

Diagnosing Clause Structure in a Polysynthetic Language

Wh-Agreement and Parasitic Gaps in West Circassian

Ksenia Ershova (kershova@uchicago.edu)

5 October 2018 (manuscript)

Abstract. This paper identifies and tests a novel diagnostic for clause structure in West Circassian, a polysynthetic language with ergative alignment. The diagnostic concerns an unusual construction involving multiple wh-agreement in relative clauses. I argue that wh-agreement morphology uniformly tracks agreement with a wh-trace, and sentences with more than one instance of wh-agreement are surface manifestations of a parasitic gap dependency. Once multiple wh-agreement is understood in this theoretically familiar light, it can be used as a powerful tool for diagnosing asymmetries between various constituents in the West Circassian clause. By appealing to well-known constraints on parasitic gap licensing, the paper demonstrates that the absolutive DP raises to a position c-commanding other clausemate DPs, and applied objects may undergo optional scrambling to a position above the ergative agent.

Keywords: wh-agreement, parasitic gaps, syntactic ergativity, West Circassian

1 Introduction

Polysynthetic languages pose a unique challenge for syntactic analysis in that they often lack the usual structural cues such as word order restrictions, nominal case and free-standing anaphors, but often display non-trivial morphological cues, which, if understood correctly, can be used as a productive tool for diagnosing syntactic operations. This paper presents such a case study: West Circassian is generally classified as polysynthetic, with verbs hosting prefixes corresponding to all the participants of a predication, possessor marking on the possessum, prominent pro-drop, and a system of two morphological case markers which are omitted in certain environments. Relativization, which is the only type

of wh-movement in the language, manifests itself first and foremost in the morphological make-up of the predicate or nominal carrying cross-reference morphology relating to the relativized participant, with a special wh-agreement marker appearing in place of ϕ -agreement with that participant. A peculiar property of constructions involving relativization in West Circassian is that they may contain more than one reflex of wh-agreement if the relativized participant is co-referent to another argument in the relative clause, rendering what will be labeled throughout the paper as a *multiple wh-agreement* configuration.

This paper argues that multiple wh-agreement is best analyzed as the morphological reflex of a parasitic gap dependency, with one of the wh-markers expressing agreement with a parasitic wh-trace. This analysis is supported by the fact that West Circassian multiple wh-agreement constructions share all the core properties of parasitic gap structures: (i) one of the wh-markers is dependent on the other and cannot appear in its absence; (ii) the additional wh-marker shows selective island sensitivity; (iii) the additional wh-marker cannot refer to a PP-trace; (iv) the additional wh-marker often alternates with a regular third person pronoun. Once multiple wh-agreement constructions are understood as a parasitic gap dependency, they can be used as a productive diagnostic for clause structure. In particular, restrictions on multiple wh-agreement provide evidence for the absolutive DP occupying a position c-commanding all other verbal participants, including the ergative agent. Furthermore, possible patterns of multiple wh-agreement, as well as the optionality of multiple

This paper 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. Alishaeva, Saida Gisheva, Susana K. Khatkova, and Zarema Meretukova. The author is grateful to Karlos Arregi, Yury Lander, Jim McCloskey, Jason Merchant, David Pesetsky, and the audiences at the Morphology & Syntax Workshop at UChicago and NELS 48 for feedback and helpful discussion. This work was funded by the Graduate Research Aid Initiative in Linguistics from the University of Chicago, the Dissertation Research Grant from the Association for Slavic, East European, and Eurasian Studies, and the NSF Doctoral Dissertation Research Improvement Grant #1749299. All mistakes and shortcomings are solely mine.

wh-agreement in certain configurations, allows us to diagnose optional A-scrambling of the applied object to Spec,*v*P – a position c-commanding the ergative external argument.

The proposed analysis explains in a familiar light a construction that otherwise appears to be very unusual and typologically exceedingly rare, with similar patterns documented only for other languages within the Northwest Caucasian family, Abo (Bantu) and Ibibio (Niger-Congo) (see Lander 2009a; Baier and Yuan 2018 and references therein). This analysis also makes an important contribution to the debate regarding the existence of syntactically ergative languages by using a previously untested structural diagnostic for c-command relations between the ergative and absolutive participants. Finally, this paper presents a novel way of using parasitic gaps as a diagnostic for the A- versus \bar{A} -nature of scrambling: while the ability to license parasitic gaps is taken as a diagnostic for \bar{A} -scrambling, the ability of parasitic gaps to appear productively within DPs makes non-trivial predictions for the interaction of A-scrambling and parasitic gap licensing within a scrambled DP.

The remainder of the paper is structured as follows: section 2 provides the necessary background on general clause structure and relative clause formation in West Circassian; section 3 outlines the evidence for a parasitic gap analysis of multiple wh-agreement constructions; section 4 argues for the high position of the absolutive DP based on restrictions on parasitic gaps and the anti-c-command condition; section 5 applies the parasitic gap analysis to diagnose A-scrambling of the applied object, and section 6 concludes.

2 Background on West Circassian

This section contains a short introduction to West Circassian clause structure and mechanisms of relativization.

2.1 General clause structure

This subsection provides a brief overview of the general morphological and syntactic properties of the West Circassian clause that are necessary for the understanding of relative clause formation.

West Circassian is generally characterized as a polysynthetic language, with prevalent head marking in both the verbal and nominal domains (see Kumakhov 1964; Kumakhov and Vamling 2009; Testelelets 2009a; Korotkova and Lander 2010; Lander and Letuchiy 2010; Lander 2017; Lander and Testelelets 2017, *inter alia*). Thus, a verbal form includes cross-reference morphology referring to all participants of the event it denotes; for example, the predicate in (1) includes prefixes cross-referencing four participants, from left to right: an absolutive theme, a benefactive applied object, a dative applied object denoting the causee of a transitive base verb, and an ergative agent denoting the causer that is introduced by the causative morpheme *ʁe-*. The markers referring to the applied objects appear alongside applicative prefixes marking the semantic role of the corresponding applied object. The applicative markers may vary based on the theta-role of the applied object (e.g. benefactive *fe-*, comitative *de-*, locative *šʹə-*, etc.).

- (1) sə- qə- p- f- a- r- jə- ʁe- λeβ^wə -β
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)

Cross-reference prefixes are strictly ordered in accordance with an ergative alignment system: the personal marker referring to the theme of a transitive verb and the sole argument of an intransitive verb appears in the leftmost position, which is then followed by any cross-reference morphology referring to applied objects, and the marker cross-referencing the ergative agent appears closest to the verbal root. This ordering can be seen most clearly in the presence of the directive prefix *qə-/qe-*, which in these examples is used to mark the

lowed by the possessive marker *jə*.² An example of an inalienably possessed noun is in (3) and of a noun marked with the alienable possessive marker *jə* is in (4).

- | | |
|---|---|
| <p>(3) s-šəpχ^wə-xe-r
 1SG.PR-sister-PL-ABS
 ‘my sisters’</p> | <p>(4) t-jə-β^wəneβ^wə-xe-m
 1PL.PR-POSS-neighbor-PL-OBL
 ‘our neighbors’</p> |
|---|---|

West Circassian displays ergative alignment in the domain of case marking as well: the theme of a transitive verb and the single argument of an intransitive verb are marked with the absolutive suffix *-r*, while the ergative agent, as well as any applied objects receive the oblique marker *-m*. Thus, the subject of the intransitive verb *qeše* ‘dance’ (5a) and the theme of the transitive verb *že* ‘plow’ (5b) are both assigned absolutive case *-r*, while the ergative agent of the latter verb carries the oblique case marker *-m*. Additionally, any indirect objects are assigned oblique case as well, such as the comitative applied object *š^wəzə* ‘woman’ in (5c). The oblique case suffix *-m* is also used to mark possessors (6a) and complements of postpositions (6b).

- (5) a. **č’ale-r** **Ø-q-e-še**
 boy-ABS 3ABS-DIR-PRS-dance
 ‘The boy is dancing.’
- b. **ž^waχ^we-m** **q^wəbβ^we-r** **Ø-ə-ž^wa-β**
 plowman-OBL field-ABS 3ABS-3SG.ERG-plow-PST
 ‘The plowman plowed the field.’
- c. **λə-r** **š^wəzə-m** **Ø-[Ø-d]-e?epə?e**
 man-ABS woman-OBL 3SG.ABS-[3SG.IO-COM]-help.PRS
 ‘The husband is helping the wife.’ (Arkadiev et al. 2009:53)

²See Gorbunova (2009) on alienable vs. inalienable possession in West Circassian.

- (6) a. p̄saše-**m** Ø-jə-p̄sešer^w
 girl-**OBL** 3SG.PR-POSS-female.friend
 ‘the girl’s friend’
- b. mə š^wəzə-**m** paje
 this woman-**OBL** for
 ‘for this woman’

Caponigro and Polinsky (2011) differentiate between the use of the oblique case marker *-m* on ergative DPs and its other uses; Rogava and Keraševa (1966); Arkadiev et al. (2009); Arkadiev and Letuchiy (2011); Lander (2012); Letuchiy (2015); Lander and Testelelets (2017), *inter alia*, provide a uniform treatment for all instances of this marker. In this paper I follow recent work on West Circassian in glossing both case markers as oblique, but follow Caponigro and Polinsky (2011) in assuming that the source of the case differs for the various types of arguments. In cases of potential ambiguity, the examples are labeled accordingly.

Nouns may appear without overt case marking; the lack of case marking is generally associated with indefiniteness. Additionally, possessed nominals in the singular, proper names and personal pronouns generally do not inflect for case (Arkadiev et al. 2009:51-52; Arkadiev and Testelelets 2015). While the order of arguments in a full clause is free, the language is prevalently left-branching: case markers are suffixal; the language has postpositions rather than prepositions; embedded clauses tend to be verb-final, and relative clauses appear to the left of their nominal external head.

Case is assigned in the following way: following Caponigro and Polinsky’s (2011) adaptation of Legate (2008) and Pylkkänen (2008) to West Circassian, Appl⁰ and *v*⁰ assign inherent case to their specifiers – oblique in the former case and ergative in the latter case. Both are spelled out via the same exponent *-m*, which is uniformly glossed as ‘OBL’. Counter to Caponigro and Polinsky (2011), who assume that absolutive case has two dis-

tinct structural sources based on syntactic role: T^0 for intransitive subjects and v^0 for direct objects, I propose here that absolutive case is uniformly assigned by T^0 . I will proceed to argue in this paper that absolutive case assignment drives movement of the absolutive DP to Spec,TP – a position c-commanding both the ergative agent and any applied objects.

2.2 Relative clauses

This subsection outlines the general structure of relative clauses. The morphosyntactic properties of relative clauses in West Circassian, including patterns of multiple wh-agreement, have been documented in detail by Lander (2009a,b, 2012) and analyzed in Minimalist terms by Caponigro and Polinsky (2011); this subsection relies heavily on generalizations made in these papers. Following Caponigro and Polinsky (2011), I will argue that relativization in West Circassian involves the movement of a relative operator to Spec,CP. In externally headed relative clauses, the operator is phonologically null, in relative clauses that have been labeled in the literature as internally headed (Lander 2009a, 2012) the relative operator is spelled out as the internal head.

