to each other).'

c. [TP DP(ABS) ... [vP ... [AppP REC (1O) ... [vP DP(ABS) ...]  
ABS>IO
Summary: Reciprocal binding patterns provide support for syntactically ergative clause structure: the absolutive DP raises to Spec,TP – a position c-commanding both the ergative agent and any applied objects.

Implications:
- Previous proposals for high absolutive (Bittner and Hale 1996; Coon et al. 2014; Yuan 2018, a.o.) are based on A’-extraction and scope phenomena and are compatible with A’-movement of the absolutive argument.
- Reciprocal binding in West Circassian shows that syntactic ergativity must be derived via A-movement, i.e. the absolutive occupies the ‘surface subject’ position.

4 Locality conditions on reflexive binding

The puzzle: If West Circassian is syntactically ergative, why do reflexives follow a syntactically accusative pattern?

+ The morphosyntax of the reflexive marker has been used as evidence for subjection of the ergative DP (Caponigro and Polinsky 2011; Lander and Testelets 2017).

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

The analysis:
- Both reflexives and reciprocals are general anaphors, bound by a higher nominal in the A-domain (TP).
- Reflexives are local subject oriented, i.e. must be licensed by a specialized Voice_{REFL} per Labelle (2008), Ahn (2015), Bhatia and Poole (2016) ⇒ due to the syntactic properties of Voice_{REFL}, the set of possible antecedents for reflexives is reduced to the highest nominal in the 0-domain (vP).

Implications:
- Explains the puzzle: reflexives do not follow syntactically ergative pattern, because high absolutive position is derived.
- As a syntactically ergative language, West Circassian presents novel evidence for Ahn’s (2015) locality-driven account of local subject orientation.
- The analysis reduces local subject orientation to conditions on locality, without reference to subjectionhood.

4.1 Local subject orientation and Voice_{REFL}

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’s (2015) and references therein.

E.g. French se (examples adapted from Sportiche 2014:104-107):

1. can only be bound by a deep subject:

   (24) Jean_{1} se_{1} présente Pierre
   Jean to-himself introduces Pierre
   ‘Jean introduces Pierre to himself.’

2. cannot be bound by a non-subject:

   (25) * Jean {se}_{1} présente les enfants_{i}
   Jean to-themselves introduces the children
   Intended: ‘Jean introduces the children to themselves.’
3. cannot be bound by a derived subject in a passive or raising construction:

(26) * Pierre, se_i sera présenté (par Jean)
Pierre to-himself will-be introduced by Jean
Intended: ‘Pierre will be introduced to himself by Jean.’

(27) * Jean, se_i semble déprimé
Jean to-himself seems depressed
Intended: ‘Jean seems to himself to be depressed.’

Building on Ahn (2015); Bhatia and Poole (2016), local subject oriented reflexives must be licensed by VoiceREFL; cf. Sportiche’s (2014) projection HS.

VoiceREFL 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, VoiceREFL imposes co-identity on the two arguments in its specifiers (Appendix B).

4.2 West Circassian reflexives are local subject oriented

**Main claim:**
Reflexives in West Circassian are local subject oriented, i.e. may only be bound the highest DP in vP (≈ a non-derived deep subject).

(29) Reflexive versus reciprocal distribution:

<table>
<thead>
<tr>
<th>Predicate type</th>
<th>Reflexives</th>
<th>Reciprocals</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-place transitive</td>
<td>ERG&gt;IO</td>
<td>ERG&gt;IO</td>
</tr>
<tr>
<td>Unaccusative w/applied object</td>
<td>IO&gt;ABS/ABS&gt;IO</td>
<td>ABS&gt;IO</td>
</tr>
<tr>
<td>Unergative w/applied object</td>
<td>ABS&gt;IO</td>
<td>ABS&gt;IO</td>
</tr>
</tbody>
</table>

**GENERALIZATION #1:** A reflexive cannot be bound by a DP that is not highest in vP.

Reflexive binding possibilities in three-place predicate:

a. [vP DP(ERG) ... [AppP DP(IO) ... [vP REFLEX(ABS) ... correct antecedent *correct antecedent

b. [vP DP(ERG) ... [AppP REFLEX(IO) ... [vP DP(ABS) ... correct antecedent *correct antecedent

(30) Theme- IO- Agent-

a. ‘I washed myself for them.’

b. * ‘I washed them for themselves.’

