

# Syntactic Ergativity and the Theory of Subjecthood: Evidence from Anaphor Binding in West Circassian\*

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## 1 Introduction

One of the most widely used terms in language description and analysis is *subject*. As linguistics has expanded to include a typologically diverse set of languages, much discussion has been dedicated to the identification, universality and theoretical relevance of this grammatical notion. The biggest challenge for a universal understanding of subjecthood comes from languages where the commonly applied subjecthood diagnostics fail to uniformly identify a particular type of argument; the best-studied examples of these are Philippine languages and syntactically ergative languages, such as Dyirbal, a subset of Mayan languages, and Inuit languages, among others. One of the most commonly held views, based on these languages, is that there are two basic types of argument prominence: a universally identifiable ‘deep’ subject, which is generally taken to be the most agentive or ‘thematically prominent’ and a constituent which displays certain prominence characteristics in the surface syntax, which has been variably labeled as a topic (Schachter 1976), surface subject (Guilfoyle et al. 1992), pivot (Dixon 1994), grammatical structure subject (Man-

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ning 1996), among others. The Minimalist Program inherits from earlier Generative approaches a relative, structural understanding of subjecthood properties as derivative of the corresponding constituent’s position within the larger syntactic structure, with the notions of c-command and structural prominence being crucial to accounting for standard characteristics associated with subjects. Within Minimalism subjecthood has been deconstructed into a number of properties that are attributed to a set of distinct positions within the clausal spine (Harley 1995; Bobaljik and Jonas 1996; McCloskey 1997, among others). A constituent acquires subjecthood properties by virtue of moving through the subject-associated positions in the clause, leaving open the possibility that a particular type of subject may not move through all the relevant positions and, consequently, may only display a subset of subjecthood properties, as argued e.g. for quirky subjects in Icelandic, Finnish, and Hindi (Poole 2015).

This paper presents a case study of subjecthood properties in West Circassian (also known as Adyghe, of the Northwest Caucasian family), a syntactically ergative language spoken in the Russian Caucasus. In West Circassian, reflexives and reciprocals are both constrained in cross-linguistically familiar ways: both types of anaphors require a local, structurally superior linguistic antecedent. Puzzlingly, in a subset of argument combinations the two anaphors display contradictory patterns of binding. Based on the behavior of these anaphors, this paper argues that there are at least two arguments in the West Circassian clause which may be identified as a subject, and that the two types of subjects cannot be distinguished in any meaningful systematic way, because they are identified based on the same subjecthood diagnostic – the ability to bind an anaphoric pronoun.

The primary strategy of expressing reflexive and reciprocal binding in West Circassian is via the use of special morphology which appears in place of the cross-reference prefix indexing the bound participant; I demonstrate in section 3 that the position of the agreement morphology may be reliably used to diagnose the syntactic position of the corresponding anaphor. The contrast between reflexives and reciprocals is illustrated in (1): while the reflexive morpheme appears in place of the absolutive cross-reference marker (1a), the reciprocal morpheme replaces the ergative personal marker instead (1b).<sup>1</sup>

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<sup>1</sup>Following Testelelets (2009); Lander (2012); Lander and Testelelets (2017); Arkadiev and Testelelets (to appear), a.o., I use the following non-standard transcription symbols: c = IPA /tʰs/; č = IPA /tʃ/; h = IPA /h/; l = IPA /l̥/; λ = IPA /ʎ/; š = IPA /ʃ/; š̂ = IPA /ʃ̂/; ž = IPA /ʒ/; ž̂ = IPA /ʒ̂/; ʒ = IPA /dʒ/; ʒ̂ = IPA /dʒ̂/; C’ = palatalization; Ć = ejective.

Following recent scholarship on West Circassian, the examples are glossed in accordance with the Leipzig conventions, with the following additions: DIR – directional; DYN– present tense on dynamic verbs; MOD – modal future; PR – possessor; RE – reflexive.

- (1)      **Theme(ABS)-**    **Agent(ERG)-**
- |    |                  |                 |                    |      |  |
|----|------------------|-----------------|--------------------|------|--|
| a. | <b>zə-</b>       | t-              | λeɪ <sup>w</sup> ə | -ɪ   | <span style="border: 1px solid black; padding: 2px;">ABS→REFL</span> |
|    | <b>REFL.ABS-</b> | 1PL.ERG-        | see                | -PST | ‘We saw ourselves.’  |
| b. | te-              | <b>zere-</b>    | λeɪ <sup>w</sup> ə | -ɪ   | <span style="border: 1px solid black; padding: 2px;">ERG→REC</span>  |
|    | 1PL.ABS-         | <b>REC.ERG-</b> | see                | -PST | ‘We saw each other.’   |

Thus, according to reciprocal binding, the absolutive argument is structurally superior to other verbal arguments, including the ergative agent. In the case of reflexives, however, an absolutive theme of an ergative-absolutive verb must be bound by the ergative agent, rendering the exact opposite binding configuration to reciprocals. Anaphor binding in West Circassian thus challenges a static understanding of sentence structure: the absolutive theme must be structurally lower than the ergative agent for the purposes of reflexive binding and higher than the ergative agent for the purpose of reciprocal binding.

West Circassian thus confirms the idea that subjecthood properties are distributed across several positions within the clause. What sets West Circassian apart from English, Icelandic and other languages for which the disbursement of subjecthood phenomena across several positions have been extensively studied is that both of these positions are systematically occupied by two distinct thematic arguments: the absolutive case-marked argument in the higher position and the highest participant in the thematic domain in the lower position. This leads to a distribution of subjecthood properties across two distinct nominals within a given clause, thus confirming previous scholarship on distributed subjecthood properties. Furthermore, West Circassian demonstrates that subjecthood properties cannot be associated with a specific thematic role or specific position in the clause, and should rather be defined in contextualized terms such as structural prominence and c-command. This decomposed understanding of subjecthood renders the notion of *subject* as a syntactic primitive theoretically vacuous.

The proposal that both subject positions in West Circassian may be overtly occupied by two distinct nominals provides evidence against a unified, universal notion of subject (contra e.g. Anderson 1976). In this respect the current proposal falls in line with similar analyses for Tagalog (Guilfoyle et al. 1992) and for languages displaying syntactically ergative patterns (Bittner and Hale 1996; Manning 1996; Baker 1997) and revives the discussion of the cross-linguistic relevance of subjecthood in languages for which subjecthood diagnostics render mixed results (see e.g. Schachter 1976, 1977, also Dixon’s (1994) division of subjecthood properties across a ‘pivot’ and a ‘subject’). Previous accounts of two distinct subject-like positions, however, rely on a clear division of labor between the two positions, with the lower position (the ‘actor’ in Austronesian

linguistics or the ‘subject’ in Dixon’s (1994) terminology) serving as an antecedent for anaphoric pronouns. The higher position is then standardly associated with information structural properties, such as quantifier scope and extraction asymmetries, and cross-clausal processes such as omission under co-reference in conjoined clauses. This is also true for research on syntactically ergative languages, where the high absolutive position is treated as fundamentally distinct from a syntactic subject (Bittner and Hale 1996; Baker 1997; Aldridge 2004, 2008; Coon et al. 2014, 2021; Yuan 2018, a.o.). West Circassian anaphoric pronouns provide evidence against this division of labor. Both subject-like positions are subject-like in the same way – in both positions, an argument may, and in certain cases must, serve as an antecedent for an anaphor.

The distribution of reflexive and reciprocal morphology in West Circassian has been described in detail by Rogava and Keraševa (1966:271-279); Arkadiev et al. (2009:63-67), and Letuchiy (2010:339-344). This paper builds on previous work by bringing in negative data and systematic positive data supporting previously made generalizations and novel data which (i) confirms the syntactic status of reflexive and reciprocal morphology as the morphological reflex of a syntactically active bound pronoun and (ii) establishes the structural conditions on reflexive and reciprocal binding and their connection to the full clause structure, by examining contexts involving more than two verbal arguments and reevaluating cases of bidirectional anaphoric binding.

Subjecthood properties of the absolutive argument in West Circassian have previously been discussed by Lander (2009, 2012) and Letuchiy (2010), the latter paper relying partially on reciprocal binding patterns as evidence. This paper builds on and strengthens Letuchiy’s (2010) proposal that reciprocals in West Circassian follow a syntactically ergative pattern by contrasting the behavior of reciprocals with reflexives in the same argument configurations; this is discussed in more detail in section 5. In contrast to Letuchiy (2010), this paper argues that reflexive binding patterns are syntactically constrained like reciprocals, rather than governed by purely semantic considerations, thus requiring an analysis of the clause structure which allows for both types of binding configurations to take place.

The remainder of the paper is structured as follows: section 2 provides the basic background on West Circassian and the assumptions adopted throughout the paper regarding the syntax of agreement and case assignment; section 3 outlines the morphosyntactic properties of reflexive and reciprocal markers and argues that they expone agreement with a syntactically active anaphoric pronoun; section 4 argues that reciprocal binding patterns provide evidence for a syntactically ergative clause structure; section 5 discusses locality conditions on reflexive binding, and section 6 concludes.

## 2 West Circassian

This section presents general background on West Circassian and gives the necessary background on the clause structure and morphosyntax of the language.

### 2.1 General background

West Circassian, which is also known as Adyghe, belongs to the Northwest Caucasian (West Caucasian, or Abkhaz-Adyghean) family, one of the three indigenous language families spoken in the Caucasus (alongside the Northeast Caucasian, or Nakh-Daghestanian, and South Caucasian, or Kartvelian, families). It comprises the Circassian group together with the closely related East Circassian language (also known as Kabardian). The Northwest Caucasian family also includes Abkhaz, Abaza, and the extinct language Ubykh (Kumakhov 1981; Chirikba 1996; Hewitt 2004; Daniel and Lander 2011). Like the other languages of the Northwest Caucasian family, West Circassian has a rich consonantal system with a small vowel inventory and is polysynthetic, with agglutinating prefixal and suffixal morphology and ergative alignment in verbal indexing, free word order and pro-drop (see e.g. Arkadiev et al. 2009:18; Lander and Testelets 2017:949). Together with East Circassian, the language also displays ergative alignment in case marking. In Russia West Circassian is primarily spoken in the Republic of Adyghea and the neighboring Krasnodar Krai – two federal constituencies bordering the Black Sea northwest of the Caucasus mountains. Based on the 2010 census, Ethnologue estimates the total number of speakers worldwide to be 568300, and the number of speakers in Russia at around 117500.<sup>2</sup> The language is classified as vulnerable by UNESCO.<sup>3</sup> In the Republic of Adyghea, language transmission is active in rural Adyghe settlements, but there is rapid language shift in urban areas to Russian, the dominant language (see e.g. Smeets 1984:56-59 on the analogous situation in Turkey; Lander and Testelets 2017:948-949).

The data for this paper was collected through elicitation with four native speakers of the Temirgoy dialect spoken in the Shovgenovskiy district of the Republic of Adyghea in Russia, conducted over the course of two trips to the region in 2017 and 2018, comprising a total of 14 weeks in the field. Other sources for data are published grammatical descriptions, scholarly papers, and the Adyghe Language Corpus designed by Timofey Arkhangelskiy, Irina Bagirokova, and Yury Lander (abbreviated as AC throughout the paper)<sup>4</sup>. Unless otherwise indicated, all examples are

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<sup>2</sup><https://www.ethnologue.com/language/ady>

<sup>3</sup><http://www.unesco.org/languages-atlas/index.php>

<sup>4</sup>[http://adyghe.web-corpora.net/index\\_en.html](http://adyghe.web-corpora.net/index_en.html)

in the Temirgoy dialect or the official literary standard, which is based on the Temirgoy dialect. The glossing and morphological segmentation in cited examples may be altered from the source for consistency with conventions adopted in the paper.

## 2.2 Basic clause structure

This subsection outlines the basic clause structure of the language. West Circassian is morphologically ergative in case marking and verbal indexing. In regards to case marking, 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 and any applied objects receive the oblique case marker *-m*. Thus, the external argument of the unergative verb *qešen* ‘dance’ in (2a) and the theme of the transitive verb *fepen* ‘dress’ in (2b) are assigned absolutive case, while the ergative agent in (2b) and the benefactive applied object in (2c) are assigned oblique case.<sup>5</sup>

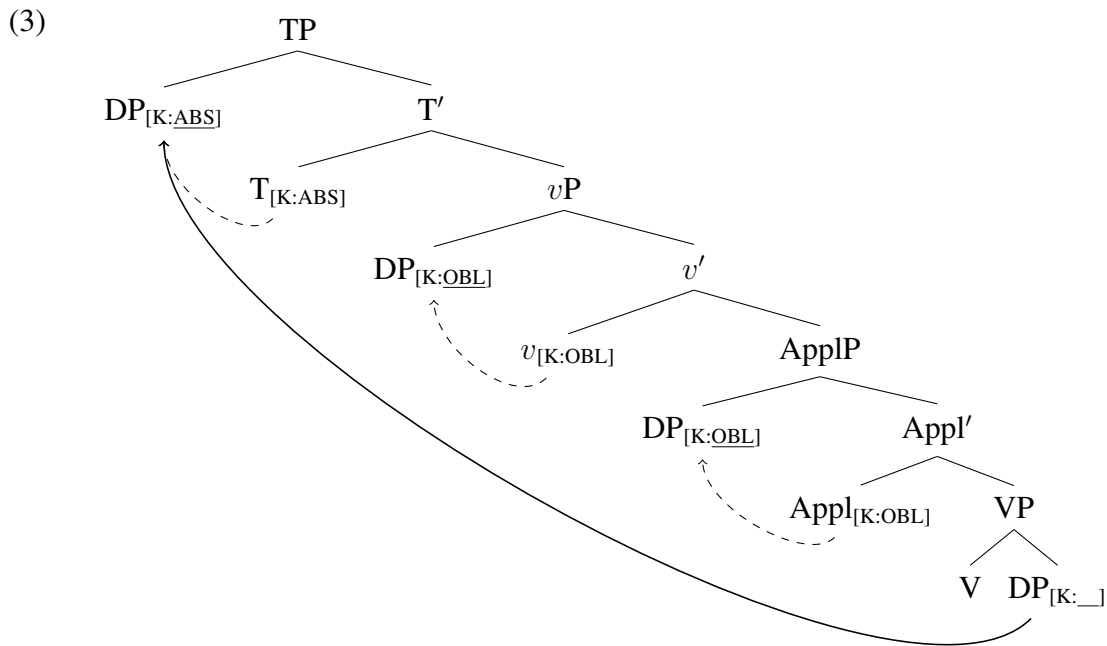
- (2) a. mə pšaše-**r**(ABS) jane paje Ø-qa-š<sup>w</sup>e  
 this girl-ABS 3PL.PR+mother for 3ABS-DIR-dance  
 ‘The girl is dancing for her mother.’
- b. s-jə-pšaše-xe-**m**(ERG) nəsyape-xe-**r**(ABS) Ø-a-fepa-βe-x  
 1SG.PR-POSS-girl-PL-**OBL** doll-PL-ABS 3ABS-3PL.ERG-dress-PST-PL  
 ‘My daughters dressed the dolls.’
- c. mə č’ale-**r**(ABS) bere Ø-jə-ʔahəl-xe-**m**(IO) telefon-č’e  
 this boy-ABS much 3SG.PR-POSS-relative-PL-**OBL** telephone-INS  
 Ø-a-fe-tj-e-we  
 3ABS-3PL.IO-BEN-LOC-DYN-hit  
 ‘This boy calls (lit. rings for) his relatives on the telephone a lot.’

Caponigro and Polinsky (2011) differentiate between the use of the oblique case marker *-m* on ergative DPs and applied objects; Rogava and Keraševa (1966); Arkadiev et al. (2009); Lander (2012); Lander and Testelefs (2017) provide a uniform treatment for all instances of this marker. In line with recent work on West Circassian I label all instances of *-m* as *oblique*. In order to differentiate between the different uses of oblique case-marked nominals or nominals without overt case marking, here and throughout the paper I mark the syntactic role of a given nominal (ABS, ERG or IO) in parentheses when this is necessary for expository reasons.

Based on evidence from reciprocal binding, I argue in section 4 that West Circassian is a high absolutive language, with the absolutive case-marked nominal raising to occupy Spec,TP. In line

<sup>5</sup>Oblique case is also used to mark possessors and complements of postpositions.

with analyses of other high absolutive languages (Bittner and Hale 1996; Aldridge 2004, 2008; Coon et al. 2014, 2021), I propose that the movement of the absolutive to a high position is motivated by a licensing requirement: the corresponding DP moves to Spec,TP to be assigned absolutive case. To this effect, I follow Ershova (2020) in adopting Caponigro and Polinsky’s (2011) analysis of case assignment in West Circassian, with one adjustment. Following their analysis, the ergative subject and applicative indirect objects are assigned inherent case by  $v^0$  and  $\text{Appl}^0$  respectively per Legate (2008); Pykkänen (2008). In contrast to Caponigro and Polinsky (2011), absolutive case is uniformly assigned by  $T^0$ , as opposed to it being the instantiation of two separate cases: nominative on subjects and accusative on direct objects.<sup>6</sup> This analysis is illustrated for clause headed by a ditransitive verb in (3). The structures in (3)-(4) are represented as right-branching for readability; all other trees will be presented as left-branching in accordance with the typological profile of the language.

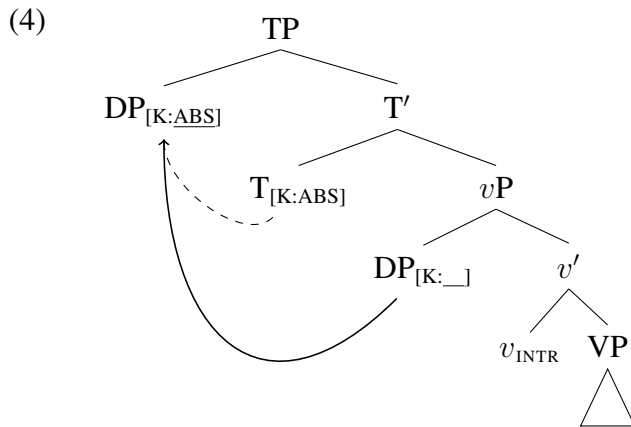


The position of  $\text{Appl}^0$  above VP is in accordance with Pykkänen’s (2008) analysis of high applicatives. For West Circassian this is justified by the broad semantics of the applicative (comitative, malefactive, benefactive, locative, etc.), as well as the productivity of this valency changing operator: it may combine with any type of predicate regardless of transitivity or unaccusativity.

<sup>6</sup>Alternatively, this licensing requirement may be represented without reference to case, as an abstract nominal licensing feature Ershova (2019); Yuan and Ershova (2020), or a requirement for nominal arguments to enter a  $\phi$ -agreement relation with a higher head Yuan (2018).

The high applicative analysis of applied arguments is crucial in accounting for bidirectional reflexive binding in so-called inverse predicates; see subsection 5.2.2.

In an intransitive clause,  $v^0$  does not assign inherent case, and the external argument moves to Spec,TP for absolutive case assignment in the same fashion as an absolutive internal argument (4). While the assumption that intransitive  $v^0$  is featurally distinct from transitive  $v^0$  is stipulative, it is not unique to this paper and is necessary for any analysis of ergative case as inherent; for more discussion, see fn.6 in Legate (2008).



