1 Introduction

West Circassian (Adyghe): Northwest Caucasian, polysynthetic, ergative alignment

Polysynthetic = free word order, pro-drop, no free-standing anaphors, limited case system

**Question:** In the absence of standard syntactic cues, how can morphology be used to diagnose syntactic structure?

**Case study:** multiple wh-agreement in relative clauses

Multiple wh-agreement:

- Wh-movement in relative clauses triggers wh-agreement with relativized argument.

1. Declarative clause:
   
   \[
   \text{DP}_1 \ ... \ \phi\text{-Agr} \ ...
   \]

   wh-agreement

2. Relative clause:

   \[
   \text{Op}_1 \ ... \ t_1 \ ... \ \text{WH-Agr} \ ...
   \]

   wh-agreement

- If relativized argument is co-indexed with another participant in the relative clause, the co-indexed participant may optionally trigger wh-agreement, resulting in a *multiple wh-agreement construction*.

   \[
   \text{Op}_1 \ ... \ t_1 \ ... \ \text{WH-Agr} \ [\text{pro}_1 \ ... \ \text{WH-Agr}] \]

   wh-agreement  wh-agreement

**Main claim:**

- Wh-agreement is uniformly triggered by a wh-trace.
- Multiple wh-agreement in West Circassian is the realization of a parasitic gap dependency: the additional wh-agreement is triggered by a parasitic gap.
- The anti-c-command condition on parasitic gaps ([Engdahl 1983]) provides evidence for:
  - Movement of the absolutive DP to c-command other verbal arguments.
  - Optional A-scrambling of the applied object to c-command ergative agent.

**Data** from fieldwork with speakers of the Temirgoy dialect (literary standard) in the Republic of Adygea (Russia), unless otherwise noted.

1This talk is based on data collected in Maykop and the Khatazhukay rural settlement (Republic of Adygea, Russia). The author thanks the speakers of West Circassian for their help, in particular Svetlana K. Alishava, Saida Gisheva, Susana K. Khatkova, and Zarema Meretukova. The author is grateful to Karlos Arregi, Itamar Francez, Yury Lander, Jim McCloskey, Jason Merchant, David Pesetsky, Yakov G. Testelets, and the audiences at Stanford University, kershova@stanford.edu

2Glosses: Absolutive; ADV-advverbal; BHF-Infinitive; CAUSATIVE; CVN-convert; COMITATIVE; DATIVE; DIRECTIVE; ERGATIVE; HABITUAL; INDEFINIT; INSTRUMENTAL; IO-inject object; LIMITATIVE; LOCATIVE; MODAL future; NEGATION; OBLIQUE; PLURAL; POSSSESSION; PP-complement of postposition; PR-possessor; PRD-possitive; PRS-present tense; PST-past; question; RELATIVE; SG-singular.

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2 Basic clause structure

**Roadmap:**

1. Basic clause structure;
2. Background on relative clauses;
3. Multiple wh-agreement as a parasitic gap dependency;
4. The anti-c-command condition and high absolutive;
5. Interactions between non-absolutive DPs and A-scrambling;
6. Conclusion.

- Polysynthesis

(3) \(\text{1SG.ABS-} \ \text{DIR-} \ \text{2SG.IO-} \ \text{BEN-} \ \text{3PL.IO-} \ \text{DATE-} \ \text{3SG.ERG-} \ \text{CAUS-see-} \ \text{PST-} \)

‘He showed me to them for your sake.’ ([Korotkova and Lander 2010] 301)

- Cross-reference morphology strictly ordered per ergative alignment:

(4) a. ABS- APPL- ERG-

\(\text{w-} \ \text{a-} \ \text{de-} \ \text{s-} \ \text{a-} \text{ˇs’ar} \)

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

‘I brought you with them’ ([Rogava and Keraševa 1966] 160)

b. ABS- APPL-

\(\text{wo-} \ \text{q-} \ \text{a-} \ \text{fe-} \ \text{ˇk’u} \text{ˇar} \)

2SG.ABS- DIR- 3PL.IO- BEN- go.PST

‘You went’ ([Rogava and Keraševa 1966] 38)

- Possessee marked with personal marker referring to possessor:

(5) \(\text{1SG.PR-sister-PL-ABS-} \text{ˇs’a-} \text{xe-r} \)

1SG.PR-sister-PL-ABS

‘my sisters’ (inalienable)

(6) \(\text{IPL.PR-POSS-neighbor-PL-OBL-} \text{ˇe-} \text{xe-m} \)

IPL.PR-POSS-neighbor-PL-OBL

‘our neighbors’ (alienable)

- Ergative alignment in case marking:

\(-r\) (absolutive) = subject of intransitive verb, theme of transitive verb

\(-m\) (oblique) = agents of transitive verbs, applied objects, possessors, complements of postpositions

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Finding configurality in polysynthesis: Wh-agreement as a diagnostic for clause structure in West Circassian

Per Lander (2009a,b, 2012); Caponigro and Polinsky (2011)

3 Background on relative clauses

3.1 Basic structure

Per Lander (2009a,b) [2012]; Caponigro and Polinsky (2011)

Relativization is the only type of wh-movement.

