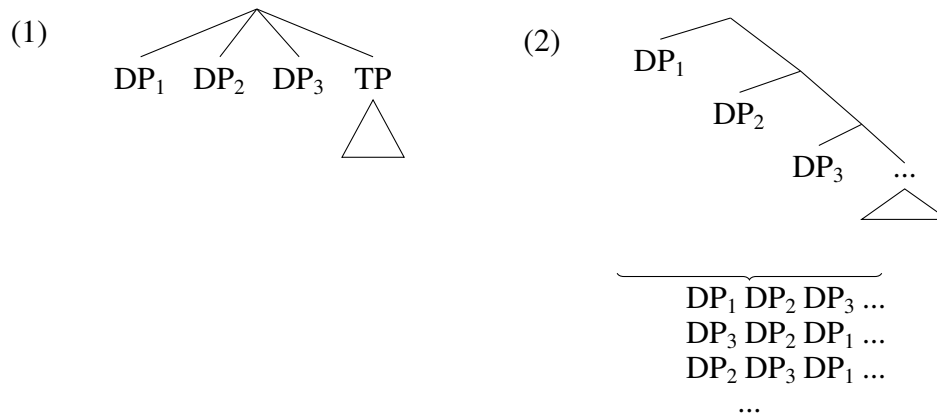


Configurationality in Polysynthesis: Weak Crossover in West Circassian

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1 Introduction

One of the trademark properties of polysynthetic or non-configurational languages is free word order.¹ The apparent lack of constraints on word order has been attributed either to arguments being dislocated or merged as adjuncts (Jelinek 1984; Hale 1994; Baker 1996; Pensalfini 2004) (1) or the linear order of arguments being determined postsyntactically without reference to syntactic structure (Compton & Pittman 2010) (2). Both approaches are based on the assumption that word order in such languages does not correlate with any syntactic asymmetries and thus should not be determined syntactically.



This paper approaches the question of word order in polysynthesis based on data from West Circassian (or Adyghe), a Northwest Caucasian language spoken in the Republic of Adyghea in Russia. West Circassian is head-marking, with all arguments cross-referenced on the predicate, pro-drop, and free word order. While previous work has suggested an interaction between different word order permutations and information structure, the general consensus is that the language is head-final, but the ordering of nominal arguments is not syntactically constrained (see e.g. Kumakhov & Vamling 2006:72-119; Lander 2012:89-92; Lander & Testelets 2017:951; Ershova 2019:12-13). Based on the interaction between word order and

¹This paper is based on data collected through elicitation with two speakers of the Temirgoy dialect in Maykop, Adyghea. The author thanks Saida Gisheva and Zarema Meretukova for sharing their language, Vera Griбанова, Boris Harizanov and the participants of Stanford SMircle for discussion. This project was partially funded by NSF DDRIG #1749299 and the Andrew W. Mellon Fellowship of Scholars at Stanford. All mistakes and shortcomings are my own.

the interpretation of bound pronouns in quantifier raising (QR) constructions, I argue that word order in West Circassian is directly linked to syntactic structure, as generally assumed for standard configurational languages: linear precedence directly correlates with structural c-command, per e.g. Kayne (1994).

The argument is based on the interaction between quantifier raising and word order in simple and complex clauses. In simple clauses, quantifier raising triggers a weak crossover effect whenever the bound pronoun linearly precedes the spelled out position of the quantifier regardless of the case marking or thematic roles of the QP and the constituent containing the bound pronoun (3). In cases of QR in complex clauses, there is no weak crossover effect as long as the bound pronoun appears within the embedded clause, regardless of the linear word order (4).

$$(3) \quad * \underbrace{QP_i \dots [DP \textit{pro}_i \dots]} \dots QP_i \quad (4) \quad \checkmark \underbrace{QP_i \dots [CP \dots [DP \textit{pro}_i \dots] \dots]} \dots QP_i$$

Putting the two configurations together, weak crossover is sensitive to linear precedence in simple clauses and to structural c-command in complex clauses, leading us to conclude that the order of clausemate arguments in a simple clause correlates with structural c-command.

The remainder of the paper is structured as follows: section 2 provides brief background on West Circassian clause structure; section 3 presents the data on the interaction of weak crossover effects and word order; section 4 presents evidence from cross-clausal quantifier raising that weak crossover is sensitive to c-command; section 5 brings together the weak crossover data to argue that linear precedence corresponds to structural c-command in West Circassian, and section 6 concludes.