A single locus for absolutive case assignment is motivated by the consideration that, unlike languages in which absolutive case is the union of two distinct cases – nominative and accusative – termed ABS=DEF languages by Legate (2008), West Circassian does not show the structural dichotomy between the two cases in any configurations. Absolutive case on subjects is available in all the same contexts as absolutive on direct objects: for example, absolutive case is uniformly unavailable in nominalized constructions (Ershova 2020). Additional evidence for the movement of the absolutive DP to a high position comes from the behavior of parasitic gaps (Ershova 2021).<sup>7</sup>

Nouns may appear without overt case marking. The lack of case marking is generally associated with indefiniteness, e.g. *txəλ* ‘book’ (5a). 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 Testelets to appear): this is shown for a personal pronoun in (5a) and a possessed nominal in (5b). I assume that all arguments are assigned case as shown in (3)-(4) regardless of the presence of an overt morphological case marker.<sup>8</sup>

<sup>7</sup>Unlike most high absolutive languages, West Circassian does not display what has been termed narrow syntactic ergativity (Polinsky 2017): all arguments, including the ergative DP, are accessible for wh-movement.

<sup>8</sup>See Arkadiev and Testelets (to appear) for an alternative account where caseless nominals are treated as diminished in structure and thus not bearing any case at all.



- (5) a. **we**            *mə pšaše-m*    **txəλ**            *Ø-Ø-je-p-tə-ɸ*  
**you(ERG)** this girl-OBL    **book(ABS)** 3ABS-3SG.IO-DAT-2SG.ERG-give-PST  
‘You gave this girl a book.’
- b. *mə sabəjə-r*    **ə-šəpχ<sup>w</sup>**                            *Ø-q-ə-š’a-ɸ*  
this child-ABS    **3SG.PR-sister(ERG)** 3ABS-DIR-3SG.ERG-bring-PST  
‘Her sister brought this child.’

West Circassian also displays free word order, often without any apparent changes in information structure or prosody (see e.g. Kumakhov and Vamling 2006:72-119; Lander 2012:89-92; Lander and Testelets 2017:951), and nominal phrases referring to arguments are often omitted. The former point is illustrated in (6): in this sentence the applied object may precede the absolutive external argument (6a), or follow it (6b), with no change in meaning.

- (6) a. [**mə č’ale-m**](IO)    *zab<sup>w</sup>ere*    [**ə-š-xe-r**](ABS)            *jewex*  
this boy-OBL                            sometimes 3SG.PR-brother-PL-OBL 3ABS.PL+3SG.IO.hit
- b. [**ə-š-xe-r**](ABS)                            *zab<sup>w</sup>ere*    [**mə č’ale-m**](IO)    *jewex*  
3SG.PR-brother-PL-ABS sometimes this boy-OBL            3ABS.PL+3SG.IO.hit  
‘His brothers sometimes hit this boy.’

The availability of pro-drop can be seen in (7), where the verb indexes four arguments, none of which are overtly expressed, but this utterance is nevertheless understood as a complete sentence.

- (7) *sə-            qə- p-            f-            a-            r-            jə-            ɸe-            λeɸ<sup>w</sup>ə -ɸ*  
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)

The connection between the surface word order and syntactic structure is not straightforward. Based on the behavior of parasitic gaps in nominal arguments, Ershova (2021) argues that lexical DPs are merged as arguments, rather than being dislocated or adjoined, *pace* previous analyses of polysynthetic languages with free word order (Jelinek 1984; Hale 1994; Baker 1996; Pensalfini 2004). Parasitic gap configurations, however, provide no clues as to how syntactic structure maps to word order, because one of the nominals in question is expressed covertly as a *wh*-trace. For the purposes of this paper I assume that all arguments that are selected by the predicate are present in the syntactic representation, even when they are unpronounced on the surface, and that arguments asymmetrically c-command each other regardless of the surface word order, with c-command determined through the application of the binding diagnostics discussed in this paper.<sup>9</sup>

<sup>9</sup>See Legate (2002) for extensive argumentation against analyses which posit free adjunction of nominal arguments

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.

Since the primary evidence for anaphor binding comes from the morphological forms of the predicates in question, the following section provides the necessary background on the morphosyntax of cross-reference morphology.

### 2.3 The morphosyntax of cross-reference morphology

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; Testelets 2009; Korotkova and Lander 2010; Lander and Letuchiy 2010; Lander 2017; Lander and Testelets 2017; Ershova 2021, *inter alia*). A predicate indexes all participants of the event it denotes; for example, the verb in (7) above 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 *be-*. The markers referring to the applied objects appear alongside applicative prefixes marking the semantic role of the corresponding applied object (e.g. benefactive *fe-*, comitative *de-*, locative *š'ə-*, etc.). I label any argument that is cross-referenced by an applicative head as an applied argument regardless of its semantic role or obligatoriness in a given verb's argument structure.

While the ordering of verbal morphology generally reflects semantic and syntactic scope (Korotkova and Lander 2010; Ershova 2021), cross-reference prefixes are organized templatically. The 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, as can be seen in Table 1. The directional prefix between the absolutive and applied argument positions expresses directionality towards the speaker or inversion in accordance with the person hierarchy  $1 > 2 > 3$ , in addition to some lexicalized uses (Arkadiev et al. 2009:43; Arkadiev 2017, 2018a,b; Driemel et al. 2020).

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in polysynthetic languages, such as Jelinek's (1984) Pronominal Argument Hypothesis and Baker's (1996) Polysynthesis Parameter.

<b>Absolutive-</b>	Directional-	<b>IO+Applicative-</b>	<b>Ergative-</b>
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Table 1: Order of cross-reference prefixes

This ordering can be seen most clearly in the presence of the directional prefix *qə/qe-*. This prefix surfaces to the immediate right of the absolutive personal marker and to the left of the ergative and applied object markers. Thus, the first person cross-reference markers referring to the ergative agent (8a) or applicative indirect object (8b) surface to the right of the directional prefix, while the first person marker referring to the theme of the transitive verb (8c) or the sole argument of an intransitive verb (8d) appears to the left of the directional prefix. Ergative and applied object cross-reference prefixes can likewise be differentiated based on their position: the first person marker referring to the applied object in (8b) appears to the left of the benefactive prefix *f(e)-*, which is then followed by a third person prefix, while in (8a) this same first person prefix marks the ergative agent and thus appears directly adjacent to the verbal root.

- (8) a.  $\emptyset$ - qə- [ $\emptyset$ - fe-] s- š'a -B  
3SG.ABS- DIR- 3SG.IO- BEN- **1SG.ERG-** bring -PST  
‘**I (ergative)** brought him/her to him/her’
- b.  $\emptyset$ - qə- [s- f-] jə- š'a -B  
3SG.ABS- DIR- **1SG.IO-** BEN- 3SG.ERG- bring -PST  
‘S/he brought him/her **to me (applied argument)**’
- c. sə- q- jə- š'a -B  
**1SG.ABS-** DIR- 3SG.ERG- bring -PST  
‘S/he brought **me (absolutive)**’
- d. sə- qe- ḳ<sup>w</sup>a -B  
**1SG.ABS-** DIR- go -PST  
‘**I (absolutive)** came here’ (Rogava and Keraševa 1966:137-138)

The morphological position of a given cross-reference prefix can thus be directly tied to the syntactic role of the referenced participant in the clause, allowing us to appeal to the morphological form of a predicate as a diagnostic for the syntactic position of the corresponding verbal argument. However, the relative positions of the agreement prefixes do not directly map to underlying argument asymmetries: for example, an absolutive DP uniformly controls the leftmost agreement prefix regardless of its role in the thematic structure of a predicate: agreement with an absolutive external argument appears to the left of structurally lower applied arguments, and agreement with an absolutive internal argument likewise appears to the left of the thematically

more prominent ergative agent or applicative. For concreteness, I assume throughout the paper that the cross-reference prefixes expone  $\phi$ -agreement between a functional head and an argument:  $v^0$  tracks agreement with the ergative agent, Appl<sup>0</sup> agrees with the applied object, and T<sup>0</sup> agrees with the absolutive theme. The leftmost position of the absolutive agreement prefix corresponds with the high position of the agreeing head (T<sup>0</sup>). I assume that the surface order of the applicative and ergative agreement is achieved through post-syntactic reordering and does not directly correlate with structural height.<sup>10</sup>

The following section appeals to general properties of the morphosyntax of West Circassian to argue for the status of reflexive and reciprocal morphology as a type of  $\phi$ -agreement with a bound anaphor.

### 3 Reflexive and reciprocal agreement

This section outlines the basic distributional properties of reflexive and reciprocal marking in West Circassian. The main empirical generalization regarding these morphemes is that they are exponents of agreement with a syntactically active bound pronoun, which means that their morphological position may be used to diagnose the syntactic position of the corresponding anaphor. In this respect, the expression of anaphor binding in West Circassian is in stark contrast, on the one hand, with the use of detransitivizing operators with reflexive semantics in e.g. Hebrew (Reinhart and Siloni 2005) and with reciprocal semantics in e.g. Passamaquoddy, Japanese and Chichewa (Bruening 2004), and on the other hand, with free-standing reflexive or reciprocal pronouns which do not trigger any change in verbal morphology, as e.g. in English. The treatment of reflexive and reciprocal markers as agreement with a syntactically active bound pronoun is justified by the following pieces of evidence:

1. The morphological position of the reflexive and reciprocal marker changes to reflect the syntactic position of the bound argument.
2. The use of reflexive and reciprocal morphology does not involve valency reduction *pace* Grimshaw (1990); Reinhart (1996); Reinhart and Siloni (2004); Chierchia (2004), *inter alia*,

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<sup>10</sup>The mismatch between syntactic structure and the order of agreement prefixes is consistent with analyses that assume a direct correlation between morphological and syntactic ordering, such as Baker's (1985) Mirror Principle, as long as we allow for postsyntactic reordering operations, such as the ones posited in Distributed Morphology (Halle and Marantz 1993 *et seq.*).

meaning that (i) the case frame of the corresponding predicate does not change and (ii) the corresponding anaphor may be expressed overtly.

The remainder of this section is structured as follows: subsection 3.1 provides information on allomorphy and morphophonological alternations that these markers are subject to; subsection 3.2 demonstrates that the position of the reflexive and reciprocal morphology varies based on the syntactic position of the bound pronoun, and subsection 3.3 provides evidence that the use of this morphology does not involve valency reduction.

### 3.1 Allomorphy and morphophonology

This subsection outlines the various forms of the reflexive and reciprocal marker that may be observed in the data. It is important to establish the set of possible forms for these morphemes in order to make the correct generalizations regarding their distribution, especially since the two markers are phonologically very similar – one such case where the reflexive morpheme has previously been misanalyzed as an allomorph of the reciprocal prefix is illustrated in (16)-(17).

I take the basic form of the reflexive morpheme to be  $zə-$ , which may surface as  $z-$  or  $ze-$  due to regular phonological rules. The vowel /ə/ in the reflexive marker  $zə-$  undergoes the following regular morphophonological alternations:

1. The vowel /ə/ is dropped prevocally and immediately preceding a glide, resulting in the surface form  $z-$  (Arkadiev et al. 2009:27-28):

$$(9) \quad /ə/ \rightarrow \emptyset / \_ [-\text{consonantal}]$$

This is illustrated in the wordforms in (10):

- (10) a.  $sə-$        $z-$        $e-$        $ʒe$     $-ž'ə$        $\{sə+zə+je+e+ʒe+ž'ə\}$   
 1SG.ABS- **REFL.IO**- DAT- call -RE  
 'I call myself [Zara] (= I have named myself Zara)'
- b.  $z-$        $a-$        $fe-$     $s-$        $thač'ə$  - $\mathcal{B}$        $\{zə+a+fe+s+thač'ə+\mathcal{B}e\}$   
**REFL.ABS**- 3PL.IO- BEN- 1SG.ERG- wash -PST  
 'I washed myself for them.'
- c.  $z-$        $jə-$        $wəč'ə$  - $ž'ə$  - $\mathcal{B}$        $\{zə+jə+wəč'ə+ž'ə+\mathcal{B}e\}$   
**REFL.ABS**- 3SG.ERG- kill -RE -PST  
 'S/he killed himself/herself.'

2. The vowel /ə/ is optionally dropped if the reflexive morpheme is preceded by an open syllable (e.g. an absolutive agreement prefix) and followed by an applicative prefix.<sup>11</sup> For example, the reflexive morpheme surfaces as *z-* in the following example:

(11) sə-            **z-**            fe-    g<sup>w</sup>əbžə -ž'ə        {sə+zə+fe+g<sup>w</sup>əbžə+ž'ə}  
 1SG.ABS- **REFL.IO**- BEN- angry -RE  
 'I am angry at myself.'

The optionality of this rule is evident from the availability of the analogous form where the vowel is pronounced:

(12) wə-            **zə-**            fe-    g<sup>w</sup>əbžə -ž' -a  
 2SG.ABS- **REFL.ABS**- BEN- angry -RE -Q  
 'Are you angry at yourself?'

3. The vowel /ə/ undergoes the following assimilation rule which is triggered by the dynamic prefix *e-*: /ə/ surfaces as /e/ in present tense forms of dynamic verbs, if immediately followed by ergative cross-reference morphology and the dynamic prefix *e-*. This means that the reflexive morpheme in this context surfaces as *ze-*:

(13) ŝ<sup>w</sup>ə **ze-**            s-            e-    λeβ<sup>w</sup>ə -ž'ə        {zə+s+e+λeβ<sup>w</sup>ə+ž'ə}  
 good **REFL.ABS**- 1SG.ERG- DYN- see -RE  
 'I love myself.'

The reciprocal marker has two allomorphs: *ze-* (14a), which appears in the applied object position, and *zere-*, which appears in the ergative position (14b), or the applied object position cross-referencing the causee of a transitive verb (14c) (Rogava and Keraševa 1966:271-276; Arkadiev et al. 2009:63-67). The final vowel /e/ in both allomorphs is dropped if immediately followed by a vowel or glide; thus, the reciprocal marker referring to the causee is pronounced as *zer-* in (14c).

- (14) a. Ø-            **ze-**            fe-    χ<sup>w</sup>ə            -βe -x  
 3ABS- **REC.IO**- BEN- become -PST -PL  
 'they became [strong] for each other'
- b. Ø-            tje-            **zere-**            βe-            fe-    -ž'ə -βe -x  
 3ABS- LOC- **REC.ERG**- CAUS- fall -RE -PST -PL  
 'they made each other fall over'

<sup>11</sup>This rule is mentioned in Rogava and Keraševa (1966:51) for a number of particular prefix combinations (e.g. *zə+de* 'WH.IO+LOC-'), but appears to be more general than described there.

- c. tə-        **zər-**        a-        ʁe-        ša        -ʁ        {tə+zere+a+ʁe+še+ʁe}  
 1PL.ABS- **REC.IO-** 3PL.ERG- CAUS- know -PST  
 ‘they introduced us to each other (lit. made us know each other)’

Letuchiy (2010:341) treats some instances of the form zə- as a variant of reciprocal agreement, citing the following regular phonological alternation as the source of the vowel change:

- (15) For a number of prefixes, the final vowel /e/ changes to /ə/ when this prefix is followed by a prefix of a particular type (Smeets 1984; Arkadiev and Testelets 2009).

The set of prefixes subject to this rule and the set of prefixes conditioning this alternation are idiosyncratic and do not fully overlap, so the full discussion of this alternation remains outside the scope of this paper; see e.g. Arkadiev and Testelets (2009) for more detailed discussion. As an example of this alternation, the comitative prefix *de-* is pronounced as *de-* when followed by the ergative agreement prefix (16a) and as *də-* when it is followed by a locative applicative prefix such as *š’ə-* (16b).

- (16) a. Ø-        Ø-        **de-**        t-        š’a        -ʁ  
 3ABS- 3SG.IO- **COM-** 1PL.ERG- lead -PST  
 ‘we lead him/her with him/her’ (Rogava and Keraševa 1966:157)
- b. sə-        qə-        **də-**        š’ə-        w-        e-        ž’a        -ʁ  
 1SG.ABS- DIR- **COM-** LOC- 2SG.IO- DAT- wait -PST  
 ‘I waited there for you with him/her’ (Arkadiev et al. 2009:134)

At first glance, the assumption that the reciprocal marker *ze-* may sometimes surface as *zə-* per the rule in (15) seems reasonable, since forms containing the morpheme *zə-* may receive a reciprocal interpretation, as e.g. in (17).

- (17) te        **zə-**        t-        λeʁ<sup>wə</sup>        -ʁ  
 we        **REFL.ABS-** 1PL.ERG- see        -PST  
 ‘We saw ourselves / each other.’

However, as the glossing and translation suggests, this prefix is in fact reflexive, rather than reciprocal, and reflexives with plural antecedents may be interpreted as reciprocal – a cross-linguistically common phenomenon; see e.g. Maslova (2008).<sup>12</sup> As can be seen in (16a), the

<sup>12</sup>Conditions on the possibility of a reciprocal interpretation of the reflexive marker *zə-* and how it interacts with the true reciprocal *ze(re)-* is left for future research.

morphological environment within which this prefix appears in (17) – to the left of an ergative agreement marker – is not expected to trigger the vowel change to /ə/. On the contrary, the reciprocal morpheme often surfaces as *ze-* in environments which are expected to trigger the vowel change in (15). For example, the reciprocal marker is followed by the locative prefix *š'ə-* in (18), which is expected to trigger the vowel change, as shown in (16b), and nevertheless surfaces as *ze-*. In fact, Smeets (1984:216-217) lists the reciprocal morpheme *ze-* among the set of morphemes which are never subject to the rule in (15).

- (18) *tə-*        ***ze-***        *š'ə-* *β<sup>w</sup>əpša -β*  
 1PL.ABS- **REC.IO**- LOC- forget -PST  
 ‘We forgot about each other.’

*Pace* Letuchiy (2010) I thus conclude that the reciprocal morpheme only has two variants (with the possibility of final vowel elision): *ze-* and *zere-*, and the prefix *zə-* is always reflexive. Without clearly dividing the uses of the reflexive and reciprocal agreement markers, we would be led to a number of incorrect generalizations regarding the distribution of the reciprocal morpheme by expanding its set of possible positions to all the positions available for the reflexive prefix *zə-*. To this effect, this paper reevaluates some of the empirical generalizations about binding directionality outlined in Letuchiy (2010); see subsection 5.2.2 for detailed discussion.

### 3.2 The morphological position changes to reflect bound argument

This subsection provides data illustrating that the position of the reflexive and reciprocal markers appears precisely in the morphological position where agreement with the bound argument is expected to appear. Arkadiev et al. (2009); Letuchiy (2010) makes similar generalizations about the morphological positions of the reflexive and reciprocal morphemes, generally treating the morphemes as direct exponents of the bound pronouns. This paper builds on previous work by providing minimal pairs for each argument combination, examples that clearly illustrate the precise position of the corresponding morphemes, and negative data confirming that the positions of the reflexive and reciprocal morphemes are fixed.

1. Unergative verb with an applied object (ABS>IO).<sup>13</sup> In order to express reflexive or reciprocal co-indexation between the absolutive argument of an unergative predicate such as *qeš<sup>w</sup>en* ‘dance’ and an applied object, for example, a comitative argument cross-referenced by the prefix

<sup>13</sup>The symbol > is intended to indicate binding directionality, with the antecedent appearing to the left of the symbol and the bound argument appearing to the right.