(31) Theme- IO- Agent-

a. ‘I washed them for myself.’

b. * ‘I washed them for themselves.’
Cf. reciprocals can be bound by an ABS theme in three-place predicate:

\[ \text{TP DP(ABS) ...} [vP DP(ERG) ... [ApplP REC(10) ... [VP <DP(ABS)> ...} \]

\( \checkmark \) antecedent  \( \checkmark \) antecedent

(32) a. \textbf{Theme-} IO- \textbf{Agent-}
\begin{align*}
\text{ta-} & \quad \text{ze-} & \quad f- & \quad ja- & \quad \text{s'\aa -u} \\
1\text{PL.ABS- REC.IO-} & \quad \text{3SG.ERG-} & \quad \text{bring -PST}
\end{align*}

b. \textbf{RECIPE-ABS-} 1\text{PL.IO-} \quad \text{3SG.ERG-} \quad \text{bring -PST}

'S/he brought us together (lit. to each other)'

\textbf{GENERALIZATION \#2:} A reflexive can be bound by a “non-subject” DP, if it is highest in vP.

In an unaccusative verb with a high applicative, the applied object can bind a reflexive in absolutive theme position.

Two structures available for applicative unaccusatives:

a. \[ [vP [ApplP DP(IO) ... [VP REFL(ABS) ... [IO > ABS]]]\]

\( \checkmark \) antecedent

b. \[ [ApplP DP(ABS) [ApplP REFL(IO) ... [VP ... [ABS > IO]]]\]

\( \checkmark \) antecedent

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

(33) A transparent example: j\( \varphi \)- ‘LOC’ + ?e ‘be’ = j\( \varphi \)-?e ‘have’

\begin{align*}
a. \text{zo-} & \quad s- & \quad \text{ja-} & \quad ?e-\varphi' \text{zeopot} \\
\text{1SG.ABS-} & \quad \text{1SG.IO-} & \quad \text{LOC-} & \quad \text{be -RE always}
\end{align*}

b. \begin{align*}
\text{sz-} & \quad \text{z-} & \quad \text{ja-} & \quad ?e-\varphi' \text{zeopot} \\
\text{1SG.ABS-} & \quad \text{RECIPE-IO-} & \quad \text{LOC-} & \quad \text{be -RE always}
\end{align*}

'I always have myself’

(34) A lexicalized example: s\( \varphi \)- ‘LOC’ + u\( \varphi \)\( \acute{\text{a}} \)\( \text{p\text{\'e}} \) ‘?’ = s\( \varphi \)-u\( \varphi \)\( \acute{\text{a}} \)\( \text{p\text{\'e}} \) ‘forget’

\begin{align*}
a. \text{zo-} & \quad s- & \quad s\( \varphi \)- & \quad u\( \varphi \)\( \acute{\text{a}} \)\( \text{p\text{\'e}} \)\( \acute{\text{z}}\acute{\text{a}} -u \\
\text{RECIPE-} & \quad \text{1SG.IO-} & \quad \text{LOC-} & \quad \text{forget -RE -PST}
\end{align*}

b. \begin{align*}
\text{sz-} & \quad \text{z-} & \quad s\( \varphi \)- & \quad u\( \varphi \)\( \acute{\text{a}} \)\( \text{p\text{\'e}} \)\( \acute{\text{z}}\acute{\text{a}} -u \\
\text{1SG.ABS-} & \quad \text{RECIPE-IO-} & \quad \text{LOC-} & \quad \text{forget -RE -PST}
\end{align*}

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

Why two possible structures?