(8) General structure of relative clauses (Caponigro and Polinsky[2011]):

\[ [C \{OP_1, C[WH] \text{[TP ... t_i ... ]}] \]

- Ø-agreement referring to the relativized participant replaced by wh-agreement (Caponigro and Polinsky, 2011); see also O’Herin (2002); Baier (2018) on Abaza;

z(Ø-) = ergative agents, applied objects, and possessors

Ø- = absolutive arguments

Ergative agent:

(9) a. ma c'ale-m(ERG) Ø-sØ velosjapad
   this boy-OBL 3SG.PR-brother bicycle
   Ø- Ø- r jå-Ø-Ø-Ø-jØ
   3ABS- 3SG.IO- DAT- 3SG.ERG- give -PST
   ‘This boy gave a bicycle to his brother.’

b. mara c'al-ew [RC Op_t]Ø(ERG) Ø-sØ velosjapad
   here boy-ADV 3SG.PR-brother bicycle
   Ø- Ø- je-Ø-Ø-Ø-jØ
   3ABS- 3SG.IO- DAT- WH.ERG- give -PST -ABS
   ‘Here is the boy that gave a bicycle to his brother.’

Possessor:

(10) mara ŝ'az-ew [RC Op_t]Ø(ERG) Ø-sØ velosjapad
   here woman-ADV WH.PR-POSS-girl good-ADV
   Ø-Ø-sØ(ERG)Ø
   3ABS-DIR-dance-PRS -ABS
   ‘Here is the woman whose daughter dances well.’

Absolutive argument:

(11) a. ha-r Ø-Ø-Ø-Ø-Ø-Ø-ceqa-Ø
   dog-ABS 3SG.PR-POSS-owner 3ABS- 3SG.IO- DAT- bite -PST
   ‘The dog bit its owner.’

b. se saš’eš’one ha-w [RC Op_t]Ø(ABS) Ø-Ø-Ø-Ø-Ø-Ø
   I fear dog-ADV 3SG.PR-POSS-owner
   Ø- Ø- je-Ø-Ø-Ø-Ø-Ø
   WH.ABS- 3SG.IO- DAT- bite --PST -OBL
   ‘I fear the dog that bit its owner.’

- Nominal head (i) appears to the left of relative clause with -ew (ADV) case marking;
(ii) to the right with regular case marking; (iii) is null (in headless relative clauses).
Nominal head to the right of the relative clause:

(12) [RC Op₁ \( tₐ \) (ERG) \( ō-j-a-šhanu^{a} \) ančə \( ō-xe-za-wañ-ire \)]
    3SG-PR-POS-window 3ABS-LOC-WH-ERG-break-PST

\( \text{č'al-} \) mara

boy-ABS here

‘Here is the boy that broke his window.’

Headless relative clause:

(13) [RC Op₁ \( \text{ašlan} \) \( tₐ \) (IO) \( ō-za-fae-zepoñ \) -m]
    3ABS-WH-10-want-HABIT-OBL

\( \text{a-š-xe-r} \) fajep

3SG,PR-brother-PL-ABS don’t want

‘[What Aslan always wants] his brothers don’t want.’

3.2 Multiple wh-agreement

Multiple wh-agreement: if the relativized participant is co-referent with another argument in the clause, that argument may trigger additional wh-agreement.

(14) mara \( \text{č'al-} \) ew [RC Op₁ \( [dp \) pro₁ (PR) \( \) a / za-\( $\) (ERG) \( tₐ \) (IO)]
    here boy-ADV

velosiped 3SG/WH-PR-brother

boy-ADV 3ABS-RELATIVE-10WAT Dat-3SG,ERG-give-PST-ABS

‘Here is the boy to whom his brother gave a bicycle.’

May also appear cross-clausally:

(15) mara \( \text{č'al-} \) ew [RC Op₁ \( tₐ \) (ERG) \( varenje \) \( ō-za-sx-o-re-r \)]
    3ABS-RELATIVE-10WAT Dat-3SG/WH-ERG-eat-PRS-ABS

[CP \( \) pro₁ (ERG) \( s^{a} \) \( ñ-\) a / za- \( mo-\) wax -zea \( \)]

soup-ABS 3ABS-3SG/WH-ERG-NEG-finish-CNV

‘Here is the boy who is eating jam without finishing the soup.’