Relativization of non-absolutive participants in West Circassian involves the use of a special relativizing morpheme $z\partial^3$ in place of the regular cross-reference morphology referring to the relativized participant (Lander 2009a, 2012; Caponigro and Polinsky 2011). This is illustrated in (7): in (7a) the ergative agent triggers third person ergative personal marking (∂ -) on the predicate heading the clause; if that participant is relativized, as in (7b), the corresponding cross-reference morphology is replaced with the prefix $z\partial$. Note that the noun phrase corresponding to the relativized participant surfaces with adverbial marking at the left edge of the relative clause – I will assume that this is in fact the overt spellout of the relative operator.

³In accordance with regular morphophonological rules (Arkadiev et al. 2009:27-29), the prefix $z\partial$ surfaces as z - prevocally or before the glide /j/; additionally, the allomorph ze - is used to mark a dative applied object.

- (7) a. **mə ɟ'ale-m_i(ERG)** ə-š velosjoped
this boy-OBL 3SG.PR-brother bicycle
 Ø- Ø- r- **jə-** tə -ɸ
 3ABS- 3SG.IO- DAT- **3SG.ERG-** give -PST
 'This boy gave a bicycle to his brother.'
- b. marə [**ɟ'al-ew_i** t_i(ERG) ə-š velosjoped
 here **boy-ADV** 3SG.PR-brother bicycle
 Ø- Ø- je- **zə-** tə -ɸe] -r
 3ABS- 3SG.IO- DAT- **WH.ERG-** give -PST -ABS
 'Here is the boy that gave a bicycle to his brother.'

The same pattern arises if an applied object is relativized. Thus, the applied object in (8a) triggers third person singular cross-reference marking that appears adjacent to the benefactive applicative prefix. If this participant is relativized, the corresponding personal marker is replaced with *zə-* (8b).

- (8) a. **mə ɟ'ele-çək^wə-m** Ø-jane Ø- Ø- fe- g^wəbž -zepət
 this boy-small-OBL 3SG.PR-mother 3ABS- **3SG.IO-** BEN- angry -always
 'His mother is always angry at this boy.'
- b. marə [**ɟ'ele-çək^w-ew_i** t_i(IO) Ø-jane Ø- **zə-** fe- g^wəbž
 this **boy-small-ADV** 3SG.PR-mother 3ABS- **WH.IO-** BEN- angry
 -zepətə-re] -r
 -HABIT-PRS -ABS
 'Here is the boy at whom his mother is always angry.'

If a nominal possessor is relativized, the personal cross-reference marker on the possessed nominal is likewise replaced with the marker *zə-* (9).

- (9) marə [RC š^wəz-ew_i [DP t_i(PR) z-jə-pšaše] dax-ew
 here woman-ADV WH.PR-POSS-girl good-ADV
 Ø-qa-š^we-re] -r
 3ABS-DIR-dance-PRS -ABS
 ‘Here is the woman whose daughter dances well.’

Relativization of an absolutive DP does not involve an overt relativizing morpheme. Since absolutive third person participants do not trigger overt cross-reference morphology, this means that if an absolutive DP is relativized the predicate heading the clause remains unchanged in terms of cross-reference marking. Thus, the absolutive participant in (10a) triggers null absolutive cross-reference marking on the predicate; if this argument is relativized, the cross-reference morphology on the predicate does not change (10b).

- (10) a. **ha-r** Ø-jə-xozjajən Ø- Ø- je- ceqa -ɸ
dog-ABS 3SG.PR-POSS-owner **3ABS-** 3SG.IO- DAT- bite -PST
 ‘The dog bit its owner.’
- b. se sə-Ø-š^we-š^wəne [ha-w_i t_i(ABS) Ø-jə-xozjajən
 I 1SG.ABS-3SG.IO-LOC-fear **dog-ADV** 3SG.PR-owner
 Ø- Ø- je- ceqa -ɸe] -m
WH.ABS- 3SG.IO- DAT- bite -PST -OBL
 ‘I fear the dog that bit its owner.’

Following O’Herin’s (2002) analysis of a similar construction in Abaza (Northwest Caucasian) and Caponigro and Polinsky (2011), I assume that the morpheme zə- is the reflex of wh-agreement with the relativized participant. The lack of overt relativizing morphology when the absolutive participant is extracted is then treated as morphological allomorphy and is glossed as wh-agreement like zə-, as in (10b).⁴

⁴This approach is in contrast with Lander (2009a,b, 2012), who assumes that zə- is a morphologically

In terms of the position of the head, there are two constructions in West Circassian: one where the relative clause appears to the left of a nominal that bears case in accordance with the syntactic position of the full DP, and one where the head appears within the relative clause, often on the left edge, and is marked with adverbial case. (7)-(10) are examples of the latter type. The former type can be seen in (11) below:

- (11) [RC Op_i t_i(ERG) Ø-jə-šhanʙʷənčə Ø- xe- zə- wətə -be]
 3SG.PR-POSS-window 3ABS- LOC- **WH.ERG**- break -PST
 č'ale-r marə
 boy-ABS here
 'Here is the boy that broke his window.'

The two types of relative clauses differ only in the position of the nominal head – they appear to be semantically equivalent and acceptable in the same range of contexts (Lander 2012:244). As can be seen in (11), the predicate heading the relative clause displays wh-agreement with the relativized participant regardless of the position of the nominal head.

Finally, relative clauses may be headless, with no overt nominal head. In this construction, the predicate heading the relative clause shows the same patterns of wh-agreement as in a headed relative clause and carries the case assigned by the matrix verb. For example, in (12) a headless relative clause is used as the indirect object of the matrix verb and is correspondingly marked with oblique case. Within the relative clause the predicate is marked with wh-agreement for the relativized participant.

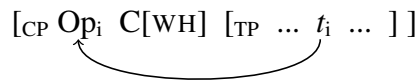
- (12) [RC Op_i aslan t_i(IO) Ø- zə- fae -zepətə] -m
 Aslan 3ABS- **WH.IO**- want -HABIT -OBL

expressed relative pronoun and that absolutive relativization is a distinct *unmarked* relativization strategy that does not involve the use of any special morphology, overt or otherwise.

ə-š-xe-r Ø-Ø-faj-ep
 3SG.PR-brother-PL-ABS 3ABS-3SG.IO-want-NEG
 ‘[What Aslan always wants] his brothers don’t want.’

Following Caponigro and Polinsky (2011) I assume that West Circassian relative clauses are formed via the movement of a relative operator to Spec,CP – this is schematically represented in (13). In externally headed relative clauses, the operator is phonologically null and in internally headed relative clauses, where the nominal head appears within the relative clause and is marked with adverbial case, the internal head is the overt spellout of this operator.

(13) General structure of a West Circassian relative clause:



The primary reason to believe that both externally and internally headed relative clauses involve the movement of a relative operator to Spec, CP is that both types of clauses display wh-agreement with the relativized argument. This is in stark contrast with wh-in-situ questions, wherein the wh-word remains in its base position, and there is no overt wh-agreement. There are two strategies of forming wh-questions in West Circassian (Sumbatova 2009): the first is a pseudo-cleft construction, with the wh-word acting as a focused predicate, and a headless relative clause appearing as the absolutive argument. In this case the headless relative clause displays overt wh-agreement, as expected (14a). The second involves the use of the wh-word in situ – in this case the predicate heading the clause does not display any wh-agreement (14b).

(14) a. **səd(-a)** [_{RC} Op_i mə č’ale-r t_i(IO) Ø- z- e- pλə -bɛ] -r
 who-Q this boy-ABS 3ABS- **WH.IO**- DAT- watch -PST -ABS
 ‘What did this boy watch?’

- b. mə č'ale-r səd Ø- Ø- je- pλə -B (-a)
 this boy-ABS **what** 3ABS- 3SG.IO- DAT- watch -PST -Q
 'What did this boy watch? (lit. This boy watched what?)'

This contrast between *wh*-in-situ questions and questions that involve relativization can be easily explained if we are to assume that *wh*-words that remain in situ lack the *wh*-feature that triggers movement to Spec,CP and *wh*-agreement. If this logic is extended to internally headed relative clauses, they are expected to involve the same type of *wh*-feature triggered movement as externally headed relative clauses.

Additionally, the internal head may not carry the case marker that is assigned to the corresponding argument within the relative clause – instead, as can be seen in the examples above, it must carry the adverbial case marker. Finally, as will be shown in the following subsection, internally headed relative clauses may host multiple *wh*-agreement configurations, which I will argue in section 4 to involve a parasitic gap dependency that is licensed by *wh*-movement. Based on this evidence, I will analyze the internal head as the overt spellout of the relative operator.

2.3 Multiple *wh*-agreement

West Circassian relative clauses may contain more than one instance of *wh*-agreement, if the relativized participant is co-referent with another argument in the clause, resulting in patterns of multiple *wh*-agreement. For example, the relative clause in (15a) contains a null pronoun (indicated as *pro*) in the position of the possessor of the ergative agent, triggering corresponding third person singular agreement on the possessed noun. In this case, the possessor pronoun may be optionally interpreted as co-referent with the relativized indirect object. In (15b), on the other hand, the third person possessor agreement is replaced with the *wh*-agreement marker *zə*; in this case, the possessor is obligatorily interpreted as co-referent with the relativized indirect object.

- (15) a. marə [RC č'al-ew_i t_i(IO) [DP pro_{i/j}(PR) ə-š](ERG) velosiped
 here boy-ADV 3SG.PR-brother bicycle
 Ø- qə- ze- r- jə- tə -be] -r
 3ABS- DIR- **WH.IO**- DAT- 3SG.ERG- give -PST -ABS
 'Here is the boy_i to whom his_{i/j} brother gave a bicycle.'
- b. marə [RC č'al-ew_i t_i(IO) [DP pro_{i/*j}(PR) zə-š](ERG) velosiped
 here boy-ADV **WH.PR**-brother bicycle
 Ø- qə- ze- r- jə- tə -be] -r
 3ABS- DIR- **WH.IO**- DAT- 3SG.ERG- give -PST -ABS
 'Here is the boy_i to whom his_{i/*j} brother gave a bicycle.'

The additional wh-agreement may appear in all types of relative clauses: internally headed, as in (15b), as well as externally headed and headless relative clauses, as illustrated in (21) and (24) in the following section, providing an additional piece of evidence that these three constructions are structurally identical.

Such patterns of multiple wh-agreement may appear intra-clausally – between a relativized participant and a co-referent pronoun embedded within another DP, as in (15b), as well as cross-clausally, with the additional wh-agreement marker surfacing within an embedded clause.⁵ An example of cross-clausal wh-agreement is shown below: the baseline finite construction is in (16a): the ergative DP in the matrix clause is interpreted as co-referent with the ergative agent of the embedded adverbial adjunct. If the ergative participant of the matrix clause is relativized, the predicate in the embedded clause may retain regular third person singular agreement with the co-referent pronoun in the ergative posi-

⁵Lander (2009a, 2012) argues that cross-clausal cases of multiple wh-agreement are structurally distinct from intra-clausal cases. The analysis proposed here dispenses of the necessity to treat these two cases as separate phenomena and accounts for the differences between the two types of constructions by appealing to general structural restrictions on multiple wh-agreement; for more discussion see subsection 3.5.

tion, or this agreement may be replaced with an additional instance of wh-agreement (16b).