Based on McGinnis (2000, 2001):

- The theme may undergo movement to Spec.ApplP.
- \( \Rightarrow \) The theme and applied object are equidistant for further movement operations.

(35) a. Applied argument moves to Spec, VoiceP [IO > ABS]

\textbf{Why two possible structures?}

\begin{align*}
\text{DP(IO)} & \quad \text{VoiceP} \\
\text{vP} & \quad \text{Voice} \\
\text{ApplP} & \quad \text{Appl'} \\
\text{VP} & \quad \text{Appl} \\
\text{REFL(IO)} & \quad \text{V}
\end{align*}

b. Absolutive theme moves to Spec, VoiceP [ABS > IO]

\textbf{Why two possible structures?}

Based on McGinnis (2000, 2001):

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\textbf{Why two possible structures?}

Based on McGinnis (2000, 2001):

- The theme may undergo movement to Spec.ApplP.
- \( \Rightarrow \) The theme and applied object are equidistant for further movement operations.
Cf. reciprocals allow only \( \text{ABS} > \text{IO} \).  

(36) a. \( [\text{TP} \ \text{DP}(\text{ABS}) \ldots ] \ [\text{App} \ \text{REC}(\text{IO}) \ldots] \ [\text{VP} \ <\text{DP}(\text{ABS})> \ldots] \ \text{ABS} > \text{IO} \)  
\( \checkmark \text{antecedent} \)

b. \( [\text{TP} \ \text{REC}(\text{ABS}) \ldots ] \ [\text{App} \ \text{DP}(\text{IO}) \ldots] \ [\text{VP} \ <\text{REC}(\text{ABS})> \ldots] \ *\text{IO} > \text{ABS} \)  
*\text{antecedent}

*Contrast [Arkadiev et al.](2009:164), [Letuchy] (2010:342); a possible source of confusion may be in homophony of reflexive and reciprocal markers in prevocalic environments.

\[ \text{GENERALIZATION #3:} \] Reciprocal and reflexive binding patterns match when the antecedent:

1. c-commands the bound argument at the level of TP  
2. is also the highest DP in \( vP \)

**Case 1:** Unergative verbs with applied object: \( \text{ABS} > \text{IO} \) for both reflexives and reciprocals:  

(37) a. \( \text{ABS(S)-} \ \text{IO-} \)  
\( \text{w}^\circ - \text{za} - f - \text{je} - \text{ze} - \text{z}^\circ - \text{w} \)  
\( \text{2SG.ABS-} \ \text{REC.IO-} \ \text{BEN-} \ \text{DAT-} \ \text{read-} \ \text{RE-} \ \text{PST} \)

b. *\( \text{za} - p - f - \text{je} - \text{ze} - \text{z}^\circ - \text{w} \)  
\( \text{REC.ABS-} \ \text{2SG.IO-} \ \text{BEN-} \ \text{DAT-} \ \text{read-} \ \text{RE-} \ \text{PST} \)

‘You study for yourself.’  
\( \text{REFL:ABS > IO} \)*\( \text{IO > ABS} \)

**Case 2:** Transitive verbs with applied object: \( \text{ERG} > \text{IO} \) for both reflexives and reciprocals:  

(38) a. \( \text{ABS(S)-} \ \text{IO-} \)  
\( \text{da} - \text{ze} - \text{tje} - \text{k}^\circ \text{owe} - \text{z}^\circ - \text{re -r} \)  
\( \text{what 2PL.ABS-} \ \text{RSN-} \ \text{REC.IO-} \ \text{LOC-} \ \text{yell -RE-PST-ABS} \)

b. *\( \text{da} - \text{ze} - \text{tje} - \text{k}^\circ \text{owe} - \text{z}^\circ - \text{re -r} \)  
\( \text{what REC.ABS-} \ \text{RSN-} \ \text{2PL.IO-} \ \text{LOC-} \ \text{yell -RE-PST-ABS} \)