2 Background on West Circassian

West Circassian is polysynthetic, with multiple arguments cross-referenced on the predicate (Kumakhov 1964; Kumakhov & Vamling 2009; Arkadiev *et al.* 2009; Lander & Testelets 2017; Ershova 2019, a.o.). For example, the predicate in (5) expones the phi-features of four arguments: a first person singular absolutive theme, a third person singular ergative agent, a second person singular benefactive applied object, and a third person plural dative causee. The language also displays prominent pro-drop: none of the participants in (5) are expressed overtly as separate nominals, and yet this example may be uttered as a full independent sentence.²

- (5) sə- qə- p- f- a- r- jə- be- 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 & Lander 2010:301)

The order of cross-reference morphology on the predicate is in accordance with ergative-absolutive alignment: the theme of the transitive verb *š'en* ‘bring’ (6a) and the subject of the intransitive verb *k^wen* ‘go’ (6b) are referenced with the leftmost

²Glosses: ABS = absolutive; ADV = adverbial; ALIEN = alienable possession; BEN = benefactive; CAUS = causative; DAT = dative; DIR = directional; ERG = ergative; IO = indirect object; LOC = locative; NEG = negation; OBL = oblique; PL = plural; POSS = possessor; PST = past tense; SG = singular.

prefix, followed by applicative morphology – e.g. the 3PL comitative in (6a) and the benefactive in (6b). The ergative agent of a transitive verb is indexed to the right of the applicative prefix, as shown in (6a).

- (6) a. **ABS- APPL- ERG-**
 w- a- de- s- š^waɸ
 1SG.ABS- 3PL.IO- COM- 1SG.ERG- bring.PST
 ‘I brought you with them’ (Rogava & Keraševa 1966:160)
- b. **ABS- APPL-**
 wə- q- a- fe- k^waɸ
 2SG.ABS- DIR- 3PL.IO- BEN- go.PST
 ‘You went’ (Rogava & Keraševa 1966:138)

In the nominal domain, possession is likewise expressed via head marking, with a cross-reference prefix on the possessed nominal indexing the possessor: inalienable possession is expressed with a cross-reference marker directly attaching to the nominal stem (7), while alienable possession is expressed with the prefix *jə-* immediately following the possessor cross-reference prefix (8) (see Gorbunova 2009 on the expression of alienability in possession).

- (7) s-šəpχ^wə-xe-r (8) t-jə-ɸ^wəneɸ^wə-xe-m
1SG.POSS-sister-PL-ABS 1PL.POSS-ALIEN-neighbor-PL-OBL
 ‘my sisters’ (inalienable) ‘our neighbors’ (alienable)

West Circassian displays ergative alignment in case marking with two core cases: the absolutive suffix *-r* marks the sole argument of an intransitive verb (9a) and the theme of a transitive verb (9b), while the oblique marker *-m* appears on ergative agents (9b), applied objects (9c), possessors (9d), and complements of postpositions (9e).

- (9) a. mə pšaše-**r** dax-ew Ø-qa-š^we
 this girl-**ABS** beautiful-ADV 3ABS-DIR-dance
 ‘This girl dances well.’
- b. sabəj-xe-**m** ha-xe-**r** Ø-q-a-λeɸ^wə-ɸ
 child-PL-**OBL(=ERG)** dog-PL-**ABS** 3ABS-DIR-3PL.ERG-see-PST
 ‘The children saw the dogs.’
- c. žeg^wə-**m** sə-qə-Ø-š^wə-š^wa-ɸ-ep
 wedding-**OBL(=IO)** 1SG.ABS-DIR-3SG.IO-LOC-dance-PST-NEG
 ‘I didn’t dance at the wedding.’
- d. mə š^wəzə-**m** Ø-jə-pšaše
 this woman-**OBL(=POSS)** 3SG.POSS-ALIEN-girl
 ‘this woman’s daughter’
- e. mə š^wəzə-**m** paje
 this woman-**OBL(=PP)** for
 ‘for this woman’

There is a range of contexts where arguments are not marked with overt case: indefinite nouns, possessed nominals in the singular, proper names and personal pronouns are usually unmarked for case (Arkadiev *et al.* 2009:51-52; Arkadiev & Testelefs 2015). In combination with pro-drop, this makes the identification of syntactic roles and argument asymmetries between overt nominals difficult.

West Circassian displays a freedom of word order, which is typical for polysynthetic languages (see e.g. Jelinek 1984; Hale 1994; Baker 1996). For example, the order between the absolutive external argument and the applied object is free in (10), with no apparent difference in meaning between the two word orders.