- (16) a. $mə \check{c}'ale-m_i(ERG)$ varenje $\emptyset-$ j- e- $\check{s}xə$
 this boy-OBL jam 3ABS- 3SG.ERG- PRS- eat
 $[_{CP} pro_i(ERG)$ swəpə-r $\emptyset-$ ə- mə- wəx -ze]
 soup-ABS 3ABS- 3SG.ERG- NEG- finish -CNV
 ‘This boy is eating jam without finishing the soup.’
- b. $marə [_{RC} \check{c}'al-ew_i$ $t_i(ERG)$ varenje $\emptyset-$ **zə-** $\check{s}xə$ -re -r
 here boy-ADV jam 3ABS- **WH.ERG-** eat -PRS -ABS
 $[_{CP} pro_i(ERG)$ s^wəpə-r $\emptyset-$ ə / **zə-** mə- wəx -ze]
 soup-ABS 3ABS- **3SG/WH.ERG-** NEG- finish -CNV
 ‘Here is the boy who is eating jam without finishing the soup.’

The wh-marked participants in a multiple wh-agreement construction are not equally accessible for \bar{A} -movement: one of the wh-agreement markers is additional or parasitic in the sense that the argument it refers to may not be extracted directly over the co-referent argument (Lander 2012:322-327). Thus, while it is possible to mark only the ergative participant in (15a) with wh-agreement, the inverse pattern is not possible: the co-referent possessor of the indirect object may not be marked with wh-agreement if the ergative participant triggers regular third person agreement (17).⁶

- (17) * $marə [_{RC} \check{c}'al-ew_i$ $pro_i(IO)$ $[_{DP} t_i$ **zə-š](ERG)** velosiped
 here boy-ADV **WH.PR-brother** bicycle
 $\emptyset-$ $\emptyset-$ r- **jə-** tə -be] -r
 3ABS- 3SG.IO- DAT- **3SG.ERG-** give -PST -ABS
 Intended: ‘Here is the boy to whom his brother gave a bicycle.’

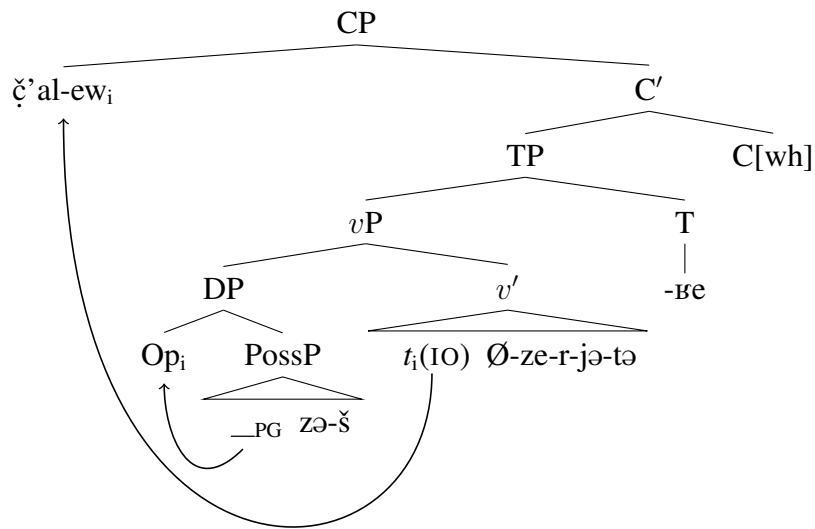
⁶While some types of possessors may be relativized directly, the possessor of an indirect object, as in (17), may not. This is why the sentence is simply ungrammatical, as opposed to having an interpretation wherein the possessor is not co-referent with the ergative agent.

In the following section I propose an analysis of multiple wh-agreement which connects directly to the additional nature of one of the wh-markers. In particular, I will argue that multiple wh-agreement constructions are manifestations of parasitic gap dependencies, whereby each of the wh-agreement markers is the spell-out of agreement with a wh-trace, licensing or parasitic.

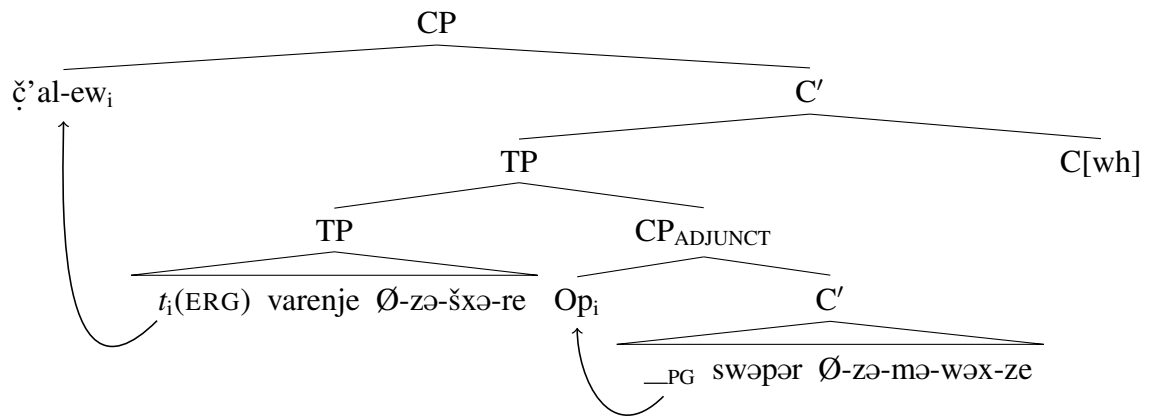
3 Multiple wh-agreement as a parasitic gap dependency

This section presents an analysis of multiple wh-agreement as a case of a parasitic gap dependency. I argue that all cases of wh-agreement are uniformly agreement with a wh-trace. In cases of multiple wh-agreement, the relative clause contains more than one trace: a licensing trace and a parasitic gap. I will adopt the proposal put forth by Chomsky (1986); Postal (1998); Nissenbaum (2000), *inter alia*, that parasitic gap constructions involve local operator movement to the edge of the constituent hosting the gap. Both the parasitic and the licensing gaps are c-commanded by the relative operator in Spec,CP of the relative clause, but the licensing gap does not c-command the parasitic gap, per the anti-c-command condition on parasitic gaps. The structures for the multiple wh-agreement constructions in (15b) and (16b) are presented schematically in (18) and (19) below. In (18) the relativization of the applied object licenses a parasitic gap within the ergative DP; the parasitic gap configuration is built via wh-movement of a null operator from Spec,PossP to the edge of the corresponding DP. In (19) the parasitic gap is analogously licensed within an adjunct to TP.

(18)



(19)



The argumentation for this structure will proceed as follows:

- The additional wh-agreement is parasitic on the primary wh-agreement: it either appears within a constituent that is otherwise an island for extraction, or it cannot surface in the absence of the primary wh-agreement while preserving the intended co-reference interpretation between the participants in question.
- The parasitic gap cannot be separated from the licensing operator in the matrix clause by more than one island boundary.
- The parasitic wh-agreement can only be licensed by a DP gap, and not a PP gap – a robustly observed property of parasitic gaps.

- Like parasitic gaps, multiple wh-agreement is almost always optional. Just as parasitic gaps freely alternate with pronouns, the additional wh-agreement marker can generally be replaced with ϕ -agreement with a pronoun.

3.1 Multiple wh-agreement is parasitic

This subsection aims to show that the appearance of additional wh-agreement is parasitic on the relativization of the participant triggering the primary wh-agreement: either the participant triggering the additional wh-agreement in a multiple wh-agreement construction appears within an island for extraction, or that participant cannot be relativized directly in the presence of a co-referent argument in a potential licensing position. Islands for extraction that allow parasitic gaps include non-absolute DPs and adjunct clauses; non-island contexts which allow for parasitic gaps are absolute DPs and complement clauses.

3.1.1 Islands

As was shown in (15b), a possessor that is co-referent with the relativized participant may trigger additional wh-agreement. Most types of possessors, however, are not accessible for relativization. In particular, many speakers disallow the direct relativization of possessors of non-absolute arguments.⁷ In such cases the corresponding non-absolute DP must be relativized to form a pseudo-cleft construction, with that relativized DP acting as the absolute subject. The possessor is then extracted out of that absolute DP. Illustrations of how possessors of various non-absolute arguments are relativized are provided below (see also Lander 2012:284-285,360-361).

1. Possessor of an indirect object. The baseline sentence for the extraction of the possessor

⁷Lander (2012:280-281) lists all types of possessors as accessible for relativization, and Lander (2009b) notes that certain dialects of West Circassian ban the extraction of possessors of a non-absolute DP. The majority of my consultants uniformly ban extraction of possessors from non-absolute DPs.

whose son is the one the teacher scolded.’)

While the possessor of an indirect object is not accessible for direct relativization, it may trigger additional wh-agreement in the presence of a co-referent relativized participant. Thus, in a relative clause like (21), the ϕ -agreement tracking the possessive pronoun within the indirect object DP may be optionally replaced with the wh-agreement marker if that possessor is co-referent with the relativized ergative participant.

- (21) [RC Op_i [DP pro_i/__PG(PR) ə/zə-š](IO) t_i(ERG) konfet
 3SG/WH.PR-brother candy
 Ø- Ø- je- zə- tə -ɓe] pšaše-m
 3ABS- 3SG.IO- DAT- WH.ERG- give -PST girl-OBL
 sə-Ø-š’ə-tχ^wə-ɓ
 1SG.ABS-3SG.IO-LOC-praise-PST
 ‘I praised the girl_i that gave candy to her_i brother.’

2. Possessor of the ergative agent. Analogous to the possessor of an indirect object, the possessor of an ergative agent may not be relativized directly. If one attempts to relativize the possessor of the ergative DP directly, as in (22a), the result is ungrammatical. Instead, as with the relativization of the possessor of an indirect object, the ergative DP must first be relativized in order to form a pseudocleft with the former ergative agent acting as the absolutive argument (22b).

- (22) a. * mwarə [RC š^wəz-ew_i [DP t_i(PR) z-jə-λ](ERG)
 here woman-ADV WH.PR-POSS-man
 wəne-xe-r Ø- ə- šə -re] -r
 house-PL-ABS 3ABS- 3SG.ERG- do -PRS -abs
 Expected: ‘Here is the woman whose husband builds houses.’

- b. mwarə [RC $\hat{s}^w\text{əz-ew}_i$ [DP $t_i(\text{PR})$ z-jə- λ_j](ABS) [RC Op_j $t_j(\text{ERG})$
 here woman-ADV WH.PR-POSS-man
 wəne-xe-r Ø- zə- $\hat{s}\text{ə-re}]]$ -r
 house-PL-ABS 3ABS- WH.ERG- do -PRS -ABS
 ‘Here is the woman whose husband builds houses.’ (lit. ‘Here is the woman
 whose husband is the one that builds houses.’)

As was shown in (15b), while the possessor of an ergative agent is not accessible for direct relativization, it may trigger wh-agreement in a multiple wh-agreement construction.

The appearance of two wh-agreement markers in cases where a possessor of a non-absolutive argument is extracted, as in (20c) and (22b) superficially resembles multiple wh-agreement constructions as in (21). However, there are several important differences that suggest that this construction is distinct and involves recursive relativization, rather than a parasitic gap dependency.

Firstly, the wh-agreement in (20c) and (22b) replaces agreement with the DP from which the possessor is being extracted. This is markedly different from cases of multiple wh-agreement, where the primary wh-agreement tracks a co-referent argument.

Secondly, the pseudo-cleft analysis of the constructions in (20c) and (22b) predicts that the DP with the relativized possessor occupies the absolutive position and should be assigned absolutive case. While possessed nouns do not generally carry case markers, case must be overtly expressed in the presence of the plural suffix *-xe* – in such a structure, the prediction is that the clefted nominal will carry the absolutive case marker *-r*.⁸ This prediction is illustrated in (23) for the analogous pseudo-cleft construction when it is used as a matrix clause: the plural DP *sq^wexer* ‘my sons’ appears as the absolutive argument and,

⁸Thank you to Yury Lander for suggesting this diagnostic and accurately predicting its outcome based on his own previously collected data.

nominal;¹⁰ both absolutive and oblique case marking are judged only marginally possible and rather stilted.