*de-*, the reflexive or reciprocal marker appears in the applied object position, as shown in (19a) for the reflexive and (19b) for the reciprocal. This is evident from the linear position of the corresponding markers: they are preceded by the absolutive agreement prefix and immediately followed by the comitative applicative prefix. This position is fixed – neither the reflexive (20a), nor the reciprocal (20b) marker may appear in the absolutive position instead.

- (19) a. wə- qə- **z-** d- e- š<sup>w</sup>e -ž'ə  
 2SG.ABS- DIR- **REFL.IO-** COM- DYN- dance -RE  
 'You are dancing with yourself.' IO→REFL
- b. tə- qə- **ze-** d- e- š<sup>w</sup>e  
 1PL.ABS- DIR- **REC.IO-** COM- DYN- dance  
 'We are dancing with each other.' IO→REC
- (20) a. \***zə-** qə- b- d- e- š<sup>w</sup>e -ž'ə  
**REFL.ABS-** DIR- 2SG.IO- COM- DYN- dance -RE  
 Intended: 'You are dancing with yourself.' \*ABS→REFL
- b. \***ze(re)-** qə- d- d- e- š<sup>w</sup>e  
**REC.ABS-** DIR- 1PL.IO- COM- DYN- dance  
 Intended: 'We are dancing with each other.' \*ABS→REC

The morphological position of the reflexive or reciprocal marker thus corresponds to the position of the agreement prefix triggered by the lower (i.e. bound) co-indexed argument – the applied object.

2. Transitive three-place predicate with applied object (ERG>IO). In order to express reflexive or reciprocal binding between an ergative agent of a transitive verb and an applied object, the reflexive or reciprocal morpheme appears in the applied object position. As in the previous examples, this is evident from the linear position of the marker in question: in order to mark reflexive or reciprocal co-indexation between an ergative agent and an applied object, the marker expressing the anaphor relation appears in the position immediately preceding the benefactive prefix, as expected of applied object agreement, while the ergative agreement marker remains intact – this is true for both reflexives (21a) and reciprocals (21b).<sup>14</sup>

<sup>14</sup>In both cases, I make the assumption that the reflexive or reciprocal marker is preceded by a phonologically null third person absolutive marker which is triggered by the absolutive case-marked DP. I am using these examples as opposed to ones with an overt absolutive agreement marker, which would make a better illustration for the position of the anaphor agreement marker, due to the difficulty of constructing a plausible scenario with a first or second person theme and co-indexed agent and applied object.

- (21) a. we wəne-r Ø- zə- fe- p- šə -ž'ə -ɸ  
 you house-ABS 3ABS- REFL.IO- BEN- 1SG.ERG- do -RE -PST  
 'You built a house for yourself.' IO→REFL
- b. te wəne-xe-r Ø- ze- fe- t- šə -ž'ə -ɸ  
 we house-PL-ABS 3ABS- REC.IO- BEN- 1PL.ERG- do -RE -PST  
 'We built houses for each other.' IO→REC

The inverse configuration where the applied object agreement remains intact and the reflexive or reciprocal marker appears in the ergative position is impossible for both types of markers: reflexive (22a) and reciprocal (22b).

- (22) a. \*we wəne-r Ø- p- fe- zə- šə -ž'ə -ɸ  
 you house-ABS 3ABS- 2SG.IO- BEN- REFL.ERG- do -RE -PST  
 Intended: 'You built a house for yourself.' \*ERG→REFL
- b. \*te wəne-xe-r Ø- t- fe- ze- šə -ž'ə -ɸ  
 we house-PL-ABS 3ABS- 1PL.IO- BEN- REC.ERG- do -RE -PST  
 Intended: 'We built houses for each other.' \*ERG→REC

It is a robust cross-linguistic generalization that applied objects are generally introduced lower than the external argument; see e.g. McGinnis (2000, 2001); Pykkänen (2008); Harley (2013). The applied object is thus expected to be bound by the ergative agent, and not vice versa. The natural conclusion based on the data in the examples above is that the reflexive and reciprocal markers are tracking agreement with the bound anaphor in the applied object position.

**3. Transitive predicate (ERG-ABS).** In order to express co-indexation between an ergative agent and an absolutive theme of a transitive predicate, the reflexive marker appears in the absolutive position: in (23a) this is evident from its leftmost position in the verbal form preceding all other verbal morphology, such as agreement with the applied object. Reciprocal morphology, on the other hand, appears in place of ergative agreement: in (23b) this can be discerned from the appearance of this prefix between the applicative morpheme and the causative prefix.

(23) REFL: ERG > ABS | REC: ABS > ERG

- a. zə- š<sup>w</sup>- e- s- š'e -n s-λeč'ə-š't  
 REFL.ABS- 2PL.IO- DAT- 1SG.ERG- sell -MOD 1SG.ERG-can-FUT  
 'I could sell myself to you (there's nothing else).' (A salesperson joking about their store running out of goods.) ABS→REFL

b. Ø- Ø- š'ə- **zere-** ʁe- čefə -x  
 3ABS- 3SG.IO- LOC- **REC.ERG-** CAUS- rejoice -PL

‘They enjoyed themselves with each other (lit. made each other rejoice) [at the weddings].’ (AC) ERG→REC

Transitive ergative-absolutive clauses are precisely the context in which reflexives and reciprocals behave in the opposite manner: the reflexive morpheme appears to track agreement with the theme of the transitive verb, while the reciprocal morpheme appears to expone agreement with the ergative agent.<sup>15</sup> More evidence for this approach (rather than assuming, for example, that the form containing the reciprocal marker in (23b) is simply intransitive) is provided in the following subsection. The important thing to note at this point is that both the reflexive and reciprocal morphemes appear in different positions within the verbal form based on the particular argument configuration involved, and in most cases it is clear that these morphemes appear precisely where agreement with the structurally lower of the two co-indexed arguments would have otherwise appeared.

### 3.3 No valency reduction

This subsection argues that the reflexive and reciprocal morphemes are not detransitivizing operators that trigger valency reduction. The argumentation is based on the following evidence, which, to my knowledge, has not previously received attention in literature on anaphoric binding in West Circassian: (i) if a lexical DP denoting the co-indexed argument is present, it must carry the case of the antecedent, and (ii) the anaphor may be overtly expressed.

#### 3.3.1 Case marking

If the antecedent DP is expressed overtly alongside a reflexive- or reciprocal-marked predicate, it must obligatorily carry the case of the co-indexed argument that triggers full  $\phi$ -agreement. This means that the reflexive or reciprocal morphology does not affect the valency of the predicate it attaches to. Instead, it marks agreement with a covert anaphoric pronoun. This is illustrated for different argument structure combinations below.

<sup>15</sup>The examples above have been selected because they contain additional morphology between the affix positions associated with absolutive and ergative agreement, thus clearly illustrating the precise position of the corresponding reflexive and reciprocal markers. More examples, including ungrammatical versions with alternative affix ordering, are provided in (35) and (37).

The lexical DP referring to the co-indexed participant that is used alongside a reflexive- or reciprocal-marked unergative predicate must be marked with absolutive case corresponding to the external argument of an unergative verb, rather than the oblique applied object: this is shown for a reflexive-marked unergative verb in (24a) and for a reciprocal-marked unergative verb in (24b). The case marking on the lexical DP thus confirms that there is an unpronounced anaphoric pronoun in the syntactic position of the applied argument which is assigned oblique case, while the DP referring to the antecedent is assigned absolutive case.

- (24) a. sabəj-xe-**r/\*m**                    Ø                    ɞʷənʒe-m  
 child-PL-**ABS/\*OBL**    (*refl*)                    mirror-OBL  
 Ø-    Ø-    š'ə-    z-                    e-    pɬə -ž'ə -x  
 3ABS- 3SG.IO- LOC- **REFL.IO**- DAT- look -RE -PL  
 'The children are looking at themselves in the mirror.'                    **REFL**
- b. sabəj-xe-**r/\*m**                    Ø                    Ø-    z-                    e-    pɬə -ž'ə -x  
 child-PL-**ABS/\*OBL**    (*rec*)                    3ABS- **REC.IO**- DAT- look -RE -PL  
 'The children are looking at each other.'                    **REC**

Likewise, in order to express reflexive co-indexation between an ergative agent and an absolutive theme of a transitive verb, the agreement with the absolutive theme is replaced with the reflexive marker, while an overt lexical DP referring to the co-indexed argument must carry oblique case, as expected of an ergative DP (25a). This confirms that the predicate has not been detransitivized, and the antecedent of the reflexive is assigned case as expected of the ergative external argument, while the unpronounced reflexive pronoun is assigned absolutive case. If the ergative agent and the absolutive theme are in a reciprocal relation, the reciprocal marker appears in the ergative slot, as discussed in the previous section, and the lexical DP referring to the co-indexed participant must be marked with absolutive case, as expected of the absolutive theme (25b). This is the expected case pattern if the covert reciprocal pronoun is occupying the position of the ergative agent, and the antecedent appears in the position of the absolutive theme.

- (25) **REFL: ERG > ABS | REC: ABS > ERG:**
- a. s-jə-pšaše-xe-**m/\*r**                    Ø                    z-                    a-                    fepa -ɞ  
 1SG.PR-POSS-girl-PL-**OBL/\*ABS**    (*refl*)                    **REFL.ABS**- 3PL.ERG- dress -PST  
 'My daughters dressed themselves.'                    **REFL**
- b. mə sabəj-xe-**r/\*m**                    Ø                    Ø-    tje-    zere-                    ɞe-    fe -ž'ə -ɞe -x  
 this child-PL-**ABS/\*OBL** (*rec*)    3ABS- LOC- **REC.ERG**- CAUS- fall -RE -PST -PL  
 'These children made each other fall over.'                    **REC**



- (27) a.                      **causer**   **agent**   **theme**  
                                  **baseline**                      ERG      ABS  
                                                       ↓  
                                  **causative**   +ERG   IO(DAT)   ABS
- b. ç’ale-m(ERG)    ɸʷəç’ə-r(ABS)    Ø-    j-            e-    wəfe  
 boy-OBL            metal-ABS            3ABS- 3SG.ERG- DYN- bend  
 ‘The boy is bending metal.’
- c. pšaše-m(ERG)                      ç’ale-m(OBL)                      ɸʷəç’ə-r(ABS)  
 girl-OBL                              boy-OBL                              metal-ABS  
 Ø-    Ø-        r-    j-            e-    **ɸe-**    wəfe  
 3ABS- 3SG.IO- DAT- 3SG.ERG- DYN- CAUS- bend  
 ‘The girl is forcing the boy to bend metal.’ (Letuchiy 2009:377)

If the reciprocal morpheme is tracking agreement with a transitive causee, it is spelled out as *zere-*. Thus, in (28) the causee is co-indexed with the absolutive theme of the base verb, and the reciprocal morpheme appears in the position of the applied object – to the right of absolutive agreement and to the left of the ergative personal marker.

- (28) šʷə tə-            **zere-**    b-            ɸe-    λeɸʷə -ɸ  
 good 1PL.ABS- **REC.IO-** 2SG.ERG- CAUS- see    -PST  
 ‘You helped (lit. made) us love each other (lit. see good in each other)’

Thus, the morpheme *zere-* is not limited to marking reciprocal co-indexation between an ergative agent and an absolutive theme: it is also used to mark agreement with the dative causee in a transitive causative construction.

To summarize this subsection, the use of reflexive and reciprocal morphology does not trigger any changes to the argument structure or case-assigning properties of the predicate in question: this is evident from the case-marking that appears on the antecedent DP.

### 3.3.2 Overt anaphoric pronouns

Another piece of evidence that the use of reflexive and reciprocal morphology does not involve any valency reduction comes from the observation that an overt anaphoric pronoun may appear in the presence of the corresponding marker, resulting in a double exponence of the reflexive or reciprocal relation. While speakers prefer to omit the pronoun and do not always approve its use in the presence of reflexive and reciprocal morphology, it is occasionally accepted as possible in

these constructions. Thus, the reflexive pronoun in the applied object position is expressed overtly as *jež'* ‘self’ alongside the oblique-marked DP referring to the antecedent in (29).<sup>17</sup>

- |      |   |  |                         |      |
|------|---|--|-------------------------|------|
| (29) | š'aḵ <sup>w</sup> e-m(ERG)<br>salesperson-OBL<br>Ø- <b>ze-</b> r-    jə-<br>3ABS- <b>REFL.IO-</b> DAT- 3SG.ERG- | <b>jež'(IO)</b><br><b>self</b><br>š'e -ž'ə -ɸ<br>sell -RE -PST | tovarə-r<br>product-ABS | REFL |
|------|---|--|-------------------------|------|
- ‘The salesperson sold the product to herself.’

Likewise, reciprocal agreement may be accompanied by the fixed expression *zə-m zə-r* ‘one-ABS one-OBL’ alongside the overt absolutive-marked antecedent DP, as illustrated in (30).

- |      |                                |  |   |     |
|------|--------------------------------|--|---|-----|
| (30) | ɕəf-xe-r(ABS)<br>person-PL-ABS | [ <b>zə-m    zə-r</b> ](ERG)<br><b>one-OBL one-ABS</b> | Ø- <b>zere-</b> wəç'ə -ž'ə<br>3ABS- <b>REC.ERG-</b> kill    -RE | REC |
|------|--------------------------------|--|---|-----|
- ‘People kill each other.’

The order of case markers within the expression *zə-m zə-r* does not correlate with the argument structure of the predicate involved. Thus, the same fixed expression is used with a reciprocal-marked unergative verb with a bound applied object (31).<sup>18</sup>

- |      |   |  |                                       |
|------|---|--|---------------------------------------|
| (31) | [ <b>zə-m    zə-r</b> ](IO)<br><b>one-OBL one-ABS</b> | š <sup>w</sup> ə-        qə- <b>ze-</b> de-    š <sup>w</sup> e    -ž'ə -š't -a<br>2PL.ABS- DIR- <b>REC.IO-</b> COM- dance -RE -FUT -Q | ‘Will you(pl) dance with each other?’ |
|------|---|--|---------------------------------------|

<sup>17</sup>The pronoun *jež'* ‘self’ has a broad distribution outside of its anaphoric use – in other contexts it triggers regular third person agreement rather than reflexive agreement.

<sup>18</sup>The two-part nature of this construction and the fixed case marking suggests that this analytic reciprocal may be functioning as an adjunct, rather than occupying an argument position; see e.g. König and Gast (2008) on the place of adjunct expressions in the typology of reciprocals and Safir and Selvanathan (2016) for diagnostics distinguishing adjunct and argument reciprocals. One consideration against an adjunct analysis of *zə-m zə-r* is that this construction only optionally triggers the reciprocal agreement marker *ze(re)-*. In the absence of *ze(re)-*, this expression triggers singular third person agreement on the predicate, and the valency and case assigning properties of the predicate remain intact. If this expression were functioning as an adjunct, we would not expect it to be possible in the absence of the reciprocal morpheme – in this case there is no element that could potentially saturate the corresponding argument role besides the reciprocal expression. Additionally, the antecedent and bound pronoun are syntactically plural, which leads us to expect plural agreement not only with the antecedent, but with the bound argument as well.

- |     |   |                                   |
|-----|---|-----------------------------------|
| (i) | zə-m    zə-r    š <sup>w</sup> ə-        qə-    Ø-        de-    š <sup>w</sup> e    -š't -a<br>one-OBL one-ABS 1PL.ABS- DIR- <b>3SG.IO-</b> COM- dance -FUT -Q | ‘Will you dance with each other?’ |
|-----|---|-----------------------------------|

To conclude this subsection, the reflexive and reciprocal morphology on the predicate may be accompanied by an overt anaphor pronoun, indicating that this morphology does not involve detransitivization of the predicate it attaches to.

### 3.4 Summary: reflexive and reciprocal agreement

To conclude this section, the morphosyntactic behavior of reflexive and reciprocal marking is most readily accounted for if the corresponding markers are treated as exponents of agreement with a syntactically active anaphoric pronoun: they do not trigger any change in the argument structure or case assigning properties of the predicate in question, and the morphological position of these markers correlates directly with the syntactic position of the bound anaphor. Given the well-known Anaphor Agreement Effect (see e.g. Rizzi 1990; Woolford 1999), it is unsurprising that anaphors do not trigger regular  $\phi$ -agreement and the agreement in this case is neutralized for  $\phi$ -features. As exponents of agreement, these morphemes are in contrast with detransitivizing reflexive or reciprocal morphology in e.g. Hebrew (Reinhart and Siloni 2005) or Passamaquoddy (Bruening 2004). Moving forward, this means that the morphological position of the reflexive and reciprocal markers within the verbal form can be used to diagnose the syntactic position of the corresponding anaphor.

## 4 Reciprocals and syntactic ergativity

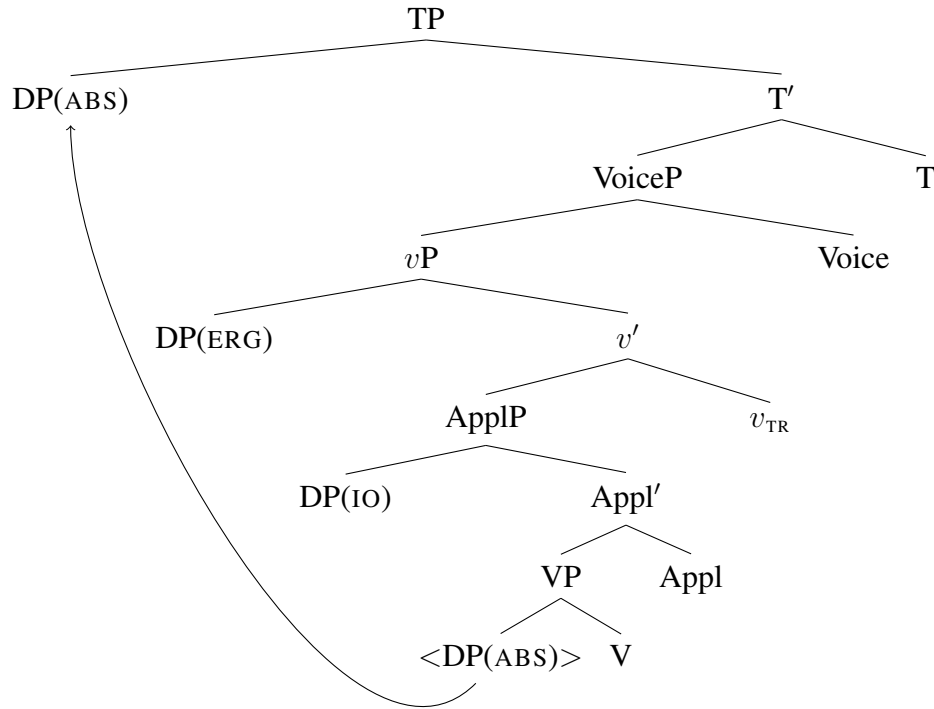
This section demonstrates that the behavior of reciprocal pronouns provides evidence for a syntactically ergative clause structure, wherein the absolutive DP undergoes A-movement to a position c-commanding both the ergative agent and any applied objects. I assume here that this high position is in Spec,TP, the position traditionally associated with surface subjecthood (see e.g. Chomsky 1981).<sup>19</sup> The proposed structure of a transitive three-place predicate is represented in (32): the absolutive theme is base-generated as the complement of the lexical verb ( $V^0$ ) and subsequently raises to Spec,TP, while the ergative and applied object DPs remain in situ.