‘Why are you yelling at each other?’  
\( \text{REFL:ABS > IO} \)*\( \text{IO > ABS} \)

(39) a. \( \text{IO-} \ \text{ERG-} \)  
\( \text{we wane-r} - \text{O-} - \text{za} - f e - p - \text{z}^\circ - \text{z}^\circ - \text{w} \)  
\( \text{you house-ABS 3ABS-} \ \text{REC.IO-} \ \text{BEN-} \ \text{1SG.ERG-} \ \text{do-RE-PST} \)

b. *\( \text{we wane-r} - \text{O-} - \text{p -} - \text{za} - f e - \text{z}^\circ - \text{z}^\circ - \text{w} \)  
\( \text{you house-ABS 3ABS-} \ \text{2SG.IO-} \ \text{BEN-REC.ERG-} \ \text{do-RE-PST} \)

‘You built a house for yourself.’  
\( \text{REFL:ERG > IO} \)*\( \text{IO > ERG} \)
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Stanford University
SMircle, 4 October 2019

Cf. reciprocals show same binding pattern:

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| a. | [TP DP(ABS) ... [v P DP(ERG) ... [ApplP REC(IO) ... REC: ABS > IO     
|   | antecedent |   |
| b. | [TP DP(ABS) ... [v P REC(ERG) ... [ApplP DP(IO) ... REC: *IO > ABS     
| *antecedent |   |

(40) a. IO-   ERG-  
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| te wane-xe-r Ø-  ze- fe- t-  Ž- ơ- ų- 罟
we house-PL-ABS 3ABS- REC.IO- BEN- 1PL.ERG- do -RE -PST

b. *te wane-xe-r Ø- t- fe- ze- Ž- ơ- ų- 罟
we house-PL-ABS 3ABS- 1PL.IO- BEN- REC.ERG- do -RE -PST  

‘We built houses for each other.’  REC:ERG > IO*IO>ERG

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:

• High position of absolutive DP is derived + reflexives can only be bound by a non-derived deep subject
⇒ reflexives cannot be used as evidence against structural syntactic ergativity.
• In contrast, the distribution of reciprocals provides support for a syntactically ergative clause structure – the absolutive DP undergoes A-movement to the surface subject position.
• The apparently contradictory behavior of reflexives and reciprocals is due to differences in licensing conditions:
  – Reciprocals must be bound by a **higher** nominal in the **A-domain (TP).**
  – Reflexives are licensed by V oiceREFL, which limits possible antecedents to the **highest** nominal in the **θ-domain (vP).**

A question not addressed here:
After reflexive binding is established between e.g. ERG and ABS, the bound reflexive pronoun must undergo A-movement to Spec,TP c-commanding the ergative.

Why doesn’t the movement of a reflexive – DP(ABS) – over its antecedent – DP(ERG) – trigger a Condition B/C violation?

(41) **Reflexive: ERG > ABS**

TP

refl(ABS) T’

T

VoiceP

DP(ERG)

VoiceP

<refl(ABS)>

4.3 VoiceREFL in West Circassian

**The analysis:** Reflexive binding is mediated via VoiceREFL, per [Ahn2015], [Bhatia and Poole2016].

**Desiderata:**

1. Local subject orientation.
2. The presence of a syntactically active bound pronoun; cf. analysis of French se as the external argument [Pesetsky1995] or Voice0 [Reinhart and Siloni2005, Labelle2008].
3. Productivity: not limited to particular class of verbs; cf. Russian -sja only with naturally reflexive verbs [Schäfer2008] or French se only with intrinsically transitive verbs [Sportiche2014].
Implementation:

- Movement is triggered by structure-building probe features per Heck and Müller (2007), Müller (2010): •F•.
- Per Georgi and Müller (2010), Müller (2010), Martinović (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.
- Minimal Link Condition / Attract Closest (Chomsky 1995): A probe with feature •F• must agree with the highest goal in its c-command domain with feature F/+F+.
- Two types of goal features:
  (i) Standard goal: F
  (ii) Licensee: +F+
- All probe (+F+) and licensee (+F+) features must be checked via Merge/Move.