- (25) marə [RC \hat{S}^w əz-ew_i [DP t_i z-jə-č'ale /
 here woman-ADV **WH.PR**-POSS-boy /
 ??z-jə-č'ale-xe-r / ??z-jə-č'ale-xe-m] [RC Op_i t_i(ERG)
WH.PR-POSS-boy-PL-ABS / **WH.PR**-POSS-boy-PL-OBL
 dax-ew wered Ø- qe- zə- ʔ^we -re]] -r
 pretty-ADV song 3ABS- DIR- **WH.ERG**- say -PRS -ABS
 ‘Here is the woman whose children sing well.’

The fact that oblique case is not readily available in this construction suggests that this construction is distinct from multiple wh-agreement constructions like (24). The unavailability of absolutive case, however, is puzzling, if this is a simple pseudo-cleft construction. A possible explanation for the unavailability of overt case marking in (25) may lie in syncretism effects (Pullum and Zwicky 1986; Bjorkman 2016, *inter alia*): the nominal that hosts the relativized possessor carries two conflicting case feature values (oblique and absolutive) and the only way to resolve this conflict is to use a form that is unmarked for case and thus syncretic between oblique and absolutive. Such a conflict arises in this case due to a DP that is marked with oblique case moving to an absolutive case position, schematically represented in (26).

- (26) [DP-OBL]-ABS [CP ... DP-OBL]
-

A detailed analysis of how this syncretism effect arises is outside the scope of this paper; for the purposes of discussion here it suffices to say that in order for a possessor to be

¹⁰Unmarked nominals in West Circassian are unspecified for number and may be interpreted both as plural or singular, based on the context (Kumakhov 1971; Arkadiev and Testelets 2015).

$t_j(\text{IO})$ \emptyset - $z\emptyset$ - de- $\check{z}eg^{w\emptyset}$ -re] -r

3ABS- WH.IO- COM- play -PRS -ABS

‘Who does Aslan play with __ all day without hitting __?’

c. * xet-a [RC Op_j aslan_i mafe-m rjene
 who-Q Aslan day-OBL whole

[CP *pro*_i(ABS) $t_j(\text{IO})$ \emptyset - z - e- m \emptyset - w -ew]

3ABS- WH.IO- DAT- NEG- hit -ADV

\emptyset - (\emptyset - de)- $\check{z}eg^{w\emptyset}$ -re] -r

3ABS- 3SG.IO- COM- play -PRS -ABS

Intended: ‘Who does Aslan play (with him/her) all day without hitting __?’

Thus, we have seen that multiple wh-agreement constructions often involve additional wh-agreement replacing agreement with a participant that is otherwise inaccessible for extraction, i.e. that the additional wh-agreement is *parasitic* on the primary wh-agreement.

3.1.2 Non-islands

4. A DP within a complement clause. There is considerable variation in regards to the accessibility of complement clauses for wh-movement (see also Lander 2009a, 2012). The majority of the speakers I consulted with did not treat non-factual clausal complements as islands for extraction. Importantly, however, even speakers that allow for direct extraction of an argument from within the embedded clause, such extraction is not allowed in case one of the arguments of the matrix verb is co-referent with the corresponding embedded participant. For example, in (28a) the applied object of the matrix verb *jəç’ase* ‘like’ is coreferent with the applied object of the embedded verb *jetə* ‘give’; the co-referent matrix participant may be relativized, triggering wh-agreement on the matrix predicate, while the embedded co-referent pronoun triggers regular ϕ -agreement on the embedded verb. Optionally, the embedded co-referent pronoun may be replaced with a parasitic gap which then triggers

additional wh-agreement on the embedded verb. Importantly, however, the embedded applied object cannot be extracted directly in the presence of the co-referent pronoun in the matrix clause – such a configuration is judged ungrammatical (28b).

- (28) a. xet-a [RC Op_i t_i(IO) Ø- z- jə- č’ase -r [CP pro_i / __PG(IO)
 who-Q 3ABS- **WH.IO**- LOC- like -ABS
 podarke-xe-r Ø- Ø / ze- r- a- tə -n -ew]]
 gift-PL-ABS 3ABS- **3SG/WH.IO**- DAT- 3PL.ERG- give -MOD -ADV
 ‘Who likes to be given gifts (lit. for them to give gifts to him/her)?’
- b. * xet-a [RC Op_i pro_i(IO) Ø- Ø- jə- č’ase -r
 who-Q 3ABS- **3SG.IO**- LOC- like -ABS
 [CP t_i(IO) podarke-xe-r Ø- ze- r- a- tə -n -ew]]
 gift-PL-ABS 3ABS- **WH.IO**- DAT- 3PL.ERG- give -MOD -ADV
 Expected: ‘Who likes to be given gifts?’

5. Possessor of an absolutive DP. As we saw in (9) the possessor of an absolutive DP may be relativized directly. As possessors of ergative and indirect object DPs, this type of possessor may trigger additional wh-agreement in a multiple wh-agreement construction. Thus, if an indirect object is relativized, a co-referent possessor of the absolutive DP may be expressed as a null pronoun triggering regular ϕ -agreement, or it may be replaced with a parasitic gap, correspondingly triggering wh-agreement on the possessed nominal (29).

- (29) [RC Op_i [DP pro_i / __PG(PR) ə / zə-š](ABS) t_i(IO) Ø- qə-
 3SG/**WH.PR**-brother 3ABS- DIR-
 z- e- wa -ɛe] č’ale-m s-Ø-je-wəšəjə-š’ta-ɛ
WH.IO- DAT- hit -PST boy-OBL 1SG.ABS-3SG.IO-dat-console-IPF-PST
 ‘I consoled the boy whom_i his_i brother hit’

ungrammatical.

(31) Who did John visit __

non-island: ✓ [without claiming [that he knew __]]

adjunct island: ?? [after offending me [by not introducing me to __]]

The same constraint applies to additional wh-agreement in multiple wh-agreement constructions – this is shown in (32) below. In both sentences the licensing gap appears in the matrix clause in the applied object position and correspondingly triggers wh-agreement in the applied object slot preceding the benefactive morpheme. In (32) a pronoun that is co-referent to the relativized applied object appears within the complement of the verb *pəλ* ‘attempt, undertake’; this complement is in turn embedded within a temporal adjunct to the predicate heading the relative clause. Since clausal complements are not islands for extraction, the embedded co-referent pronoun may be replaced with a parasitic gap.¹² If, however, the co-referent pronoun is embedded within another temporal adjunct, as in (32b), it may not be replaced by a parasitic gap, because the potential parasitic gap dependency would have to cross two island boundaries.

(32) a. marə [RC bzəλfəB-ew_i [ADJUNCT [COMP *pro*_i / ?__PG(IO)
 here woman-ADV
 sə- Ø / ?z- de- g^wəš’əʔe -nə -m] sə-pəλə-fe]
 1SG.ABS- 3SG/WH.IO- COM- speak -MOD -OBL 1SG.ABS-attempt-LIM
 zə-g^were t_i(IO) Ø- qə- z- fə- tje- wa -bɛ] -r
 one-INDEF 3ABS- DIR- WH.IO- BEN- LOC- hit -PST -ABS
 ‘Here is the woman whom someone called [while I was trying [to speak with
 her]]’

¹²The single question mark is likely to be due to the fact that this type of direct relativization out of the complement is degraded for many speakers, regardless of the construction in this particular example.

- b. marə [RC š^wəz-ew_i [ADJUNCT [ADJUNCT *pro*_i / ??__PG(IO)
 here woman-ADV
 sə- Ø / ??z- de- g^wəš'əʔ -ew] sə- š'e- sə -fe]
 1SG.ABS- 3SG/??WH.IO- COM- speak -ADV 1SG.ABS- LOC- sit -LIM
 zə-g^were t_i(IO) Ø- qə- z- fə- tje- wa -βe] -r
 one-INDEF 3ABS- DIR- WH.IO- BEN- LOC- hit -PST -ABS
 'Here is the woman whom someone called [while I was sitting [talking to her]]'

To conclude this subsection, while the additional wh-agreement in a multiple wh-agreement may appear in syntactic islands, as we saw in subsection 3.1, it may not be embedded further into an island within that island.

3.3 Parasitic gaps cannot be licensed by a PP wh-trace

Another long observed property of parasitic gaps is that they may only be licensed by a DP trace (see e.g. Cinque 1990; Postal 1993).¹³ The following examples from Postal (1993:736) illustrate this constraint for English: in (33a) a nominal trace successfully licenses a parasitic gap in the adjunct clause, but the equivalent of this sentence with a PP-trace is ungrammatical (33b).

- (33) a. This is a topic_i you should think about t_i [before talking about __PG].
 b. * This is a topic about which_i you should think t_i [before talking __PG].

The same generalization holds for additional wh-agreement in West Circassian multiple wh-agreement constructions: in all the examples so far the licensing gap corresponds to a DP, and a PP trace cannot license additional wh-agreement.

¹³There is a body of literature countering the claim that this is a universal property of parasitic gaps, see e.g. Tellier (1991); Engdahl (2001); Levine et al. (2001). However, as Culicover (2001:65) notes, the nominal nature of the antecedent of a parasitic gap remains a robust cross-linguistic tendency.

This can be contrasted with a case where a locative applicative prefix is used to cross-reference a DP rather than a PP – if such a DP is relativized, it can successfully license a parasitic gap. This is illustrated in (36), where both the licensing and the parasitic gaps occupy the applied object position that is cross-referenced with the same locative prefix *š’ə-* as in (35). However, unlike in the previous example, the DP *wh*-trace may successfully license a parasitic gap within the temporal adjunct.

- (36) [RC Op_i λepqə-r [CP __PG(LOC) Ø- zə- š’ə- rehatə -βe -w]
tribe-ABS 3ABS- **WH.IO**- LOC- settle -PST -ADV
t_i(LOC) Ø- zə- š’ə- beβ^wa -βe] -r a wəne-çəḵ^wə-xe-r arə
3ABS- **WH.IO**- LOC- reproduce -PST -ABS that house-small-PL-ABS PRED
‘Those small houses are where the tribe multiplied, having settled there.’ (Adyge
Mak’, 2017.07.05)

It is worth noting that while the restriction of parasitic gaps to the nominal category has been used as evidence for the pronominal nature of these gaps (Cinque 1990), the data in (34)-(35) is an odds with such an analysis: as can be seen in (34), there is nothing wrong with a PP-proform, but a parasitic gap cannot appear in the same position – this also counters Engdahl’s (2001) claim that non-nominal parasitic gaps can appear in languages that have proforms corresponding to the syntactic category in question.

3.4 Parasitic gaps are optional

This subsection provides the final argument for a parasitic gap analysis of multiple *wh*-agreement. It was first observed by Engdahl (1983:15–17) that a large subset of parasitic gaps are optional and may freely alternate with an overt DP. An illustrative example from English is in (37).

- (37) Here is the paper that John read *t* before filing __PG / his mail. (adapted from

Engdahl 1983:14)

As we saw in the previous subsections, the majority of multiple wh-agreement constructions alternate freely with constructions that do not involve additional wh-agreement, but have a pronoun in that position instead. For example, we saw in (15a)-(15b) that the co-reference relationship between the relativized indirect object and the possessor of the ergative DP allows for the appearance of additional wh-agreement, but does not require it – a null third person pronoun may be used instead of the parasitic gap, triggering the corresponding ϕ -agreement on the possessed nominal. The optionality of additional wh-agreement is yet another property that parallels multiple wh-agreement constructions with parasitic gap dependencies.