(10) ABS external argument (ABS(S)) + applied object (IO)

a. [mə ɟ'ale-m](IO) zaβ^were [ə-š-xe-r](ABS)
 this boy-OBL sometimes 3SG.POSS-brother-PL-OBL
 jewex
 3ABS.PL+3SG.IO.hit ABS(S) IO V

b. [ə-š-xe-r](ABS) zaβ^were [mə ɟ'ale-m](IO)
 3SG.POSS-brother-PL-ABS sometimes this boy-OBL
 jewex
 3ABS.PL+3SG.IO.hit IO ABS(S) V

‘His brothers sometimes hit this boy.’

This is likewise illustrated for the ordering between an applied object and absolutive theme of a di-transitive verb in (11).

(11) a. [∅-jə-txəλ-xe-r](ABS) [mə ɟ'ale-m](IO)
 3SG.POSS-ALIEN-book-PL-ABS this boy-OBL
 jestəž'əβ IO ABS(O) V
 3ABS+3SG.IO+1SG.ERG.return.PST

b. [mə ɟ'ale-m](IO) [∅-jə-txəλ-xe-r](ABS)
 this boy-OBL 3SG.POSS-ALIEN-book-PL-ABS
 jestəž'əβ ABS(O) IO V
 3ABS+3SG.IO+1SG.ERG.return.PST

‘I returned his books to the boy.’

Previously documented diagnostics for argument prominence do not involve two overt nominals. For example, anaphor binding is expressed morphologically via specialized agreement with the phonologically null bound pronoun (Letuchiy 2010; Ershova 2019, 2021b). Thus, in order to express reflexive binding between an absolutive theme and an ergative agent, the absolutive cross-reference marker is replaced with the reflexive prefix *zə-* (12).³

³See (Ershova 2019, 2021b) for evidence that the reflexive prefix expresses agreement with a null bound pronoun and is not a de-transitivizing operator.

- (12) a. $\hat{s}^w\text{-}$ t- $\lambda\epsilon\text{B}^w\text{-B}$
2PL.ABS- 1PL.ERG- see -PST
 ‘We saw you(pl).’
- b. **z** - t- $\lambda\epsilon\text{B}^w\text{-B}$
REFL.ABS- 1PL.ERG- see -PST
 ‘We saw ourselves.’

Another argument asymmetry is discussed in Ershova (2021a) and concerns constraints on parasitic gap licensing, which are subject to the anti-c-command condition (Engdahl 1983 *et seq.*): the licensing gap cannot c-command the parasitic gap. This diagnostic for prominence, however, does not provide meaningful information on the interaction between word order and syntax, since one of the arguments in question is expressed as an unpronounced wh-trace. For example, the relativized applied object in (13) licenses a parasitic gap within the DP referring to the ergative agent, as evinced by the wh-agreement with the possessor of the ergative DP. However, since the applied argument remains unexpressed on the surface, structural constraints on parasitic gaps cannot shed light on the syntactic consequences of word order permutations.

- (13) [_{RC} Op_i [_{DP} PG(POSS) z-jate](ERG) t_i (IO)
 3SG / WH.POSS-father
 mašjəne qəzerjətəbe] č’ale-m sjex^wapse
 car 3ABS+WH.IO+3SG.ERG.give.PST boy-OBL I envy
 ‘I envy the boy to whom_i his_i(=PG) father gave a car.’

Thus, there is no question that West Circassian displays a number of argument asymmetries which are familiar to us from configurational languages. However, it is unclear whether surface word order is syntactically derived and correlates in a meaningful way with any of the observed argument asymmetries.

3 Weak crossover is sensitive to word order

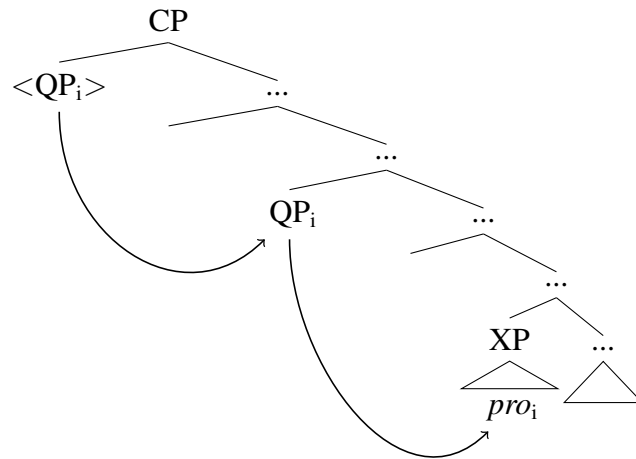
This section argues that West Circassian displays weak crossover (WCO) effects in quantifier raising (QR) constructions, but these effects are crucially sensitive to surface word order.