One of the wh-agreement markers is additional or parasitic, i.e. cannot appear in the absence of the primary wh-marker (Lander 2012:322-327):

4 Multiple wh-agreement is a parasitic gap dependency

Main claim: multiple wh-agreement is the result of a parasitic gap dependency.
- One-to-one mapping between wh-traces and wh-agreement.
- Additional wh-agreement is agreement with a parasitic wh-trace.

(16) * mara \( \text{č'al-} \) ew [RC Op₁ \( \) pro₁ (IO) \( [dp \) t₁ \( za-\) ] (ERG) \( \) WH-PR-brother]
    here boy-ADV

velosiped 3ABS-RELATIVE-10WAT Dat-3SG,ERG-give-PST-ABS

‘Here is the boy to whom his brother gave a bicycle.’

(17) Structure for (14): ergative DP relativized, possessor of IO is parasitic gap

(18) Structure for (15): ergative agent in main clause relativized, PG in adjunct clause
Multiple wh-agreement displays properties typical of parasitic gaps:

1. Additional wh-agreement in multiple wh-agreement is mostly optional.

2. Additional wh-agreement may appear within islands for extraction:

(19) **Non-absolutive DPs**

a. * marα 8*-az-ew [RC Op] [NP t] 3-jα-č’ale ](ERG) dax-ew here woman-ADV WH.PR-POSS-boy good-ADV
wered Ø- q- ə- ʔ’-e-re ] -r
song 3ABS- DIR- 3SG.ERG- say -PRS-ABS

Expected: ‘Here is the woman whose son sings (lit. says songs) well.’

b. [RC Op] [NP pro] /Ø-Ø(PR) Ø / z-jate ](ERG) t(I0)

3SG / WH.PR-father

mašjane Ø- qα- ze- r- jα- to- re ] e’ale-m

3ABS- DIR- WH.I0- DAT- 3SG.ERG- give -PST boy-OBL

sjex’apse

I envy

‘I envy the boy to whom, his father gave a car.’

(20) **Clausal adjuncts:**

a. * xet-a [RC Op] Zarine [ADJUNCT t(I0)]

who- Q Zarine

Ø- z- e- mo- wopč’č’-ew ] ma pšαše-m

3ABS / WH.I0- DAT- NEG- ask -ADV this girl-OBL

qαεjε’e-fαre ] -r

3SG.10(BEN)+3SG.ERG.buy.PST-ABS

lit. ‘Whom did Zarina buy a book for this girl [without asking _]’

b. xet-a [RC Op] Zarine [ADJUNCT pro] /Ø-Ø(I0)

who- Q Zarine

Ø- j / z- e- mo- wopč’č’-ew ] t(I0)

3ABS- 3SG / WH.I0-/ DAT- NEG- ask -ADV

Ø- qα- z- f- jα- 8- e-fαre ] -r

3ABS- DIR- WH.I0- BEN- 3SG.ERG-buy -PST-ABS

‘Whom did Zarina buy a book for _ [without asking _]’

3. Parasitic gaps cannot be embedded in an additional island:

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3See e.g. [Bošković 2015 in press] on islandhood of inherent case-marked phrases.

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In West Circassian:

(22) a. marα bzařfaw-ew [RC Op] [ADJUNCT [COMP pro] /Ø-Ø(I0)] sa- here woman-ADV 1SG.ABS-

Ø / ?z- de- ʔα-ʔ’e ø- -e-ø- m ] sa-ϕα-ϕα-ϕα-

3SG/WH.I0- COM- speak -MOD- OBL 1SG.ABS-attempt-LIM

zα-g’ere t(I0) Ø- qα- z- fa- tje- wa- re ] -r

one-INDEF 3ABS- DIR- WH.I0- BEN-LOC-hit -PST-ABS

‘Here is the woman whom someone called [while I was trying [to talk to her]]’

b. marα 8*-az-ew [RC Op] [ADJUNCT pro] /Ø-Ø(I0)

here woman-ADV sa-

Ø / ?z- de- ʔα-ʔ’e ø- -e-ø- m ] sa-ϕα-ϕα-ϕα-

1SG.ABS- 3SG/WH.I0- COM- speak -ADV 1SG.ABS-LOC-sit-LIM

zα-g’ere t(I0) Ø- qα- z- fa- tje- wa- re ] -r

one-INDEF 3ABS- DIR- WH.I0- BEN-LOC-hit -PST-ABS

‘Here is the woman whom someone called [while I was sitting [talking to her]]’

---

4. Parasitic gaps cannot be licensed by a PP wh-trace [Cinque 1990, Postal 1993]:

(23) a. This is a topic, you should think about t before talking about _PP.

b. * This is a topic about which, you should think t before talking about _PP.