3.5 Intra- versus cross-clausal parasitic gap constructions

Lander (2009a, 2012) treats intra- and cross-clausal cases of multiple wh-agreement as two distinct constructions, labeling them respectively as genuine and ‘fake’ multiple relativization. I argue that, given that both types of constructions display the set of properties presented above, the differences the two configurations display do not warrant such a distinction, and a parasitic gap analysis is adequate for both constructions.

Lander presents the following considerations for distinguishing intra- and cross-clausal multiple wh-agreement constructions. Firstly, relativization out of some types of embedded clauses involves prolepsis, i.e. the insertion of an additional argument that is co-referent to the relativized participant. Lander argues that because relativization out of simple clauses does not involve comparable argument insertion, the two constructions must be structurally distinct. Secondly, Lander (2009a, 2012) observes that intra-clausal multiple wh-agreement constructions differ in constraints on word order: while the internal head in a cross-clausal multiple wh-agreement construction may appear between the constituent containing the additional wh-agreement and the predicate heading the relative clause, this order is not

possible in intra-clausal multiple wh-agreement constructions.

Given these differences, Lander concludes that intra-clausal multiple wh-agreement involves simultaneous relativization out of two positions, while cross-clausal cases are the union of two relative clauses, one formed within the embedded clause, and one within the matrix clause. If we are to assume that relativization involves an \bar{A} -dependency between a relative operator and a wh-trace, this would mean that within an intra-clausal multiple wh-agreement construction a single relative operator binds two wh-traces, akin to some accounts of across-the-board movement (Citko 2005; deVries 2013) and Nunes's (2004) analysis of multiple gap constructions, including across-the-board movement and parasitic gaps. Cross-clausal configurations, on the other hand, then have a structure similar to what is assumed under a null operator analysis of parasitic gap constructions, where there is \bar{A} -movement within the constituent hosting the parasitic gap.

None of the differences between intra- and cross-clausal multiple wh-agreement constructions warrant a fundamentally different analysis for the wh-agreement markers that appear within these two constructions. Firstly, prolepsis, which appears in cross-clausal contexts, but is not used in intra-clausal multiple wh-agreement constructions, has long been observed to be a standard way of obviating long distance \bar{A} -movement (see e.g. Salzmänn 2017). Thus, the lack of proleptic constructions in simple clauses, which lack comparable long distance \bar{A} -movement configurations, cannot be taken as indicative of a fundamental difference in the wh-agreement constructions involved. And secondly, while the difference in word order restrictions between intra- and cross-clausal multiple wh-agreement constructions is intriguing and warrants closer investigation, it does not in itself indicate that the two constructions are fundamentally different in nature.¹⁴

¹⁴It is also worth noting that there is variation in speaker judgment regarding word order in these constructions: my speakers found examples analogous to the ones Lander (2009a) labels as ungrammatical as perfectly acceptable.

An additional argument against this approach is that while it appeals to constraints on multiple wh-agreement (to be discussed in section 4) as evidence that these two constructions are distinct, it does not provide an account for how these constraints come about. In contrast, the parasitic gap analysis proposed here accounts for the observed constraints and additionally provides a fruitful avenue for exploring the syntax of clausal embedding and how it differs from the structure of simple clauses; this is also noted in the conclusion.

3.6 Summary: Multiple wh-agreement is a parasitic gap dependency

In this section I have provided evidence for the treatment of West Circassian multiple wh-agreement constructions as parasitic gap dependencies. Multiple wh-agreement constructions display the following properties typical of parasitic gap configurations: (i) one of the wh-agreement markers in a multiple wh-agreement construction is *parasitic* on the presence of the other wh-agreement marker; (ii) the additional, or parasitic, wh-agreement may be licensed within a syntactic island, but not if it is further embedded within another island; (iii) the additional wh-agreement cannot be licensed by a PP trace; (iv) the additional wh-agreement in a multiple wh-agreement construction freely alternates with a pronoun.

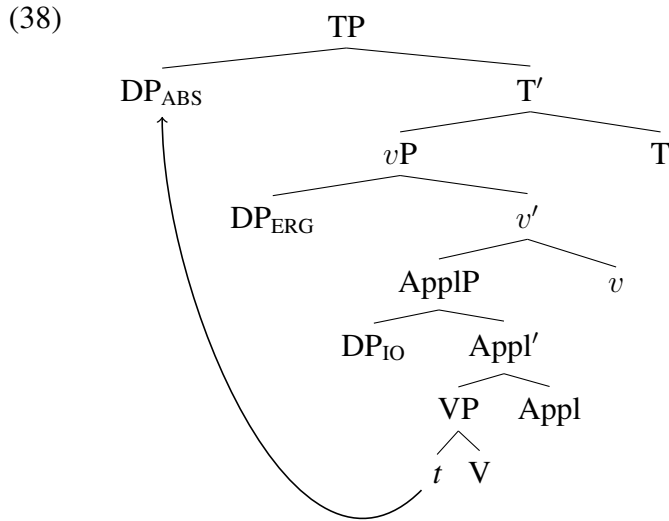
The remainder of the paper explores the possibility of using the parasitic gap analysis of multiple wh-agreement as a diagnostic for syntactic structure. Section 4 demonstrates how restrictions on patterns of multiple wh-agreement provide evidence for the high position of the absolutive DP, i.e. for structural syntactic ergativity, while section 5 shows how the lack of restrictions on multiple wh-agreement, coupled with their optionality in certain configurations, is a consequence of optional A-scrambling of the applied object to Spec,*v*P.

4 The Anti-C-Command Condition and syntactic ergativity

In the previous section I have argued for a parasitic gap analysis of multiple wh-agreement constructions in West Circassian, outlining the similarities between the patterns of wh-

agreement and properties of parasitic gaps. This section explores the consequences of the developed analysis for our understanding of West Circassian clause structure, and in particular, of c-command relations between DPs. This is done by demonstrating how a restriction on the appearance of multiple wh-agreement constructions provides evidence for the absolutive DP c-commanding all other verbal arguments, including the ergative DP. The restriction in question is the following: a possessor that is co-referent to a relativized clausemate absolutive participant may not trigger additional wh-agreement. This restriction can be made sense of in light of general properties of parasitic gaps and in particular – the anti-c-command condition, which states that a licensing gap cannot c-command the parasitic gap (Engdahl 1983). This leads us to conclude that the absolutive DP c-commands other clausemate DPs, including the ergative agent. West Circassian then falls into the class of high absolutive languages in Coon et al.’s (2014) terms, in which syntactic ergativity effects arise due to the high position of the absolutive DP; other proposals for a high absolutive in syntactically ergative languages include Bittner and Hale (1996); Aldridge (2008), among others.

The structure I will argue for is the following: the absolutive DP is merged within vP , as the complement of V^0 if it is the internal argument or as the specifier of v^0 if it is the external argument of an unergative verb. The ergative agent is merged as the specifier of v^0 , and any applied indirect objects are introduced as high applicatives as specifiers of $Appl^0$. The ergative agent and the applied object are assigned inherent case in situ, but the absolutive argument is assigned nominative case by T^0 and moves to Spec,TP to satisfy the $uEPP$ feature. The structure of a TP containing a three-place predicate with an absolutive, ergative and applied argument is represented in (38).



The remainder of this section is organized as follows: subsection 4.1 presents the data illustrating the restriction imposed on multiple wh-agreement constructions and subsection 4.2 connects this restriction to the parasitic gap analysis of multiple wh-agreement.

4.1 The Absolute Constraint

Multiple wh-agreement constructions in West Circassian are not always possible, in particular, they are subject to the following constraint, first described by Lander (2009a,b, 2012).¹⁵

(39) ABSOLUTE CONSTRAINT ON MULTIPLE WH-AGREEMENT:

Intra-clausal multiple wh-agreement is ungrammatical if the relativized participant is the absolutive DP (Lander 2009a,b, 2012).

If understood in light of the parasitic gap analysis of multiple wh-agreement, this constraint can be rephrased in the following way:

¹⁵Lander (2009b) assumes a connection between the Absolute Constraint and the subjecthood (i.e. structurally privileged) status of the absolutive DP; however, he does not discuss the exact nature of this connection.

(40) ABSOLUTIVE CONSTRAINT ON PARASITIC GAPS:

An absolutive trace cannot license a parasitic gap in a clausemate DP.

This constraint is applicable in all cases of relativization of an absolutive case-marked nominal, whether it is an external argument, or an internal argument, and in combination with all types of clausemate DPs. Below are examples of relative clauses with various argument structure configurations; in all of them the absolutive participant is relativized and a parasitic gap within a clausemate DP is deemed ungrammatical.

1. Absolutive external argument and a possessor of an oblique applied object. The verb *jeceqe* ‘bite’ is example of a predicate that takes an absolutive external argument (the one who bites) and an oblique applied object (the victim of the biting). If the absolutive agent of this predicate is relativized, the applied object may have as a possessor a pronoun that is co-referent with the relativized participant; this possessor pronoun, however, may not be replaced with a parasitic gap that would trigger wh-agreement on the possessed noun (41).

- (41) se sə-∅-š'e-š'əne [RC ha-w_i t_i(ABS) [DP pro_i / *_{PG}(PR)
I 1SG.ABS-3SG.IO-LOC-fear dog-ADV
∅ / *z-jə-x^wezjajən](IO) ∅- ∅- je- ceqe -ž'ə -ʔe] -m
3SG/*WH.PR-POSS-owner WH.ABS- 3SG.IO- DAT- bite -RE -PST -OBL
'I fear the dog that bit its owner.'

2. Absolutive internal argument and a possessor of an oblique applied object. In (42) the absolutive theme of the verb *qeše* ‘bring’ is relativized. In this example, this verb also takes an applied object, which is cross-referenced on the predicate via the benefactive applicative prefix. The possessor of this applied object is expressed as a null third person pronoun and triggers corresponding possessor agreement on the possessed nominal; this pronoun may be interpreted as co-referent with the relativized absolutive participant. This pronoun, however, cannot be replaced with a parasitic gap and, correspondingly, cannot

trigger wh-agreement.

- (42) marə [RC pšaš-ew_i t_i(ABS) [DP *pro*_i / *PG(PR) Ø / ***z-jane**](IO)
 here girl-ADV 3SG/***WH.PR**-mother
 Ø- qə- Ø- fe- s- š'a -be] -r
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 ergative agent. In (43) the absolutive argument of the causative verb *bešxe* 'feed' is relativized; the null pronoun in the position of the possessor of the ergative agent may in this case be interpreted as co-referent with the relativized participant. As in the previous cases, however, a parasitic gap may not replace this pronoun.

- (43) [RC Op_i t_i(ABS) [DP *pro*_i / *PG(PR) Ø / ***z-jane**](ERG)
 3SG/***WH.PR**-mother
 Ø- mə- ʋa- šxe -re] haž^wəš'ər-xe-m sə-g^w
WH.ABS- NEG- CAUS- eat -PRS puppy-PL-OBL 1SG.PR-heart
 Ø-a-fe-wəzə
 3ABS-3PL.IO-BEN-ache
 'My heart aches for the puppies whom their mother doesn't feed.'