A WCO effect is triggered when an operator raises over a bound pronoun, resulting in a configuration wherein the operator binds both its trace and the pronoun; in the case of QR, this is assumed to be covert movement to the CP periphery, with the quantifier surfacing in its base position (Chomsky 1976 *et seq.*). This is illustrated for English in (14): the bound interpretation of the pronoun *his* is possible only if the corresponding pronoun is c-commanded by pronounced copy of the quantifier phrase (14a); the configuration wherein the pronounced quantifier phrase does not c-command the pronoun is ungrammatical under the bound reading (14b).

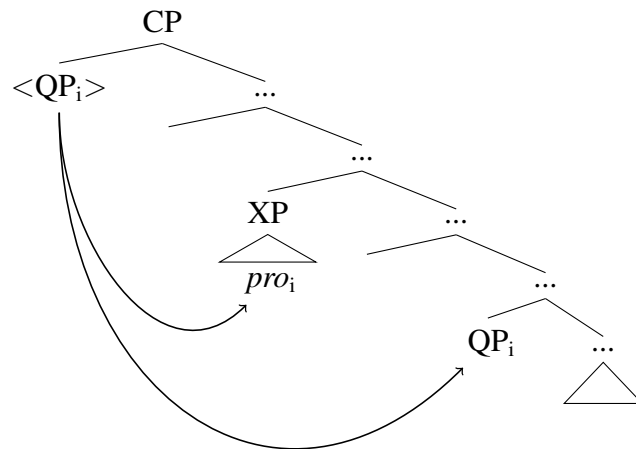
- (14) a. Every boy_i loves his_i mother.
 b. ?* His_i mother loves every boy_i.

The contrast between (14a) and (14b) is schematically represented in (15): in (15a) the QP raises from the subject position, which c-commands the bound pronoun in the object DP. Since the bound pronoun is c-commanded by the QP in its base position, there is no weak crossover violation. In contrast, in (15b) the QP raises from the object position; the pronoun within the subject is thus not bound by the QP in the base position and correspondingly must be bound from its raised position, resulting in the illicit configuration of an operator binding a pronoun and a trace simultaneously, i.e. a weak crossover violation.

(15) a. **No weak crossover violation**



b. **Weak crossover violation**



West Circassian has been claimed to display WCO effects in configurations involving relativization⁴ and QR (Lander & Testelefs 2017). Since relativization

⁴Caponigro & Polinsky (2011) attribute a constraint on multiple wh-agreement in relative clauses to a weak crossover effect; Ershova (2021a) provides an alternative account for this constraint, but argues that weak crossover is indeed observed in certain long-distance wh-movement contexts.

involves a covert *wh*-trace in the base position, only the latter configuration (QR) may shed any light on the interaction between WCO and word order.

Lander & Testelets (2017) present the weak crossover example in (16) as evidence for the presence of argument asymmetries, and more specifically – for the subjecthood of the external argument, in West Circassian.⁵

- (16) Ø-j-ane(ABS) č’ale-pepč(IO) deʔepəʔe
 3SG.POSS-ALIEN-mother boy-each 3ABS+3SG.IO.help
- a. ‘His/her_i mother helps every boy_j.’
 b. * ‘His_i mother helps every boy_j.’ (Lander & Testelets 2017:965)

In this example, we observe that a bound interpretation of the possessor within the absolutive external argument is unavailable when the quantifier phrase appears in the position of the indirect object. According to Lander & Testelets (2017), the weak crossover effect in this case is due to the absolutive argument occupying a structurally higher, subject-like position in relation to the applied argument. However, there is an additional factor at play in this example: the pronoun in this case linearly precedes the quantifier phrase. Thus, it may be the case that a bound interpretation of this pronoun is unavailable due to the word order, and not thematic prominence. Based on a larger sample of data, I conclude that the latter generalization is in fact correct, and there is no correlation between thematic prominence and the availability of a bound interpretation for pronouns in quantifier raising constructions. The generalization regarding weak crossover effects when the bound pronoun appears within a DP that is clausemate with the raised quantifier is in (17).

- (17) **WEAK CROSSOVER IN CO-ARGUMENT CONFIGURATIONS:**
 A bound possessor pronoun cannot linearly precede the overt copy of the raised clausemate quantifier.