The two components of reflexive syntax:

(42) \(\text{Voice}_{\text{REFL}}: \quad [•D• ≫ •REFL•]\)
(43) Syntactically active reflexive pronoun: \([D; +REFL+]\)

Deriving local subject orientation: only the highest DP in vP can be an antecedent per standard locality constraints:

(44)

⇒ 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\(_{\text{REFL}}\) remains unchecked.

(45) * \[
\begin{array}{c}
\text{VoiceP} \\
\text{DP} \\
\text{vP} \\
\text{vP}
\end{array}
\]

⇒ a reflexive pronoun without Voice\(_{\text{REFL}}\) is ungrammatical:

(46) * \[
\begin{array}{c}
\text{TP} \\
\text{vP} \\
\text{vP}
\end{array}
\]
Sample derivations:

(47) Three-place predicate (ERG-IO-ABS): \[ \text{ERG} > \text{ABS}; \ast \text{IO} > \text{ABS} \]

Building on McGinnis (2000, 2001): absolutive theme may raise to Spec,ApplP.

ApplP: \([\ast \text{D} \rightarrow \ast \text{D}^*] \) – selects for a DP and (optionally) attracts another DP to its specifier.

(49) Unaccusative with applied object: \[ \text{ABS} > \text{IO} \]

**Note that for a three-place predicate (ERG-IO-ABS), even if the theme moves to Spec,ApplP, it still cannot bind a reflexive due to intervening DP(ERG):

(50) DP(ABS) in Spec,ApplP cannot raise to Spec,VoiceP:
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(51) Unergative w/applied object: ABS(S) Æ IO:

```
(52) a. ˚z-e-s-e-λe^n-ø'-ż-ø
    good  REFL.ABS-1SG.ERG-PRS-see -RE
    'I love (lit. see good in) myself.' [Baseline: ERG Æ ABS]

b. ˚z-a-s-e-b-e-łe^n-ø-h
    good  REFL.ABS-1SG.IO-DAT-2SG.ERG-CAUS-see -PST
    'You, made me, love myself, yourself.' CAUS: ERG Æ ABS | IO Æ ABS
```

4.4 Further prediction: antecedents in synthetic causatives

**Prediction:** In a synthetic causative construction, which involves recursive embedding of vP’s, both the causer and causee can be an antecedent, depending on which vP is selected by VoiceREFL.

```
[ VP1 DP-Causer(ERG) ... [ VP2 DP-Causee( IO) ... VP REFL(ABS) ... ✓ antecedent ✓ antecedent]
```

(53) Causative: ERG(CAUSER) Æ ABS – VoiceREFL selects for vP1

Summary:

- Reflexives differ in distribution from reciprocals in two cases:
  1. Reciprocals may be bound by a higher non-subject DP, reflexives may not.
  2. The highest DP in vP (≈ deep subject) does not coincide with the surface subject in Spec,TP – in this case, reflexives are bound by the deep subject, while reciprocals are bound by the surface subject.
- The distribution of reflexives is conditioned by VoiceREFL, which merges immediately above vP, reducing possible antecedents to the highest DP in vP.
- Locality conditions on VoiceREFL predict that reflexives must be bound by the highest nominal in vP, but that nominal need not be a surface subject.

8 Reflexive marker surfaces as ˚z- due to regular phonological rule; see Appendix C for details.
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(54) Causative: IO(causee) > ABS – VoiceREFL selects for vP2

\[
\begin{align*}
\text{DP}_{[0]}(\text{erg}) & \rightarrow \text{vP} \\
\text{DP}_{[0]}(\text{io}) & \rightarrow \text{vP} \\
\langle \text{DP}_{[0]}(\text{io}) \rangle & \rightarrow \text{vP} \\
\end{align*}
\]

5 Conclusion

Returning to the broad question: What are subjects syntactically?