4. Absolutive internal argument and a possessor of an oblique experiencer. The final type of verb discussed in this subsection belongs to a small set of so-called inverse predicates, which take an oblique external argument and an absolutive theme (Rogava and Keraševa 1966:98; Smeets 1992:122-123; Arkadiev et al. 2009:64–65; Letuchiy 2013:741-742). One such verb is *š'əB^wəpše* 'forget'. In (44) the absolutive theme of this verb is relativized; as in the previous examples, the null pronoun triggering third person singular possessor agreement on the oblique experiencer argument may be interpreted as co-referent

For some of the argument structure configurations listed in the previous section, the assumption that the absolutive trace c-commands the potential parasitic gap site is noncontroversial. For example, the absolutive external argument in (41) would c-command the possessor of the applied object under any theoretical account – this structure is illustrated in (46) below: assuming that the absolutive DP merges as the specifier of *v*P and the applied object is introduced lower, as a specifier of ApplP, a trace in the absolutive position would c-command, and thus fail to license, a parasitic gap within the applied object.

$$(46) \quad [_{CP} Op_i \dots [_{vP} t_i(ABS) [_{ApplP} [_{DP(IO)} \underline{X}_{PG}] \dots]]]$$

Recall, however, that the Absolutive Constraint applies to all types of absolutive arguments and in combination with all types of clausemate DPs: an absolutive trace cannot license a parasitic gap in an ergative, applied object or oblique experiencer DP. This forces us to conclude that the absolutive DP c-commands all of these arguments.

Subjecthood diagnostics such as reflexive binding¹⁶ suggest that the base generated position of the absolutive DP varies according to its theta-role: an absolutive theme is introduced as the complement of V^0 and an absolutive agent is introduced in Spec,*v*P. This means that the c-commanding position of the absolutive DP is derived. I propose that this position is Spec,TP: the absolutive DP is assigned case by T^0 and moves to Spec,TP to satisfy the *v*EPP feature. Ergative and applicative case, on the other hand, are assigned in situ within *v*P, so neither the ergative, nor the indirect object DP move to a position higher than Spec,TP. This leads to a configuration wherein the absolutive DP c-commands all other verbal arguments. Thus, if the absolutive argument is relativized, its trace appears in a position that c-commands both the ergative and applied object DPs, ruling out the possibility of a parasitic gap in either position (47).

¹⁶See Arkadiev et al. (2009:63-67); Letuchiy (2010:339-344) on the distribution of reflexive morphology.

$$(47) \quad [_{CP} \text{Op}_i [_{TP} t_i(\text{ABS}) [_{vP} [_{DP(\text{ERG})} \underline{X}_{PG}] [_{\text{AppIP}} [_{DP(\text{IO})} \underline{X}_{PG}] \dots]]]]$$

The ergative, applied object and oblique experiencer DPs, on the other hand, do not c-command the absolutive DP – this predicts that a relativized participant in any of these positions should be able to license a parasitic gap within the absolutive DP. This prediction is in fact borne out. In (48) we can see that an ergative trace can successfully license a parasitic gap within the absolutive DP.

$$(48) \quad \begin{array}{llll} \text{marə} & [_{RC} \text{čətəw-ew}_i & [_{DP} \text{pro}_i / \text{__PG}(\text{PR}) & \emptyset / \text{z-jə-šxəŋ}](\text{ABS}) \\ \text{here} & \text{cat-ADV} & & \text{3SG/WH.PR-POSS-food} \\ t_i(\text{ERG}) & \emptyset- & \text{zə-} & \text{mə- šxə-re] -r} \\ & & \text{3ABS- WH.ERG- NEG- eat -PRS -ABS} \end{array}$$

‘Here is the cat that doesn’t eat its food.’

An indirect object wh-trace can likewise license a parasitic gap within an absolutive theme (49) or external argument (50), and the applied external argument of an inverse predicate can license a parasitic gap within the absolutive theme (51).

$$(49) \quad \begin{array}{llll} [_{RC} \text{pšaš-ew}_i & [_{DP} \text{pro}_i / \text{__PG}(\text{PR}) & \emptyset / \text{z-jə-txəλ}](\text{ABS}) & t_i(\text{IO}) \\ \text{girl-ADV} & & \text{3SG/WH.PR-POSS-book} \\ \emptyset- & \text{z-} & \text{e- sə-} & \text{mə- tə -ž’ə -be] -r} \\ \text{3ABS- 3SG.IO- dat- 1SG.ERG- NEG- give -RE -PST -ABS} \\ \emptyset\text{-qe-s-e-wəha} \\ \text{3ABS-DIR-1SG.ERG-PRS-avoid} \end{array}$$

‘I avoid the girl to whom I haven’t given back her book.’

$$(50) \quad \begin{array}{llll} \text{marə} & [_{RC} \text{č’ele-çəḵ}^w\text{-ew}_i & [_{DP} \text{pro}_i / \text{__PG}(\text{PR}) & \emptyset / \text{z-jane}](\text{ABS}) \\ \text{here} & \text{boy-small-ADV} & & \text{3SG/WH.PR-mother} \end{array}$$

the applied object DP and transfers the WH-feature to this pronoun via ϕ -agreement.

- (52) [RC Op_i [DP *pro*_i/__PG(PR) ə/zə-š](IO) t_i(ERG) konfet
 3SG/WH.PR-brother candy
 Ø-Ø-je-zə-tə-βe] pšaše-m sə-Ø-š'ə-tχ^wə-β
 3ABS-3SG.IO-DAT-**WH.ERG**-give-PST girl-OBL 1SG.ABS-3SG.IO-LOC-praise-PST
 'I praised the girl_i that gave candy to her_i brother.'

- (53) [CP Op_i ... [TP t_i(ERG)[WH] ... [AppIP [DP(IO) *pro*_i[WH]] ...]]]
 AGREE VIA BINDING

Within this analysis, the Absolutive Constraint is treated as a ban on Weak Crossover configurations. The idea is that additional wh-agreement is banned in cases where the co-referent possessor is not c-commanded by the wh-trace. This claim is crucially based constructions like the one in (43), repeated below in (54). In this construction, wh-agreement with the possessor in the ergative DP is not possible because the movement of the operator from the absolutive position within VP triggers a Weak Crossover violation (55).

- (54) [RC Op_i t_i(ABS) [DP *pro*_i(PR) Ø / *z-jane](ERG)
 3SG/***WH.PR**-mother
 Ø- mə- βa- šxe -re] haž^wəš'ər-xe-m
WH.ABS- NEG- CAUS- eat -PRS puppy-PL-OBL
 'the puppies whom their mother doesn't feed'

- (55) [CP Op_i [TP [DP(ERG) *pro*_i[WH]] ... [VP t_i(ABS)[WH]]]]
 WCO VIOLATION

This approach faces several empirical challenges. Firstly, as we saw above, the Absolutive Constraint applies generally for all absolutive traces regardless of theta-role. For example, the possessor of an applied object cannot trigger wh-agreement if the absolutive external argument is relativized despite this not being a Weak Crossover configuration.

Secondly, a binding-based account fails to capture the systematic optionality of multiple wh-agreement constructions: if this is a case of ϕ -agreement, then it is unclear why the transfer of the WH-feature is merely optional. Thirdly, if the relativization of the absolutive theme over the wh-agreeing possessor within the ergative DP is a Weak Crossover violation, it is unclear why the possessor pronoun within the ergative DP may still be interpreted as co-referent with the relativized argument in the absence of wh-agreement, a consideration also noted by Lander (2012:332). Additionally, the pronominal binding account makes false predictions for cross-clausal Weak Crossover configurations (examples (60)-(61)) to be discussed in the following section.

In summary, a parasitic gap analysis of multiple wh-agreement provides a principled explanation for the Absolutive Constraint: the absolutive trace fails to license parasitic gaps within clausemate DPs due to the anti-c-command condition on parasitic gaps.

5 Interactions between non-absolutive DPs and A-scrambling

In this section I demonstrate how constraints on parasitic gaps can be used to argue for A-scrambling in West Circassian: in particular, I argue that the applied object is introduced in Spec,AppIP below the ergative agent and may then undergo optional A-scrambling to Spec,*v*P. Evidence for this movement comes from (i) the ability of an ergative trace to license a parasitic gap within the applied object DP; (ii) the optionality of the parasitic gap within the ergative DP when an applied object is relativized. This means that non-absolutive DPs simultaneously fail to display anti-c-command and Weak Crossover effects.

As was mentioned in the introduction, West Circassian displays rampantly free word order, often with no apparent correlation with sentence prosody or information structure (see e.g. Kumakhov and Vamling 2006:72-119; Lander 2012:89-92; Lander and Testelefs 2017:951), suggesting that this may be a non-configurational language, with full DPs appearing in adjoined or dislocated positions, as proposed e.g. by Jelinek (1984); Hale (1994);

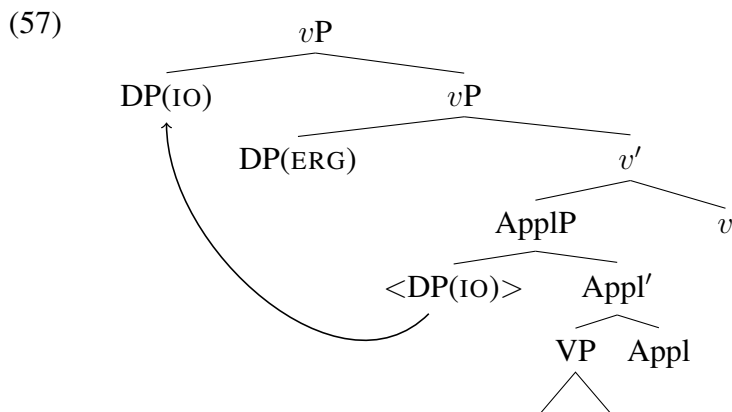
Baker (1996). However, in the previous section we saw that restrictions on parasitic gap licensing provide evidence for the absolutive DP asymmetrically c-commanding the ergative and applied object DP – a structure that is incompatible with a non-configurational account. This section demonstrates how the application of the same parasitic gap diagnostic as we saw in the previous section fails to determine the relative c-command relations between the ergative and applied object DPs. I will proceed to argue that this is due to optional A-movement of the applied object to Spec,*v*P – a position c-commanding the ergative agent. The proposed operation is parallel to other cases of scrambling that exhibit A-properties cross-linguistically, e.g. in Hindi (Mahajan 1990, 1994; Dayal 1994), Persian (Karimi 2003, 2005), Japanese (Grewendorf and Sabel), Georgian (McGinnis 1999), and Tlingit (Cable 2009), among many others.

The analysis set forth in the previous subsection predicts that in all cases where a DP c-commands another DP, it should fail to license a parasitic gap within the DP it c-commands. Thus, if we assume that the ergative DP is merged as the specifier of *v*P and an applied object is merged within *v*P as the specifier of ApplP and both arguments remain in situ, we expect an ergative trace to fail to license a parasitic gap within the applied object, but not vice versa. However, this prediction is not borne out. An applied object trace may license a parasitic gap within the ergative DP, as is shown in (15b), repeated below in (56a). The inverse configuration, however, is also possible: in (56b), an ergative trace successfully licenses a parasitic gap within the applied object.

- (56) a. marə [RC č'al-ew_i [DP *pro*_i / ___{PG}(PR) ə / zə-š](ERG) t_i(IO)
 here boy-ADV 3SG/**WH.PR**-brother
 velosiped Ø- qə- ze- r- jə- tə -be] -r
 bicycle 3ABS- DIR- **WH.IO**- DAT- 3SG.ERG- give -PST -ABS
 'Here is the boy_i to whom his_i brother gave a bicycle.'