PPs are cross-referenced on the predicate via applicative (LOC) and can be pro:

(24) [CP pšαše-r] [PP Ø-Ø-Ø-I0-Ø-I0] xe-m

girl-ABS 3SG.PR-POSS-neighbor-PL.OBL

a-děž’ ] 3Ø- Ø- ʔ’- e- čoje -fe ] se 3PL.PP-at

3ABS- 3SG.I0- LOC-PRS-sleep-LIM I

pro- (LOC) 1SG.ABS- 3SG.I0- LOC-PRS-play

‘While the girl sleeps at her neighbors’, I play there.’
Relativization of postpositional phrases:

(25) \[PP\ t-j-a^{*}\text{an}\wedge\wedge\text{o}-xe-m\quad a-de' \] \[RC\ Op_i\ t_{\text{LOC}}\]

1SG-PP-poss-neigh-PL-OBL 3PL-PP-at \[\text{PRED}\]

Sa-\[\text{z-}\text{še-}\text{že}-\text{şaše}-\text{r} \] \[\text{CP\ m}\text{pšaše-}\text{r}\]

1SG-ABS\ WH-1O- LOC- play -PRS-ABS \[this\ girl-ABS\]

\[\text{pro}_{i}/\text{*PC(LOC)}\]

\[\text{3ABS- 3SG/WH.1O- LOC- PRS- sleep -LIM}\]

At our neighbors’ is where I play while this girl sleeps there.’

Contrast with a locative DP:

(26) \[RC\ Op_i\ \lambda\text{epq-r}\]

\[\text{tribe-ABS}\]

\[\text{CP\ PG(LOC)}\Ø-\text{3ABS- z- \[\text{WH.1O- LOC- settle -PST-ADV}\]

\[t_{(LOC)}\]

\[\text{3ABS- WH.1O- LOC- reproduce -PST-ABS\ that\ house-small-PL-ABS}\]

\[\text{ar}\]

\[\text{PRED}\]

‘Those small houses are where the tribe multiplied, having settled there.’

(Adyge Mak’, 2017.07.05)

Summary:

• Multiple wh-agreement is the manifestation of a parasitic gap dependency.
• ⇒ Constraints on multiple wh-agreement can be mapped to better-studied constraints on parasitic gap dependencies.

5 The Anti-C-Command Condition and high absolutive

Main claim:
The anti-c-command condition on parasitic gaps (Engdahl 1983) provides evidence for high position of the absolutive DP.

• West Circassian is a high-absolutive language:
  - DP\_ABS 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); Aldridge (2008); Coon et al. (2014); Assman et al. (2015); Yuan (2018)

⇒ an absolutive trace fails to license parasitic gaps within clausemate DPs.

**Previous proposals mainly rely on inaccessibility of ergative for extraction, which may be explained via case discrimination (see e.g. Legate 2012, Deal 2016, 2017).

(27) West Circassian clause structure for three-place predicate:

5.1 The Absolutive Constraint

Multiple wh-agreement construction are subject to the following constraint:

(28) ABSOLUTIVE CONSTRAINT ON MULTIPLE WH-AGREEMENT:
Intra-clausal multiple wh-agreement is ungrammatical if the relativized participant is the absolutive DP (Lander 2009a,b, 2012).

In terms of parasitic gaps:

(29) ABSOLUTIVE CONSTRAINT ON PARASITIC GAPS:
An absolutive trace cannot license a parasitic gap in a clausemate DP.

This is true for all types of argument combinations:

<table>
<thead>
<tr>
<th>Predicate type</th>
<th>Real gap (ABS)</th>
<th>Parasitic gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transitive verb</td>
<td>internal argument</td>
<td>possessor of ergative agent</td>
</tr>
<tr>
<td>Inverse verb</td>
<td>internal argument</td>
<td>possessor of oblique experiencer</td>
</tr>
<tr>
<td>Unergative verb</td>
<td>external argument</td>
<td>possessor of applied object</td>
</tr>
</tbody>
</table>
1. Absolutive internal argument and a possessor of an ergative agent.

(30) \[\text{[RC Op}_i \ t_i(ABS) \ [\text{DP pro}_i /\_**_rc(PR) \ O / \_**z-jane](ERG) \ 3SG/WH.PR-mother} \]
\[\text{Ø-} \ ma- \ ha- \ ˇsxe\-re] \ haˇˇwˇsaˇˇxˇe-m \ sˇa-\ˇgˇw} \]
\[\text{WH.ABS- NEG- CAUS- eat -PRS puppy-PL-OBL 1SG.PR-heart} \]
\[\text{Ø-a-fo-wažo} \]
\[\text{3ABS-3PL.OIO-BEN-ache} \]

‘My heart aches for the puppies whom their mother doesn’t feed.’