- Subjecthood properties can be dispersed over multiple positions (Harley 1995; Bobaljik and Jonas 1996; McCloskey 1997).
- In syntactically accusative languages, these positions are generally occupied by the same nominal, which can thus be identified as the ‘subject’.
- In contrast, in a syntactically ergative language these positions are systematically occupied by distinct nominals, rendering conflicting results for subjecthood tests.
- If subjecthood properties do not converge on a single nominal, the notion of ‘subjecthood’ becomes theoretically vacuous.

What does it mean to be a subject in a syntactically ergative language?

- Previous proposals for high absolutive (e.g. Bittner and Hale 1996; Aldridge 2008; Coon et al. 2014) are compatible with A’-movement of the absolutive, meaning that the highest nominal in vP may correspond to the highest A-position in the clause.
- The distribution of anaphors in West Circassian provides evidence for the absolutive DP occupying the highest A-position in the clause, i.e. the ‘surface subject’ position.

What is the role of subjecthood in anaphor binding?

- As a syntactically ergative language, West Circassian presents novel evidence that ‘local subject orientation’ of reflexives is due to constraints on locality of movement.
- Subjecthood thus does not play a role in defining conditions on anaphor binding.

Broader implications:

For West Circassian:

The language is structurally syntactically ergative, with the absolutive DP undergoing A-movement to a position c-commanding other arguments.

For typology and methodology:

Languages may display mixed subjecthood properties due to these properties being dispersed across several positions and the possibility of distinct nominals occupying these positions.

Summary:

- Reflexives are licensed by VoiceREFL, which selects for vP and attracts the highest DP within vP and the reflexive to its specifier.
- This analysis reduces local subject orientation to locality constraints on movement.
- As a language where the ‘surface subject’ in Spec,TP need not match the ‘deep subject’ in vP, West Circassian presents novel evidence that subjecthood does not play a role in anaphor binding.
⇒ An established diagnostic cannot be blindly applied to a language without attention to other aspects of that language.

For theory:

- A-movement of the absolutive to Spec,TP has implications for locality, intervention and features that drive A-movement – DP(ERG) and DP(IO) must be inactive when T0 probes.
- In West Circassian, a reflexive pronoun can raise to c-command its antecedent without triggering a Condition B/C violation ⇒ implications for understanding of binding conditions.

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Appendices

A  Deriving syntactic ergativity via nominal licensing

See Ershova (2019) for details.

A.1  Theoretical assumptions

Merge and Agree triggered by probe features (following [Heck and Müller 2007][Müller 2010]).

(55)  Probe features:
   a.  Structure-building: •F•
   b.  Agree: +F+ and +F•;V•

Following work in Minimalist Grammars [Stabler 1997][2010][Keenan and Stabler 2003][Lecomte and Retore 1999][2001], two types of goal features:

(56)  Goal features:
   a.  Non-licensee: F; F:V
   b.  Licensee: +F+

Features are hierarchically ordered (Georgi and Muller 2010)[Muller 2010][Martinovic 2015].:

(57)  a.  [•F• ≫ •G• ≫ •H•]
    b.  [•F•]

Definitions for Agree, Merge, and Move (Internal Merge):

(58)  AGREE
   For any two syntactic objects α and β, such that:
   a.  the head of α bears the visible Agree feature +F+, and the label of β includes the matching goal feature F or licensee feature +F+, and there is no γ bearing F or +F+ such that it c-commands β and is c-commanded by α, α agrees with β, resulting in the checking and deletion of the Agree feature on α, and, if present, the license feature +F+ on β; or
   b.  the head of α bears the visible Agree feature +F•;V•, and the label of β includes the matching goal feature F•;V• such that x⊂Y, and there is no γ bearing F•;V• such that it c-commands β and is c-commanded by α and x⊂W, α agrees with β, resulting in the checking and valuation of the Agree feature on α as F•;Z, where Z = V ∪ Y.