- b. marə [RC č'al-ew_i t_i(ERG) [DP *pro*_i / __PG(PR) ə / zə-š](IO)
 here boy-ADV 3SG/**WH.PR**-brother
 velosjəped Ø- Ø- je- zə- tə -ɬe] -r
 bicycle 3ABS- 3SG.IO- DAT- **WH.ERG**- give -PST -ABS
 'Here is the boy who_i gave a bicycle to his_i brother.'

I propose that the lack of any anti-c-command effect between non-absolutive DPs is a consequence of A-scrambling within *v*P. In particular, *v*⁰ may optionally carry an *u*EPP feature which allows for the applied object to undergo movement to Spec,*v*P, i.e. a position that c-commands the ergative agent (57). This means that for any configuration that involves an ergative agent and an applied object, two structures are available: the base-generated configuration with the ergative DP c-commanding the applied object and the structure that is derived by scrambling the applied object to a position that c-commands the ergative DP.



In regards to parasitic gaps, the consequence of this scrambling is that just as an applied object trace may license a parasitic gap within the ergative DP if it is relativized from its base position (58a); a relativized ergative trace may license a parasitic gap within a scrambled indirect object, since it no longer c-commands the potential site of the parasitic gap – this is illustrated in (58b).

- (58) a. $\left[\text{CP Op } \dots \left[\text{vP } \left[\text{DP(ERG)} \checkmark_{\text{PG}} \right] \left[\text{AppIP } t_{\text{IO}} \right] \dots \right] \right]$
 b. $\left[\text{CP Op } \dots \left[\text{vP } \left[\text{DP(IO)} \checkmark_{\text{PG}} \right] \left[\text{vP } t_{\text{ERG}} \left[\text{AppIP } t_{\text{IO}} \right] \dots \right] \right] \right]$

The availability of the structure in (57) explains another puzzle regarding conditions on parasitic gap licensing in West Circassian. In particular, it has been robustly observed since Engdahl (1983) that certain configurations give rise to obligatory parasitic gaps which cannot be replaced with a personal pronoun. An example of such a configuration in English is provided in (59). The parasitic gap in (59) is obligatory under the bound reading of the possessor because the use of an overt pronoun in this position would trigger a Weak Crossover violation, with the *wh*-phrase *which student* undergoing \bar{A} -movement from the object position to Spec,CP over a coreferent pronoun within the subject DP.

- (59) Which student_i did [your attempt to talk to $_/*\text{him}_i$] scare $_$ to death? (Engdahl 1983:16)

However, no such effect is observed between clausemate DPs in West Circassian. For example, the parasitic gap in (56a) is optional and freely alternates with a null pronoun that triggers regular ϕ -agreement, despite this being a potential Weak Crossover violation. This is especially striking, given that the language does in fact display a Weak Crossover effect in cross-clausal contexts, with an obligatory parasitic gap within the DP that c-commands the *wh*-trace, as in the English example (59). Thus, if the ergative agent of the complement clause in (60) is relativized, the co-referent possessive pronoun on the ergative DP in the matrix clause must be replaced with a parasitic gap; the same effect is observed in (61), where the applied object is relativized out of the complement clause, licensing an obligatory parasitic gap in place of the possessor of the absolutive DP in the matrix clause.

- (60) marə [RC pšaš-ew_i [CP t_i(ERG) zə- z- ʁe- pskə -n -ew]
 here girl-ADV REFL.ABS- **WH.ERG**- CAUS- bathe -MOD -ADV

z / * \emptyset -jane(ERG) \emptyset -qə-s-tər-jə-ʋe-pətəha-ʋe] -r
 WH/*3SG.PR-mother 3ABS-DIR-1SG.IO-LOC-3SG.ERG-CAUS-enforce-PST -ABS
 ‘Here is the girl who_i her_i mother told me [__ should bathe].’

(61) marə [_{RC} pšaš-ew_i [_{CP} č’elejeʋaže-r t_i(IO)
 here girl-ADV teacher-ABS
 \emptyset - qə- z- e- çeçe -n -ew] z / * \emptyset -jane(ABS)
 3ABS- DIR- WH.IO- DAT- scold -MOD -ADV WH/3SG.PR-mother
 \emptyset -fe-mə-je] -r
 3ABS-BEN-NEG-want -ABS
 ‘Here is the girl whom_i her_i mother doesn’t want [the teacher to scold __]’

The fact that the language displays Weak Crossover effects cross-clausally, but fails to do so with clausemate DPs, can be explained via locally constrained A-scrambling within *v*P. Thus, the Weak Crossover data, together with the lack of anti-c-command effects between the ergative DP and applied object, provide evidence for A-movement of the applied object to Spec,*v*P. Note that the examples in (60)-(61) pose an additional challenge to the Weak Crossover analysis of the Absolute Constraint proposed by Caponigro and Polinsky (2011) (discussed in subsection 4.3): given that these are unquestionable Weak Crossover configurations, the possessor wh-agreement in the matrix clause is predicted to be ungrammatical under their analysis.

There is, however, an important difference between Weak Crossover and anti-c-command effects: while, as we saw in section 4, the absolutive DP shows anti-c-command effects in regards to other clausemate DPs, it fails to show any Weak Crossover effects, behaving as if it does not asymmetrically c-command the ergative agent or the applied object. This can be seen in examples (49)-(51): if an ergative agent or applied object is relativized, the parasitic gap within the absolutive DP does not become obligatory despite the resulting structure displaying a Weak Crossover violation. I propose that this mixed behavior is

due to the possibility of optional reconstruction of the absolutive DP in its base generated position (see e.g. Romero 1997; Fox 2000; Sportiche 2005, 2017 for discussion of reconstruction under A-movement). This leads to two possible structures, which are illustrated in (62): in one, the absolutive DP is interpreted in Spec,TP – in this case, the parasitic gap is obligatory, because a possessor pronoun in this position would trigger a Weak Crossover violation (62a); in the second, the absolutive DP is interpreted in its base generated position within VP: in this case, a parasitic gap cannot be licensed due to the anti-c-command condition, and a pronoun may successfully surface instead (62b).

- (62) a. $\left[\text{CP } \text{Op}_i \left[\text{TP } \left[\text{DP}_{(\text{ABS})} \checkmark_{\text{PG}} / *pro_i \right]_j \left[\text{vP } t_i(\text{ERG}) \left[\text{VP } \langle \text{DP}_j(\text{ABS}) \rangle \right] \right] \right] \right]$
- b. $\left[\text{CP } \text{Op}_i \left[\text{TP } \langle \text{DP}_j(\text{ABS}) \rangle \left[\text{vP } t_i(\text{ERG}) \left[\text{VP } \left[\text{DP}_{(\text{ABS})} \cancel{\text{X}}_{\text{PG}} / \checkmark pro_i \right]_j \right] \right] \right] \right]$

To conclude this section, we have seen that the lack of anti-c-command effects between ergative and applied object DPs provides evidence for optional A-scrambling of the applied object to a position c-commanding the ergative DP.

6 Conclusion

In this paper I have proposed a novel analysis of multiple wh-agreement constructions in West Circassian as the manifestation of a parasitic gap dependency. I have shown how the distribution of the additional wh-agreement in multiple wh-agreement constructions shares the full set of properties associated with parasitic gaps cross-linguistically. I then explore the consequences of this analysis by examining the distribution of parasitic gaps within clausemate DPs. Multiple wh-agreement thus proves to be a fruitful diagnostic for clause structure: we observe that the absolutive DP cannot license parasitic gaps within ergative or applied object DPs, which means that they are within the c-command domain of the absolutive DP. We further observe that an ergative wh-trace can successfully license a parasitic gap within the applied object DP, indicating that the applied object may undergo

optional scrambling to Spec,*v*P.

The presented analysis allows us to view a puzzling morphological phenomenon as the surface manifestation of a well-understood syntactic configuration, thus supplying us with a powerful tool for diagnosing clause structure in a polysynthetic language. This analysis demonstrates how, in the absence of traditional syntactic cues such as word order restrictions, free-standing anaphors or consistent dependent marking, a close examination of morphological forms and their distribution may shed light on the underlying syntactic structure of a language.

Moving forward, the syntactic analysis of the morphological phenomenon of *wh*-agreement presents a promising avenue for further investigation into the syntax of West Circassian. For example, anti-*c*-command effects appear to be altogether absent in cross-clausal parasitic gap dependencies: a *wh*-trace in any of the argument positions within the matrix clause, including the absolutive, may license a parasitic gap within the embedded clause. This is true of both complement and adjunct clauses.¹⁸ The lack of anti-*c*-command effects in cross-clausal contexts may be connected to another peculiar property of West Circassian: the language generally displays Condition C insensitivity across clausal boundaries, regardless of the syntactic status of the embedded clause (Testelefs 2009b).¹⁹ The behavior of embedded clauses may be due to their dislocated nature (as e.g. proposed for Hindi by Dayal 1996); alternatively, these constructions may be used to argue for a Condition C account

¹⁸Lander (2009a, 2012) argues that the fact that the Absolutive Constraint does not apply in cross-clausal contexts indicates that this construction is structurally distinct from intra-clausal cases, where the additional *wh*-agreement appears within a clausemate DP. Given that the two constructions otherwise have a very similar distribution, as shown in section 3, a more fruitful approach is to apply a unified analysis to both types of structures and derive the lack of the Absolutive Constraint from structural differences between constructions involving embedded clauses and ones that do not.

¹⁹See also Potsdam and Polinsky (2012) for a backward raising analysis of a subset of constructions displaying cross-clausal Condition C insensitivity.

of anti-c-command effects, wherein clausal boundaries obviate Condition C requirements for referential DPs in embedded contexts (see e.g. Horvath 1992 for a binding account of counterexamples to the anti-c-command condition).