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<sup>19</sup>One possible alternative is positing that the high position of the absolutive DP is in Spec,*v*P per Aldridge (2004, 2008); Coon et al. (2014, 2021). However, if the absolutive DP moves only as high as Spec,*v*P, it is unclear how to correctly capture the binding conditions for reflexive pronouns, which require the highest argument in *v*P to serve as their antecedent and may not be bound by the high absolutive from its derived position.



(32)



The argumentation proceeds as follows: first, I demonstrate that outside of co-indexation relations involving absolutive themes, the bound reciprocal appears within the c-command domain of its antecedent, given basic assumptions about the correspondence between theta-roles and the order of merging within *vP*. Once we've established that reciprocal binding is generally established via c-command, I then argue that the natural conclusion one can draw from reciprocal co-indexation involving absolutive themes is that the absolutive theme undergoes A-movement to a position c-commanding other arguments.

#### 4.1 Reciprocal binding is subject to c-command

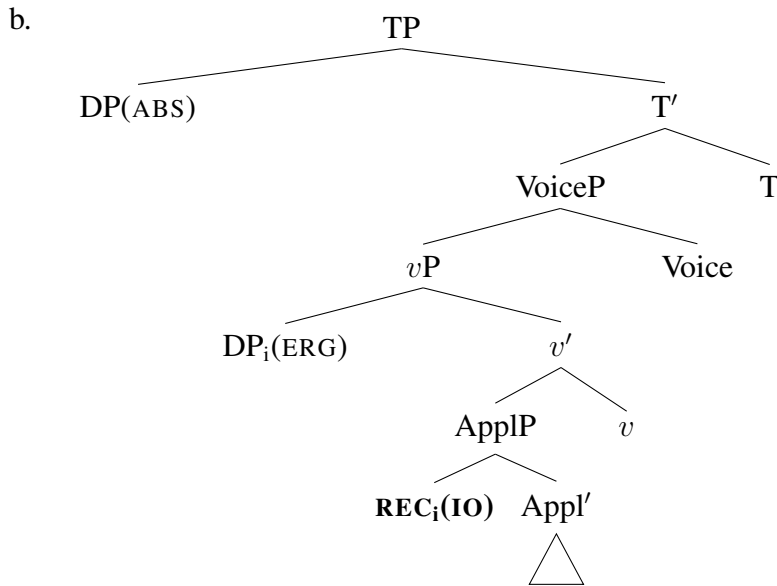
This subsection illustrates that outside of configurations involving absolutive themes, reciprocal binding patterns adhere to standard assumptions about the relative structural height of verbal arguments.

If an ergative agent and an applied object are in a reciprocal relation, the reciprocal marker replaces agreement with the applied object, rather than with the ergative agent (33a). If we follow McGinnis (2000, 2001); Pylkkänen (2008); Harley (2013), a.o. in assuming that applied objects are merged lower than the agentive external argument, this means that the reciprocal pronoun is

bound in the lower applied object position by the c-commanding ergative agent, as expected of an anaphor that is subject to standard binding conditions – this is illustrated in (33b).

- (33) a. te wəne-xe-r Ø- ze- fe- t- šə -ž'ə -ɸ  
 we house-PL-ABS 3ABS- REC.IO- BEN- 1PL.ERG- do -RE -PST  
 ‘We built houses for each other.’

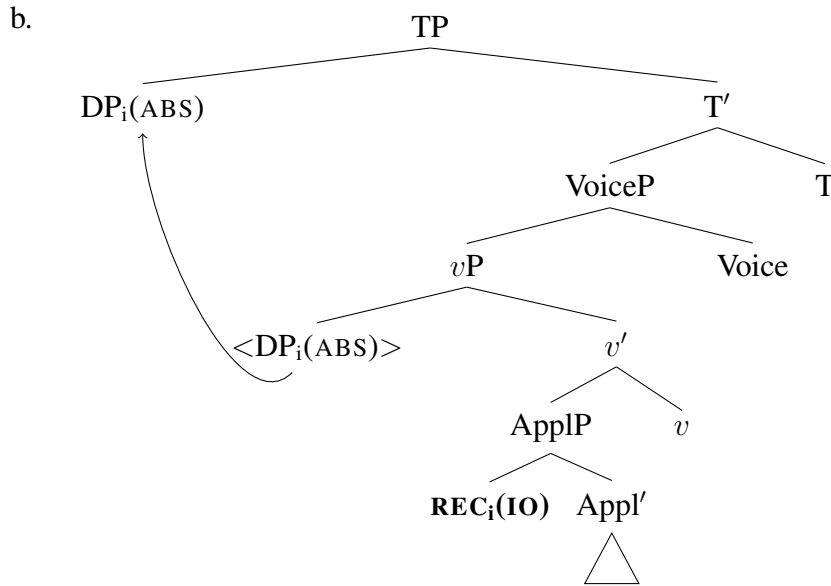
ERG>IO



In order to express reciprocal co-indexation between the absolutive external argument and applied object of an unergative verb, the reciprocal marker once again replaces the agreement with the applied object (34a). Once again, this is expected based on standard assumptions about the relative positions of external arguments and applied objects: the reciprocal pronoun in the applied object position is bound by the structurally higher absolutive external argument (34b).

- (34) a. tə- qə- ze- d- e- š<sup>w</sup>e  
 1PL.ABS- DIR- REC.IO- COM- DYN- dance  
 ‘We are dancing with each other.’

ABS>IO



To summarize, reciprocals behave as standard anaphors subject to Condition A of Binding Theory (Chomsky 1980, 1981 *et seq.*): they are bound by a c-commanding antecedent within the locality domain of a single clause. If this logic is extended to configurations involving absolutive themes, it is clear that the absolutive argument uniformly c-commands other verbal arguments for the purposes of reciprocal binding.

## 4.2 Binding by high absolutive

Turning back to configurations involving co-indexation between an absolutive theme and another verbal participant, it is evident that the reciprocal pronoun appears in the non-absolutive position, while its antecedent appears in the position of the absolutive argument. This indicates that the absolutive theme undergoes A-movement to a position c-commanding other verbal arguments – Spec,TP.

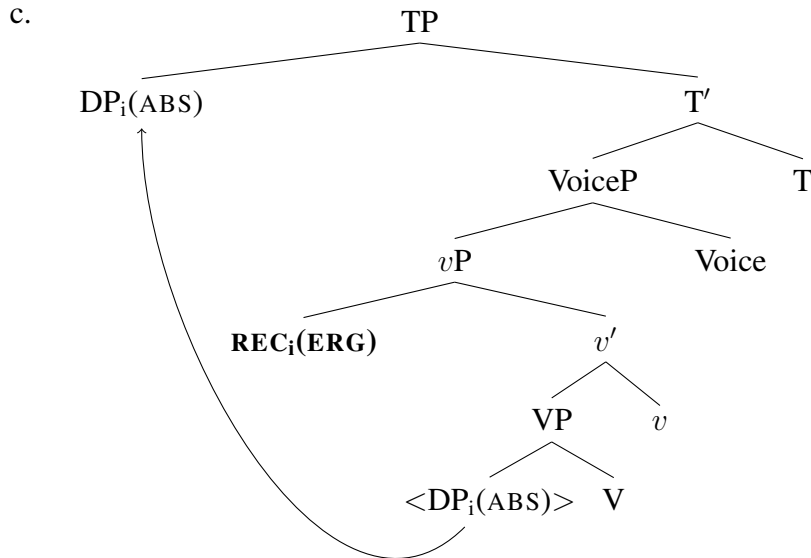
In order to express reciprocal co-indexation between an absolutive theme and an ergative agent, the reciprocal marker replaces agreement with the ergative argument, while the absolutive agreement marker indexes the antecedent (35a). The inverse configuration, with the reciprocal marker appearing in place of the agreement with the absolutive theme, is ungrammatical (35b). If reciprocal binding is generally established via c-command, we can conclude that the absolutive theme in this construction c-commands the ergative agent – this structural configuration is achieved via the movement of the absolutive theme from within VP to Spec,TP, as shown in (35c).

(35) a. **Theme(ABS)- Agent(ERG)-**  
 te-            **zere-**            λeβ<sup>w</sup>ə -β  
 1PL.ABS-      **REC.ERG-**      see    -PST

b. \***ze(re)-**    t-            λeβ<sup>w</sup>ə -β  
**REC.ABS-** 1PL.ERG- see    -PST

‘We saw each other’

**ABS > ERG | \*ERG > ABS**

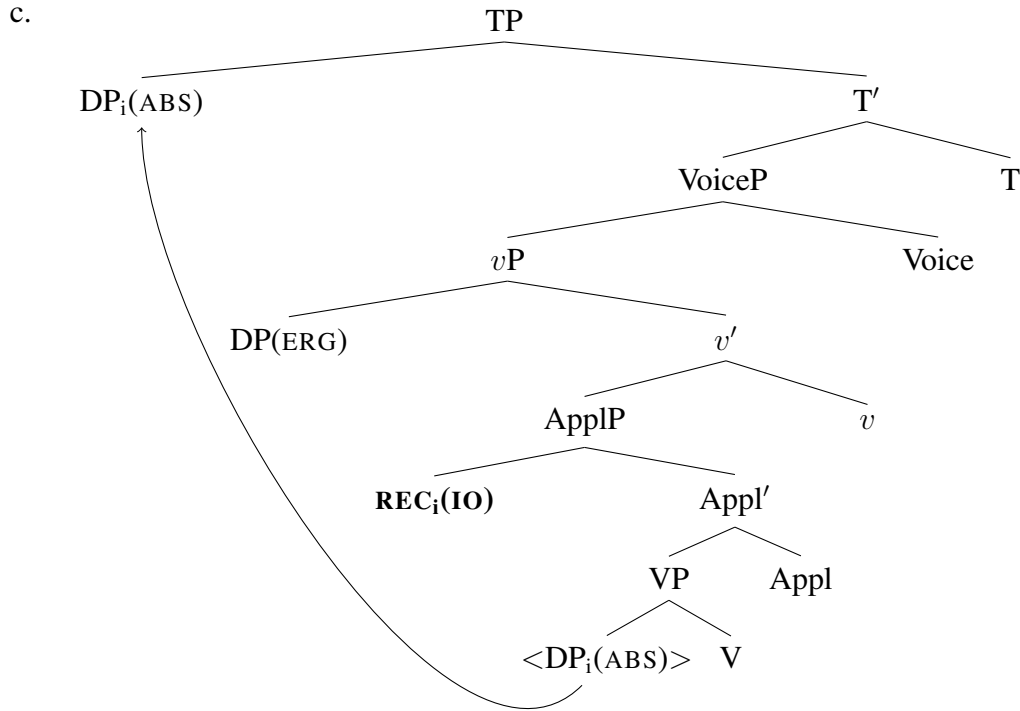


Likewise, in order to co-index an absolutive theme and an applied object of a transitive verb, the reciprocal marker replaces agreement with the applied object (36a), and not the absolutive theme (36b). This is expected if we assume that the absolutive theme raises to Spec,TP – a position c-commanding the applied object in Spec,AppIP; this is illustrated in (36c).

(36) a. **Theme(ABS)- IO-                      Agent(ERG)-**  
 tə-            **ze-**    f-    jə-            š'a    -β  
 1PL.ABS-      **REC.IO-** BEN- 3SG.ERG-      bring -PST

b. \***ze-**            t-            f-    jə-            š'a    -β  
**REC.ABS-** 1PL.IO- BEN- 3SG.ERG- bring -PST

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



### 4.3 Summary: reciprocals and syntactic ergativity

To summarize this section, reciprocals are subject to general conditions on binding – they must be bound by a higher argument within the A-domain, i.e. TP. The distributional properties of reciprocal anaphors indicate that the absolutive DP uniformly binds reciprocals in the position of other verbal arguments, but not vice versa. Reciprocal binding patterns thus provide evidence for a syntactically ergative clause structure: the absolutive DP, while generated in various positions within *v*P, uniformly raises to Spec,TP – a position c-commanding other verbal arguments.

## 5 Locality conditions on reflexive binding

Reciprocal binding patterns provide evidence for a syntactically ergative clause structure in West Circassian, which then gives rise to the following puzzle: if the absolutive argument occupies the highest A-position in TP, why do reflexives behave as if the ergative DP c-commands the absolutive DP, and not vice versa? This question is especially important since reflexive binding patterns have been previously used as evidence for the subjecthood of the ergative DP in West

Circassian (Caponigro and Polinsky 2011; Lander and Testelelets 2017).

The basic contrast between reflexives and reciprocals is illustrated in (37). In a baseline transitive verbal form, the theme triggers absolutive agreement as the leftmost personal prefix, and the agent triggers ergative agreement, which appears to the right of the absolutive agreement (37a). If the absolutive theme and ergative agent of a transitive verb are co-indexed, the reciprocal marker appears in place of agreement with the ergative argument (37b), while the reflexive marker appears in place of agreement with the absolutive argument (37c) and may not appear in place of the ergative agreement marker instead (37d).

(37)	<b>Theme(ABS)-</b>	<b>Agent(ERG)-</b>			
a.	ŝ <sup>w</sup> ə-	t-	λeβ <sup>w</sup> ə	-β	<b>Baseline ERG-ABS</b>
	2PL.ABS-	1PL.ERG-	see	-PST	‘We saw you(pl).’
b.	te-	<b>zere-</b>	λeβ <sup>w</sup> ə	-β	<b>ERG→REC</b>
	1PL.ABS-	<b>REC.ERG-</b>	see	-PST	‘We saw each other.’
c.	<b>zə-</b>	t-	λeβ <sup>w</sup> ə	-β	<b>ABS→REFL</b>
	<b>REFL.ABS-</b>	1PL.ERG-	see	-PST	‘We saw ourselves.’
d.	* tə-	<b>zə-</b>	λeβ <sup>w</sup> ə	-β	<b>*ERG→REFL</b>
	1PL.ABS-	<b>REFL.ERG-</b>	see	-PST	

As a solution to this puzzle I argue that reflexives, like reciprocals, are general anaphors that must be bound by a higher nominal in the A-domain, i.e. TP. Reflexives, unlike reciprocals, fall into a cross-linguistically common class of anaphors that are subject to an additional licensing condition. By virtue of this licensing condition the set of possible antecedents for West Circassian reflexives is reduced to the highest nominal in the theta-domain, i.e. *v*P. Such anaphors are in contrast with general anaphors which may be bound by any c-commanding antecedent. In previous literature, this type of anaphor has been called *local subject oriented reflexives* (Ahn 2015). Following Labelle (2008); Ahn (2015); Bhatia and Poole (2016), I model local subject orientation as licensing by a specialized reflexive Voice<sub>REFL</sub>; see also Bruening (2004, 2006); Baker et al. (2013); Safir and Selvanathan (2016), among others, on the role of Voice in binding.

This account explains the puzzling mismatch between reflexives and reciprocals: reflexives do not follow a syntactically ergative pattern, because the high absolutive position does not systematically correspond to the highest position within the  $\theta$ -domain. In fact, when the highest position within *v*P happens to be the base-generated position of the high absolutive DP, reflexive and reciprocals behave in a uniform way. As a syntactically ergative language, West Circassian expands the

typology of local subject oriented reflexives by presenting novel evidence for a locality-driven approach to local subject orientation (Ahn 2015; Bhatia and Poole 2016). This analysis reduces local subject orientation to conditions on locality of movement, without reference to subjecthood. This proves to be the correct approach in light of the observation that in West Circassian the antecedent of a local subject oriented anaphor need not be the surface subject or the external argument, as long as it conforms to the relevant locality constraints.

In analyzing both reflexives and reciprocals as standard anaphors I depart from previous approaches to the mismatch in (37): in particular, Letuchiy (2010) proposes that reciprocals are true anaphors that are bound by a structural subject, while the antecedent for reflexives is determined semantically based on a thematic hierarchy. I follow Letuchiy (2010) in treating reciprocal binding as a diagnostic for syntactic ergativity, but argue that reflexives are likewise subject to structural constraints on binding that do not require appealing to a different grammar module. I support this argument by bringing in novel data on reflexive binding with three-place predicates and so-called inverse predicates, which I analyze as unaccusative predicates with a high applicative. My treatment of *zere-* in (37c) as the morphological reflex of a reciprocal pronoun in the ergative position is in accordance with descriptions provided by Arkadiev et al. (2009:64) and Letuchiy (2010:340) and in contrast to Lander and Letuchiy (2010:270) and Lander (2012:133-134), who propose that reciprocal formation from a transitive predicate involves demotion of an ergative agent to an applied object position and subsequent binding of that applied object by the absolutive theme.<sup>20</sup>

The remainder of this section is structured as follows: subsection 5.1 provides typological background on local subject oriented anaphors and presents the analysis of Voice<sub>REFL</sub>, subsection 5.2 presents evidence that West Circassian reflexives are local subject oriented and illustrates how the proposed analysis can account for their behavior, and subsection 5.3 wraps up the section.

## 5.1 Local subject orientation and Voice<sub>REFL</sub>

Local subject oriented reflexives are cross-linguistically common: some examples include *se/si* in French and Italian (Rizzi 1986; Labelle 2008; Sportiche 2014, a.o.) and the use of a reflexive

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<sup>20</sup>Evidence for the demotion of the ergative agent comes solely from a marginal morphological construction: a small number of speakers allow the insertion of another applicative morpheme between the first and second syllable of the marker *zere-*, rendering a discontinuous string *ze-re-*. There are two major considerations against this being an applicative marker: (i) the majority of speakers do not allow for the discontinuous use of this marker and (ii) the form *re-*, while a possible allomorph of the dative prefix *je-*, is not expected to appear in this context – the prefix-initial glide only rhotacizes if immediately following another glide /j/; see Arkadiev and Testelets (2009).

pronoun alongside the verbal suffix *-koL* in Kannada (Lidz 1996, 2001); see also Ahn (2015) and references therein. The defining property of this type of pronoun is that it may only be bound by a deep subject: non-subjects or derived subjects are not eligible antecedents. This is illustrated for French in the following examples, which are adapted from Sportiche (2014:104-107). The sentence in (38a) illustrates that the reflexive clitic *se* may be bound by a deep subject. On the other hand, it can be seen in (38b) that a non-subject argument such as a direct object cannot bind *se*, and (38c)-(38d) show that a derived subject such as the theme of a passive verb in (38c) and the raised subject in (38d) likewise cannot serve as an antecedent for the reflexive.

- (38) a. Jean<sub>i</sub> **se<sub>i</sub>** présente Pierre  
 Jean **to-himself** introduces Pierre  
 ‘Jean introduces Pierre to himself.’
- b. \* Jean **se<sub>i</sub>** présente les enfants<sub>i</sub>  
 Jean **to-themselves** introduces the children  
 Intended: ‘Jean introduces the children to themselves.’
- c. \* Pierre<sub>i</sub> **se<sub>i</sub>** sera présenté (par Jean)  
 Pierre **to-himself** will-be introduced by Jean  
 Intended: ‘Pierre will be introduced to himself by Jean.’
- d. \* Jean<sub>i</sub> **se<sub>i</sub>** semble déprimé  
 Jean **to-himself** seems depressed  
 Intended: ‘Jean seems to himself to be depressed.’