The sensitivity of weak crossover to word order is demonstrated for different argument combinations below. The construction in (18a) is analogous to (16): the bound pronoun appears within the DP denoting the absolutive external argument, while the QP appears in the position of the applied object; as in (16), the pronoun linearly precedes the QP and a weak crossover effect is triggered. In comparison, (18b) presents the same configuration, with the bound pronoun appearing within the absolutive external argument; the QP in this case linearly precedes the phrase containing the pronoun, however, and there is no weak crossover effect.

- (18) ABS external argument + applied object: bound pronoun in ABS
- a. ə-šəpχ^wə-xe-r(ABS) pšaše-pepč(IO) qjebewənew
 3SG.POSS-sister-PL-ABS girl-each 3ABS+3SG.IO.kiss.ADV
 səfaj
 I want
 ‘I want her_{i/*j} sisters to kiss every girl_j.’ *_{[ABS *pro*_j] QP_j(IO)}

⁵Segmentation and glossing are adjusted to match the conventions in this paper.

- b. pšaše-pepč(IO) ə-šəpχ^wə-xe-r(ABS) qjebewənew
 girl-each 3SG.POSS-sister-PL-ABS 3ABS+3SG.IO.kiss.ADV
 səfaj
 I want
 ‘I want her_j sisters to kiss every girl_j.’ ✓QP_j(IO) [ABS pro_j]

An account that connects weak crossover effects with thematic prominence predicts that a quantifier may successfully raise from the position of the absolutive external argument in the presence of a bound pronoun within the applied argument, regardless of surface word order. This prediction is not borne out: in (19a) the raising of the quantifier from the absolutive position triggers a weak crossover effect because the bound pronoun within the applied argument DP linearly precedes the overt copy of the QP; this can be contrasted with (19b), where the same configuration of quantifier and bound pronoun is grammatical, if the DP containing the bound pronoun does not linearly precede the QP.

(19) ABS external argument + applied object: bound pronoun in IO

- a. ə-šəpχ^wə-xe-m(IO) pšaše-pepč(ABS) jabewənew
 3SG.POSS-sister-PL-OBL girl-each 3ABS+3PL.IO.kiss.ADV
 səfaj
 I want
 ‘I want every girl_j to kiss her_{i/*j} sisters.’ *[IO pro_i] QP_{ABS}
- b. pšaše-pepč(ABS) ə-šəpχ^wə-xe-m(IO) jabewənew
 girl-each 3SG.POSS-sister-PL-OBL 3ABS+3PL.IO.kiss.ADV
 səfaj
 I want
 ‘I want every girl_j to kiss her_j sisters.’ ✓QP_{ABS} [IO pro_i]

The same generalization is true for argument combinations in transitive clauses: a QP in the position of the absolutive theme may not bind a pronoun within the ergative DP if the ergative DP precedes the overt copy of the QP (20a); the inverse word order with the bound pronoun linearly following the QP, once again, ameliorates the weak crossover effect (20b). The fact that (20b) is grammatical, despite the QP appearing in a thematically lower position than the DP containing the bound pronoun, confirms that weak crossover is not sensitive to thematic prominence in these configurations, but to surface word order alone.

(20) ERG external argument + ABS internal argument: bound pronoun in ERG

- a. Ø-jane-jate-xe-m(ERG) sabjəj-pepč(ABS) š^wə
 3SG.POSS-mother-father-PL-OBL child-each good
 aλeβ^wənew səfaj
 3ABS+3PL.ERG.see.ADV I want
 I want their_{i/*j} parents to love every child_j. *[ERG pro_j] QP_j(ABS)

- b. subjəj-pepč(ABS) Ø-jane-jate-xe-m(ERG) ſʷə
 child-each 3SG.POSS-mother-father-PL-OBL good
 aλeβ^wənew səfaj
 3ABS+3PL.ERG.see.ADV I want

I want their_i parents to love every child_j.

✓QP_j(ABS) [ERG pro_j]

To summarize, this section has presented evidence that in configurations where the raised quantifier and bound pronoun appear within the same clause, weak crossover effects are uniformly observed if the bound pronoun linearly precedes the overt copy of the raised quantifier. This in turn leads us to conclude that in these cases, weak crossover is sensitive to word order alone, and not thematic prominence.