2. Absolutive internal argument and a possessor of an oblique applied object.

(31) \[\text{mar} \ pˇsaˇš-ew \ [\text{[RC Op}_i \ t_i(ABS) \ [\text{DP pro}_i /\_**_rc(PR) \ Ø / \_**z-jane](IO) \]
\[\text{here girl-ADV} \]
\[\text{Ø / \_**z-jane}(IO) \ Ø- \ qo- \ Ø- \ fe- s- \ ˇsa- \ -re] -r \]
\[\text{3SG/WH.PR-mother WH.ABS- DIR- 3SG.IO- BEN- 1SG.ERG- bring -PST -ABS} \]

‘Here is the girl whom I brought for her mother.’

3. Absolutive internal argument and a possessor of an oblique experiencer.

(32) \[\text{pˇšˇeˇšˇež-ˇjoj-ew} \ [\text{[RC Op}_i \ t_i(ABS) \ [\text{DP pro}_i /\_**_rc(PR) \ Ø / \_**z-jane](IO) \]
\[\text{girl-ADV} \]
\[\text{Ø-} \ Ø- \ ˇšˇa- \ ˇpˇšˇa- \ -re] -m \ sˇa-\ˇgˇw} \]
\[\text{WH.ABS- 3SG.IO- LOC- forget -PST -OBL 1SG.PR-heart} \]
\[\text{Ø-j-e-\ˇw} \]
\[\text{3ABS-3SG.ERG-PRS-chew} \]

‘I pity the girl whom her mother forgot (lit. she chews my heart).’

4. Absolutive external argument and a possessor of an oblique applied object.

(33) \[\text{se sˇa-Ø-ˇšˇe-ˇšˇe-ˇone} \ ha-w \ [\text{[RC Op}_i \ t_i(ABS) \ [\text{DP pro}_i /\_**_rc(PR) \]
\[\text{I 1SG.ABS-3SG.IO-LOC-fear dog-ADV} \]
\[\text{Ø / \_**z-ja-ˇxˇe-ežjajan](IO) \ Ø- \ je- ceqe- \ˇžˇe- \ -re] -m \]
\[\text{3SG/WH.PR-POSS-owner WH.ABS- 3SG.IO- DAT- bite -RE -PST -OBL} \]

‘I fear the dog that bit its owner.’

**Absolutive extraction does involve wh-movement: absolutive trace can license PGs in cross-clausal contexts.

(34) \[\text{mar} \ pˇsaˇš-ew \ [\text{[RC Op}_i \ t_i(ABS) \ [\text{DP pro}_i /\_**_rc(PR) \ Ø / \_**z-jane](IO) \]
\[\text{here girl-ADV} \]
\[\text{Ø-mˇeˇçe-je-fe} \]
\[\text{3SG/WH.PR-sister 3ABS-PRS-sleep-LIM} \]
\[\text{Ø-re} \ Ø- \ ˇšˇa- \ -re] -r \]
\[\text{doll-OBL WH.ABS- 3SG.IO- 1NS- play -PRS -ABS} \]

‘Here is the girl who plays with the doll while her sister sleeps.’

5.2 The Anti-C-Command Condition

Proposal:
The Absolutive Constraint is due to the anti-c-command condition on parasitic gaps. \[\Rightarrow \text{The absolutive DP c-commands other argument DPs.} \]

(35) ANTI-C-COMMAND CONDITION: “A parasitic gap may not be c-commanded by the real gap.” (Engdahl 1983:22)

(36) Absolutive external argument + possessor within an applied object DP: *PG
(37) Absolutive internal argument + possessor within an ergative DP: $^*$PG

(38) Absolutive internal argument + possessor within an applied object DP: $^*$PG

Conclusion: The absolutive DP c-commands the ergative and applied object DPs. ⇒ West Circassian has a syntactically ergative clause structure.

Prediction: ergative and IO traces can license PG within absolutive DP.

This prediction is confirmed:

(39) Unergative verb with applied object (ABS-IO) $^\checkmark$PG

a. \[ RC \quad Op_i \quad [DP \quad pro_i / _\checkmark PG]_{PR} \quad 3SG \quad WH\.PR\-brother \]
   \[ 0-\quad \varnothing-\quad z-\quad e\-wa-\_re \quad ñ\'ale-m \quad sjew\ñ\j\’a\’tar \]
   3ABS\- DIR\- WH\.IO\- DAT\- hit\-PST \quad boy\-OBL \quad I was consoling
   ‘I was consoling the boy whom his brother hit.’

b. \[ CP \quad Op_i \quad C' \quad C \]
   \[ DP_{ABS} \quad TP \quad T' \quad T \]
   \[ PossP \quad D \quad vP \quad v' \quad v \]
   \[ DP_{ERG} \quad T' \quad T \]
   \[ Poss' \quad <DP_{ABS}> \quad V \]

(40) Transitive verb (ERG-ABS) $^\checkmark$PG

a. mar\ñ \quad ñ\’et\ñ\-ew \quad [RC \quad Op_i \quad [DP \quad pro_i / _\checkmark PG]_{PR} \]
   here \quad cat\-ADV \quad \[ 3SG\\slash WH\.PR\-POSS\-food \quad 3ABS\- WH\.ERG\- NEG\- eat\-PRS\-ABS \]
   ‘Here is the cat whom I don’t eat its food.’
Finding configurationality in polysynthesis: Wh-agreement as a diagnostic for clause structure in West Circassian

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6 Interactions between non-absolutive DPs and A-scrambling

Main claim: The applied object may undergo A-scrambling from Spec,AplP to Spec,vP above ergative agent.