This section presents an analysis of reflexive binding that aims to capture the local subject oriented nature of this type of anaphor. In particular, I follow Ahn (2015) in arguing that reflexive binding is mediated by a specialized reflexive Voice<sub>REFL</sub>. The motivation for choosing Ahn’s (2015) approach over other analyses of local subject orientation is that this approach accounts for the full range of properties this anaphor displays in West Circassian. In particular, a successful analysis must account for reflexive morphology tracking agreement with a syntactically active bound pronoun, and not being (i) a type of Voice<sup>0</sup> with no corresponding anaphor in the structure (see Labelle 2008 on French; Reinhart and Siloni 2005 on Hebrew) or (ii) the spellout of the external argument, with the structurally lower argument raising to subject position (e.g. Pesetsky 1995 on French). Additionally, the analysis must allow for the productive use of local subject oriented reflexives with verbs of all semantic types, meaning that the reflexive pronoun cannot be analyzed as an identity function, as proposed by Schäfer (2008) for Russian *-sja*, nor can it be restricted to intrinsically transitive verbs, as proposed for *se* by Sportiche (2014). The presented analysis differs from Sportiche’s (2014) proposal in several other respects, largely due to the consideration



that West Circassian reflexives do not display the same distributional properties as *se*: the French reflexive clitic has a much broader range of uses, many of which arguably do not involve reflexive binding, such as the formation of middles, anticausatives, and passives. The analysis must also make correct predictions in regards to the choice of antecedent. In West Circassian, the antecedent is not uniformly merged in a single position, e.g. as an external argument in Spec,*v*P; rather, any nominal may serve as the antecedent as long as there is no other nominal c-commanding it within the *v*P. This rules out analyses that derive local subject orientation through bundling reflexive Voice with the external argument introducing head (Labelle 2008), or which posit uniform movement of the reflexive pronoun to a position that is c-commanded only by the eligible antecedent (Safir 2004).<sup>21</sup> The choice of Ahn’s (2015) movement-based approach to reflexive licensing over Bhatia and Poole’s (2016) account of binding in-situ by Voice<sub>REFL</sub> is conceptually motivated: first, within the feature system developed in this paper, licensing is established via movement, and second, the movement of the antecedent and the reflexive to Spec, VoiceP allows for a semantic interpretation where Voice<sub>REFL</sub> takes both nominals as arguments. The in-situ approach to licensing is equally compatible with the West Circassian data.

Syntactically Voice<sub>REFL</sub> selects for *v*P and attracts two arguments to its specifier: the highest DP in *v*P and the reflexive pronoun.<sup>22</sup> The interaction of Voice<sub>REFL</sub> with these arguments ensures (i) local subject orientation and (ii) the presence of a syntactically active anaphor in the structure. Semantically, Voice<sub>REFL</sub> imposes co-identity on the two arguments.

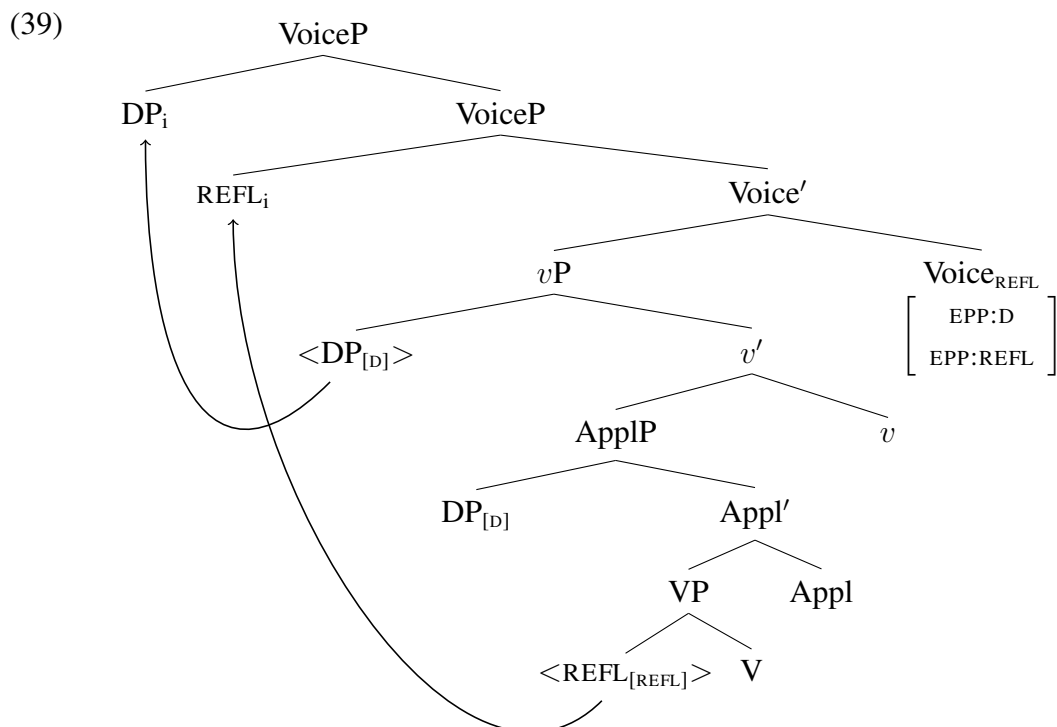
The syntactic structure of a sentence with Voice<sub>REFL</sub> is schematically illustrated in (39): Voice<sub>REFL</sub> selects for *v*P, and two arguments undergo movement to Spec, VoiceP – the highest argument within *v*P (the antecedent) and the reflexive pronoun. I assume that the reflexive pronoun occupies the lower of the two specifiers due to tucking in (Richards 1997), but nothing within the account hinges on this assumption. The antecedent moves to satisfy a nominal EPP feature – [D], and the reflexive pronoun moves to satisfy the more specific feature [REFL]. Due to standard locality constraints on movement (Chomsky 2000, 2001) only the highest nominal in the c-command domain of Voice<sub>REFL</sub> is eligible to satisfy [D], thus capturing the requirement that only the highest argument in *v*P may

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<sup>21</sup>The analysis may be rehashed within Safir’s (2004) theory of Condition A binding by (i) positing independent movement of the highest argument in *v*P to a higher specifier, and (ii) subsequent raising of the reflexive pronoun to a position that is c-commanded by that raised argument. The present account differs in attributing both movement operations to Voice<sub>REFL</sub>, rather than positing independent movement chains which give rise to the desired binding configuration.

<sup>22</sup>In this respect I depart from Ahn’s (2015) analysis, where the highest DP in *v*P moves to Spec, PredP immediately above VoiceP. While Ahn’s original analysis is fully compatible with the data presented here, I have chosen to make this departure due to the absence of evidence for an additional functional projection above VoiceP.

serve as the antecedent. For a precise feature-based account of this derivation see Appendix A.



According to this analysis, reflexives do not follow a syntactically ergative pattern because they must be locally licensed by  $\text{Voice}_{\text{REFL}}$ , which merges above  $v\text{P}$  prior to the raising of the absolutive DP to  $\text{Spec,TP}$  – due to the derived nature of the high absolutive, it is thus not an eligible antecedent for reflexive binding. Additionally, this analysis makes no reference to subjecthood, correctly predicting that any nominal that is the highest DP in  $v\text{P}$  can function as an antecedent.

## 5.2 West Circassian reflexives are local subject oriented

This subsection presents the evidence that West Circassian reflexives are local subject oriented, i.e. may only be bound by the highest nominal within  $v\text{P}$ . The evidence concerns two configurations involving potential antecedents for reflexives: first, I demonstrate that a DP that is *not* the highest nominal within  $v\text{P}$  *may not* serve as an antecedent for a reflexive, and second, I show that a DP that is not a canonical external argument but is nevertheless the highest DP in  $v\text{P}$  *may* serve as an antecedent. Both cases are contrasted with the behavior of reciprocals in analogous structural configurations. Finally, I show that, in accordance with the local subject oriented nature of reflexives, they align with reciprocals in distribution in two instances: (i) in configurations where the

antecedent is the highest DP within *vP*, and the bound pronoun is not absolutive case-marked; and (ii) when the highest DP within *vP* is absolutive case-marked, i.e. proceeds to raise to the surface subject position.

### 5.2.1 Non-highest DP in *vP* cannot bind a reflexive

The first generalization regarding the distribution of reflexives is that a nominal that is not the highest argument within *vP* cannot serve as an antecedent of a reflexive. Thus, if one of the arguments of a ditransitive predicate is a reflexive pronoun, that pronoun may only be bound by the ergative agent, and not by the absolutive theme or applied object.

The following examples show that neither an applied object, nor an absolutive theme of a transitive verb can serve as an antecedent of a reflexive pronoun. The verb in (40)-(41) takes four arguments: an ergative agent, an absolutive theme, a locative applied argument (*psəm* ‘water’), and a malefactive applied argument. In (40) the reflexive agreement marker refers to the theme of the transitive verb and thus appears in the absolutive position – in this case, only the ergative agent may serve as an antecedent for the reflexive, rendering the interpretation in (40a). The first person malefactive applied object may not serve as an antecedent, which is evinced by the impossibility of the interpretation in (40b). Likewise, if the reflexive agreement marker appears in the position referencing the malefactive applied object, as in (41), the only available interpretation for this expression is one in which the reflexive is co-indexed with the ergative agent (41a), and not the absolutive theme (41b).

(40) pšaše-m(ERG) psə-m(IO) zə- s- š<sup>w</sup>ə- Ø- x- jə- ʒe  
 girl-OBL water-OBL REFL.ABS- 1SG.IO- MAL- 3SG.IO- LOC- 3SG.ERG- throw  
 -ž’ə -B  
 -RE -PST

a. ‘The girl threw herself in the water against my will.’

**REFL:ERG>ABS**

b. \* ‘The girl threw me in the water against my will.’

**REFL:\*IO>ABS**

(41) pšaše-m(ERG) psə-m(IO) sə- zə- š<sup>w</sup>ə- Ø- x- jə- ʒe  
 girl-OBL water-OBL 1SG.ABS- REFL.IO- MAL- 3SG.IO- LOC- 3SG.ERG- throw  
 -ž’ə -B  
 -RE -PST

a. ‘The girl threw me in the water against her own will.’

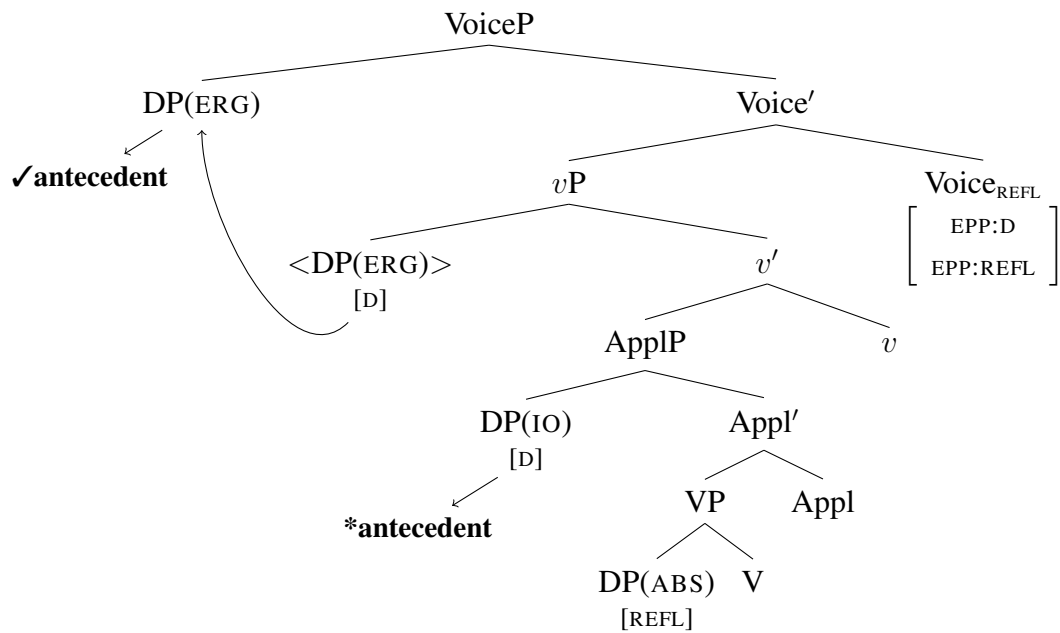
**REFL:ERG>IO**

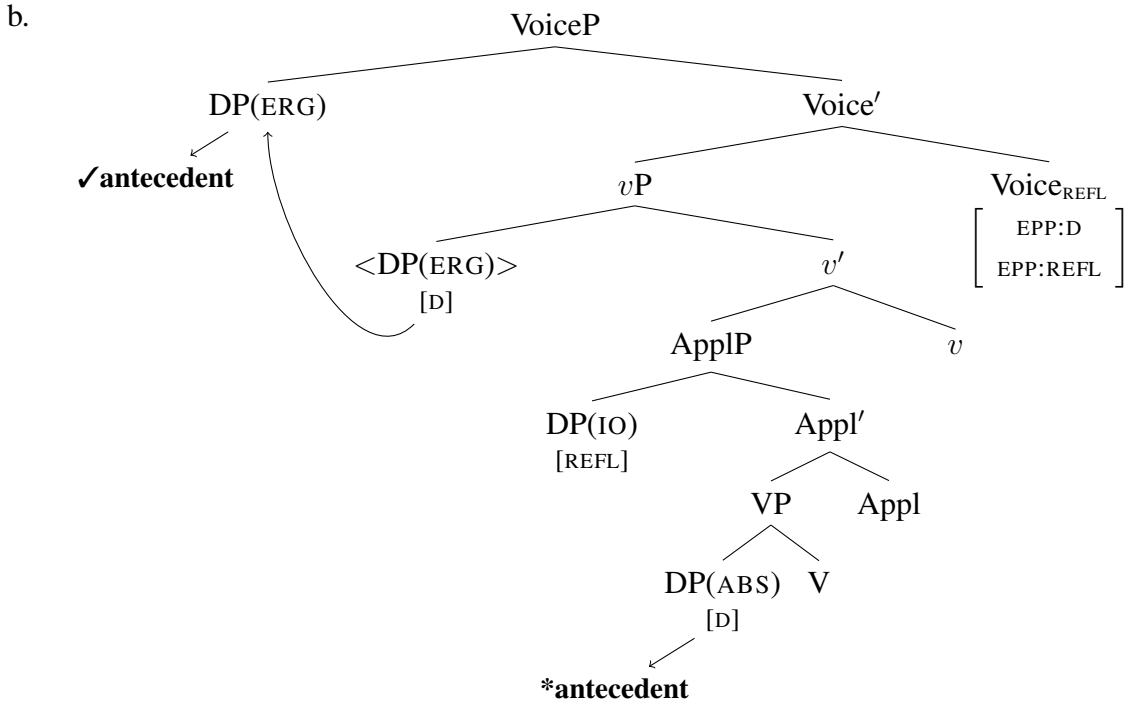
b. \* ‘The girl threw me in the water against my own will.’

**REFL:\*ABS>IO**

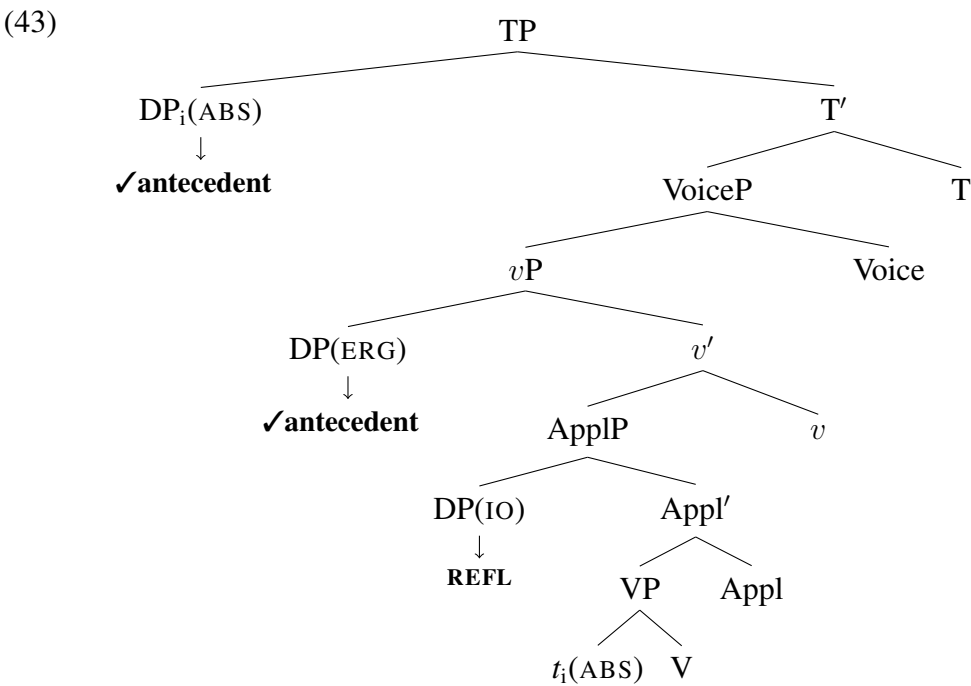
The restriction that only the ergative agent of a three-place predicate serve as an antecedent is predicted by the  $\text{Voice}_{\text{REFL}}$  analysis:  $\text{Voice}_{\text{REFL}}$  selects for  $v\text{P}$  and probes with the nominal EPP feature [D], attracting the highest nominal in its c-command domain – the ergative DP. Any nominals below the ergative DP may not serve as antecedents because they are not sufficiently local to  $\text{Voice}_{\text{REFL}}$ . Thus, if the reflexive pronoun appears in the absolutive position, the only eligible antecedent is the ergative agent, since it is the closest argument to  $\text{Voice}_{\text{REFL}}$  and serves as an intervener for the movement of the applied argument to  $\text{Spec, VoiceP}$  (42a) (the reflexive pronoun also subsequently moves to  $\text{Spec, VoiceP}$ , which is not represented in this tree). If the reflexive pronoun appears in the applied argument position, once again, the ergative agent is the only eligible antecedent as the highest nominal in  $v\text{P}$ , and the absolutive DP may not move to  $\text{Spec, VoiceP}$  to bind the reflexive pronoun (42b).

(42) a.





Reflexives behave in this respect in stark contrast with reciprocals, which may be used to mark co-indexation between two non-subject arguments: as a general anaphor, a reciprocal may be bound by any c-commanding DP within TP – in a configuration involving a transitive three-place predicate, this includes both the ergative agent and the absolutive theme in Spec,TP (43).



This can be seen in the following examples. In (21b), repeated below in (44), the reciprocal marker in the applied object position is used to express co-indexation between the ergative agent and the applied object – in this respect reciprocals display the same behavior as reflexives. In (45) we see that a reciprocal in the applied object position may be bound by the absolutive theme of the transitive verb, rather than by the ergative agent – this is in contrast with the ungrammatical interpretation of the reflexive co-indexation in (41b).

(44) te wəne-xe-r Ø- ze- fe- t- šə -ž'ə -ɸ  
 we house-PL-ABS 3ABS- **REC.IO**- BEN- 1PL.ERG- do -RE -PST

‘We built houses for each other.’