(59)  MERGE
   For any two syntactic objects α and β, such that the head of α is the feature set F which includes the visible structure-building feature •F•, and the label of β is the feature set G which includes the matching goal feature F or licensee feature +F+:
   Merge(α, β) = {α′, {α′′, β′ }},
   a.  where α′ = α with all the probe features of α (if any) removed (i.e. probe features don’t project),
   b.  and α′′ = α, except the head of α′′ is G − •F• (i.e. •F• is checked and deleted on the head),
   c.  and β′ = β except the label of β′ is G − +F+ if G has +F+.
(60) **MOVE**

\[ \text{Move}(\alpha, \beta) = \text{Merge}(\alpha, \beta) \]

where \( \alpha \) c-commands \( \beta \) and there is no \( \gamma \) bearing F or +F such that it c-commands \( \beta \) and is c-commanded by \( \alpha \).

Features are checked in their hierarchical order and must be visible to trigger Agree or Merge:

(61) **Feature Visibility Condition** (Martinović 2015:67):

A feature F on a head X is visible if F is the highest feature in the hierarchy.

### A.2 Implementation: syntactic ergativity as licensing

- Nominals must be syntactically licensed in the course of the derivation \( \Rightarrow \) DPs carry the licensee feature +K+ (analogous to -k or \( \overline{k} \) in Minimalist Grammars, Lecomte and Retore [1999], Keenan and Stabler [2003], Stabler and Keenan [2003]).

(62) All DPs (additional features may be present):

a. Category: D
b. Licensee: +K+


(63) a. Transitive \( v^0(\nu_{TR}) \): \( [+K+ \gg \bullet K\bullet] \)

Agrees with the theme in VP and merges and licenses the ergative agent.

b. \( \text{Appl}^0 \): \( \bullet K\bullet \)

Merges and licenses an applied object.

c. \( T^0 \): \( \bullet K\bullet \)

Licenses a moved argument – the absolutive DP.

(64) a. Unergative \( v^0(\nu_{UNERG})\): \( \bullet D\bullet \)

Merges an external argument, but does not license it.

b. Unaccusative \( v^0(\nu_{UNACC})\): \( \emptyset \)

Does not select for an external argument.

---

**Sample derivation: three-place transitive verb**

(65) \[ \text{te(ERG) pro(IO) ma txαω-r(ABS)} \]

\[ \text{we this book-ABS} \]

\[ \emptyset-\text{qα-w-c-t-\text{-\text{-}2}s-w} \]

\[ 3\text{ABS-DIR-2SG.IO-DAT-1PL.ERG-give-RE-PST} \]

‘We gave this book to you.’

(66) Three-place predicate (ERG-IO-ABS):

a. \( \text{Appl}^0 \) selects for VP and merges DP(IO) in its specifier:

\[ \begin{array}{c}
\text{ApplP} \\
\text{Appl}^0 \\
\text{VP} \\
\text{DP(ABS)} \\
\text{V} \\
\text{ApplP} \\
\text{Appl}^0 \\
\text{VP} \\
\text{DP(ABS)} \\
\text{V} \\
\end{array} \]

b. \( v_{TR} \) selects for ApplP and agrees with DP(ABS):

\[ \begin{array}{c}
\nu_{TR} \\
\text{ApplP} \\
\text{Appl}^0 \\
\text{VP} \\
\text{DP(ABS)} \\
\text{V} \\
\text{ApplP} \\
\text{Appl}^0 \\
\text{VP} \\
\text{DP(ABS)} \\
\text{V} \\
\end{array} \]
c. $v_{TR}$ merges with and licenses DP(ERG):