Evidence: Non-absolutive DPs do not display anti-c-command effects.

Local A-scrambling is common cross-linguistically: e.g. in Hindi (Mahajan 1990, 1994; Dayal 1994), Persian (Karimi 2003, 2005), Japanese (Grewendorf and Sabel 1999), Georgian (McGinnis 1999), and Tlingit (Cable 2009).

6.1 Non-absolutive DPs are not subject to the anti-c-command condition

Baseline prediction: If XP c-commands YP, wh-movement of XP should fail to license parasitic gap in YP.

⇒ If DP_{ERG} > DP_{IO}, an ergative trace should fail to license parasitic gaps in DP_{IO}.

This is not borne out.
Applied object trace can license PG in ergative DP:

(43) mar ˇc.’al-ew [RC Opı [DP proı / _PG(PR) ə / zo-ş](ERG)]
    here ˇc.’al-ew boy-ADV 3SG/WH.PR-brother
    t(1O) velosiped 0- 0- je- zo- to -te] -r
    bicycle 3ABS- DIR- WH.IO- DAT- 3SG.ERG- give -PST -ABS

‘Here is the boy to whom his brother gave a bicycle.’

But ergative trace can likewise license PG in applied object DP:

(44) mar ˇc.’al-ew [RC Opı t(Erg) [DP proı / _PG(PR) ə / zo-ş ](IO)
    here boy-ADV 3SG/WH.PR-brother
    velosjoped 0- 0- je- zo- to -te] -r
    bicycle 3ABS- 3SG.IO- DAT- WH.ERG- give -PST -ABS

‘Here is the boy who gave a bicycle to his brother.’

Proposal: the lack of any anti-c-command effect between non-absolutive DPs is a consequence of A-scrambling within vP.

Analysis: v0 may optionally carry an uEPP feature which allows for the applied object to undergo movement to Spec,vP.

Consequence for parasitic gaps: no anti-c-command effects

(45) a. IO trace licenses PG in ergative DP:

Summary: A-scrambling feeds parasitic gap licensing within the applied object DP by an ergative wh-trace.

6.2 Another puzzle explained: no Weak Crossover effects

Main claim: Clausemate DPs fail to display Weak Crossover effects due to A-scrambling.

Engdahl (1983): potential Weak Crossover configurations give rise to obligatory PGs

(46) a. Which student did [your attempt to talk to /*him] scare to death? (Engdahl 1983:16)

b. [CP which student ... [TP [DP ... /*him] ... scare tı ... ]]

The same pattern holds in West Circassian: wh-movement out of an embedded CP licenses an obligatory parasitic gap in the matrix clause
A-scrambling analysis correctly predicts lack of Weak Crossover effects between DP\textsubscript{IO} and DP\textsubscript{ERG}, i.e. optionality of parasitic gap:

\begin{align*}
\text{(47) a. } & \text{mar\v{c}a p\v{s}\v{s}a\v{s}-ew} \quad [\text{RC Op}_1] \quad [\text{CP c\v{e}lejera\v{z}-r}] \quad t(10) \\
& \text{here girl-ADV} \quad \text{teacher-ABS} \\
& \text{Ø- q\v{c}- z- e- çece -n -ew ]} \\
& 3\text{ABS-} \text{DIR- WH.IO- DAT- scold -MOD -ADV} \\
& [\text{dp \_pg / */pro}_1 z / */\text{Ø-jane}(\text{ABS})] \quad \text{Ø-fe-ma-je} -r \\
& \text{WH/3SG.PR-mother} \\
& 3\text{ABS-BEN-NEG-want-ABS} \\
& \text{‘Here is the girl whom her, mother doesn’t want [the teacher to scold _]’} \\
\text{b. } & \text{mar\v{c}a p\v{s}\v{s}a\v{s}-ew} \quad [\text{RC Op}_1] \quad [\text{CP t}_1(\text{ERG}) \quad z\v{c}- z- \text{he-} \\
& \text{here girl-ADV} \quad \text{REFL-ABS- WH.IERG- CAUS-} \\
& \text{psk\v{s}- -n -ew }] \quad [\text{dp \_pg / */pro}_1 z / */\text{Ø-jane}(\text{ERG})] \\
& \text{bathe -MOD -ADV} \quad \text{WH/3SG.PR-mother} \\
& \text{Ø-q\v{c}-s\v{t}-r\v{o}-r\v{e}-p\v{t}a\v{h}-a-rie] -r} \\
& 3\text{ABS-DIR-1SG.IO-LOC-3SG.ERG-CAUS-enforce-PST-ABS} \\
& \text{‘Here is the girl who, her, mother told me [should bathe].’} \\
\text{c. } & [\text{RC Op}_1] \quad [\text{dp \_pg / */pro}_1 \ldots ] \ldots [\text{CP \ldots t}(10) \ldots ] \\
\end{align*}