**REC:ERG>IO**

(45) **Theme- IO- Agent-**  
 tə- ze- f- jə- š'a -ɸ  
 1PL.ABS- **REC.IO**- BEN- 3SG.ERG- bring -PST

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

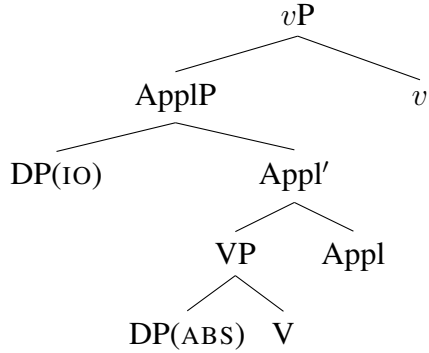
**REC:ABS>IO**

To summarize this subsection, reflexives may not be bound by an argument that is not the highest nominal within *vP*. They contrast with reciprocals in this respect – a reciprocal pronoun may be bound by any nominal that c-commands it regardless of its position within the clausal spine. Reflexives are constrained in the choice of antecedent by the syntactic properties of Voice<sub>REFL</sub>, while reciprocals behave as standard anaphors bound by any c-commanding antecedent within the clause.

### 5.2.2 Highest non-external argument can bind a reflexive

The second generalization regarding the distribution of reflexives is that the highest nominal within *vP* may bind a reflexive pronoun, even if it is not the external argument. In particular, an applied argument may bind a lower theme, if it is not c-commanded by a higher ergative agent. The most obvious testing case for this generalization involves unaccusative verbs, i.e. verbs with a single internal argument, when combined with an applied argument. Taking Pykkänen’s (2008) analysis of applicatives as a baseline, the thematic structure for such verbs is as in (46): the applied object is introduced above the internal argument by a specialized high applicative head Appl<sup>0</sup> and is the highest nominal within *vP* in the absence of an external argument.

(46)



In West Circassian, unaccusative verbs do not productively combine with applicative arguments, and if speakers do allow the use of an applicative, they generally disallow a structure where the applied object is co-indexed with the absolutive theme. Due to these complications, the only construction that may be used to test this argument configuration involves a small set of so-called ‘inverse’ predicates (Rogava and Keraševa 1966:98; Smeets 1992:122-123; Arkadijev et al. 2009:64-65), some of which are transparently decomposable into an unaccusative verb stem and a locative applicative prefix.<sup>23</sup> These predicates take two arguments: an absolutive theme and an applied argument denoting an experiencer or possessor, and have been labeled inverse, in particular, for their non-canonical behavior in regards to reflexive binding. If the two arguments of such a verb are co-indexed, the reflexive marker may appear either in the position of the absolutive theme or in the position of the applied object. This is illustrated in (47) for the verb *jəʔen* ‘have’, which can be transparently decomposed into the locative prefix *jə-* and the unaccusative verbal root *ʔe* ‘be’. The non-reflexive use of this verb is shown in (47a): the first person theme triggers absolutive agreement, while the possessor triggers applied object agreement. In (47b) we see the reflexive agreement marker appearing in the absolutive position with the antecedent triggering applied object agreement, while in (47c) we see that the inverse configuration wherein the reflexive marker appears in the applied object position and the antecedent triggers absolutive agreement is likewise grammatical.

(47) A transparent example: *jə-* ‘LOC’ + *ʔen* ‘be’ = *jə-ʔen* ‘have’

- a. **Theme- IO-**  
 sə- w- jə- ʔ  
 1SG.ABS- 2SG.IO- LOC- be  
 ‘You have me.’

<sup>23</sup>To my knowledge, only two predicates of the four-five verbs that have been labeled as ‘inverse’ combine productively with reflexive morphology: *jə-ʔen* ‘have’ and *š’ə-B<sup>w</sup>əpšən* ‘forget’, and only the latter of the two may be used with reciprocal morphology. For this reason, the verb *š’ə-B<sup>w</sup>əpšən* ‘forget’ is used here to demonstrate the behavior of reflexives and reciprocals within this argument structure frame.

b. **zə-** s- jə- ʔe -ž' zepət  
**REFL.ABS-** 1SG.IO- LOC- be -RE always

c. sə- **z-** jə- ʔe -ž' zepət  
 1SG.ABS- **REFL.IO-** LOC- be -RE always

'I always have myself'

**ABS>IO|IO>ABS**

Another verb that behaves in this manner is *š'əB<sup>w</sup>əpšen* 'forget', which is composed of the locative prefix *š'ə-* and the root *B<sup>w</sup>əpše*, which is not used in the absence of this prefix (glossed in the examples as 'forget' for expository reasons). This can be observed in (48). The form in (48a) demonstrates how this verb is used in the absence of reflexive morphology: the first person stimulus or theme triggers absolutive agreement, while the experiencer triggers locative applied object agreement. In (48b) the reflexive marker appears in the absolutive position, while in (48c) the same marker appears in the applied object position instead.

(48) A lexicalized example: *š'ə-* 'LOC' + *B<sup>w</sup>əpšen* '??' = *š'ə-B<sup>w</sup>əpšen* 'forget'

a. **Theme- IO-**

sə- p- š'ə- B<sup>w</sup>əpša -B  
 SG.ABS- 2SG.IO- LOC- forget -PST  
 'You forgot about me.'

b. **zə-** s- š'ə- B<sup>w</sup>əpše -ž'ə -B  
**REFL.ABS-** 1SG.IO- LOC- forget -RE -PST

c. sə- **z-** š'ə- B<sup>w</sup>əpše -ž'ə -B  
 1SG.ABS- **REFL.IO-** LOC- forget -RE -PST

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

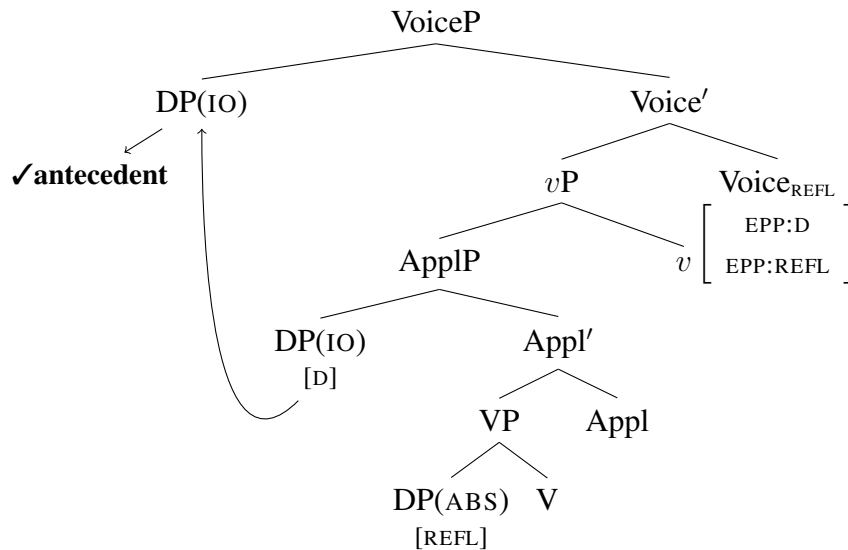
**ABS>IO|IO>ABS**

We can see from these examples that an applied argument may serve as an antecedent for a reflexive if it is not c-commanded by a higher external argument, which is in stark contrast with cases wherein an applied object is c-commanded by the ergative agent and thus cannot bind a reflexive. The inverse configuration, with the absolutive theme serving as an antecedent is available due to the possibility of the theme undergoing movement to Spec,AppIP, based on McGinnis' (2000; 2001) proposal for constructions where applied arguments and themes are treated as equidistant for movement-related operations, such as promotion to subject under passives or raising configurations. Abstracting away from the underlying motivations for this movement, I will assume that this movement is achieved via the presence of an optional EPP feature on AppI<sup>0</sup>. This means that inverse verbs, i.e. verbs with an absolutive theme and applied argument, may have two c-command configurations depending on the presence or absence of the theme's movement to Spec,AppIP: the

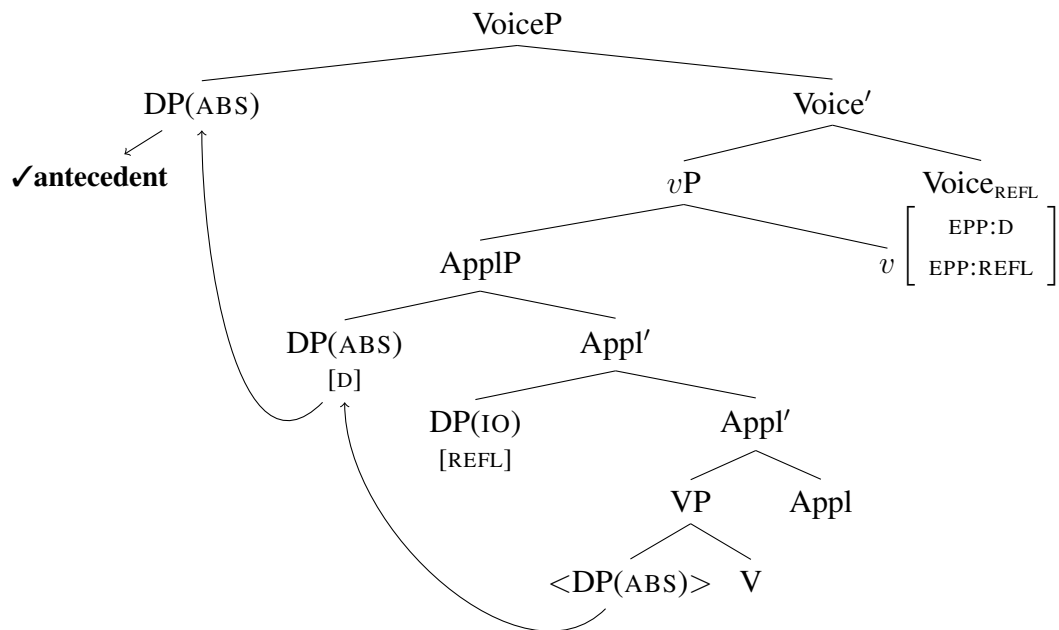


baseline structure with the theme in its base-generated position (49a), and the derived structure wherein the theme moves to Spec,ApplP c-commanding the applied object (49b). In the former case, the applied argument is the highest nominal in the c-command domain of Voice<sub>REFL</sub> and may thus move to Spec, VoiceP and serve as an antecedent for the reflexive anaphor (49a), and in the latter case the absolutive theme is the highest nominal in *v*P and thus eligible to serve as an antecedent for the reflexive in the applied argument position (49b).

(49) a.



b.



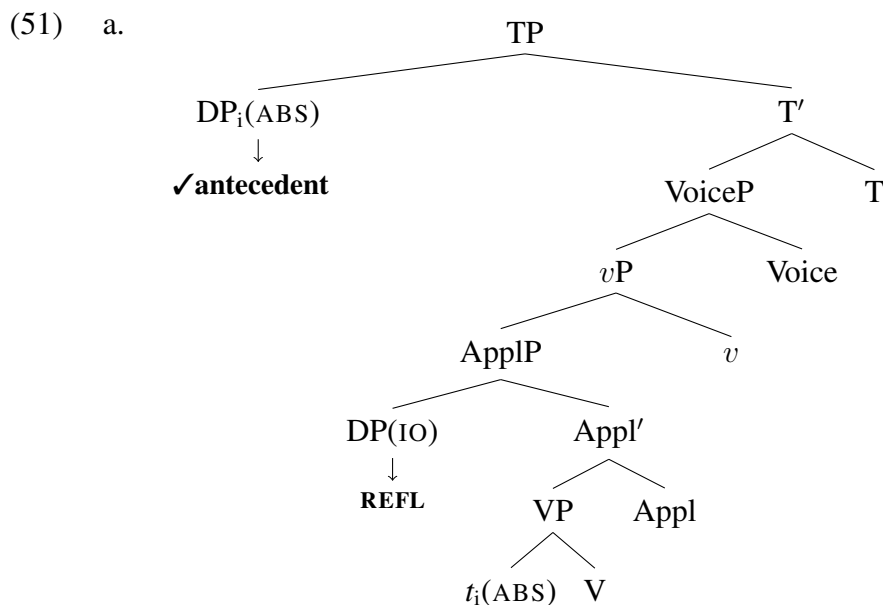
Reciprocals once again do not behave in the same way as reflexives: a reciprocal pronoun

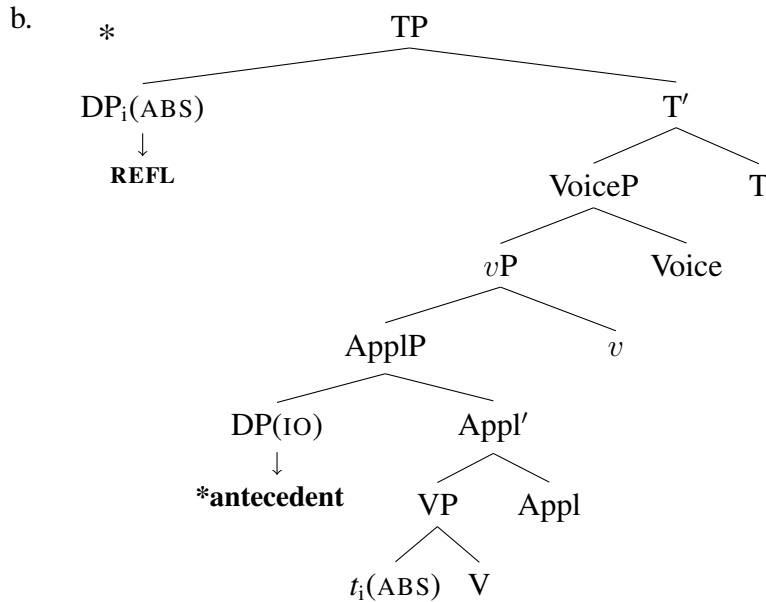
may only appear in the applied object position with the absolutive theme acting as the antecedent (50a), and the inverse configuration wherein the reciprocal pronoun appears in the absolutive theme position is ungrammatical (50b).

- (50) a. tə-        ze-        š'ə- ɞ<sup>w</sup>əpše -ž'ə -ɞ  
 1PL.ABS- REC.IO- LOC- forget -RE -PST
- b. \*ze-        t-        š'ə- ɞ<sup>w</sup>əpše -ž'ə -ɞ  
 REC.ABS- 1PL.IO- LOC- forget -RE -PST
- 'You(pl) forgot about each other.' REC:ABS>IO|\*IO>ABS

The data in (50) contradicts the generalization made by Arkadiev et al. (2009:64-65) and Letuchiy (2010:342) that reciprocals, like reflexives, may appear either in the applied object position or the absolutive position in configurations with inverse predicates. The examples provided by the authors with a reciprocal in the absolutive slot, however, either have the reciprocal morpheme spelled out as zə-, or z- prevocally, which is suggestive that these forms in fact involve a reflexive, rather than reciprocal, pronoun, which may receive a reciprocal interpretation if bound by a plural antecedent (see also discussion of this point in subsection 3.1). As can be seen from the example (50b), the reciprocal morpheme ze- cannot be used in the absolutive position.

The reason reciprocals diverge in this case from reflexives is that the absolutive theme, regardless of its position within *v*P, uniformly undergoes A-movement to Spec,TP, from which it may serve as an antecedent for a reciprocal pronoun in the applied object position (51a), but cannot be itself bound by the applied object (51b).



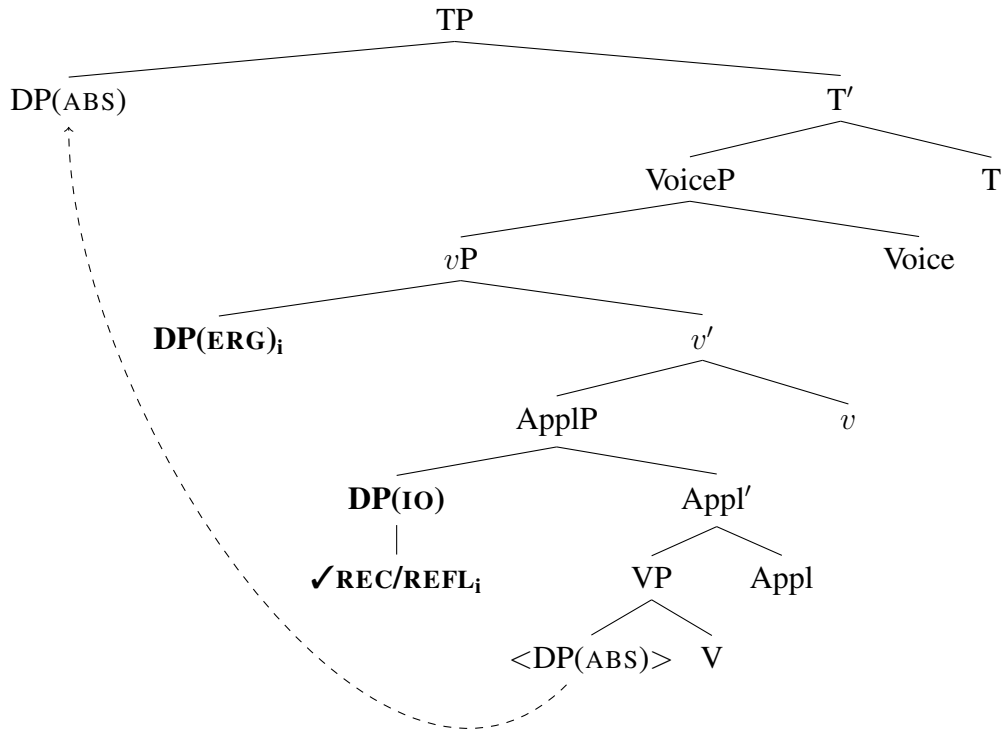


In summary, reflexive pronouns require the highest DP in *vP* to serve as the antecedent, but that DP need not be the external argument – in the case of inverse verbs, the applied argument or the absolutive theme in Spec,ApplP may serve as the antecedent. Reflexives once again contrast with reciprocals in this case, which only allow for the absolutive DP in Spec,TP to serve as the antecedent for the applied argument in the lower position. This difference between reflexives and reciprocals is explained by the  $\text{Voice}_{\text{REFL}}$  analysis: reflexive binding is influenced solely by *vP*-internal c-command relations due to the featural requirements of  $\text{Voice}_{\text{REFL}}$ , while reciprocal binding is not constrained by  $\text{Voice}^0$  and is sensitive only to clause-level c-command.

### 5.2.3 Where reflexives and reciprocals align

The last generalization regarding the distribution of reflexives concerns contexts in which reflexives and reciprocals behave in the same way. There are two configurations where these two anaphors do not show any differences in behavior: (i) co-indexation of an ergative agent with an applied object and (ii) co-indexation of an absolutive external argument of an unergative predicate and an applied object. The reason for why these configurations are encoded in the same way for both reflexives and reciprocals is apparent from the clausal structure and the distributional properties of these anaphors. Thus, if we consider the first context in (52), where an ergative agent binds an applied object, we observe that the ergative agent qualifies as an antecedent for both a reciprocal and a reflexive in the applied object position: (i) it c-commands the applied object at the clausal level and (ii) it is the highest nominal within *vP*.