4 Weak crossover is sensitive to structural prominence

The main claim of this section is that weak crossover, while appearing to be triggered based on linear precedence in a subset of cases, is in fact sensitive to structural c-command. Evidence for c-command playing a role in weak crossover violations comes from configurations where the bound pronoun appears within an embedded clause. In these cases, the bound pronoun may linearly precede the overt copy of the raised quantifier and no weak crossover effect is triggered.

This is illustrated for several examples below. In (21a) the QP in the matrix clause binds the possessor of the absolutive DP in the complement clause of *fejen* ‘want’; as expected, no weak crossover effect is triggered because the quantifier linearly precedes the bound pronoun, analogous to the examples discussed in the previous section. In contrast to the clausebound QP-pronoun combinations, however, the bound pronoun in the embedded clause may linearly precede the overt copy of the raised quantifier without triggering a weak crossover effect (21b).

- (21) a. bzəlfəβe-pepč faj [Ø-jə-sabjəj-xe-r
 woman-each 3ABS.want 3SG.POSS-ALIEN-child-PL-ABS
 zeč’emjə ſʷə aλeβ^wənew]
 all.OBL good 3ABS+3PL.ERG.see.ADV

‘Every woman_i wants everyone to love her_i children.’

✓QP_j [CP [DP pro_j]]

- b. [Ø-jə-sabjəj-xe-r zeč’emjə ſʷə
 3SG.POSS-ALIEN-child-PL-ABS all.OBL good
 aλeβ^wənew] bzəlfəβe-pepč faj
 3ABS+3PL.ERG.see.ADV woman-each 3ABS.want

‘Every woman_i wants everyone to love her_i children.’

✓[CP [DP pro_j]] QP_j

The same effect is shown in (22): if the bound pronoun appears in the embedded clause, quantifier raising does not trigger a weak crossover effect regardless of the word order.

- (22) a. *sabjəj-pepč faj [bere Ø-jane-jate-xe-r*
 child-each 3ABS.want much 3SG.POSS-mother-father-PL-ABS
məsəmežənxew]
 3PL.ABS+NEG.sick.ADV
 ‘Every child_i wants for their_i parents to not be ill much.’ ✓**QP_j [CP [DP *pro_j]]***
- b. *[bere Ø-jane-jate-xe-r məsəmežənxew]*
 much 3SG.POSS-mother-father-PL-ABS 3PL.ABS+NEG.sick.ADV
sabjəj-pepč faj
 child-each 3ABS.want
 ‘Every child_i wants for their_i parents to not be ill much.’ ✓**[CP [DP *pro_j]] QP_j***

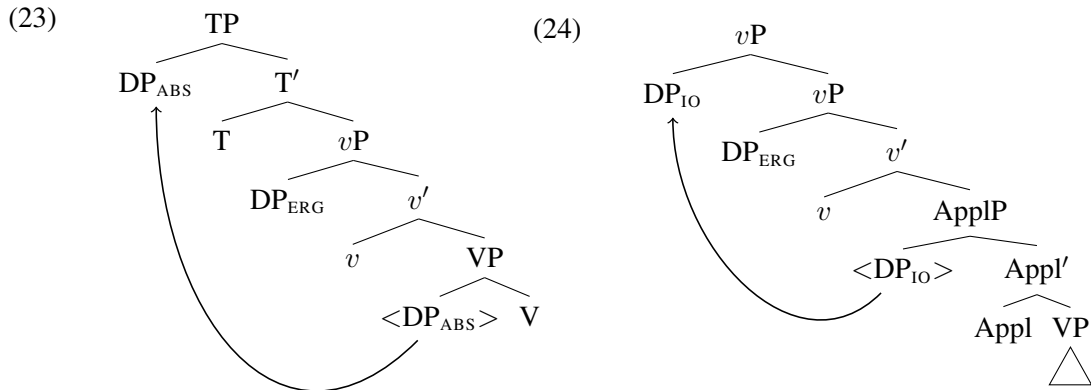
Based on the cross-clausal interaction between the raised quantifier and bound pronoun, it is evident that syntactic structure plays a role in determining whether a weak crossover violation will be triggered. The contrast between the cross-clausal versus intra-clausal behavior of QP-pronoun configurations must then be due to a difference in how linear precedence is achieved with co-argument DPs on the one hand and with embedded CPs on the other hand.

5 Word order reflects configurationality

Putting together the data from the interaction between nominal co-arguments on the one hand and configurations involving a QP in the matrix clause and a pronoun within an embedded clause, this section argues that West Circassian word order permutations are derived syntactically and correlate with structural c-command. This means that West Circassian, while displaying the surface properties of a non-configurational language, is configurational at its core: lexical DPs are organized hierarchically and are not dislocated, merged as adjuncts, or postsyntactically pronounced in an arbitrary linear order.