A-scrambling analysis correctly predicts lack of Weak Crossover effects between DP\textsubscript{IO} and DP\textsubscript{ERG}, i.e. optionality of parasitic gap:

\begin{align*}
\text{(48) a. } & \text{mar\v{c}a c\v{a}l-ew} \quad [\text{RC Op}_1] \quad [\text{DP pro}_1 / _{PG}(\text{PR})] \quad \text{a / z\v{o}-\$}[\text{ERG}] \\
& \text{here boy-ADV} \quad 3\text{SG/WH.PR-brother} \\
& t(10) \text{ velosiped Ø- q\v{c}- ze- r- j\v{o}- to -re] -r} \\
& \text{bicycle 3\text{ABS-} \text{DIR- WH.IO- DAT- 3SG.ERG- give -PST-ABS} \\
& \text{‘Here is the boy, to whom his brother gave a bicycle.’} \\
\text{b. } & \text{Hypothesized structure without scrambling:} \\
& (*) [\text{CP Op}_1 \ldots [\text{DP\_erg / pro}_1 \ldots ] \ldots t(10) \ldots ] \\
\text{c. } & \text{Actual structure – no Weak Crossover configuration:} \\
& [\text{RC Op}_1 [\text{dp t}(10) \ldots [\text{CP\_erg / pro}_1 \ldots ] \ldots ]]
\end{align*}

\textbf{Summary:} A-scrambling of DP\textsubscript{IO} to Spec,\v{e}P accounts for the absence of both anti-c-command and Weak Crossover violations between non-absolute DPs.

\section{Conclusion}

\textbf{Main contributions:}

\begin{itemize}
\item Novel analysis of multiple wh-agreement constructions as the manifestation of a parasitic gap dependency\footnote{See Appendix \ref{app:alternative} for arguments against an alternative.}.
\item Presents a typologically unusual pattern in a theoretically familiar light.
\item Provides a fruitful diagnostic for clause structure in a polysynthetic language.
\item The anti-c-command condition on parasitic gaps provides evidence for:
\begin{itemize}
\item a high absolutive structure, i.e. the absolutive DP c-commanding other verbal arguments;
\item A-scrambling of the applied object to c-command the ergative agent.
\end{itemize}
\end{itemize}

\textbf{Future directions:}

\begin{itemize}
\item Relationship between anti-c-command effects and Condition C in embedded clauses.
\item Correlations between scrambling and surface word order.
\end{itemize}

\section*{References}

Bošković, Željko, in press. On extraction out of inherently case-marked elements. \textit{Proceedings of FASTL 25}.
Appendices

A Deriving syntactic ergativity via nominal licensing

See Ershova (2019b) for details.

A.1 Theoretical assumptions

Merge and Agree triggered by probe features (following Heck and Müller 2007; Müller 2010):

(49) 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 definitions for Agree, Merge, and Move (Internal Merge):

**Goal features:**
- b. Licensee: +F+

Features are hierarchically ordered (Georgi and Muller 2010; Muller 2010; Martinovic 2015):

\[(G \leq \ast \ast \ast \heartsuit \ast) & \leq \ast \ast \ast \ast \heartsuit \ast ]\]

\[
\begin{align*}
\ast \ast \ast \ast \heartsuit \ast & \leq \ast \ast \ast \heartsuit \ast \\
\ast \ast \ast \heartsuit \ast & \leq \ast \heartsuit \ast \\
\ast \heartsuit \ast & \leq \heartsuit \ast \\
\heartsuit \ast & \leq \ast
\end{align*}
\]

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

**A**

For any two syntactic objects \(\alpha\) and \(\beta\), such that:

a. the head of \(\alpha\) bears the visible Agree feature \(+F+\), and the label of \(\beta\) includes the matching goal feature \(F\) or licensee feature \(+F+\), and there is no \(\gamma\) bearing \(F\) or \(+F+\) such that it \(c\)-commands \(\beta\) and \(c\)-commanded by \(\alpha\), \(\alpha\) agrees with \(\beta\), resulting in the checking and deletion of the Agree feature on \(\alpha\), and, if present, the licensee feature +F+ on \(\beta\); or

b. the head of \(\alpha\) bears the visible Agree feature \(+F+;V+\), and the label of \(\beta\) includes the matching goal feature \(F;Y\) such that \(x \subset Y\), and there is no \(\gamma\) bearing \(F;W\) such that it \(c\)-commands \(\beta\) and \(\beta\) is \(c\)-commanded by \(\alpha\) and \(x \subset W\).