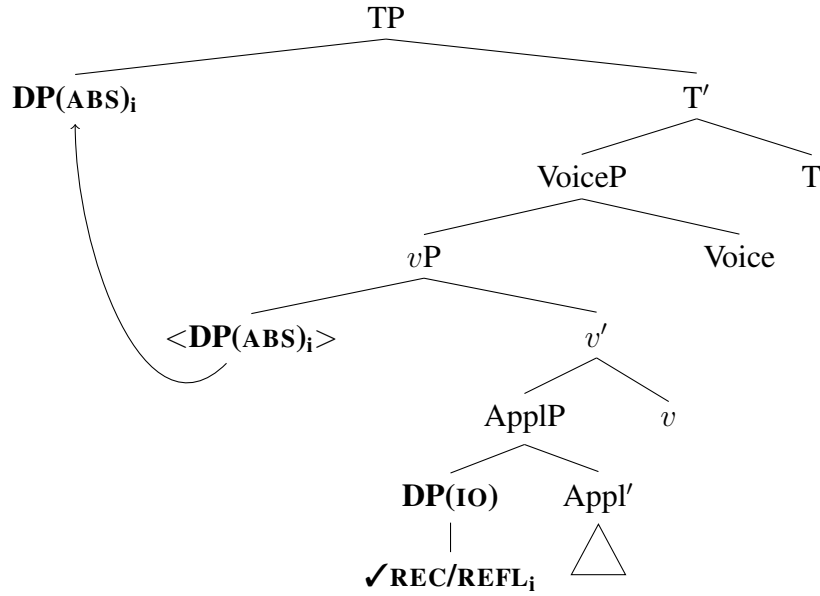
(52) Co-indexation of an ergative agent and applied object: ERG > IO



Likewise, if we consider the second context in (53), where the absolutive subject of an unergative verb binds an applied object, once again we observe that the absolutive external argument is an eligible antecedent both for reciprocal and reflexive binding: (i) it c-commands the applied object, both from its base-generated position in *Spec,vP* and derived position in *Spec,TP*, and (ii) it is the highest nominal in *vP*.<sup>24</sup>

(53) Co-indexation of absolutive external argument and applied object of an unergative verb:

<sup>24</sup>A reviewer notes that the ability of the absolutive external argument to bind both reflexive and reciprocals is compatible with the assumption that the external argument is licensed in-situ and does not move to *Spec,TP*. In the absence of evidence in either direction, I assume that all absolutive case-marked nominals uniformly move to *Spec,TP*.



These two argument configurations are illustrated below. In (21) we can see that the ergative agent of the three-place predicate *feṣən* ‘to build for s.o.’ may bind a reflexive in the benefactive applied position, as shown in (54a), and the inverse configuration wherein the applied object binds the ergative theme is ungrammatical, as expected if the ergative agent c-commands the applied argument (54b).

- (54) a. we wəne-r Ø- **IO-** fe- p- ṣə -ž’ə -ɓ  
you house-ABS 3ABS- **REFL.IO-** BEN- 1SG.ERG- do -RE -PST
- b. \*we wəne-r Ø- p- fe- **ERG-** ṣə -ž’ə -ɓ  
you house-ABS 3ABS- 2SG.IO- BEN- **REFL.ERG-** do -RE -PST

‘You built a house for yourself.’

**REFL:ERG>IO|\*IO>ERG**

The exact same pattern is observed with reciprocals: the ergative agent may bind a reciprocal pronoun in the benefactive applied object position (55a), and the inverse binding configuration with the applied object serving as the antecedent is once again ungrammatical (55b).

- (55) a. te wəne-xe-r Ø- **IO-** fe- t- ṣə -ž’ə -ɓ  
we house-PL-ABS 3ABS- **REC.IO-** BEN- 1PL.ERG- do -RE -PST
- b. \*te wəne-xe-r Ø- t- fe- **ERG-** ṣə -ž’ə -ɓ  
we house-PL-ABS 3ABS- 1PL.IO- BEN- **REC.ERG-** do -RE -PST

‘We built houses for each other.’

**REC:ERG>IO|\*IO>ERG**

Reflexives and reciprocals likewise behave in the same manner for unergative verbs with applied objects. For example, the absolutive external argument of the unergative verb *ježēn* ‘study’ may bind a reflexive in the applied object position (56a), and the applied object in turn cannot bind the absolutive external argument (56b).

- (56) a. **ABS(S)- IO-**  
 wə-      **zə-**      f-      je-      že      -ž’ə -B  
 2SG.ABS- **REFL.IO-** BEN- DAT- read -RE -PST  
 ‘You study for yourself.’ **REFL:ABS>IO**
- b. \* **zə-**      p-      f-      je-      že      -ž’ə -B  
**REFL.ABS-** 2SG.IO- BEN- DAT- read -RE -PST  
 Intended: ‘You study for yourself.’ **REFL:\*IO>ABS**

The same pattern is observed with reciprocals: the absolutive external argument of the unergative verb *k<sup>w</sup>əwen* ‘yell’ may bind a reciprocal pronoun in the locative applied object position (57a), and the applied object may not bind a reciprocal pronoun in the external argument position (57b).

- (57) a. **ABS(S)- IO-**  
 da      š<sup>w</sup>ə-      č’ə-      **ze-**      tje-      k<sup>w</sup>əwe -ž’ə -re -r  
 what 2PL.ABS- RSN- **REC.IO-** LOC- yell -RE -DYN -ABS  
 ‘Why are you yelling at each other?’ **REC:ABS>IO**
- b. \* **ABS(S)- IO-**  
 da      **ze-**      č’ə-      š<sup>w</sup>ə-      tje-      k<sup>w</sup>əwe -ž’ə -re -r  
 what **REC.ABS-** RSN- 2PL.IO- LOC- yell -RE -DYN -ABS  
 Intended: ‘Why are you yelling at each other?’ **REC:\*IO>ABS**

In summary, the local subject orientation of reflexives correctly predicts that reflexives and reciprocals should behave in the same manner in configurations where the antecedent is (i) the highest argument in *v*P – a necessary condition for reflexive binding, and (ii) c-commands the site of the anaphor at the level of TP – a necessary condition for reciprocal binding.

### 5.3 Summary: locality conditions on reflexive binding

To summarize this subsection, reflexives are local subject oriented – they may only be bound by the highest nominal in *v*P, while reciprocals are not local subject oriented and may be bound by any c-commanding DP in TP.

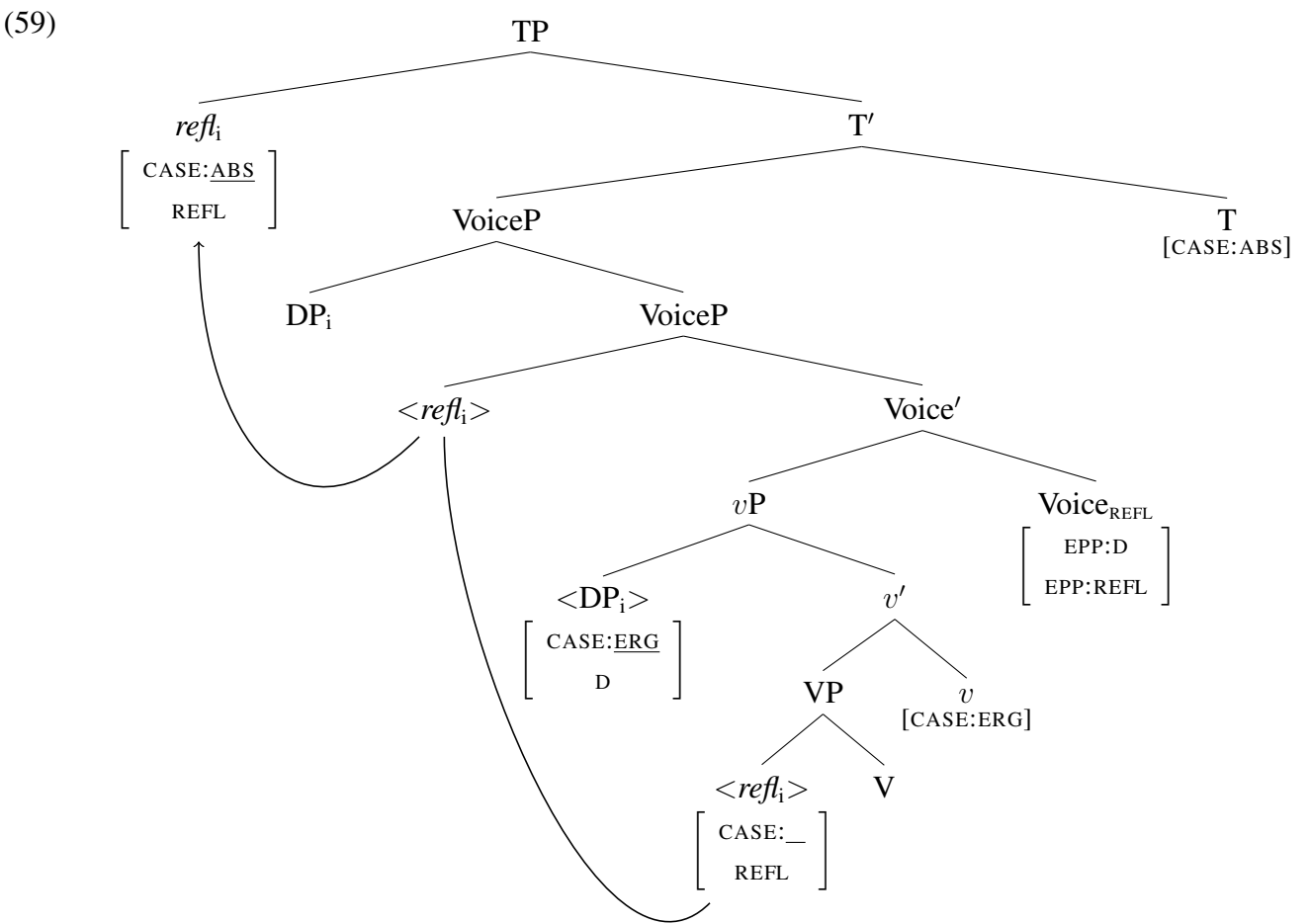
Because of the derived nature of the high absolutive position and the observation that reflexives can only be bound by a non-derived deep subject within *vP*, reflexive binding patterns cannot be used as evidence against structural syntactic ergativity, *pace* Caponigro and Polinsky (2011:79); Lander and Testelets (2017:963). In contrast, the distribution of reciprocals provides support for a syntactically ergative clause structure – the absolutive DP undergoes A-movement to the surface subject position. The apparently contradictory behavior of reflexives and reciprocals is then due to differences in licensing conditions: reciprocals must be bound by a higher nominal in the A-domain (TP), while reflexives are licensed by Voice<sub>REFL</sub>, which limits possible antecedents to the highest nominal in the  $\theta$ -domain (*vP*).

Local subject oriented anaphors in a syntactically ergative language like West Circassian provide a fruitful testing ground for teasing out the licensing conditions that give rise to local subject orientation. For example, previous literature on local subject oriented anaphors has noted the generalization that the antecedent of such a reflexive must be both the deep and surface subject, i.e. reflexives may not be bound by a deep subject that is subsequently demoted to a non-subject position, such as a by-phrase in a passive construction (see e.g. discussion in Sportiche 2014 and Ahn 2015:200-217). As a syntactically ergative language, West Circassian shows that this cannot be a true requirement for reflexive licensing, and the antecedent of a local subject oriented anaphor need not be the surface subject, as e.g. the ergative agent of a transitive verb or the applied argument of an unaccusative verb. In this respect West Circassian presents novel evidence in favor of locality-based analyses of local subject orientation (e.g. Ahn 2015), which ultimately make no reference to subjecthood and rules out non-surface subject antecedents based on other aspects of the constructions in question, such as the complementary distribution of passive and reflexive voice. Furthermore, West Circassian provides evidence that the choice of antecedent for a local subject oriented anaphor is not constrained to a particular syntactic position, such as Spec,*vP* – a nominal in a different position may be an eligible antecedent as long as it conforms to the locality conditions on binding, thus further deconstructing the notion of subjecthood.

One question which warrants closer investigation, but which I do not address here concerns the interaction between A-movement and the interpretation of A-binding chains. The issue is that after reflexive binding is established between an ergative agent and an absolutive theme, as in (58), the bound reflexive pronoun must undergo A-movement to Spec,TP c-commanding the ergative.

- (58) mə    çəfə-m    psə-m    Ø    zə-    Ø-    x-    jə-    ʒe    -ž'ə -B  
 this    person-OBL    water-OBL    (*refl*) REFL.ABS-    3SG.IO-    LOC-    3SG.ERG-    throw -RE -PST  
 'This person threw himself/herself in the water.'

The full derivation of for this sentence is presented in (59):  $\text{Voice}_{\text{REFL}}$  attracts the ergative DP and the reflexive pronoun to its specifier. The ergative DP, which had already been case-marked in situ by  $v^0$ , then remains in Spec, VoiceP, while the reflexive pronoun moves to Spec, TP for absolutive case assignment. The motivation for positing the movement of the reflexive to the standard position associated with absolutive case assignment is motivated by the fact that the reflexive-marked predicate in (58) displays the same case-assigning properties as its non-reflexive counterpart, and by the linear position of the reflexive agreement prefix in the leftmost agreement slot associated with absolutive case-marked nominals. Thus, the reflexive undergoes movement to a position c-commanding its antecedent.



The structure in (59) is well-formed despite (i) the reflexive not being c-commanded by its antecedent in its derived position – a potential violation of Condition A of Binding Theory (see e.g. Chomsky 1980, 1981), and (ii) the antecedent, which is a free pronominal or a lexical expression, being c-commanded by the co-indexed reflexive – a potential violation of Conditions B and C.



The well-formedness of this structure is likely connected to the fact that reflexive co-construal has been established earlier in the derivation – at the level of VoiceP. For example, if binding conditions are understood as competition-based well-formedness constraints, where within a potential A-binding configuration a reflexive is ranked higher than a pronominal or lexical expression in the lower position (Safir 2004, 2014), once the relevant binding relation is established at VoiceP, subsequent movement of the reflexive pronoun over the antecedent does not necessarily result in ungrammaticality, as long as the relevant binding relation is not reevaluated after than movement. This is likewise true for approaches where binding conditions are analyzed as conditions on the pairing of lexical verbal operators with the correct anaphoric expressions (Reinhart and Reuland 1993; Reinhart and Siloni 2005; Reuland 2011): within such an approach, the structure in (59) is potentially possible if the reflexive nature of the predicate has already been successfully paired with the reflexive in its base position. If anaphoric binding is understood as a reflex of Agree and feature sharing (Kratzer 2009; Roorych and Wyngaerd 2011), the well-formedness of this structure is connected to the timing of the relevant Agree operations: if agreement between the antecedent and the anaphor has taken place at the level of VoiceP, the subsequent movement of the reflexive pronoun need not necessarily influence the interpretation of the established binding chain. I leave the details of working out this issue for future research.

To conclude this section, reflexives are licensed by  $\text{Voice}_{\text{REFL}}$ , which selects for  $v\text{P}$  and attracts the highest nominal within its c-command domain and the reflexive to its specifier. This analysis reduces local subject orientation to locality constraints on movement, dispensing of any reference to subjecthood as a syntactic primitive. This approach is confirmed by a number of configurations in West Circassian: as a syntactically ergative language, it displays a systematic mismatch between surface subjects (= absolutive arguments) and deep subjects such as the ergative agent – reflexive binding patterns in this case display no sensitivity to surface subjecthood. Furthermore, a locality-based account of local subject orientation confirms that reflexives may be bound by *any* nominal that happens to be the highest DP within  $v\text{P}$ , for example, applied objects of so-called inverse predicates.

## 6 Conclusion

The behavior of anaphors in West Circassian provides support for the long-standing idea that subjecthood properties may be dispersed across multiple syntactic positions (Harley 1995; Bobaljik and Jonas 1996; McCloskey 1997). As a syntactically ergative language, West Circassian confirms

this approach to subjecthood by providing novel evidence for the existence of several subject-like positions. In syntactically accusative languages, the subject positions are generally occupied by the same nominal, which can thus be unilaterally identified as the subject. Since the subjecthood properties associated with the various positions converge on a single thematic argument, independent evidence must be provided for the intermediate subject positions. In a syntactically ergative language like West Circassian, on the other hand, these positions may be occupied by distinct nominals, rendering conflicting results for subjecthood diagnostics, such as the directionality of anaphor binding. Given that subjecthood properties fail to converge on a single position or nominal, the notion ‘subject’ becomes theoretically vacuous, and the various subjecthood properties can be derived from independent structural factors, such as c-command and locality conditions on syntactic operations.

Within a broader theoretical context, the present paper provides a strong argument for a relativized tree-geometric understanding of subjecthood. Any approach which treats the subject as a grammatical primitive, or sorts subjecthood properties into distinct types which are attributed to different grammatical modules or distinct structural positions, falls short in accounting for the West Circassian data. The core reason for this is that the two subject-like positions in West Circassian cannot be meaningfully distinguished in terms of their syntactic properties – both positions are identified based on the same diagnostic, i.e. anaphoric binding. For example, Head-driven Phrase Grammar allows for the existence of two distinct subject positions, but their properties must be fully disjoint because they belong to different modules of the grammar (Manning 1996; Wechsler and Arka 1998), with anaphoric binding being attributed to the domain of argument structure per Pollard and Sag (1992). Lexical Functional Grammar, while allowing for significant versatility (see e.g. Culy 1991 on reflexives that don’t require c-commanding antecedents in Fula), cannot easily capture the properties of the two subject-like positions in West Circassian, because neither of these positions maps directly to the theoretical primitives available in the framework. Both positions must be referred to within f-structure, where anaphoric relations are established (Dalrymple 1993), and while there is the possibility of distinguishing between what’s called a subject (SUBJ) and an agent – the most prominent argument in the thematic hierarchy – neither of those notions can be directly mapped to the absolutive DP, which possesses only a subset of properties associated with SUBJ, or the highest DP in the thematic domain, which need not be the agent. Schachter’s (1976; 1977) distribution of reference- and role-related properties across two distinct subject positions in Philippine languages (subsequently rehashed in Generative terms by Guilfoyle et al. 1992) or Dixon’s (1994) distinction between pivot and subject likewise imply a clear division of labor between the two subject-like arguments.

The paper contributes to the discussion of syntactic ergativity by confirming the idea that the high position of the absolutive argument is derived: the absolutive argument is merged low and subsequently undergoes movement to a higher position. In line with Aldridge (2004, 2008) and *pace* Bittner and Hale (1996); Coon et al. (2014, 2021); Yuan (2018), a.o., which propose that the high absolutive occupies an A'-position, this paper provides a particularly strong case for syntactic ergativity being derived via A-movement: the high position of the absolutive DP is interpreted as an A-position for the purposes of reciprocal binding. This analysis is further supported by the presence of syntactic ergativity effects in an unrelated syntactic domain – conditions on parasitic gap licensing (Ershova 2021). The possibility of a syntactically ergative structure wherein the high absolutive position displays A-properties, but still partially reconstructs in its base position (e.g. for the purposes of reflexive binding, see subsection 5.3), falls in line with research that aims to move away from a fundamental dichotomy between A- and A'-movement; see e.g. work on composite C-T (Ouali 2008; Gallego 2014; Legate 2014; Martinović 2015; Aldridge 2017, 2018, 2019, a.o.), Van Urk (2015) on mixed A/A'-movement, and Safir (2019) on eliminating the A/A' distinction from the grammar. Since the data presented here concerns a fundamentally structural phenomenon like anaphor binding, it provides strong evidence for the movement of the absolutive argument to a high position and is incompatible with approaches which attempt to reduce syntactic ergativity effects to morphological or syntactic properties of the ergative DP alone, such as the incompatibility of ergative case with certain A'-probes (Deal 2017) or the analysis of ergative agents as PPs (Polinsky 2016).