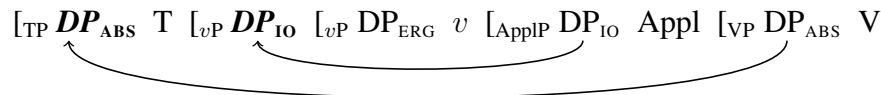
A number of argument asymmetries have been diagnosed and analyzed for the West Circassian clause. Based on data from anaphor binding, constraints on parasitic gaps and obligatory control constructions, Ershova (2019, 2021b,a) argues that arguments are initially merged based on their thematic prominence, with e.g. an ergative agent c-commanding an absolutive theme. Finite clauses then involve obligatory A-movement of the absolutive case-marked nominal to Spec,TP, while the ergative agent and applied arguments remain within *vP*⁶ – this is shown for a transitive verb in (23). Additionally, based on the behavior of parasitic gaps, the applied argument, while initially introduced lower than the ergative agent, may undergo A-scrambling to Spec,*vP*; see Ershova (2021a) for details (24).

⁶Refer to cited works for extensive discussion and evidence; see also Bittner & Hale 1996; Manning 1996; Baker 1997; Aldridge 2008; Coon *et al.* 2014, 2021; Yuan 2018 for similar analyses of other syntactically ergative languages.



The copy theory of movement (Chomsky 1993 *et seq.*) predicts that the lower copy of a movement chain may be spelled out, resulting in free word order. In the case of the A-movement operations discussed here, this would be a case of covert A-movement, as discussed e.g. by Polinsky & Potsdam (2013). For the West Circassian clause, depending on which movement copy is considered, all c-command relations are attested, as shown for a di-transitive verb in (25): the ergative agent c-commands the absolutive theme in its base-generated position, the absolutive theme c-commands the ergative agent from its derived position; likewise, the applied object is c-commanded by the ergative agent in its base-generated position, but c-commands the ergative agent if it has undergone scrambling.

(25) Example derivation for di-transitive verb (ERG-IO-ABS):



The different c-command configurations play a role in different prominence diagnostics. For example, for the purposes of reflexive binding, which is determined at the level of *vP*, the ergative agent c-commands the absolutive theme, but for the purposes of reciprocal binding, which is established at the level of TP, the absolutive theme behaves as the most prominent argument (Ershova 2021b).

To account for the sensitivity of weak crossover to word order, I propose that weak crossover effects are sensitive to which copy in a movement chain is spelled out. Tentatively, I propose to capture this in the following way.

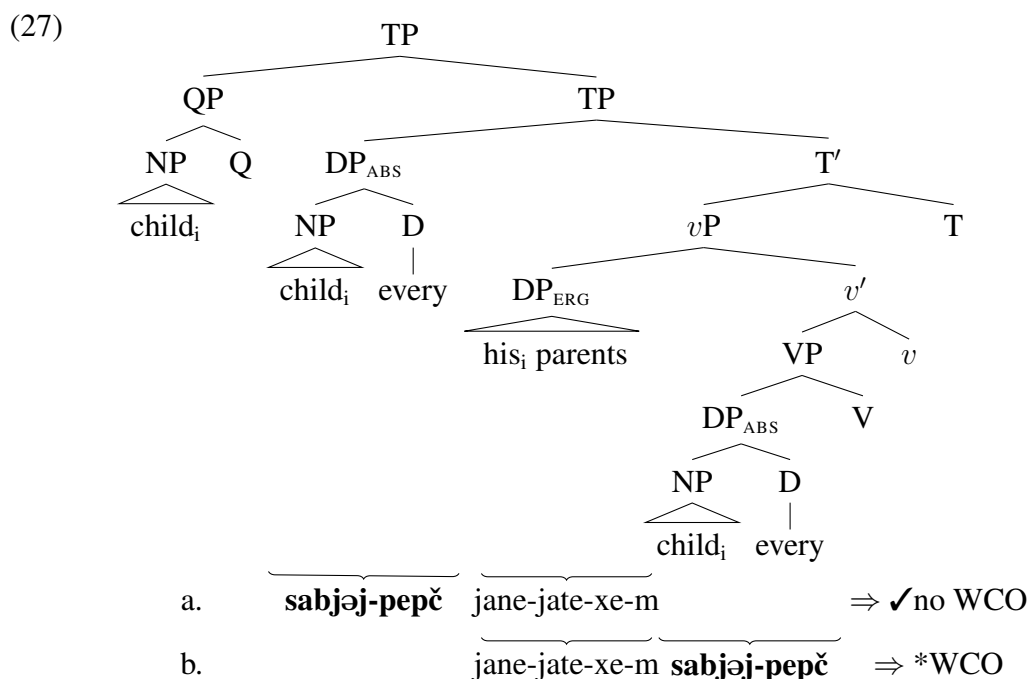
- (i) Per Ershova (2020), rules of syntax-to-PF mapping in West Circassian apply at the phase level. For example, once a DP is formed, it is spelled out, with DP-specific interface rules applying to render the resulting pronunciation.
- (ii) Within an A-chain with several movement copies,⁷ pronouns and copies of a movement chain (traditionally – traces) must be interpreted within the phase they are pronounced in, i.e. the interpretive component correlates with syntax-to-PF mapping.