\(\alpha\) agrees with \(\beta\), resulting in the checking and valuation of the Agree feature on \(\alpha\) as \(F;Z\), where \(Z = V \cup Y\).

**M**

For any two syntactic objects \(\alpha\) and \(\beta\), such that the head of \(\alpha\) is the feature set \(F\) which includes the visible structure-building feature \(\ast \heartsuit \ast\), and the label of \(\beta\) is the feature set \(G\) which includes the matching goal feature \(F\) or licensee feature \(+F+\):

\(\text{Merge}(\alpha, \beta) = \{\alpha', \{\alpha''; \beta\}\}\),

a. where \(\alpha' = \alpha\) with all the probe features of \(\alpha\) (if any) removed (i.e. probe features don’t project),

b. and \(\alpha'' = \alpha\), except the head of \(\alpha''\) is \(G - \ast \heartsuit \ast\) (i.e. \(\ast \heartsuit \ast\) is checked and deleted on the head),

c. and \(\beta' = \beta\) except the label of \(\beta'\) is \(G + F+\) if \(G\) has \(+F+\).

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

**Feature Visibility Condition (Martinovic 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 \(\bar{k}\) in Minimalist Grammars, Lecomte and Retore 1999; Keenan and Stabler 2003; Stabler and Keenan 2003).

- Ergative agents and applied objects are licensed in-situ; cf. inherent case accounts (Woolford 2006; Legate 2008; Pylkkänen 2008).

- Licensed nominals are rendered inactive for further licensing-related operations; cf. McGinnis’s (1998) inert case, Legate’s (2008) discussion of eligibility for absolutive case assignment to a theme over an ergative external argument, and Kalin and van Urk (2015) for a similar idea regarding \(\phi\)-agreement.

- Transitive \(v^0(v_{VP}): \ast \ast \ast \ast \heartsuit \ast\]

\(\text{Agrees with the theme in VP and merges and licenses the ergative agent}\)

- Appliance \(v^0\): \(\ast \heartsuit \ast\]

\(\text{Merges and licenses an applied object.}\)

- \(T^0\): \(\ast \heartsuit \ast\]

\(\text{Licenses a moved argument – the absolutive DP.}\)

5\(\text{See Deal (2019) for similar analysis of ergative case, wherein ergative case is contingent on} v^0\text{agreeing with the absolutive theme.}\)
Sample derivation: three-place transitive verb

(59) te(ERG) pro(IO) mə təxəλə-t(ABS)
we this book-ABS
Ø-qə-w-e-t-tə-ʔə-ʔi
3ABS-DIR-2SG.IO-DAT-1PL.ERG-give-RE-PST
‘We gave this book to you.’

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

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

\[
\begin{align*}
\text{ApplP} \\
\text{Drug} \\
\text{VP} \\
\text{DP(ABS)} \\
\text{V}
\end{align*}
\]

d. T\textsuperscript{0} selects for vP; DP(ABS) moves to be licensed in its specifier:

\[
\begin{align*}
\text{TP} \\
\text{vP} \\
\text{DP(ABS)} \\
\text{D} \\
\text{+K+}
\end{align*}
\]
B Against an alternative account: Multiple wh-agreement is not pronominal binding

Caponigro and Polinsky (2011):

- Multiple wh-agreement is the result of $\phi$-feature transmission via Agree between operator and bound pronoun.
- Absolutive Constraint is evidence for syntactic accusativity: absolutive DP does not c-command possessor of ergative DP
  \[ \Rightarrow \text{relativization of ABS + binding/Agree with possessor of ERG renders Weak Crossover violation.} \]

\[ \text{(61) Multiple wh-agreement as Agree via binding:} \]

\[ \text{a.} \quad [\text{RC Op}_i \quad t_i(ABS) \quad [\text{DP} \text{pro}_i \quad \text{IO}] \quad [\Phi : \text{WH}]] \]

\[ \text{b.} \quad [\text{RC Op}_i \quad t_i(ABS) \quad [\text{DP} \text{pro}_i \quad \text{IO}] \quad [\Phi : \text{WH}]] \]

\[ \text{\text{wh-movement}} \]

\[ \text{binding+Agree} \]

\[ \text{\text{COUNTERARGUMENTS:}} \]

- Doesn’t account for optionality of multiple wh-agreement (61a).
- Weak Crossover is not ungrammatical with regular pronominal agreement (62a).
- Cannot be extended to Absolutive Constraint with absolutive subject (33).
- Falsely predicts ungrammaticality of cross-clausal wh-agreement in potential WCO configurations (47).