In regards to the theory of subject orientation in anaphor binding, West Circassian presents novel evidence that local subject orientation of reflexives is due to constraints on locality of movement. This means that subjecthood does not play a role in defining conditions on anaphor binding. As a syntactically ergative language, West Circassian provides evidence that the antecedent of a local subject oriented anaphor need not be the surface subject: for example, the ergative agent is an eligible antecedent, despite the absolutive DP occupying the surface subject position. This provides support for a locality-based theory of local subject orientation such as Ahn (2015) or subject orientation more generally (Safir 2014), which rules out non-surface subject antecedents in nominative-accusative languages via independent mechanisms that do not directly appeal to the notion of subjecthood. Furthermore, the West Circassian data show that the antecedent of a local subject oriented anaphor does not need to be a canonical deep subject either – as long as locality conditions are met, any nominal within *v*P, e.g. an applied object, may serve as an antecedent. The analysis proposed here is aimed specifically at deriving the constraints on choice of antecedent for local subject oriented reflexives, and correctly capturing the contrast between reflexive and recip-

rocal anaphors. With adjustments to capture the correct choice of antecedent, the present analysis is potentially compatible with alternative approaches to anaphoric binding, such as Reinhart and Reuland (1993); Reuland (2001, 2011) which define reflexivity as a property of predicates, or Safir (2014), who treats all bound pronouns as a single lexical item which takes many shapes depending on the syntactic context.

Additionally, the presented analysis provides a promising trajectory for approaching conflicting subjecthood diagnostics in other languages: it may be the case that under closer scrutiny other diagnostics of structural prominence are sensitive to additional constraints that interfere with their applicability at the clausal level. Syntactic ergativity in the domain of anaphoric binding has so far been documented only for a handful of languages.<sup>25</sup> There may be a number of reasons why syntactic ergativity is so rarely observed in this domain: for example, in Mayan (Coon et al. 2014) and Inuit (Yuan 2018) languages, reflexive pronouns are not subject to the same case licensing conditions as regular nominals. However, since West Circassian reciprocals do behave in a syntactically ergative fashion, we may expect to find languages with a similar pattern. Just as in West Circassian, such a pattern may be simply obscured by the syntactic or morphological properties of the language in question.

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<sup>25</sup>See Aldridge (2004) on Seediq, where only absolutive DPs may serve as reflexive antecedents, Cole and Hermon (2008) on bidirectional binding of patient and agent in passive constructions, wherein the binding of the agent can be recast as binding by high absolutive in Toba Batak, Brodtkin and Royer (2021) on a limited use of ergative anaphors in Mandarin, and Royer (to appear) on possessor binding in Chuj.

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## A The syntax and semantics of Voice<sub>REFL</sub>

This appendix provides the technical details of the syntactic and semantic properties of Voice<sub>REFL</sub> which are assumed in this paper.

Following Heck and Müller (2007); Müller (2010), Merge and Move are triggered by structure-building probe features [**F**]. In line with Chomsky (2000, 2001), feature probing is triggered as soon as an element with an active probe feature is merged, and probing proceeds strictly downward into the c-command domain of a given probe. I assume two types of goal features: standard goal features [F] and licensee features [+F+]. The first type of goal feature remains unaltered in the course of the syntactic derivation, while licensee features must be checked and deleted via Merge that is triggered by a matching structure-building feature [**F**].

In order to correctly capture the distributional properties of Voice<sub>REFL</sub>, I follow Georgi and Müller (2010); Müller (2010); Martinović (2015), among others, in assuming that probe features are hierarchically ordered – represented linearly as the notation in (60), where the features are ranked from left to right. In order for a probe feature to trigger Merge or Move, it must be visible to the derivation, per Martinović’s (2015:67) Feature Visibility Condition (61).

(60) [**F** • >> • **G** • >> • **H** •]

(61) **Feature Visibility Condition:**

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

The featural composition of  $\text{Voice}_{\text{REFL}}$  and the reflexive pronoun are presented in (62) and (63) respectively.  $\text{Voice}_{\text{REFL}}$  carries the corresponding category feature and three hierarchically ranked structure building features, which trigger (i) selection of  $vP$  as its complement; (ii) movement of highest DP in its c-command domain to its specifier, and (iii) movement of the reflexive pronoun to its specifier (62). The reflexive pronoun carries two category features: D as a DP, and the reflexive-specific licensee feature +REFL+.

(62)  $\text{Voice}_{\text{REFL}}$ : •**v**• >> •**D**• >> •**REFL**•

(63) Reflexive pronoun:

a. Category: D

b. Licensee: +REFL+

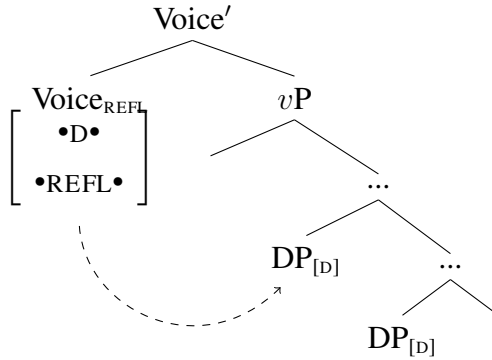
I adapt Ahn’s (2015) semantic denotation of  $\text{Voice}_{\text{REFL}}$ :  $\text{Voice}_{\text{REFL}}$  takes three arguments – the proposition denoted by  $vP$  and the two arguments that raise to occupy its specifiers, and imposes co-identity on the two arguments (64).

(64)  $\llbracket \text{Voice}_{\text{REFL}} \rrbracket = \lambda P_{\langle st \rangle} \lambda x_e \lambda y_e \lambda e_s. \text{IDENT}(x, y) \& P(e)$  (adapted from Ahn 2015:223)

Within this approach, the reflexive pronoun is treated as a regular pronoun: “an index (...) and a contextually-specified assignment function” (Ahn 2015:227), and the function IDENT constrains the assignment function to force co-identity between the reflexive and its antecedent.

Given the syntactic features of  $\text{Voice}_{\text{REFL}}$ , local subject orientation of reflexives is derived via feature ordering and general conditions on locality of movement. In particular, once  $\text{Voice}_{\text{REFL}}$  merges with  $vP$  and checks the corresponding selectional feature, it probes with the next structure-building feature – •**D**•, which picks out the first DP within its c-command domain (65). This ensures that no nominal besides the highest DP in the c-command domain of  $\text{Voice}_{\text{REFL}}$  would ever be an eligible antecedent for the reflexive.

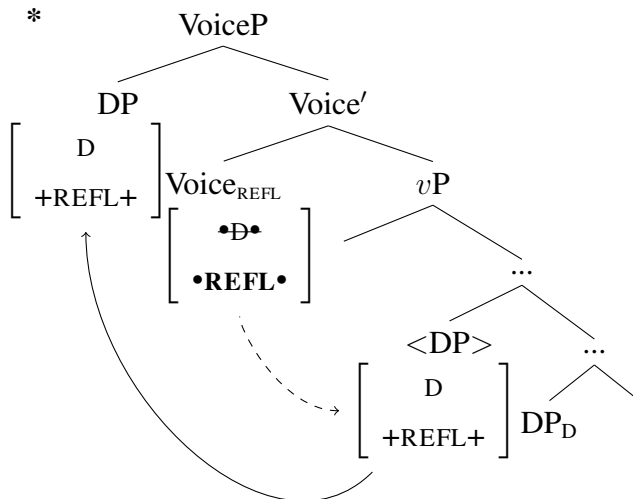
(65)



As seen in (65), subject orientation is thus reduced to locality conditions on movement, correctly predicting that any nominal that occupies the highest position within the c-command domain of **Voice<sub>REFL</sub>** can function as a reflexive antecedent.

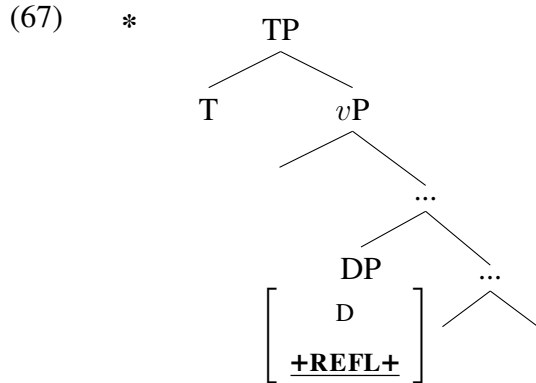
The ordered feature set on **Voice<sub>REFL</sub>** also accounts for the requirement that the antecedent c-command the reflexive pronoun prior to movement to **Spec, VoiceP**, ruling out the ungrammatical configuration within which the reflexive pronoun c-commands its antecedent in its base-generated position. If the reflexive pronoun happens to be merged higher than its antecedent, it would check the **•D•** feature on **Voice<sub>REFL</sub>**, and because **Voice<sub>REFL</sub>** must strictly probe downward, the **DP** in its specifier, despite bearing the matching goal feature, cannot satisfy its **•REFL•** feature. Thus, unless there is another reflexive pronoun lower in the structure, the **•REFL•** feature will remain unchecked, rendering ungrammaticality (66).

(66)



The licensee feature **+REFL+** on the reflexive pronoun ensures that this reflexive pronoun is not used as a general anaphor without local subject orientation: just as the **•REFL•** feature on **Voice<sub>REFL</sub>**

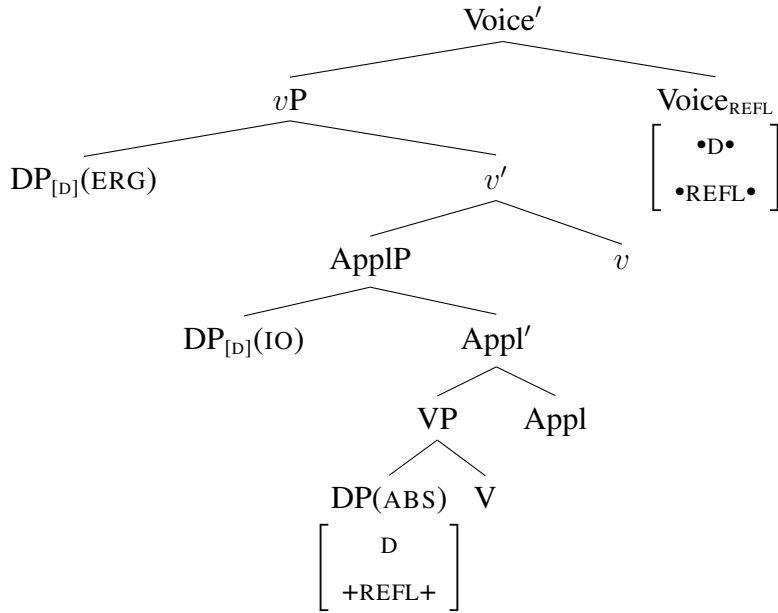
must be checked via movement of a reflexive to Spec, VoiceP, the licensee feature on the reflexive pronoun must be checked within that same structure-building operation – a structure containing the reflexive pronoun, but no  $\text{Voice}_{\text{REFL}}$  is thus ungrammatical, as shown in (67).



Both the reflexive pronoun and its antecedent also carry unvalued  $[\text{CASE:}_\_]$  features that are omitted in the trees throughout this section for simplicity. The movement operations and locality conditions imposed on reflexive binding do not directly interact with case assignment, which ensures that the absolutive DP moves to Spec, TP, while ergative agents and applied objects remain in situ. This is because  $T^0$  and  $v^0$ , on the one hand, and  $\text{Voice}^0$ , on the other hand, probe with different features:  $T^0$  and  $v^0$  with  $\text{CASE:X}$ , and  $\text{Voice}_{\text{REFL}}$  with  $\bullet\text{D}\bullet$ .

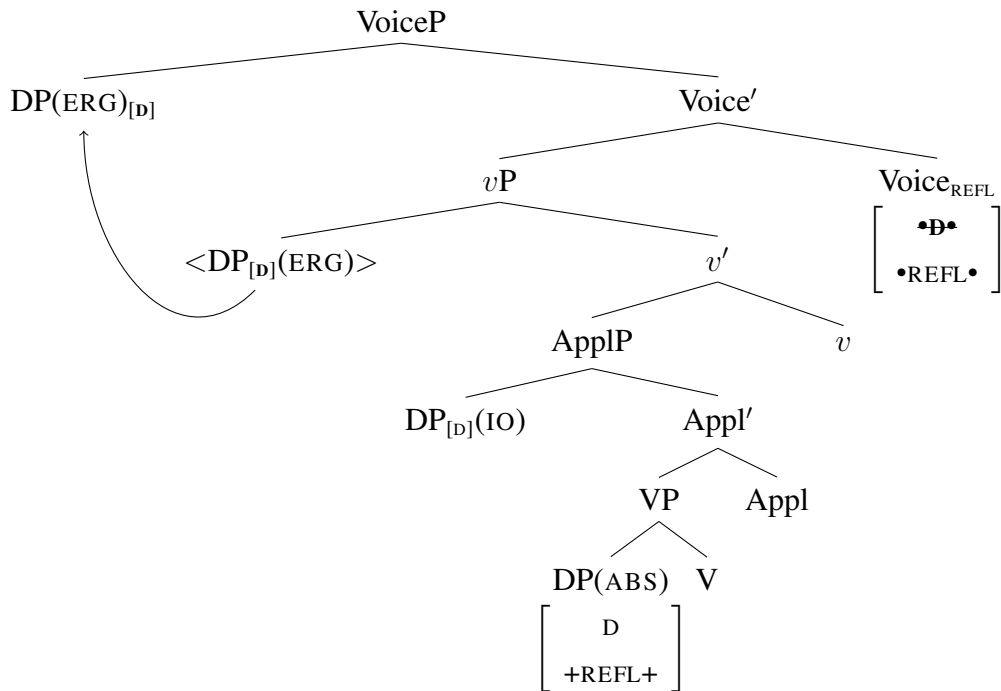
To illustrate the analysis in action, the full derivation of a three-place predicate with a reflexive pronoun in the absolutive theme position is presented in (40). First,  $\text{Voice}_{\text{REFL}}$  selects for  $v\text{P}$ , which contains an ergative agent in Spec,  $v\text{P}$ , applied object in Spec, ApplP, and the reflexive pronoun as the complement of the lexical verb (68).

(68)  $\text{Voice}_{\text{REFL}}$  selects for  $v\text{P}$ :



$\text{Voice}_{\text{REFL}}$  then probes with  $\bullet\text{D}\bullet$  and attracts the highest DP within its c-command domain to its specifier – this accounts for why only the ergative DP within this configuration may function as an antecedent to the reflexive, and not the applied object, which remains in situ (69).

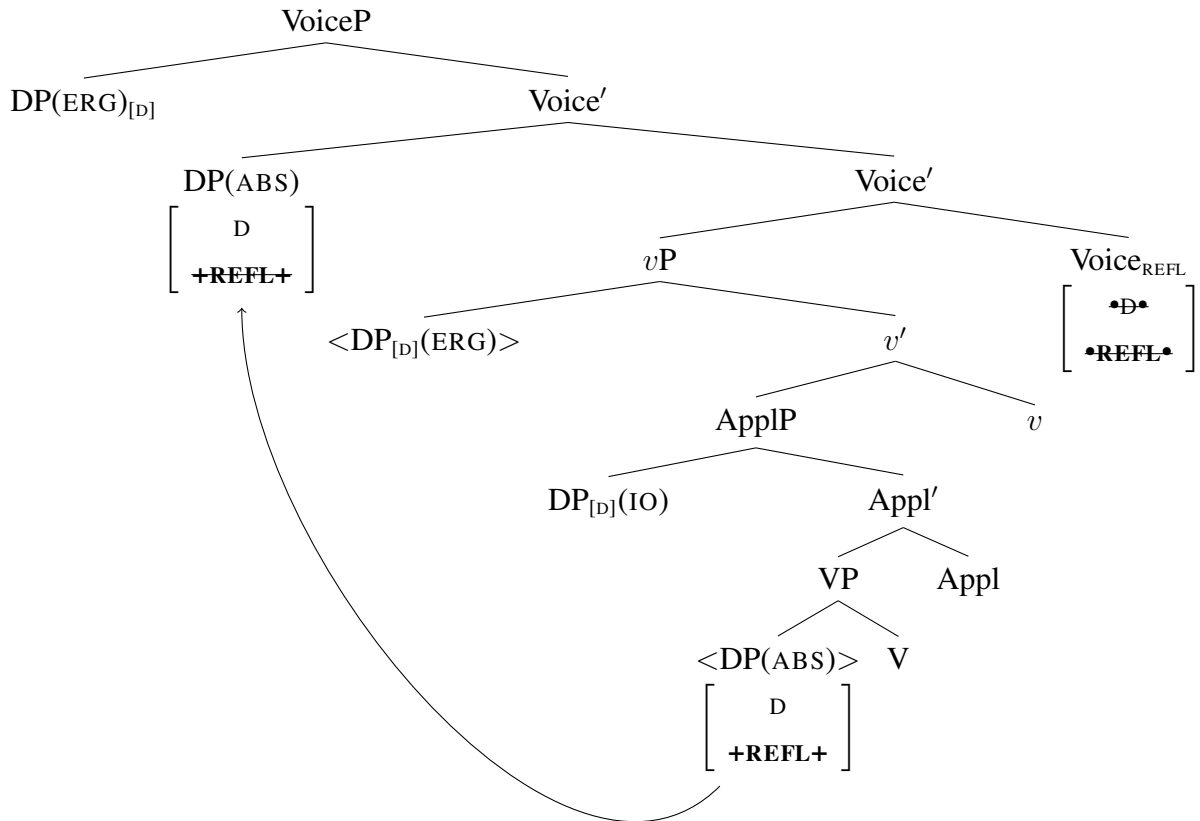
(69) DP(ERG)<sub>[D]</sub> moves to Spec, VoiceP:



Once the  $\bullet\text{D}\bullet$  feature is checked off on  $\text{Voice}_{\text{REFL}}$ , it probes with the  $\bullet\text{REFL}\bullet$  feature and attracts

the reflexive pronoun (DP(ABS)) to its specifier (70). I assume that the reflexive pronoun merges below its antecedent via tucking in (Richards 1997), but nothing hinges on this assumption. The merging of the reflexive pronoun checks both •REFL• on Voice<sub>REFL</sub> and +REFL+ on the reflexive pronoun.

(70) The absolutive theme (the reflexive pronoun) moves Spec, VoiceP:



In conclusion, local subject orientation is derived from the syntactic properties of Voice<sub>REFL</sub> and general constraints on the locality of movement, which restrict the set of possible antecedents for reflexive pronouns to the highest DP within the c-command domain of Voice<sub>REFL</sub>, i.e. the highest DP in *vP*.