\[vP \quad \text{DP(ERG)} \quad v' \quad \text{ApplP} \quad \text{Appl'} \quad \text{VP} \quad \text{V} \quad \text{DP(ABS)} \quad \text{V}
\]

\[\text{D} + \kappa+ \quad \text{D} + \kappa+ \quad \text{D} + \kappa+ \]

\[\lambda e_s, \lambda y_c, \lambda e_x. \text{IDENT}(x, y) & P(e) (\text{adapted from Ahn 2015:223})
\]

\[68) \text{Sample derivation: ERG } > \text{ABS}
\]

\[\text{TP} \quad \text{DP(ABS)} \quad \text{T'} \quad \text{vP} \quad \text{DP(ERG)} \quad v' \quad \text{ApplP} \quad \text{Appl'} \quad \text{VP} \quad \text{V} \quad \text{DP(ABS)} \quad \text{V}
\]

\[\lambda e_s, \lambda y_c, \lambda e_x. \text{IDENT}(x, y) & P(e) \quad \lambda e_s. \text{AGENT}(\text{DP(ERG)}, e) & \text{THEME}(\text{DP(ABS)}, e)
\]

\[\lambda e_s, \lambda y_c, \lambda e_x. \text{IDENT}(x, y) & P(e)
\]

\[\text{vP} \quad \text{v'} \quad \text{v} \quad \text{VP} \quad \text{V} \quad \text{DP(ABS)}
\]

\[\text{• The semantics of the reflexive pronoun is the same as a regular pronoun: “an index (...) and a contextually-specified assignment function” (Ahn 2015:227)
\]

\[\text{• IDENT constrains the assignment function to force co-identity between the reflexive and and its antecedent.}
\]
C Allomorphy and morphophonology of reflexive and reciprocal markers

The vowel /z/ in the reflexive marker ze- undergoes the following regular morphophonological alternations:

1. The vowel /z/ is dropped prevocally and immediately preceding a glide (Arkadiev et al. 2009:27-28):

   (69) \( /z/ \rightarrow \emptyset / -\)-consonantal

   (70) a. ze- ze- ʒe -želho \{ze+ʒe+e+ʒe+želho\}
   1SG.ABS-REFL.IO- DAT- call-RE
   ‘I call myself [Zara]’

   b. ze- ʒe- se- thač’e- ʐer \{za+a+fe+s+thač’+e+ʐer\}
   REFL.ABS-3PL.IO- BEN- 1SG.ERG- wash- PST
   ‘I washed myself for them.’

   c. ze- ʒe- se- wač’-želho- \{za+jə+wač’+ə+ʐer\}
   REFL.ABS-3SG.ERG- kill-RE- PST
   ‘S/he killed himself/herself.’

2. The vowel /z/ is optionally dropped if the reflexive morpheme is preceded by an open syllable (e.g. an absolutive agreement prefix) and followed by an applicative prefix. For example, the reflexive morpheme surfaces as ze- in the following example:

   (71) ze- ze- ʒe- gbzho -želho \{za+ʒe+e+g\bzo+ʒelho\}
   1SG.ABS-REFL.IO- BEN- angry-RE
   ‘I am angry at myself.’

   (72) ʒe- ʒe- fe- gbzho- ʐer \{za+ʒe+e+ʒe+ʒelho\}
   2SG.ABS-REFL.ABS- BEN- angry-RE-Q
   ‘Are you angry at yourself?’

3. The vowel /z/ undergoes the following assimilation rule which is triggered by the dynamic prefix e-: /z/ surfaces as /e/ in present tense forms of dynamic verbs, if immediately followed by ergative cross-reference morphology and the dynamic prefix e-:

\[
\begin{align*}
7\text{This rule is mentioned in Rogava and Keraševa (1966:51) for a number of particular prefix combinations (e.g. ze+de ‘WH.IO+LOC’), but appears to be more general than described there.}
\end{align*}
\]