References

- Aldridge, Edith. 2008. Generative approaches to syntactic ergativity. *Language and Linguistics Compass: Syntax and Morphology* 2.5: 966–995.
- Aoun, Joseph, and Robin Clark. 1985. On non-overt operators. *Southern California occasional papers in linguistics* 10: 17–36.
- Arkadiev, Peter. 2017. Circassian directional markers and the typology of inverse. Paper presented at “Typology of Morphosyntactic Parameters”, Moscow, 25-27 October.
- Arkadiev, Peter. 2018. Non-canonical inverse in Circassian languages. Paper presented at 51st Annual Meeting of the Societas Linguistica Europaea, Tallinn, August 29 - September 1.
- Arkadiev, Peter M., and Alexander B. Letuchiy. 2011. Prefixes and suffixes in the Adyghe polysynthetic wordform: Types of interaction. In *Languages and cultures in the Caucasus*, eds. Vittorio S. Tomelleri, Manana Topadze, and Anna Lukianowicz, 495–514. Otto Sagner.
- Arkadiev, Peter M., and Yakov G. Testeleets. 2015. On the structure of nominal constructions in West Circassian. Paper presented at *48th Annual Meeting of the Societas Linguistica Europaea*.
- Arkadiev, P. M., Yu. A. Lander, A. B. Letuchiy, N. R. Sumbatova, and Ya. G. Testeleets. 2009. Vvedeniye. Osnovnyye svedeniya ob adygejskom jazyke [Introduction: Basic information on Adyghe]. In *Aspekty polisintetizma: Očerki po grammatike adygejskogo*

- jazyka [Aspects of polysynthesis: Sketches on the grammar of Adyghe]*, ed. Ya. G. Testeleets, 17–120. Moscow: RGGU.
- Baier, Nico, and Michelle Yuan. 2018. Anti-agreement with bound variables. In *Proceedings of WCCFL 35*, 96–103.
- Baker, Mark C. 1996. *The Polysynthesis Parameter*. Oxford/NY: Oxford University Press.
- Bittner, Maria, and Kenneth Hale. 1996. The structural determination of case and agreement. *Linguistic Inquiry* 27: 1–68.
- Bjorkman, Bronwyn M. 2016. Go get, come see: Motion verbs, morphological restrictions, and syncretism. *NLLT* 34 (1): 53–91.
- Cable, Seth. 2009. Covert A-scrambling in Tlingit. In *Proceedings of the 43rd International Conference on Salish and Neighboring Languages*, ed. John Lyon. UBC WPL.
- Caponigro, Ivano, and Maria Polinsky. 2011. Relative embeddings: A Circassian puzzle for the syntax/semantics interface. *NLLT* 29(1): 71–122.
- Chomsky, Noam. 1986. *Barriers*. MIT Press.
- Cinque, Guglielmo. 1990. *Types of \bar{A} -dependencies*. MIT Press.
- Citko, Barbara. 2005. On the nature of Merge: External Merge, Internal and Parallel Merge. *Linguistic Inquiry* 36: 475–497.
- Contreras, Heles. 1987. Parasitic chains and binding. In *Studies in Romance languages*, eds. Carol Niede and R. A. Cedeno, 61–78. Foris.
- Coon, Jessica, Mateo Mateo Pedro, and Omer Preminger. 2014. The role of case in A-bar extraction asymmetries: Evidence from Mayan. *Linguistic Variation* 14(2): 179–242.

- Culicover, Peter W. 2001. Parasitic gaps: A history. In *Parasitic gaps*, eds. Peter Culicover and Paul Postal, 3–68. MIT Press.
- Dayal, Veneeta. 1994. Binding facts in Hindi and the scrambling phenomenon. In *Theoretical perspectives in word order in South Asian languages*, eds. M. Butt, T. Holloway King, and G. Ramchand, 237–261. CSLI Publications.
- Dayal, Veneeta. 1996. *Locality in WH quantification: Questions and relative clauses in Hindi*. Kluwer.
- Engdahl, Elisabet. 1983. Parasitic gaps. *Linguistics and Philosophy* 6: 5–34.
- Engdahl, Elisabet. 2001. Versatile parasitic gaps. In *Parasitic gaps*, eds. Peter W. Culicover and Paul M. Postal, 127–145. MIT Press.
- Fox, Danny. 2000. *Economy and semantic interpretation*. MIT Press.
- Gorbunova, I. M. 2009. Possessivnye konstrukcii [possessive constructions]. In *Aspekty polisintetizma: Očerki po grammatike adygejskogo jazyka [Aspects of polysynthesis: Sketches on the grammar of Adyghe]*, ed. Ya. G. Testelets, 146–165. Moscow: RGGU.
- Grewendorf, Günther, and Joachim Sabel. Scrambling in German and Japanese: Adjunction versus multiple specifiers. *Natural Language & Linguistic Theory* 17: 1–65.
- Hale, Kenneth. 1994. Core structures and adjunctions in Warlpiri syntax. In *Studies on scrambling: Movement and non-movement approaches to free word order phenomena*, eds. Norbert Corver and van Riemsdijk Henk, 185–220. Mouton de Gruyter.
- Hornstein, Norbert. 2001. *Move! A minimalist theory of construal*. Blackwell.
- Horvath, Julia. 1992. Anti-c-command and case-compatibility in the licensing of parasitic chains. *The Linguistic Review* 9: 183–218.

- Jelinek, Eloise. 1984. Empty categories, case and configurationality. *NLLT* 2.1.
- Karimi, Simin. 2003. On object positions, specificity, and scrambling in Persian. In *Word order and scrambling*, ed. Simin Karimi, 91–124. Blackwell Publishers.
- Karimi, Simin. 2005. *A minimalist approach to scrambling: Evidence from Persian*. Mouton de Gruyter.
- Kayne, Richard S. 1983. Connectedness. *Linguistic Inquiry* 14: 223–250.
- Kennedy, Christopher. 2003. Ellipsis and syntactic representation. In *The interfaces: Deriving and interpreting omitted structure*, eds. Kerstin Schwabe and Susanne Winkler, 29–53. Benjamins.
- Korotkova, Natalia, and Yury Lander. 2010. Deriving affix ordering in polysynthesis: Evidence from Adyghe. *Morphology* 20: 299–319.
- Kumakhov, M. A. 1964. *Morfologija adygskix jazykov: sinxronno-diaxronnaja xarakteristika [Morphology of Circassian languages: synchronic and diachronic description]*. Kabardino-Balkarskoe knižnoe izdatelstvo.
- Kumakhov, M. A. 1971. *Slovoizmenenie adygskix jazykov [Inflection in Circassian languages]*. Nauka.
- Kumakhov, Mukhadin, and Karina Vamling. 2009. Circassian clause structure. In *Caucasus studies 1. School of International Migration and Ethnic Relations*. Malmö University.
- Kumakhov, Muxadin A., and Karina Vamling. 2006. *Ėrgativnost' v čerkesskix jazykax [Ergativity in Circassian languages]*. Malmö University.
- Lander, Yury. 2009a. Množestvennaja reljativizacija: podlinnaja i mnimaja [Multiple relativization: genuine and imaginary]. In *Aspekty polisintetizma: Očerki po grammatike*

- adygejskogo jazyka [Aspects of polysynthesis: Sketches on the grammar of Adyghe]*, ed. Ya. G. Testeleets, 612–653. Moscow: RGGU.
- Lander, Yury. 2009b. Subject properties of the Adyghe absolutive: Evidence from relatives. Ms..
- Lander, Yury. 2012. Reljativizacija v polisintetičeskom jazyke: adygejskie odnositel'nye konstrukcii v tipologičeskoj perspektive. PhD diss, Russian State University for the Humanities.
- Lander, Yury. 2017. Nominal complex in West Circassian: Between morphology and syntax. *Studies in Language* 41 (1): 76–98.
- Lander, Yury, and Alexander Letuchiy. 2010. Kinds of recursion in Adyghe morphology. In *Recursion and Human Language*, ed. Harry van der Hulst, 263–284. De Gruyter Mouton.
- Lander, Yury A., and Yakov G. Testeleets. 2017. Adyghe (Northwest Caucasian). In *The Oxford handbook of polysynthesis*, eds. Michael Fortescue, Marianne Mithun, and Nicholas Evans, 948–970. Oxford University Press.
- Legate, Julie Anne. 2008. Morphological and abstract case. *Linguistic Inquiry* 39(1): 55–101. doi:10.1162/ling.2008.39.1.55.
- Letuchiy, Alexander. 2010. Ergativity in the Adyghe system of valency-changing derivations. In *Ergativity, Valency and Voice*, eds. Gilles Authier and Katharina Haude, 323–353. De Gruyter.
- Letuchiy, Alexander. 2013. Verb classes in Adyghe: Derivational vs. nonderivational criteria. *Linguistics* 51 (4): 729–766.

- Letuchiy, Alexander. 2015. Scope versus ordering of operations: causativization and ordering of valency-changing operations in Adyghe. In *Affix ordering across languages and frameworks*, ed. Stela Manova. Oxford University Press.
- Levine, Robert D., Thomas E. Hukari, and Michael Calcagno. 2001. Parasitic gaps in English: Some overlooked cases and their theoretical implications. In *Parasitic gaps*, eds. Peter W. Culicover and Paul M. Postal, 181–222. MIT Press.
- Mahajan, Anoop. 1990. The A/A-bar distinction and movement theory. PhD diss, MIT.
- Mahajan, Anoop. 1994. Toward a unified theory of scrambling. In *Studies in scrambling*, eds. Norbert Corver and Henk van Riemsdijk, 301–330. Mouton de Gruyter.
- McGinnis, Martha. 1999. A-scrambling exists! *University of Pennsylvania Working Papers in Linguistics* 6. Article 20.
- Nissenbaum, Jonathan W. 2000. Investigations of covert phrase movement. PhD diss, MIT.
- Nunes, Jairo. 2004. *Linearization of chains and sideward movement*. MIT Press.
- O’Herin, Brian. 2002. *Case and agreement in abaza*. SIL International / University of Texas at Arlington.
- Postal, Paul. 1993. Parasitic gaps and the across-the-board phenomenon. *Linguistic Inquiry* 24: 735–754.
- Postal, Paul. 1998. *Three investigations of extraction*. MIT Press.
- Potsdam, Eric, and Maria Polinsky. 2012. Backward raising. *Syntax* 15(1): 75–108.
- Pullum, Geoffrey K., and Arnold M. Zwicky. 1986. *Phonological resolution of syntactic feature conflict*, Vol. 62.

- Pylkkänen, Liina. 2008. *Introducing Arguments*. Vol. 49 of *Linguistic Inquiry Monographs*. MIT Press. doi:10.7551/mitpress/9780262162548.001.0001.
- Rogava, G. V., and Z. I. Keraševa. 1966. *Grammatika adygejskogo jazyka [The grammar of Adyghe]*. Krasnodarskoe knižnoe isdatelstvo.
- Romero, Maribel. 1997. The correlation between scope reconstruction and connectivity effects. In *Proceedings of the XVI West Coast Conference in Formal Linguistics*, eds. Emily Curtis, James Lyle, and Gabriel Webster, 351–366.
- Salzmann, Martin. 2017. Prolepsis, 2nd edn. In *The Wiley Blackwell companion to syntax*, eds. Martin Everaert and Henk C. van Riemsdijk. Wiley Blackwell.
- Smeets, Henricus Joannes. 1992. On valencies, actants and actant coding in circassian. In *Caucasian perspectives*, ed. George Hewitt, 98–144. LINCOM EUROPA.
- Sportiche, Dominique. 2005. Division of labor between Merge and Move: Strict locality of selection and apparent reconstruction paradoxes. In *Proceedings of Divisions of Linguistic Labor: The Le Bretesche Workshop*.
- Sportiche, Dominique. 2017. Reconstruction, binding, and scope, 2nd edn. In *The Wiley Blackwell companion to syntax*, eds. Martin Everaert and Henk C. van Riemsdijk. Wiley Blackwell.
- Sumbatova, Nina. 2009. Kommunikativnaja struktura adygejskogo predloženiya [Information structure of the Adyghe sentence]. In *Aspekty polisintetizma: Očerki po grammatike adygejskogo jazyka [Aspects of polysynthesis: Sketches on the grammar of Adyghe]*, ed. Ya. G. Testeleťs, 559–611. Moscow: RGGU.
- Tellier, Christine. 1991. *Licensing theory and French parasitic gaps*. Kluwer.

Testelelets, Ya. G., ed. 2009a. *Aspekty polisintetizma: Očerki po grammatike adygejskogo jazyka* [*Aspects of polysynthesis: Sketches on the grammar of Adyghe*]. Moscow: RGGU.

Testelelets, Yakov G. 2009b. Nevyražennye aktanty v polipredikativnoj konstrukcii [Unexpressed arguments in a multi-clausal construction]. In *Aspekty polisintetizma: Očerki po grammatike adygejskogo jazyka*, ed. Ya. G. Testelelets, 654–711. Moscow: RGGU.

deVries, Mark. 2013. Multidominance and locality. *Lingua* 134: 149–169.