⁷I leave open the question of how this condition interacts with cases of A'-movement.

- (iii) Following Fox & Johnson (2016), I assume that QR involves a dependence relation between a covert quantifier in the clausal periphery and the D⁰ head of the in-situ quantifier phrase, which is correspondingly pronounced as a quantifier. The NP, which is the restrictor of the quantificational expression, then covertly raises to merge with the quantifier in the high position for semantic reasons (26). Per assumption (ii) above, the lower copy of the raised NP must be interpreted within the DP where it is pronounced.

$$(26) \quad [TP [QP \checkmark \langle NP_i \rangle] \dots [DP \text{ every } NP_i]]$$

Taken together, these assumptions correctly predict that DP-internal pronouns and traces which originate within a DP must be interpreted in the surface position of the corresponding DP. For example, in a transitive clause with a quantifier phrase in the position of the absolutive theme and a bound pronoun within the ergative DP, as in (20), if the absolutive DP is pronounced in Spec,TP, this means that the NP copy corresponding to the raised restrictor within that DP must be interpreted in Spec,TP. Since the bound pronoun within the ergative DP is lower in the structure, no weak crossover effect is triggered (27a). If, on the other hand, that same absolutive DP is pronounced in its base position, the QR-ed NP must be interpreted in the low position as well; since the ergative DP containing the bound pronoun c-commands this low position, this triggers a weak crossover effect (27b).



Ershova (2020) posits two phases that are relevant to spellout: DP and CP. This means that pronouns that are not DP-internal are not expected to display the same sensitivity to word order as the pronouns in the weak crossover configurations discussed here, as long as they are pronounced as part of the CP they were initially

merged in. This appears to be the correct prediction, given that overt anaphoric pronouns may be freely ordered with respect to their antecedents Ershova (2021b).

The proposal set out here is tentative, and further research is required to confirm it. A possible alternative to the proposal sketched here is to correlate surface word order with the presence or absence of a given A-movement operation. Support for such an analysis may come from combining prominence diagnostics such as anaphor binding with word order permutations, preliminary evidence against this approach comes from the unconstrained ordering of overt anaphoric pronouns and their antecedents. Another alternative is to posit additional movement operations to derive the word order permutations and corresponding weak crossover effects. Additional research is necessary to tease apart the analytical predictions of this alternative and the analysis sketched in this paper.

Finally, in the case of a bound pronoun appearing in an embedded CP, quantifier raising does not trigger a weak crossover effect, even if the bound pronoun linearly precedes the quantifier phrase (21)-(22). This is because the surface position of the embedded CP does not directly correlate with its structural position in the same way as it does for DP arguments. I tentatively hypothesize that the embedded CP appears to the left of the matrix clause due to extraposition at PF to satisfy prosodic well-formedness, per e.g. Potsdam (2021).

6 Conclusion

This paper has presented evidence that weak crossover effects are (i) sensitive to linear precedence between co-argument DPs and (ii) sensitive to structural c-command in cases where the bound pronoun is in an embedded CP. Taken together, these two observations suggest that linear precedence between co-argument DPs correlates with structural c-command. Weak crossover effects with quantifier raising thus present evidence that West Circassian, despite displaying free word order and the trademark properties of a polysynthetic language, is configurational in the same manner as languages with more rigid word order and no polysynthetic morphology, counter to proposals that nominal arguments in polysynthetic languages are dislocated adjuncts (Jelinek 1984; Baker 1996; Pensalfini 2004) or are ordered post-syntactically (Compton & Pittman 2010).

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